



Mere physical distance and integrative agreements: When more space improves negotiation outcomes

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ARTICLE INFO

Article history:

Received 7 December 2009

Revised 21 July 2010

Available online 6 August 2010

Keywords:

Distance

Modality

Construal

Abstraction

Integrative

Win–Win

Communication

ABSTRACT

We examined the effects of negotiating non-face-to-face with someone that is physically nearby versus faraway on integrative (mutually beneficial) agreements. Across Studies 1 and 2, we found that individuals who negotiated with another person that they believed was physically faraway (several thousand feet away) rather than nearby (a few feet away) attained more integrative agreements (higher joint outcome, more Pareto efficient agreements). In Study 3, we found that the effect of different magnitudes of physical distance between negotiators on integrative agreements depended on negotiators' construal level: individuals who negotiated with another person who was purportedly farther away achieved more integrative agreements when their level of construal was not constrained, but had no effect when they adopted a high-level of construal. The implications for non-face-to-face communication are discussed.

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With increased access to the Internet and mobile telecommunication, the rate of immediate communication with individuals in distant physical locations has risen dramatically within the last decade (Horrigan, 2008). For example, many employees now routinely interact with their superiors, customers, and colleagues over large distances through email or instant messaging systems (Derfler, 2000). As negotiation is frequently used to resolve social conflict, research across a variety of disciplines has examined whether technology that allows negotiation to occur with others who are physically faraway fundamentally alters how people resolve social conflict (Stuhlmacher & Citera, 2005). In the current set of studies, we test the hypothesis that increased physical distance between individuals fosters more integrative (mutually beneficial) agreements during interpersonal negotiation.

Non-face-to-face communication in negotiation

Previous research has not examined the effects of different amounts of physical distance between negotiators independently of other variables. Much work, however, has examined the consequences of different forms of non-face-to-face communication (e.g., computer-mediated), which inherently fosters an increase in physical distance between negotiators relative to face-to-face communication (for reviews see McGinn & Croson, 2004; Stuhlmacher & Citera, 2005). Some of this work has focused on perceptions of the quality of the negotiation relationship (Citera, Beauregard, & Mitsuya, 2005;

Gattiker, Huang, & Schwarz, 2007; Naquin & Paulson, 2003), while other studies have focused on satisfaction and confidence in negotiation performance (Naquin & Paulson, 2003; Purdy, Nye, & Balakrishnan, 2000). The bulk of the work, however, has focused on whether communication modality (e.g., face-to-face vs. computer-mediated) affects the likelihood of reaching integrative agreements.

Initially, research on modality effects failed to provide consistent evidence on how non-face-to-face communication impacts integrative agreements relative to face-to-face communication, as some studies found non-face-to-face negotiation produced more integrative agreements (e.g., Croson, 1999; Marshall & Novick, 1995), while other studies found it produced less integrative agreements (e.g., Arunachalam & Dilla, 1995; Barefoot & Strickland, 1982), while still other studies found no difference (e.g., Naquin & Paulson, 2003; Zornoza, Ripoll, & Peiró, 2002). More recently, key moderators (e.g., type of non-face-to-face communication, anonymity) have been identified and the consensus is that non-face-to-face communication relative to face-to-face communication is generally harmful for integrative agreements (Stuhlmacher & Citera, 2005; see also Baltes, Dickson, Sherman, Bauer, & LaGanke, 2002).¹

¹ Baltes et al. (2002) conducted a meta-analysis of studies comparing computer-mediated communication (CMC) with face-to-face (FTF) group decision-making, and reported that CMC led to worse performance relative to FTF for mixed-motive tasks (of which negotiation is included). Upon closer inspection of the studies included in Baltes et al.'s meta-analysis, only three papers were included that dealt with mixed-motives, two of which were published. Of these two published papers, Straus and McGrath (1994) found no difference in quality of performance between CMC and FTF conditions, while Arunachalam and Dilla (1995) found CMC led to worse outcomes relative to FTF negotiation.

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One issue that has remained uninvestigated is whether the amount of physical distance between negotiators during non-face-to-face communication impacts the integrativeness of the agreement reached. In fact, previous studies did not report whether negotiators believed they were near versus distant from each other during non-face-to-face negotiation. Moreover, no studies have examined the impact of communicating with someone who is close or faraway on negotiation outcomes while holding the modality negotiators use to communicate constant.

Some research has examined the effects of communication modality on negotiation while holding the physical distance between negotiators constant (see Drolet & Morris, Study 1, 2000; Griffith & Northcraft, 1994; Schweitzer, Brodt, & Croson, 2002; and research on barrier effects, e.g., Carnevale & Isen, 1986). For example, Drolet and Morris found that communicating face-to-face rather than side-by-side resulted in higher joint gains. The bulk of modality research in negotiation, however, has confounded differences in distance with differences in modality. This is not a criticism or fault of past negotiation research, as there has not been a theoretical framework for understanding how distance might impact negotiation independently of the type of modality used to communicate. The main contribution of the present research is that we offer a framework for understanding how small versus large amounts of physical distance between negotiators can impact negotiation even when the modality used to communicate is held constant.

A construal level theory of physical distance

The present research adopts a construal level theory (CLT) of physical distance. CLT is grounded in the assumption that people mentally represent or construe events and objects at different levels of abstraction (Liberman, Trope, & Stephan, 2007; Trope & Liberman, 2010). The content of more abstract, higher level construals consist of the perceived gist, essence, or summary of the given information about events and objects, whereas the content of lower level, more concrete construals consist of context-dependent, readily observable features of events and objects (Medin & Ortony, 1989; Schul, 1983). The process that results in higher level construals involves broad and global consideration of information about events and objects, whereas the process that results in lower level construals involves narrow and localized consideration of information about events and objects (Liberman & Förster, 2009; Stapel & Semin, 2007).

When dealing with the behavior of others, construing a behavior (e.g., someone interrupting a conversation) at a higher level involves thinking about the overall motive driving the behavior (the person is interrupting to gain leverage) or the traits the behavior conveys (the person is interrupting because he is powerful). Motives and traits provide a general gist or summary of what individuals are essentially like across multiple situations and contexts (Semin & Fiedler, 1988; Vallacher & Wegner, 1989). Construing the same behavior at a lower level involves not thinking beyond what can be concretely perceived by the senses, such as when people just think about the means and methods that can be used to carry out behavior (the person raises his voice to interrupt the conversation). To illustrate the differences between lower and higher level construals in a negotiation, consider, for example, when a person negotiates the terms of a job that she is considering taking. She might construe her behavior (i.e., her attempts at securing her preferred outcome) regarding the negotiation issues (e.g., health coverage, salary, vacation time, sick leave, grievance procedures) at a higher level of construal by seeing the connection between her behavior and her overarching motives (“ways to support a family”), which determine her priorities on the various issues. Conversely, she might construe her behavior regarding the issues at a lower level of construal by just focusing on the specific means she will use to carry out her behavior during negotiation.

CLT posits that different magnitudes of distance from events and objects affects the level at which people construe them (Liberman et al., 2007; Trope & Liberman, 2010). Previous examinations of distance in negotiation using a CLT framework have focused exclusively on the effects of temporal distance on negotiation (De Dreu, Giacomantonio, Shalvi, & Sligte, 2009; Henderson, Trope, & Carnevale, 2006). For example, Henderson and his colleagues found that a longer delay in when the outcome from a negotiation would be experienced resulted in more integrative agreements because of increased tradeoffs that occurred on low-priority issues (see also Okhuysen, Galinsky, & Uptigrove, 2003). Henderson et al. (2006) results presumably occurred because increased temporal distance from when negotiation outcomes would occur led negotiators to construe the issues in a more abstract manner. That is, negotiators presumably went beyond just thinking about the pursuit of their preferred options that were presented to them, but also considered unobservable, higher order motives driving their priorities (Henderson & Trope, 2009; for a related discussion, see Zartman, 1977).

Recent work examining the effects of physical distance on mental representation and social judgment highlight worthwhile directions for the negotiation domain (e.g., Fujita, Henderson, Eng, Trope, & Liberman, 2006; Henderson, 2009; Henderson, Fujita, Trope, & Liberman, 2006; Henderson & Wakslak, 2010; Meyers-Levy & Zhu, 2007). For example, in a test of whether greater physical distance leads to more abstract construals of social events, Fujita and his colleagues demonstrated that participants who imagined several actions taking place in a physically distant rather than near location were more likely to focus on the overarching, higher order purpose behind the actions rather than the specific ways the actions might be carried out. During negotiation, individuals who believe that they are negotiating with another person who is physically farther away should be more likely to mentally represent their actions during negotiation in terms of the higher order motives behind their actions rather than just the specific actions themselves. A greater focus on higher order motives allows negotiators to better maintain their priorities. Having one's priorities in the right order means focusing on what is important and defocusing on what is unimportant. Consequently, when negotiations occur between parties who have different priorities (i.e., when negotiations have integrative potential), a better maintenance of priorities should be reflected in more tradeoffs across low- and high-priority issues and more mutually beneficial agreements.

Study 1

In the current study, we had individuals engage in a negotiation via text-exchange with another person that we described as being physically nearby or faraway. This study represents the first attempt to examine the effects of increased physical distance between negotiators on integrative agreements while holding extraneous variables constant (e.g., prior interaction, communication modality). We hypothesized that the further away negotiators believed themselves to be from each other, the more they would focus on their higher level motives for reaching agreement and thus achieve more integrative agreements.

Method

Participants were 52 University of Chicago undergraduate students, who participated in partial fulfillment of a course requirement or \$10. Twenty-six dyads took part in the study (9 female–female dyads, 7 male–male dyads, 10 female–male dyads), with 14 and 12 dyads randomly assigned to the physically near and distant conditions, respectively. The sex of the dyadic members was included as a factor for all of the analyses and controlled for in all of the analyses, and the results were unchanged in both cases. Thus, we do not discuss the sex of the dyadic members further.

Negotiation task

This study relied on a modified version of a role-playing exercise developed by Leigh Thompson, which had the basic elements of a simulated bilateral negotiation as commonly used by other researchers (e.g., Pruitt & Lewis, 1975). Such exercises have been described as lying between a field and lab experiment (McGrath, 1982). Thompson's original "New Car" exercise involved two people taking on the role of a buyer and seller of a car. The exercise originally involved four issues (financing, tax, warranty, delivery date). We modified Thompson's original exercise to center on the buying and selling of a customized motorcycle instead of a new car (see Appendix for the two point schedules).² We constructed a point-scoring scheme for this negotiation exercise to convey to participants what their preferences and priorities for the issues should be during the negotiation. The task had integrative (logrolling) potential for negotiators (two of the four issues were of different importance to each negotiator), and therefore, more integrative agreements could be achieved if the negotiators exchanged concessions on their low- and high-priority issues. A compromise solution (midpoint on each issue) yielded a joint-outcome score of 260 points (130 points for each negotiator). The maximum joint-outcome score possible was 380 (e.g., 180 points for one negotiator and 200 points for the other negotiator).

Procedure

We recruited participants to participate in a study about interpersonal decision-making. Participants signed up for the study online and arrived to the laboratory alone to prevent them from seeing or interacting with each other. Consequently, participants did not know the gender or physical appearance of their negotiation opponent. The experimenter greeted participants and escorted them to a private room. We did not give participants any indication they would interact with each other after the study was over.³ We told participants that they would be working on a role-playing negotiation task over American Online (AOL) Instant Messenger with another person.

The experimenter gave each member of the dyad a folder that contained a brief description of the negotiation task, a point schedule, and the instructions that we used to assign them to their respective experimental condition (see *Experimental Conditions* below). These folders were prepared ahead of time by another person, thus allowing the experimenter to remain blind to condition. We told participants their main task was to try to reach an agreement within 20 min and get as many points as possible from any agreement reached. In order to provide a financial incentive for negotiation performance, we told participants that a cash prize (\$100) would be awarded to an individual at the end of the semester through a lottery, and that their chance of winning the cash prize was based on their negotiation performance. We conducted a lottery once the data collection was complete and notified the winner. Such financial incentives have been shown to increase emotional investment during negotiation (Volkema, 2007).

² We decided to include nonlinear subjective utilities in our task (see Appendix) because we were concerned that participants might easily discover their opponents' payoff structure during negotiation if we included linear subjective utilities. However, in order to avoid concession crossover (Northcraft, Brodt, & Neale, 1995), we made sure that any concession by the other dyadic member on a participant's highest priority issue was preferred to any concession on their lowest priority issue. Moreover, we included nonlinear subjective utilities that did not feature decreasing marginal subjective utility to avoid concerns about paradoxical concessions (Northcraft et al., 1995).

³ Across the present set of studies, a few participants failed to follow instructions regarding where they were supposed to arrive to be greeted by the experimenter, and consequently observed or interacted with the person that they were supposed to negotiate with. These participants were not included in the studies.

Experimental conditions. We manipulated the amount of purported physical distance between negotiators by telling each participant in a dyad that their negotiation opponent was located physically nearby or faraway. Specifically, whereas participants assigned to the *physically near condition* read repeated statements throughout the description of the negotiation task that their negotiation opponent was located "only a few feet away" from them in a sister laboratory that was located one floor below them, participants assigned to the *physically distant condition* were told their negotiation opponent was located "over 95,000 ft away" from them in a sister laboratory that was located in the downtown part of Chicago.⁴ The University of Chicago has a campus building (Gleacher Center) that is located in downtown Chicago, which university students tend to be familiar with because prominent events take place there. We informed participants in the physically distant condition that their negotiation opponent was taking classes in this downtown building. This allowed for the introduction of greater physical distance between negotiators without raising suspicions.

Some of the statements included in the description of the exercise were "We are actually having our participants negotiate with some University of Chicago students who are helping us out for this study. These students are currently only one floor below us (at U of C's downtown campus site (at the Gleacher Center to be exact))." and "These students who are only a few feet away from here (over 95,000 ft away from here) are also participating for money, just like you." Importantly, in both experimental conditions, participants believed they were going to interact with a fellow University of Chicago student, which allowed for the manipulation of physical distance between negotiators without introducing differences in social distance between them (e.g., differences in identification or perceived similarity). To reinforce the physical distance manipulation, we asked participants assigned to the physically near and distant conditions to verify that their negotiation opponent was only a few feet away and over 95,000 ft away, respectively, before starting the negotiation.

Measures

In order to examine *joint outcome*, we summed the amount of points that dyads earned from their agreement. In addition to joint outcome, the *Pareto efficiency* of dyads' agreements was calculated, that is, the degree to which no dyadic member can do better individually without the opposing party doing worse (Tripp & Sondak, 1992).⁵ Because the Pareto efficiency of agreements was severely negatively skewed in this and the remaining studies, efficiency scores were subjected to an exponential transformation. We report non-transformed efficiency scores for ease of interpretation. We assessed both joint outcome and Pareto efficiency because neither is universally accepted as the best indicator of the integrativeness of an agreement (Clyman, 1995).

After the negotiation, participants completed a series of questions to address potential alternative explanations. Specifically, we measured participants' concern with interacting with each other in the future ("During your negotiation, how concerned were you that one day you might bump into or meet the other person that you were negotiating with? 1 = not very concerned to 7 = very concerned"). Also, in order to verify that participants in the physically near and distant conditions did not differ in their general contentiousness, participants responded to the following 7-point scales: "During your negotiation, how did you try to approach the task? 1 = very competitively to 7 = very cooperatively" (reversed-scored); "How often did you argue with the other person?"

⁴ We did not have a specific reason for choosing the particular number of feet that we used to manipulate physical distance in Studies 1–3, as we merely wanted to convey a small versus large amount of distance between negotiators in the respective conditions.

⁵ Special thanks to Gerardo Okhuysen for providing the Pareto Tool to calculate the efficiency score.

1 = not very often to 7 = very often”, “How often did you refuse to give in to the wishes of the other person? 1 = not very often to 7 = very often”, and “To what extent did you try to avoid a confrontation during the negotiation? 1 = not at all to 7 = very much” (reversed-scored). Responses were averaged together to create a composite of contentiousness ($\alpha = .71$). Finally, we debriefed and dismissed participants.

Results and discussion

Integrativeness of agreement

Twenty-four out of 26 of the dyads reached an agreement, and both of the dyads that did not reach an agreement were in the physically distant condition. Unlike some prior studies that gave a warning (e.g., 1 min) before the negotiation time was expired, our experimenter ended all negotiations at the 20-minute mark without a warning. Consequently, dyads that did not reach an agreement did so mainly because of time constraints, rather than because of impasse.⁶ Joint-outcome and Pareto efficiency scores were positively related ($N = 24$, $r = .87$, $p < .001$). In calculating these measures of the integrativeness of agreements, we excluded those dyads who did not reach agreement.⁷ Of the dyads who were able to reach agreement, results revealed that those in the physically distant condition earned a greater joint outcome than those in the physically near condition, $t(22) = 2.92$, $p < .01$, $d = 1.25$. As noted above, we performed the analysis of the Pareto efficiency of agreements on exponentially-transformed data, but we report nontransformed efficiency scores in the paper. Results revealed that dyads in the physically distant condition attained more Pareto efficient agreements than those in the physically near condition, $t(22) = 3.34$, $p < .005$, $d = 1.42$ (see Table 1).

Alternative explanations

Dyads in the physically near and distant conditions did not differ in their general contentiousness ($M = 3.82$ vs. $M = 3.67$, $t < 1$). Despite the fact that procedural controls were put in place to prevent participants from expecting to interact with each other after the negotiation, dyads in the physically near condition did report being more concerned about interacting in the future with each other than dyads in the physically distant condition ($M = 1.57$ vs. $M = 1.10$, $t(22) = 1.97$, $p = .06$, $d = .84$). Critically, dyads' concern about interacting in the future did not significantly correlate with joint outcome ($r = -.26$, $p = .23$) nor Pareto efficiency ($r = -.14$, $p = .56$), and adjusting for this variable as a covariate did not change the results reported above. Therefore, dyads' concern about interacting with each other in the future does not appear to explain the observed differences between the experimental conditions.

⁶ Included in our post negotiation questionnaire was an item that asked those participants that were not able to reach an agreement if it was because they ran out of time or if it was because they reached a point during the negotiation in which neither party wanted to give in or change their mind (i.e., impasse). Dyads that failed to reach agreement indicated it was because of time constraints.

⁷ While non-agreements can be treated in different ways when calculating the integrativeness of agreements, researchers sometimes substitute a value that does not create too much heterogeneity of variance yet reflects a suboptimal performance when agreement is not reached (e.g., Giacomanonio et al., 2010; Pruitt & Lewis, 1975). If we substitute a simple compromise score to those who did not reach agreement, the effect of physical distance on joint outcome and Pareto efficiency is $t(24) = 1.36$, $p = .19$ and $t(24) = 2.61$, $p = .02$ in Study 1, $t(36) = 1.56$, $p = .13$ and $t(36) = 1.89$, $p = .07$ in Study 2, and the predicted interaction effect on joint outcome and Pareto efficiency is $F(1, 53) = .82$, $p = .37$ and $F(1, 53) = 1.10$, $p = .30$ in Study 3. It is interesting to note that rates of non-agreement were higher for those in the distant condition than those in the near condition across Studies 1–3. Given that all of our participants who did not reach agreement did so because they ran out of time in the midst of negotiation, we suspect that the non-agreement rates reflect negotiators' attempts at searching for ways to increase value rather than accept suboptimal agreements. As such, we feel justified in excluding those who did not reach agreement when calculating joint outcome and Pareto efficiency rather than assign a suboptimal score.

Table 1
Integrativeness of agreements in Study 1.

Distance condition	Joint-outcome	Pareto efficiency
Near	322.50 (31.73)	825.41 (232.45)
Distant	361.00 (32.13)	955.60 (112.60)

Note. SD in parentheses. Joint-outcome scores ranged from 260 to 390 and Pareto efficiency scores ranged from 180.56 to 1000.

Study 2

In order to verify that our results are not constrained by the particular negotiation task that was used in Study 1, we conducted the present study using a different task than what was used in Study 1. Also, an alternative explanation for our results not addressed in the previous study is that our experimental manipulation may have affected participants' friendliness or perceived threat as they entered into the negotiation, which subsequently affected how conciliatory they were during negotiation. That is, dyadic members may have felt interpersonally closer to a negotiation opponent that was geographically closer or even more threatened by an opponent that was closer, which in either case could have interfered with their willingness to take a stand and avoid concessions on both low- and high-priority issues. The current study set out to address this issue. As in the previous study, we expected that a large magnitude of distance between negotiating parties would facilitate more integrative agreements.

Method

Participants were 76 University of Texas undergraduate students who participated in partial fulfillment of a course requirement. Thirty-eight dyads took part in the study (19 female–female dyads, 4 male–male dyads, 15 female–male dyads), with 19 dyads in each of the experimental conditions. The sex of the dyadic members was included as a factor for all of the analyses and controlled for in all of the analyses, and the results were unchanged in both cases. Thus, we do not discuss the sex of the dyadic members further.

Negotiation task

For this study we developed a role-playing exercise that had the basic elements of a simulated bilateral negotiation as used by other researchers (e.g., Pruitt & Lewis, 1975). The negotiation exercise centered on the division of a prize. We told participants to imagine that they and a stranger walked into a shopping mall at approximately the same time, and that after walking in a bell started sounding just as a giant banner dropped down that read “One-Millionth Customer”. As part of a prize, the one-millionth customer would be allowed to go into four stores in the mall and choose a free gift from among five possible gifts in each store. We informed participants that the gifts actually came in sets of two (e.g., pairs of jeans, two bottles of a specialty wine) and that since they and the stranger both walked into the mall at approximately the same time, technically they both were the winner of the prize. We told participants to imagine that they could only choose one gift set in each store because of the way the promotion was set up. Consequently, we told participants that the purpose of the negotiation was to negotiate which gift set they would choose in each store. Since the gifts came in sets of two, whichever gifts they decided on in each store would be split between them.

We constructed a point-scoring scheme for this negotiation exercise to convey to participants what their preferences and priorities for the possible gift sets in each store should be during the negotiation. Associated with each store were five possible options, with an associated payoff (see Appendix). As in Study 1, the task had an integrative (logrolling) potential for negotiators. A compromise solution (midpoint on each issue) yielded a joint-outcome score of 300 points (150 points for each negotiator). The maximum joint-

outcome score possible was 380 (e.g., 180 points for one negotiator and 200 points for the other negotiator).

Procedure

We used the same procedure as used in Study 1 with the following modifications. First, we told participants that they would have 30 min to arrive at a mutually acceptable solution. Second, while participants assigned to the *physically near condition* were again presented with repeated statements throughout the description of the negotiation task that their opponent was located “only a few feet away” in a sister laboratory that was located one floor below them, participants assigned to the *physically distant condition* read repeated statements throughout the description of the negotiation task that their opponent was located “over 90,000 feet away” from them in a sister laboratory that was located in the northern part of Austin. For participants in the physically distant condition, the sister laboratory site was purportedly located at one of the university’s research campus sites (J.J. Pickle Research Campus), to which the university regularly offers transportation.

Pilot study. In order to verify that our experimental manipulation changed participants’ perceived physical distance from their negotiation opponent while not affecting the perceived threat from their negotiation opponent nor their friendliness as they entered the negotiation, we conducted a separate pilot study using the same procedure as used in this study. Specifically, we randomly assigned 26 participants to either the physically near and distant condition. After receiving the negotiation instructions and manipulations, we asked participants to respond to the following items: “To what extent are you going to try to communicate with the other person in a friendly manner?”, “To what extent are you going to try to be polite during your negotiation with the other person?”, “To what extent are you going to try to cooperate with the other person?”, “To what extent are you going to try to avoid upsetting the other person during the negotiation?”, “To what extent do you see the other person as your partner rather than a competitor?”, “How threatened do you feel by the other person?” and “How intimidated do you feel by the other person?” All responses were a 7-point scale anchored with 1 = not at all to 7 = very much.

Responses to the first five items were averaged together to create a composite of friendliness ($\alpha = .71$). Responses to the sixth and seventh items were averaged together to create a composite of perceived threat ($r = .96$). Participants also responded to the following items: “How far away does the other person seem to you? 1 = not very far to 7 = very far” and “How much geographical space does there seem to be between you and the other person? 1 = not much space to 7 = a lot of space”. Responses to these items were averaged together to create a composite of perceived physical distance ($r = .77$). After participants responded to the items, we informed them that they would not engage in a negotiation. As expected, participants assigned to the distant condition did not differ from those assigned to the near condition in their friendly intentions ($M = 5.03, SD = .92$ vs. $M = 5.18, SD = .110, t < 1$, nor perceived threat ($M = 2.39, SD = 1.68$, vs. $M = 2.08, SD = 1.22, t < 1$). However, as expected, participants in the distant condition perceived more distance than those in the near condition ($M = 4.43, SD = 1.24$ vs. $M = 2.89, SD = 1.81, t(24) = 2.57, p < .05, d = 1.05$). Based on these results, we feel confident that we successfully manipulated the perceived physical distance in our study without changing extraneous variables that might affect the integrativeness of agreements reached.

Measures

The same measures that were used in the previous study were used in this study.

Results and discussion

Integrativeness of agreement

Thirty-three out of thirty-eight of the dyads reached an agreement, and two and three of the dyads that did not reach agreement were in the near and distant conditions, respectively. Joint-outcome and Pareto efficiency scores were positively related ($N = 33, r = .92, p < .001$). As in Study 1, dyads that did not reach an agreement did so because of time constraints rather than impasse. As expected, of the dyads who were able to reach agreement, those in the physically distant condition earned a greater joint outcome than dyads in the physically near condition, $t(31) = 2.51, p < .05, d = .90$, as well as attained more efficient agreements than dyads in the physically near condition, $t(31) = 2.30, p < .05, d = .83$ (see Table 2). Overall, results from the current study replicated the results of the previous study.

Alternative explanations

As expected, after the negotiation participants in the physically near and distant conditions did not report any differences in their concern about future interaction with each other ($M = 1.62$ vs. $M = 1.38, t(31) = 1.08, p = .29, d = .39$) nor in their general contentiousness ($M = 3.86$ vs. $M = 3.91, t < 1$).

Study 3

The main proposition in the present research is that a large amount of physical distance between negotiators will lead them to abstractly construe their behavior (i.e., their pursuit of their preferences within each issue) in terms of the higher order motives and reasons behind their behavior, which presumably helps maintain priorities across the issues and facilitate integrative agreements. Mentally representing behavior in terms of the motive behind the behavior involves a higher level of construal (Freitas, Gollwitzer, & Trope, 2004; Freitas, Salovey, & Liberman, 2001; Fujita, Trope, Liberman, & Levin-Sagi, 2006). The previous two studies show that people are more likely to reach integrative agreements with each other when they experience a large magnitude of physical distance between each other. The present study was designed to examine the construal mechanism that is assumed to underline physical distance effects on integrative agreements. More specifically, participants were instructed to focus on their high-level motives behind their behavioral pursuit of a negotiation agreement. There was also a control group that did not get any instructions on how to construe their behavior. We predicted that the induced construal level would moderate the effect of physical distance on integrative agreements. That is, we predicted that negotiators who experienced a large rather than small magnitude of physical distance between each other would achieve more integrative agreements only when their construal level was not constrained. For negotiators whose construal level was constrained to a high-level we predicted physical distance would not impact integrative agreements, as highly integrative agreements should be achieved regardless of the distance between negotiators.

Method

Participants were 114 University of Texas undergraduate students, who participated in partial fulfillment of a course requirement or \$10.

Table 2
Integrativeness of agreements in Study 2.

Distance condition	Joint-outcome	Pareto efficiency
Near	347.06 (27.33)	894.62 (105.54)
Distant	368.75 (21.87)	960.54 (124.67)

Note. SD in parentheses. Joint-outcome scores ranged from 300 to 380 and Pareto efficiency scores ranged from 500 to 1000.

Fifty-seven dyads took part in the study (20 female–female dyads, 12 male–male dyads, 25 female–male dyads), with 13, 16, 15, and 13 dyads randomly assigned to the control group physically near condition, control group physically distant condition, high-level construal physically near condition, and high-level construal physically distant condition, respectively. The sex of the dyadic members was included as a factor for all of the analyses and controlled for in all of the analyses, and the results were unchanged in both cases. Thus, we do not discuss the sex of the dyadic members further.

Task and procedure

The same task and procedure that were used in Study 2 were used in this study with the following modifications. First, dyads were given 20 min to reach agreement. Second, for half of the dyads, we interrupted them after they received the negotiation instructions (which included our physical distance manipulation) and instructed them to complete an exercise that was designed to focus them on their high-level motives for reaching their preferred agreement during negotiation. Participants were asked to think about *why* they wanted their preferred negotiation agreement (i.e., why they wanted particular gift sets to be chosen for each store). Specifically, participants responded to the statement, “Please list a reason why you want those particular gift sets in each store.” After completing their answer, we prompted participants to again list another reason why they wanted particular gift sets in each store. Participants provided four responses in this manner. This manipulation was based on a modified version of the high-level construal manipulation created by Freitas et al. (2004). The other half of the dyads did not receive any construal level manipulation. Overall, this study was a 2 (physical distance: near vs. distant) × 2 (construal level: control vs. high-level) between-participants design.

Measures

We assessed participants' joint outcome and Pareto efficiency. Participants also responded to the following items to assess the effectiveness of our distance manipulation: “During the negotiation, how far away was your competitor from you? 1 = not very far to 7 = very far”, “During the negotiation, how physically close did your competitor seem to you? 1 = not very close to 7 = very close?” (reversed-scored) and “During the negotiation, how much space was there between you and your competitor? 1 = not much space to 7 = a lot of space”. We averaged participants' responses to create an index of subjective physical distance ($\alpha = .63$). Participants also responded to the following items to verify that our distance manipulation did not change participants' expectations of future interaction: “During your negotiation, how concerned or worried were you that you would interact with your competitor after the negotiation?”, “During your negotiation, to what extent did you expect to see your competitor after the negotiation?”, and “During your negotiation, to what extent did you think you would have face-to-face contact with your competitor after the negotiation?”. All items were answered on a 1 (not at all) to 7 (very much) scale. We averaged participants' responses to create an index of expectation of future interaction ($\alpha = .74$).

Finally, because a potential limitation of our attempts to rule out alternative explanations in the previous studies is that we relied on self-report measures of contentiousness, the online interaction of the dyad was coded from a digital transcript of the negotiation in this study. Specifically, we had two raters code the number of statements that involved dyadic members reacting negatively toward each other or making threats or warnings to each other (for discussion of coding scheme see Weingart, Thompson, Bazerman, & Carroll, 1990). Each transcript was coded twice for each category and both coders were blind to the experimental conditions. Agreement between the two raters was high for ratings of negative reactions, $r(57) = .97$, and

threats, $r(57) = .75$. We averaged across raters for each category, yielding one set of codes for each transcript.

Results and discussion

Manipulation check

We conducted a 2 (physical distance: near vs. distant) × 2 (construal level: control vs. high-level) ANOVA on the average of dyadic members' subjective distance from each other. As expected, analyses revealed a significant effect of distance, $F(1, 53) = 70.49$, $p < .001$, with dyadic members in the distant condition perceiving more distance between each other than dyadic members in the near condition ($M = 4.88$, $SD = .99$ vs. $M = 2.88$, $SD = .76$). Neither the effect of construal nor the interaction effect was significant (both $F_s < 1$).

Integrativeness of agreements

Forty-eight out of fifty-seven of the dyads reached an agreement, and one, four, three, and one of the dyads that did not reach agreement were in the control group physically near condition, control group physically distant condition, high-level construal physically near condition, and high-level construal physically distant condition, respectively. We conducted a 2 (physical distance: near vs. distant) × 2 (construal level: control vs. high-level) ANOVA on dyads' joint outcome and the Pareto efficiency of their agreements. Joint outcome was positively associated with Pareto efficiency ($r = .83$). Analyses of dyads' joint outcome revealed no significant effect of distance, $F(1, 44) = 1.52$, $p = .22$, nor construal, $F(1, 44) = 2.03$, $p = .16$. However, as expected we found a significant interaction effect, $F(1, 44) = 4.77$, $p = .03$. Analyses of the Pareto efficiency of dyads' agreement revealed no significant effect of distance, $F(1, 44) = 1.47$, $p = .23$, nor construal, $F(1, 44) = 2.68$, $p = .11$, but a marginal interaction effect, $F(1, 44) = 3.32$, $p = .08$. Inspection of the means revealed that when negotiators' construal was not constrained (and thus free to vary as a function of situational factors) dyads in the distant condition achieved higher joint outcome, $t(22) = 2.27$, $p = .03$, $d = .97$, and more Pareto efficient agreements, $t(22) = 2.57$, $p = .02$, $d = 1.10$, than dyads in the near condition. However, when negotiators were instructed to adopt a higher level of construal, dyads' in the experimental conditions did not differ in joint outcome, $t < 1$, nor Pareto efficiency, $t < 1$, as both groups achieved highly integrative agreements (see Table 3).

Additionally, we regressed participants' joint outcome on dyads' manipulated level of construal, measured subjective distance (see manipulated check above), and the interaction term. Analyses revealed a significant effect of construal, $t(44) = 3.18$, $p < .01$, $d = .96$, and subjective distance, $t(44) = 2.37$, $p = .02$, $d = .71$, which were both qualified by a significant interaction effect, $t(44) = 2.86$, $p < .01$, $d = .86$. Interestingly, inspection of the interaction revealed that among those in the control group subjective distance was positively associated with joint outcome, $r(24) = .42$, $p = .04$, however, among those in the high-level construal group subjective distance was actually negatively associated with joint outcome, $r(24) = -.38$, $p = .07$. We also regressed participants' Pareto efficiency on dyads'

Table 3
Integrativeness of agreements in Study 3.

	Level of construal condition			
	Control		High-level	
	Joint outcome	Pareto efficiency	Joint outcome	Pareto efficiency
Distance condition				
Near	331.67 (34.60)	755.75 (295.51)	363.33 (23.87)	946.19 (142.49)
Distant	361.67 (30.10)	921.83 (217.22)	355.00 (32.05)	887.47 (193.87)

Note. SD in parentheses. Joint-outcome scores ranged from 280 to 380 and Pareto efficiency scores ranged from 239.13 to 1000.

level of construal, subjective distance, and the interaction term. Analyses revealed a significant effect of construal, $t(44) = 2.25, p < .05, d = .68$, and subjective distance, $t(44) = 2.29, p = .03, d = .69$, which were both qualified by a significant interaction effect, $t(44) = 2.00, p = .05, d = .60$. Inspection of the interaction revealed that among those in the control group, subjective distance was positively associated with Pareto efficiency, $r(24) = .44, p = .03$. Among those in the high-level construal group, subjective distance was somewhat negatively associated with Pareto efficiency, $r(24) = -.13, p = .53$.

Alternative explanations

We conducted a 2 (physical distance: near vs. distant) \times 2 (construal level: control vs. high-level) ANOVA on dyads' expectation of future interaction. As expected, no differences emerged between conditions (all $F_s < 1$). We conducted the same ANOVA on dyads' number of negative reactions. As expected, neither the main effect of physical distance, $F < 1$, the main effect construal, $F(1, 53) = 1.73, p = .19$, nor the interaction effect, $F < 1$, was significant. We conducted the same ANOVA on dyads' number of threats. Again, neither the main effect of distance, the main effect of construal, nor the interaction effect was significant (all $F_s < 1$). In general, the number of statements that included negative reactions ($M = .54, SD = 2.38$) or threats ($M = .08, SD = .25$) was low. Therefore, as suggested by the self-report data in our previous studies, different magnitudes of physical distance influenced the extent to which dyads achieved integrative agreements without changing their level of contentiousness.

Overall, the results from this study speak to the presumed cognitive changes that occur when people interact with physically distant others during negotiation: individuals focus more on the higher order motives behind their negotiation behavior (i.e., the motives driving their behavioral pursuit of their preferences within each issue) when they negotiate with others who they believe are physically faraway. In negotiation, Pruitt (1981, pg. 171) noted that individuals often fail to keep their motives in mind as "Speakers are often not clear about their own motives and hence may give a distorted picture when they try to encode (describe) them." Importantly, CLT assumes that engaging in higher level thinking does not make individuals lose sight of how they will carry out their behavior during negotiation, but rather ensures that they will see how any particular behavior fits with other behaviors in the service of broader motives and interests.

General discussion

Across three studies, we demonstrated that negotiators who experienced a large amount of distance between each other achieved more integrative agreements, with the final study exploring the assumed mechanism behind physical distance effects on integrative agreements: heighten attention to higher level motives. Outside of the laboratory, several factors tend to change when individuals negotiate with someone who is physically farther away. For example, negotiations with distant rather than near others are probably more likely to occur a) using non-face-to-face modalities, b) with people that one has infrequent contact with, and c) with people who belong to socially distant groups (e.g., ethnic or cultural outgroups). The present findings represent the first evidence that changes in the mere physical distance between negotiators can impact negotiator performance, as such extraneous variables were held constant in our studies.

The main contribution of the present research is that we demonstrate benefits of a large amount of distance between negotiators independently of any differences in the modality used to negotiate. Practically speaking, it may not always be possible for negotiators to create a large amount of distance between each other. However, individuals may have more control over when they can initiate a

negotiation, and our findings imply that negotiators might benefit from waiting until circumstances create a large amount of distance between them before they start negotiating. Also, as our last study demonstrated, even when negotiators are not able to induce or wait for a large amount of distance to occur between them, they may still be able to achieve more integrative agreements as long as they focus on their higher level motives for negotiating.

Non-face-to-face communication and physical distance

While different forms of non-face-to-face (FTF) communication can be used to negotiate (e.g., phone, videoconferencing), it is generally the case that non-FTF communication involves greater physical distance between negotiators relative to FTF communication. Past research has generally shown that non-FTF negotiation leads to less integrative agreements than FTF negotiation (for reviews see McGinn & Croson, 2004; Stuhlmacher & Citera, 2005), implying that greater physical distance between negotiators should lead to less integrative agreements. On the surface, the results from the present research would then appear to contradict prior research on communication modality. Indeed, most people likely think of interactions that occur between negotiators who are physically distant versus physically close versus FTF as representing a simple continuum.

Critically, FTF brings in a host of variables that need not necessarily be in place when people are negotiating with someone who is physically close (but not FTF). For example, some of the key reasons negative consequences have occurred as a function of using non-FTF rather than FTF communication is that negotiators experience different expectations of future interaction and anonymity. That is, when negotiators interact with each other FTF there is a greater chance that they will see each other in the future than when they do not interact FTF, and anonymity is all but impossible to instill in a FTF setting. Expectations of future interaction and anonymity can affect the level of contentiousness and chances of reaching integrative agreements (e.g., see Stuhlmacher & Citera, 2005, for a discussion of these variables). Importantly, in the present research, we kept low and held constant expectations of future interaction across physically near and distant conditions, and dyadic members in both experimental groups were anonymous. In some studies that were conducted in the past, changes in physical distance between negotiators (via changes in communication modality) were likely confounded with changes in expectations of future interaction and/or different amounts of anonymity. This could offer one possible explanation for why the present research found a benefit of increased distance while past research found a detriment of increased distance. That is, the progression from physically distant to FTF may not produce effects on integrative agreements that are linear.

A second possible explanation for the apparent contradiction between the present results and prior work may be found in the recent work by van der Kleij, Schraagen, Werkhoven, and De Dreu (2009) that suggests that some of the negative effects of non-FTF communication in negotiation may disappear as people get more comfortable with the modality. Specifically, van der Kleij et al. found three-person groups working on a problem-solving task initially required more time to communicate when done via video-teleconferencing rather than FTF but that differences between conditions disappeared over time as groups adapted to their modality (see also van der Kleij, Paashuis, & Schraagen, 2005). Most of the prior communication modality research was conducted at a time when most people were still not familiar with many of the forms of non-FTF communication (e.g., video-chats, instant text-exchange) that are more commonly used today. Assuming our participants were more comfortable with the modality than participants from early studies, it may have been easier for us to detect benefits of large magnitudes of distance. Future research should attempt to replicate previous studies that observed a detriment of non-FTF versus FTF, as some of the negative effects may not occur or be as strong with today's more tech-savvy population. Indeed, more recent

modality research has failed to observe any differences on objective outcomes between FTF and non-FTF modalities (Geiger, 2010; Suppes, Mor, & Morris, 2010).

A third possible explanation for the apparent contradiction between the present results and past work is that prior studies that found a detriment of non-FTF communication relative to FTF communication may have somehow constrained negotiators' construal level. For example, prior work (Arunachalam & Dilla, 1995; Barefoot & Strickland, 1982) that found a detriment of non-FTF communication relied on negotiation tasks that involved some type of hierarchical structure within an organization (e.g., boss and subordinates; tiered divisions within a company), which may have constrained their level of construal by affecting the extent to which they thought in higher level, superordinate versus lower level, subordinate terms. Smith and Trope (2006) found that priming power affected participants' level of construal, and tasks that involve some type of hierarchical structure may activate concepts of power and subsequently affect individuals' level of construal. Our last study demonstrated that more perceived physical distance between negotiators only improved outcomes when their level of construal was not constrained. When negotiators' level of construal was constrained, more perceived distance between dyadic members was actually associated with less integrative agreements, which is consistent with prior communication modality work. This finding is important because it highlights how different magnitudes of distance can produce effects that are independent of any changes in construal level.

Future directions

Social distance

It is interesting to note the parallels between our work and previous research on social (interpersonal) distance in negotiation. CLT posits that the same general principles that apply to physical distance should also hold for other distance dimensions, including social distance (e.g., in-group versus out-group members, friends versus strangers), and prior work has found results consistent with a CLT framework. For instance, constituents frequently rely on representatives or agents to negotiate (Bazerman, Neale, Valley, & Zajac, 1992; Rubin & Sander, 1999) and Breugh and Klimoski (1977) found that outsider representatives actually achieved better outcomes than insider representatives. In a similar vein, Thompson, Peterson, and Brodt (1996) found teams composed of strangers achieved better outcomes than teams composed of friends. Although not conducted within a CLT framework, these results support the broader idea that greater distance, both physical and social, in negotiation can promote a focus on higher level concerns and facilitate more beneficial agreements. Future research should explicitly examine the role of different construal levels for other dimensions of distance besides physical distance in both dyadic and group negotiation.

Coda

More and more, cultures are incorporating increased physical distance into fundamental aspects of human interaction, including distant learning and education (Tallent-Runnels et al., 2006), distant therapy and treatment (Mohr, Vella, Hart, Heckman, & Simon, 2008), and distant political participation (Best & Krueger, 2005). Critically, social conflict can arise in any of these areas. The current research helps to understand whether increased geographical distance offers the potential to facilitate social harmony or magnify the social ills of our society, and represents the beginning of a systematic investigation of such issues.

Supplementary materials related to this article can be found online at [doi:10.1016/j.jesp.2010.07.011](https://doi.org/10.1016/j.jesp.2010.07.011).

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