Why Negotiators Should Reveal Their Deadlines: Disclosing Weaknesses Can Make You Stronger

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Abstract

Conventional wisdom holds that negotiators who are under time pressure should avoid revealing their final deadlines to the other side, especially if they are in a weak position. The present study questions this conventional wisdom. The experiment manipulates time pressure on the negotiators, knowledge of that time pressure, and each side's power at the bargaining table. Power is manipulated by varying the quality of each side's alternatives to negotiated agreement (BATNAs). Results show that negotiators benefited from revealing their final deadlines, regardless of the strength of their BATNAs. The discussion explores why this simple lesson is counterintuitive and why negotiators mistakenly believe they ought to keep their deadlines secret.

On September 18, 1994, former U.S. President Jimmy Carter, together with Senator Sam Nunn and General Colin Powell, departed for Haiti for one last effort to persuade General Raul Cedras (Haiti's military commander) and his allies to relinquish power. Their negotiations were interrupted by a phone call from the then U.S. President Bill Clinton, who informed the negotiators that they had 30 min to leave Haiti because a U.S. invasion had already started. This time pressure helped produce a last-minute agreement in which the conflict was resolved peacefully (Dawson, 2001).

Other examples of negotiations in which agreement is reached in the final moments are plentiful in both the popular press and research results (Kennan & Wilson, 1990; Roth, Murnighan, & Schoumaker, 1988). Despite the empirical evidence demonstrating

their effectiveness, deadlines remain a misunderstood negotiation strategy. Many negotiators hesitate to set a deadline as, they believe, having a deadline reduces their freedom and puts pressure on them to reach an agreement quickly (Moore, 2004b).

These beliefs are supported by the advice of various best-selling negotiation books, which suggest that negotiators should avoid deadlines and, if they cannot avoid them, at least they should keep their final deadlines secret (Cohen, 1980; Dawson, 2001; Kennedy, 1994). The reasoning goes as follows: If the other side in the negotiation knows you are under time pressure, they know they can threaten delay if you do not concede to their demands (Cohen, 1980). Under such pressure, you will be forced to become more flexible and concede more than what you planned or wanted (Dawson, 2001). This advice is consistent with naïve intuition: Most negotiators, assuming that their deadline represents a weakness, choose not to disclose their time pressure (Moore, 2004a). Even experienced negotiators, when asked to predict the effect of final deadlines on negotiations, expect that the presence of a shared deadline will hurt them by forcing them to concede more quickly than they would like, thereby helping their opponents (Moore, 2004b, 2004c). But is it really a good strategy for negotiators to keep their final deadlines secret?

The Surprising Benefits of Telling About Deadlines in Negotiation

Evidence from laboratory studies suggests that keeping deadlines secret in negotiations is a mistake. Negotiators obtain better outcomes when they tell their opponents about their final deadlines (Moore, 2004b, 2004c, 2005). Moreover, negotiators who hide their deadlines increase the risk of an impasse. The reason why negotiators who reveal their deadlines do better than negotiators who do not is that when they tell, the other side learns that they too are under time pressure: If they cannot work out an agreement before the final deadline, both sides will be left with an impasse. When negotiators disclose their time pressure, their counterparts are more likely to work toward an agreement before the deadline and tend to make concessions more quickly than when the final deadline is kept secret (Moore, 2004b).

Yet, these facts are often overlooked by negotiators. In particular, negotiators fail to consider that deadlines increase pressure to reach an agreement not only on themselves but also on the other party. People routinely make the mistake of focusing on the effects of a deadline on themselves while failing to appreciate the impact of the same circumstance on others (Bazerman, 2004). As a result, negotiators do not successfully anticipate the benefits of revealing their final deadline to their opponents.

Do the Benefits of Revealing Final Deadlines Depend on One's Power?

Prior research on the effects of revealing deadlines in negotiation has used laboratory studies in which each party's payoff and reservation price were common knowledge. In addition, negotiators had alternatives to negotiated agreement (BATNAs, see Fisher & Ury, 1981) of comparable quality. Yet, many real-world negotiations are characterized by a power imbalance between two parties (Wolfe & McGinn, 2005). Is revealing deadlines equally beneficial for negotiators in high and low power positions? There is reason

to expect that it might not be. Time is, of course, a valuable resource in negotiation. It is often the negotiator with the least time pressure who can afford to be patient and can therefore hold out for what he or she wants (Rubinstein, 1982). Given that the presence of a deadline increases the risk of impasse (Carnevale & Lawler, 1987), it seems likely that negotiators with strong BATNAs ought to be relatively less concerned about the possibility of not reaching a deal. Therefore, it might be reasonable to assume that divulging one's deadlines may be more beneficial for negotiators with strong BATNAs than those with weak BATNAs.

We believe that this apparently reasonable logic makes exactly the mistake that negotiators so often make when they erroneously anticipate the effect of deadlines in negotiation: It fails to adequately appreciate how negotiators influence each other. The real distributional question in negotiation is how negotiators divide up the negotiating surplus that lies between the reservation prices established by their BATNAs (Raiffa, 1982). These BATNAs jointly create the bargaining zone in which agreements are potentially viable. The vast majority of negotiated settlements will land inside this bargaining zone, and the revelation of a time limit on the negotiation is unlikely to change that fact. The revelation of a deadline that does not reveal one's BATNA only tells the other side that they better hurry up if they want a deal—it does not help them determine how much they can obtain in the negotiation.

Because we independently manipulate the strength of negotiators' BATNAs and the revelation of their deadlines, the present study allows us to test whether these two variables interact with one another. Importantly, our manipulation of the revelation of deadlines is not confounded with a revelation regarding BATNAs.

Hypothesis Development

While most negotiations hold the potential for negotiators to integrate their interests and thereby create joint value (Bazerman & Neale, 1992; Neale & Bazerman, 1991; Thompson, 1990), the presence of a deadline might not give negotiators enough time to reach a fully integrative agreement. Evidence shows that short deadlines allow negotiators fewer opportunities to explore and revise erroneous beliefs (De Dreu, Koole, & Oldersma, 1999). Related research has found that time pressure gives negotiators less time to find wise solutions that integrate both sides' interests (Carnevale & Lawler, 1987; Yukl, Malone, Hayslip, & Pamin, 1976). More time may thus be useful for finding integrative agreements. This logic underlies our first two hypotheses:

Hypothesis 1a.   Negotiators with deadlines will reach deals with less joint value than negotiators without deadlines.

Hypothesis 1b.   Negotiators with deadlines will reach deals with less individual gain for themselves than negotiators without deadlines.

Time pressure also reduces the likelihood of reaching an agreement before the end of the negotiation. Negotiators tend to delay and fight for concessions, especially when the potential value of a deal is large and outweighs the cost of delay (Kennan & Wilson, 1989, 1990). They tend to concede only as an approaching deadline makes delay costly by increasing the risk of impasse (Ross & Wieland, 1996; Roth et al., 1988). Tight final

deadlines thus increase rates of impasse as there is not enough time for negotiators to reach an agreement (Carnevale, O'Connor, & McCusker, 1993; Moore, 2004c). Based on this evidence we predict that:

Hypothesis 2. The presence of a final deadline increases the risk of impasse.

Negotiators with final deadlines obtain better outcomes when they reveal their time pressure than when they keep it secret (Moore, 2004b). Indeed, when a final deadline is common knowledge at the bargaining table, both sides in the negotiation recognize that if they do not come to an agreement before the deadline, they will lose the benefits of a deal (Moore, 2004b). As a result, both parties tend to become more cooperative. Instead, if the final deadline is only known to the negotiator under time pressure, that party will be hurrying to achieve an agreement before time runs out, while the opponent will hold out, expecting a longer negotiation (Moore, 2004b). The implication is that secrecy will force greater concessions and lower payoffs for the party with the deadline. This leads us to the third hypothesis:

Hypothesis 3. For those negotiators with a deadline, keeping this deadline secret will result in a lower payoff than will revealing the deadline.

The Positive Effects of a Strong BATNA

In addition to the impact of final deadlines on negotiation outcomes, our study explores the interacting effect of deadlines and relative power within a negotiation on both the distribution and the integrativeness of outcomes. Prior laboratory studies have manipulated power within a negotiation in a variety of ways. Some researchers have employed priming procedures designed to reproduce the experience of power (e.g., Galinsky, Gruenfeld, & Magee, 2003). Others have manipulated power by simply activating the semantic concept of it through the use of word-fragment completion tasks (e.g., Magee, Galinsky, & Gruenfeld, 2007). Power has also been operationalized as the availability of support and the possibility to form coalitions (e.g., Beersma & De Dreu, 2002).

Most negotiation scholars, however, have manipulated power within a negotiation as an objective feature of what a party brings into the negotiation (Wolfe & McGinn, 2005). Specifically, researchers have varied either the value of the best alternative or the number of alternatives (Mannix & Neale, 1993; McAlister, Bazerman, & Fader, 1986; Pinkley, Neale, & Bennett, 1994; Sondak & Bazerman, 1991). Indeed, negotiation researchers agree that negotiators' BATNAs largely determine their power in the negotiation (Fisher & Ury, 1981; Pinkley et al., 1994; Raiffa, 1982). Thus, if a party has only few or only unattractive alternatives to the current negotiation, she will probably be reluctant to walk away from the bargaining table. As a result, she is in a less powerful position than that of a counterpart with more attractive options or a greater number of alternatives (Pinkley et al., 1994).

Prior research has shown that negotiators with objectively better or more numerous alternatives are more likely to achieve greater individual gains than those with objectively worse or fewer alternatives (Mannix & Neale, 1993). Similarly, related work has found that the strength (quality) of a negotiator's BATNA has positive effects on aspirations and on the overall size of the pie that is created (Pinkley et al., 1994). These findings suggest that in a negotiation in which the power balance between the parties is unequal, the

interests of the negotiator with a strong BATNA are likely to be addressed, while the interests of the party with a weak BATNA may be ignored (Wolfe & McGinn, 2005).

Following the procedure most commonly used in prior negotiation research, in our study we operationalized power by varying the strength of the negotiators' BATNAs. We then crossed this manipulation with whether or not the negotiator with a final deadline revealed it, so that we could investigate the interaction of these two variables.

The Interacting Effects of Final Deadlines and BATNAs

We expected that negotiators with final deadlines would benefit from disclosing the information about their time pressure to their counterparts as both parties share an interest in reaching an agreement before the final deadline. However, while there are benefits in revealing final deadlines, there might be costs in revealing the *reason* for final deadlines. In particular, if the reason implies one has an undesirable BATNA, the negotiator under time pressure should not reveal the why of her final deadline to her opponent as this information implies that one has poor alternatives to negotiation (Moore, 2004b). Imagine you are negotiating over the sale of your furniture. You have decided to sell it as you are moving out of the country and your flight leaves today. If the furniture is not sold before your flight departure, you will have to abandon it. Clearly, mentioning all these reasons to your counterpart would compromise your position.

In this example, you are not only constrained by a final deadline but you also have a poor BATNA. Other negotiators might be constrained by a final deadline but have a strong BATNA. In such settings, we suggest, the time-pressured negotiator would still benefit from revealing his deadline. Thus, we argue, there is not much basis to believe that these two factors (i.e., final deadlines and quality of BATNA) will interact. Prior research showing that power negotiators are more likely to end up with the larger share of the pie (Giebels, De Dreu, & Van de Vliert, 2000) has assumed that each side's power is known to the other party. Yet, in negotiations in which there is no such common knowledge, assessing the quality of one's BATNA compared to the other side is typically difficult.

As long as the existence of a final deadline can be disclosed without simultaneously revealing one's BATNA, we do not expect final deadlines to interact with the quality of negotiators' BATNAs. This reasoning leads us to the fourth hypothesis:
Hypothesis 4. Negotiators will benefit from revealing their final deadlines regardless of the strength of their BATNAs.

The Experiment

Participants in the experiment engaged in a negotiation over the sale of a used car. They played either the role of buyer or of seller. After reading the instructions but before starting the negotiation, participants were asked to report their aspirations, i.e., the best price they realistically hoped to get for the car. We collected transcripts of their negotiations and recorded their outcomes.

In the experiment, some participants were given 15 min to negotiate. Others were given a 5-min time limit for their negotiations. Half of the participants who only had

5 min to negotiate were instructed to reveal their time pressure immediately, while the other half were instructed to keep it secret. This manipulation was crossed with a manipulation of the quality of each side's BATNA.

We motivated participants in the study by paying them based on their negotiated outcomes. Indeed, failure to come to agreement resulted in zero payoffs for both sides at the bargaining table. This feature was included in the design of the experiment as we were interested in investigating the interacting effect of time pressure and the quality of BATNAs within negotiations in which impasse represented a forgone benefit (given that it results in a zero payoff).

Method

Participants

Participants were 320 students (primarily undergraduates) recruited from the campus community at a private university in Pennsylvania. Participants were recruited via electronic mail, campus mailings, and postings on electronic bulletin boards. Fifty-eight percent of the participants were male. The average age was 23 years ($SD = 5.53$). All participants received a $2 payment for showing up, and could earn up to an additional $8. On average, participants earned $2.42 ($SD = \$1.86$) in addition to the show-up fee.

Task

In the negotiation, each buyer wanted to buy a car and each seller wanted to sell a car. Full instructions and payoff tables appear in Appendix A and Appendix B. There were three issues in the negotiation: the car's price, who would fix the alternator, and who would replace the tires. What participants agreed to on each of those three issues determined how much they got paid for their negotiation. The value of a deal was judged relative to each side's BATNA. Participants got no payoff if their agreements were no better than their BATNAs. In that case, they wasted their time negotiating, and they should have just taken their fall-back option. Similarly, failure to come to agreement resulted in zero payoffs for both sides of the negotiation.

One of our experimental manipulations varied the quality of each side's BATNA within a negotiation. Specifically, we employed negotiations of two types: In the weak buyer condition, the seller had a strong BATNA, and the buyer had a weak BATNA. In the weak seller condition, the buyer had a strong BATNA and the seller had a weak BATNA. Thus, a negotiator's BATNA was either weak or strong relative to the alternative. When the buyer was the weak party in the negotiation (we refer to this setting as weak buyer condition), the buyer could buy a similar car for $10,000, while the seller could sell to another buyer for $8,000. When the seller was the weak party in the negotiation (weak seller condition), the buyer could buy a similar car for $9,000, while the seller's other buyer was only willing to pay $7,000. Participants were instructed to maximize their own payoffs. In the written instructions, buyers were told that for every $250 less they paid for the car, they would get paid $1 more in the experiment. So, if they

bought the car for $8,000 and their BATNA was $10,000, they would be paid $8. Analogously, sellers were told that for every $250 more they got for the car they sold, they would get paid $1 more in the experiment. So, if they sold the car for $10,000 and their BATNA was $8,000, they would be paid $8. In all conditions, participants were not told their opponents' payoffs or BATNAs.

Design

The experiment had a 2 (quality of BATNAs: weak buyer vs. weak seller) × 3 (final deadline: on strong party vs. on weak party vs. no final deadline) × 2 (revelation of time pressure: immediate vs. no revelation) between-subjects dyads factorial design. Participants were run in experimental sessions with an average of 4 dyads per session. There were 40 experimental sessions, each of which lasted approximately 30 min. Each dyad was randomly assigned to a condition.

Deadlines were operationalized with a 5-min time limit for the party under time pressure. The other party was given 15 min in which to negotiate, and the party with the deadline knew that his partner had more time. If there was no agreement after they had been negotiating 5 min, then the party with the final deadline was forced to depart, and both sides were left with impasses and zero payoffs from that negotiation.

In the immediate revelation of time pressure condition, the party with a final deadline was told to reveal it right at the beginning of the negotiation: "You must inform the seller of the 5-min time limit at the very beginning of your negotiation. It should be the first message you send." In the secret condition, the party with a final deadline was told that the opponent they would face would not know about their final deadline: "You must not inform the seller of the 5-min time limit. Make certain that you never say anything that could reveal it." Opponents in the secret condition expected to have 15 min in which to negotiate.

Procedure

Upon arrival at the laboratory, participants were welcomed and each was seated at a desk with a consent form, a packet of instructions that explains the experimental procedure, and a computer. Their instructions read: "You will be negotiating against a partner who will be seated at another computer, and who will remain anonymous. You will communicate via written messages sent via computerized 'chat.' In the negotiation, you will be negotiating over the sale of a used car." The computerized chat program allowed participants to send typed messages of any length to each other. When participants sent messages, the computer chat program added time tags to every message, making it easy for them to see how much time had elapsed.

The instructions also asked participants to not reveal their real names or anything that might allow their counterpart to identify them. Other than that, participants were free to tell their counterpart anything they wished, including their bottom line price. When participants were ready to begin, they logged in to the computer-mediated chat. The computers over which participants negotiated recorded transcripts of the interaction.

Dependent Variable

Both before and after the negotiation, each participant answered a brief questionnaire. In particular, before the negotiation they were asked what their aspiration was for the negotiation: "What is your aspiration? In other words, what is the best price you are realistically hoping to get?" Afterward, they were asked to write down how long the negotiation took and to compute their payoffs.[1]

After the negotiation, participants were asked to imagine that they would engage in another negotiation like the one they had just completed. They were then asked to imagine that they faced a 5-min deadline and to predict how outcomes would be influenced by the other side's knowledge of their deadline. Participants predicted negotiated outcomes (a) if the other side knew about their deadlines and (b) if the other side did not know. In addition to these two questions, participants were asked: "How do you expect that the other side's knowledge of your final deadline would affect the negotiation's outcome?" Participants responded twice to this question. The first time they answered on a 7-point scale that ran from "I would do much worse if they knew" to "I would do much better if they knew." The midpoint was labeled "no difference." The second time they answered regarding the consequences for the other side, using a 7-point scale that ran from "The buyer [seller] would do much worse if they knew" to "The buyer [seller] would do much better if they knew." Also in this case the midpoint was labeled "no difference."

At the end of the experiment, participants were paid based on their outcomes, thanked, debriefed, and dismissed.

Results

One dyad was eliminated from the analysis as the participants reported they did not understand the instructions of the experiment. After eliminating these two participants, we were left with 318 individuals, or 159 dyads.

Means and standard deviations for the major dependent variables appear in Table 1, and correlations between dependent variables appear in Table 2.

The dyadic nature of negotiation suggests that the analyses should be conducted at the dyad rather than at the individual level. For most of the analyses, we therefore treat the two negotiators in a dyad as levels of a within-subject factor.

Aspirations

Prior research in the negotiation literature has found evidence for expectancy confirmation in negotiated outcomes: Aspirations are powerful drivers of settlement (Yukl, 1974). As Table 2 shows, in the present study both buyer's aspiration price and seller's aspiration price were positively correlated with the actual agreement price, $r = .53$ for buyers and

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[1]Before analyzing the data, we reviewed self-reported payoffs by reading the transcripts of each negotiation. Whenever there was an error in the self-reported payoff, the payoff was corrected and the corrected value was the one used in the analyses.

Table 1
Descriptive Statistics of Dependent Variables Pooled by Condition

	Buyer is the weak party in the negotiation					Seller is the weak party in the negotiation				
	BD—Imm. Rev.	BD—No Rev.	NFD	SD—Imm. Rev.	SD—No Rev.	BD—Imm. Rev.	BD—No Rev.	NFD	SD—Imm. Rev.	SD—No Rev.
No. buyers	17	17	14	17	15	18	15	14	17	15
No. sellers	17	17	14	17	15	18	15	14	17	15
Aspiration price (B)	8,703 (1,067)	8,353 (859)	8,229 (989)	8,476 (749)	8,213 (795)	7,450 (564)	7,711 (472)	7,725 (781)	7,565 (747)	7,750 (701)
Aspiration price (S)	9,247 (392)	10,435 (3,611)	9,114 (312)	9,403 (386)	9,220 (532)	8,388 (524)	8,246 (368)	8,093 (472)	8,338 (340)	8,080 (413)
Actual negotiation length (min)	4:05 (1:03)	4:00 (1:05)	7:26 (3:41)	4:36 (0:26)	4:11 (0:51)	4:10 (0:56)	3:51 (1:35)	7:47 (4:43)	4:28 (0:59)	4:42 (0:44)
Impasse rate (%)	18	53	7	35	27	17	33	0	24	33
Sale price among dyads agreeing	9,141 (441)	9,063 (351)	9,027 (315)	8,914 (442)	8,794 (470)	7,790 (356)	8,265 (506)	8,061 (338)	8,112 (422)	8,108 (261)
Seller's payoff (impasse = 0)	834 (489)	418 (553)	639 (382)	356 (503)	348 (577)	436 (421)	577 (475)	732 (276)	626 (514)	580 (475)
Buyer's payoff (impasse = 0)	354 (323)	253 (422)	746 (392)	538 (587)	732 (684)	731 (500)	423 (389)	696 (294)	421 (442)	395 (352)
Sale price, no knowledge (predicted by seller)	9,258 (293)	9,300 (404)	9,179 (350)	9,073 (557)	8,913 (473)	8,050 (581)	7,950 (409)	8,275 (506)	7,850 (659)	8,094 (451)
Sale price, with knowledge (predicted by seller)	8,748 (632)	8,400 (443)	8,808 (422)	8,855 (430)	8,800 (639)	7,890 (450)	7,580 (638)	7,963 (526)	7,991 (263)	7,706 (496)

Continued

Table 1
Continued

	Buyer is the weak party in the negotiation					Seller is the weak party in the negotiation				
	BD—Imm. Rev.	BD—No Rev.	NFD	SD—Imm. Rev.	SD—No Rev.	BD—Imm. Rev.	BD—No Rev.	NFD	SD—Imm. Rev.	SD—No Rev.
Sale price, no knowledge (predicted by buyer)	9,319 (565)	9,257 (382)	8,963 (473)	8,813 (925)	8,656 (533)	7,927 (511)	8,093 (485)	7,772 (518)	7,933 (503)	7,863 (628)
Sale price, with knowledge (predicted by buyer)	9,231 (390)	8,964 (722)	9,131 (347)	8,950 (366)	9,088 (542)	7,977 (398)	7,707 (1,587)	8,178 (444)	8,102 (487)	8,238 (478)
Revealing FD helps self (predicted by buyer and seller)	3.06 (1.61)	3.40 (1.85)	3.60 (1.47)	3.10 (1.32)	3.20 (1.44)	3.76 (1.75)	3.78 (1.90)	2.95 (1.35)	3.96 (1.71)	3.35 (1.76)
Revealing FD helps other (predicted by buyer and seller)	4.72 (1.49)	4.65 (1.63)	4.60 (1.14)	4.93 (1.28)	4.80 (1.40)	4.70 (1.51)	4.94 (1.73)	4.89 (1.28)	4.50 (1.37)	5.20 (1.15)

Note. BD, buyer's deadline; SD, seller's deadline; NFD, no final deadline; B, buyer; S, seller; Imm. Rev., immediate revelation; FD, final deadline. Standard deviations are reported in parentheses.

Table 2

Means, Standard Deviations, and Correlations among Variables

	1	2	3	4	5	6
M (SD)	8,018	8,883	5:01	8,484	523	551
	(872)	(1,423)	(2:34)	(628)	(476)	(489)
1. Buyer's aspiration price						
2. Seller's aspiration price	.24**					
3. Actual length	−.04	−.01				
4. Actual agreement price	.53**	.71**	.000			
5. Buyer's payoff	−.20*	−.17*	.12	−.45**		
6. Seller's payoff	.19*	−.12	−.09	.47**	−.14	

Note. *p < .05, **p < .001.

$r = .71$ for sellers, with both $p < .001$. These correlations suggest that both buyers' and sellers' expectations were confirmed in the agreement price. We also found that aspirations were influenced by deadlines. To compare the aspirations of buyers and sellers, we computed the expected payoff of the deal they aspired to achieve. So, for example, a buyer with a BATNA of $9,000 and an aspiration price of $6,500 would have an expected negotiated payoff equal to $2,500. A within-subjects ANOVA at the dyad level reveals that negotiators who had final deadlines expected significantly lower payoffs ($M = \$1,423$, $SD = \$1,397$) than did their counterparts ($M = \$1,600$, $SD = \$1,247$), $F(1, 130) = 4.84$, $p = .03$, $\eta^2 = .04$. The effect of negotiators' deadlines on their aspirations was not affected by whether they expected to have to disclose them, $F(1, 129) = .04$, $p = .85$.

Effects of the Quality of BATNA

Previous work in the negotiation literature has also shown that the strength of a negotiator's BATNA positively affects negotiated outcomes (e.g., Pinkley et al., 1994). Thus, we expected the party with a weak BATNA in the negotiation to obtain a worse deal. Indeed, among those dyads who reached agreement, final sale prices were significantly higher when it was the seller who had the strong BATNA ($M = \$8,998$, $SD = \$414$) than they were when it was the buyer who had the strong BATNA ($M = \$8,011$, $SD = \$362$), $t(117) = -13.77$, $p < .0001$.

Effects of Final Deadlines

There were 131 dyads (out of a total of 159) in which one of the two parties was given a 5-min deadline. The remaining 28 dyads had 15 min to negotiate. Not surprisingly, in negotiations which ended with an agreement, the average amount of time spent negotiating was significantly lower for dyads in which one party had a final deadline ($M = 4:16$, $SD = 0:59$) than for dyads in which neither side was under time pressure ($M = 7:37$, $SD = 4:08$), $t(117) = 7.10$, $p < .0001$. Time pressure also affected the outcomes of the negotiations. Dyads with 5-min time limits obtained a significantly lower joint payoff ($M = 1,103$, $SD = 662$) than dyads with 15-min time limits ($M = 1,407$,

$SD = 296$), $t(157) = 3.16$, $p = .002$, thus supporting Hypothesis 1a which predicted that having a final deadline is bad integratively.

One reason for this result is the fact that impasse was more likely when one of the parties in the negotiation had a final deadline (30%) than when there was no time pressure (4%), $\chi^2(1, N = 159) = 8.41$, $p = .004$. The presence of a final deadline increased the risk of impasse as predicted by Hypothesis 2.

We also wanted to know whether having a deadline reduced the payoffs of the negotiator with the deadline. In order to test this, we conducted a hierarchical linear model (HLM) with (individual) payoff as the dependent variable, dyad as a random factor, presence of time pressure within the dyad as a between-subjects factor, and expected value of the deal as a covariate. We computed the expected value of the deal based on participants' aspiration prices before starting the negotiation. This test shows that the expected value of the deal had a positive impact on negotiators' payoff (coefficient = .05, $t = 2.04$, $p = .04$): higher aspirations led to higher payoffs, given agreement. This test also reveals that, after controlling for aspirations, the absence of time pressure had a positive impact of negotiators' final payoffs (coefficient = 255.22, $t = 1.92$, $p = .06$): on average, negotiators with deadlines obtained lower payoffs than did those without. This effect is partially driven by the higher rate of impasse among those with deadlines.[2] These results are consistent with the notion that having a deadline is bad distributively, as predicted by Hypothesis 1b.

We conducted additional analyses which included only those dyads that reached agreement to investigate the impact of final deadlines on individual and joint gains when negotiators reached an agreement. We first looked at integrative outcomes and found no significant difference in the joint value of negotiated outcomes between those with deadlines ($M = 1,429$, $SD = 105$) and those without ($M = 1,459$, $SD = 108$), $t(117) = 1.32$, $p = .19$.

We then examined distributive outcomes and conducted the same HLM analysis presented above, but this time we excluded those dyads whose negotiations ended in impasse. This analysis revealed only a marginally significant difference in the final payoff obtained by the negotiator with the deadline ($M = 657$, $SD = 451$) and the negotiator without ($M = 771$, $SD = 452$), $t(182) = 1.72$, $p = .09$.

Effects of Revealing Final Deadlines

Our third hypothesis predicted that the negative effect of deadlines would be ameliorated by their prompt revelation. Four of the 69 individuals with deadlines who were instructed to reveal them immediately failed to do so. The deadline was never mentioned in any of these negotiations. Therefore, for the purposes of our analyses, these dyads were grouped with those who were instructed not to reveal their deadlines. None of the 62 individuals with deadlines that they were instructed to keep secret violated their instructions.

Consistent with Hypothesis 3, revelation of deadlines helped by decreasing the rate of impasse. Indeed, dyads in which deadlines were revealed had a marginally significant

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[2]As reported above, negotiators under time pressure had a significantly higher rate of impasse (30%) than dyads in which deadlines were kept secret (4%), $\chi^2(1, N = 159) = 8.41$, $p = .004$.

lower rate of impasse (23%) than dyads in which deadlines were kept secret (37%), $\chi^2(1, N = 131) = 3.02$, $p = .08$. Among the dyads with final deadlines whose negotiations did not end in impasse, the time pressure was revealed in 53 dyads and kept secret in 39 dyads. Among these 92 dyads, the party with the deadline obtained a larger proportion of the bargaining surplus when they told about their deadlines (54%) than when they did not (43%). This difference is marginally significant, $t(90) = -1.70$, $p = .09$.

Do the Benefits of Revelation Depend on Power?

Our final hypothesis predicted that negotiators would benefit from revealing their final deadlines, regardless of the strength of their BATNAs. In order to test this fourth hypothesis, we performed a hierarchical linear model with payoff as the dependent variable, dyad as a random factor, party with final deadline (party with weak BATNA vs. party with strong BATNA) and revelation of time pressure (yes vs. no) as fixed effects (between-subjects factors), and controlling for the expected value of the deal. The expected value of the deal was computed based on participants' aspiration price before starting the negotiation. Dyads with no final deadline were excluded from this analysis. Two coefficients were statistically significant at the 10% level. The expected value of the deal had a positive impact on negotiators' payoff (coefficient = .04, $t = 1.85$, $p = .07$) because higher aspirations did lead to higher payoffs, given agreement. Similarly, revealing one's final deadline had a positive effect on negotiators' payoff (coefficient = 146.42, $t = 1.69$, $p = .09$). No other estimate was statistically significant, including the coefficient for the interaction effect between revelation and strength of BATNA (coefficient = 134.50, $t = 1.09$, $p = .28$). These results support Hypothesis 4.

Predicting the Effects of Disclosure

Because we wanted to test whether participants understood the effects of revealing final deadlines, once the negotiation was completed, participants were asked to imagine that they would negotiate a second time under a final deadline. Participants made two predictions of sale price: first if the other side knew about the deadline and again if the other side did not know. It is possible to infer from each predicted outcome how much money participants expected that they would make. These payoff predictions were tested using a repeated-measures ANOVA with knowledge (the other side knows vs. does not know) as a within-subjects measure and role (buyer vs. seller) as a between-subjects factor. Only 239 individuals completed the survey, and only 189 of them provided an answer for predicted sale price. Consistent with prior findings (Moore, 2004b), participants predicted that they would achieve significantly higher payoffs from negotiations in which their own final deadlines were secret from the other side ($M = \$1,079$, $SD = \$524$) than from negotiations in which the other side knew about the deadline ($M = \$866$, $SD = \$555$), $F(1, 188) = 19.65$, $p < .0001$, $\eta^2 = .10$.

   These results are mirrored in participants' rated predictions on 7-point scales. They predicted that the revelation of a deadline would hurt their own outcomes and help those of their opponents, $F(1, 238) = 58.99$, $p < .0001$, $\eta^2 = .20$. A correlation analysis

reveals that, even when controlling for dyads, these ratings for self and opponent are negatively correlated, $r = .61$, $p < .001$. This negative correlation suggests that participants believed revealing a final deadline would hurt the self and help the opponent.

Discussion

We conducted this study to investigate how time pressure, knowledge and power affect negotiation outcomes. We expected that time pressure would represent a drag on negotiated outcomes in part because it would increase the rate of impasse. It also makes sense to expect that time pressure would make it harder to find integrative trade-offs (Carnevale & Lawler, 1987), but this effect did not attain statistical significance in our data. We also found, as we hypothesized, that the immediate revelation of final deadlines would translate into greater payoff to the party with the deadline. We did not find any evidence that the benefit of revealing deadlines depended on negotiators' power.

Like prior studies that have shown that revealing final deadlines in negotiation can lead to better outcomes for the negotiator with the deadline because revelation speeds concessions by the other side, negotiators in our study obtained higher payoffs if they told about their deadlines than if they did not. The effect appears to hold regardless of whether a deadline is revealed exogenously by an experimenter (as in Moore, 2004b) or endogenously by one of the negotiators (as in the present study). However, the effect is not a particularly large one. Indeed, the benefit of revealing one's final deadline was only marginally significant in the present results. The more noteworthy result is how radically the actual results of revealing final deadlines differed from participants' predictions.

Why Are Predictions so Myopic?

Participants consistently predicted that final deadlines would hurt them—this belief appears both in their answers to the postnegotiation questionnaire, as well as in their aspirations before negotiations. One explanation for this effect is that participants were better at anticipating the effect of situational constraints on their own behavior than on the behavior of others. This result is consistent with the actor-observer effect documented by social psychology research: people appreciate the situational effects on their own behavior, but routinely fail to do so for others (Nisbett, Caputo, Legant, & Maracek, 1973). One consequence of this fact is that negotiators more clearly anticipate the effects of the final deadline on their own behavior than on the behavior of their opponents (Moore, 2005). Under some circumstances, this effect may be quite sensible. For instance, when people learn that a task is particularly difficult for them but are not so sure about others, it might make sense to believe that they are worse than others (Moore & Cain, 2007; Moore & Small, 2008). However, it is harder to justify the beliefs we document here as normatively justified.

If only participants had taken the perspective of their opponents, it should have been obvious to them that the presence of the deadline would be likely to affect the other side similarly (for the demonstration of such a perspective-taking effect, see Moore & Kim, 2003). This suggests the possibility that getting negotiators to take the perspectives

of their opponents might reduce or eliminate the bias in their predictions regarding the effect of disclosing deadlines. It seems likely that this perspective-taking might be facilitated by a cooperative relationship between negotiators, and impeded to the extent that expectations of cooperation lead negotiators to expect that their interests are opposed to those of the other side (Lanzetta & Englis, 1989), but this is a topic for future research.

Limitations

One of the key questions asked in this study was whether the strength of a negotiator's BATNA would influence the consequences of revealing final deadlines. Our results suggest that the benefits of revealing final deadlines hold regardless of negotiators' power. However, we should be cautious when interpreting what is basically a null effect: the absence of a deadline revelation by power interaction. Interactions can be more difficult to detect than main effects, and it is of course possible that we simply failed to detect an effect that was there. Nevertheless, we cannot attribute this finding to a failure of the power manipulation. It was clearly effective, as shown by its substantial influence on sale prices.

We should note a key distinction that bounds the lesson of this article: the difference between final deadlines and time costs. Final deadlines mark the time limit past which negotiations cannot proceed. Time costs, on the other hand, are costs incurred as negotiation proceeds. Time costs do not limit the length of the negotiation, they only make continued negotiation expensive. Time costs serve to make negotiators impatient in the sense that the higher their time costs, the more eager they are to obtain a speedy agreement and the more they are willing to sacrifice in order to see that happen. While we have argued that it is always in negotiators' interests to reveal their final deadlines, we believe that it is rarely in their interest to reveal time costs (Rubinstein, 1982). Because time costs can apply to only one side of the negotiation, and because they make negotiators vulnerable to threats of delay, time costs are best kept secret—unless, of course, your opponent thinks your time costs are higher than they actually are.

Conclusions

The research presented in this article contributes to our understanding of how time pressure influences outcomes in negotiation. This knowledge is useful to negotiators who want to use time pressure strategically. Our results show that negotiators benefited from revealing their final deadlines. The article also contributes to research on the effects of power on negotiated outcomes. Previous studies have investigated the influences of time pressure and power on negotiated outcomes separately. In this article, we also examined their interaction. This inquiry was motivated in part by the concern that divulging one's time pressure may be more beneficial for negotiators with strong BATNAs than for those with weak BATNAs. Our results show that, independent of the quality of their BATNA, negotiators under time pressure should reveal their final deadlines. That is, the benefits of revealing final deadlines persist even when the negotiator under time pressure has a bad BATNA.

These findings have a number of important practical implications. Negotiators often mistakenly believe that final deadlines will hurt them. This concern leads negotiators to avoid setting deadlines, even though imposing final deadlines can often have substantial strategic benefits (Moore, 2004c). And, as we show, negotiators say they prefer to keep their final deadlines secret, even though revealing them is beneficial. Keeping final deadlines secret, of course, turns a shared constraint into real liability. The deadline that Bill Clinton forced on Carter, Powell, and Nunn in their negotiations with Haiti's military ruler would have had little benefit in forcing action if they had kept the deadline secret from General Cedras. When only one side knows about the deadline, that player is forced to concede quickly in order to obtain an agreement, while the opponent concedes at a more leisurely pace, expecting a longer negotiation (Moore, 2004b). Nevertheless, both naïve and experienced negotiators consistently predict that telling the other side will hurt their own outcomes, and they tend to choose to keep their own final deadlines secret (Moore, 2004b).

Carter, Powell, and Nunn benefited from revealing their deadline, and the reason for it, in part, is because their counterpart's BATNA got so much worse after the deadline passed. Yet, revealing one's deadline need not entail simultaneous revelation of one's BATNA. Although it may sometimes be helpful to reveal one's BATNA (Fisher & Ury, 1981), it is generally best to do so when it is better than the other side thinks it is (McCarthy, 1991). Without excellent information about what the other side thinks, revealing one's BATNA can be risky. Thus, while time-pressured negotiators should reveal their final deadline independent of the quality of their BATNA, they can usually do so without disclosing their alternatives.

We negotiate with others on a daily basis. In the end, the outcomes we walk away with depend on our ability to select the right negotiation strategies. We naturally assume that, while negotiating, we should show our strengths (such as good BATNAs) to our opponent and hide our weaknesses (such as final deadlines). Yet, the evidence presented in this article suggests that we should cast doubt on these intuitions as telling our opponents about shared weaknesses can, under some circumstances, make us stronger.

References

Bazerman, M. H. (2004). The mind of the negotiator: The high cost of close focus. *Negotiation*, *7*(7), July 1.

Bazerman, M. H., & Neale, M. A. (1992). *Negotiating rationally*. New York: Free Press.

Beersma, B., & De Dreu, C. K. W. (2002). Integrative and distributive negotiation in small groups: Effects of task structure, decision rule, and social motive. *Organizational Behavior and Human Decision Processes*, *87*, 227–252.

Carnevale, P. J. D., & Lawler, E. J. (1987). Time pressure and the development of integrative agreements in bilateral negotiations. *Journal of Conflict Resolution*, *30*(4), 636–659.

Carnevale, P. J. D., O'Connor, K. M., & McCusker, C. (1993). Time pressure in negotiation and mediation. In O. Svenson & A. J. Maule (Eds.), *Time pressure and stress in human judgment and decision making* (pp. 117–127). New York: Plenum.

Cohen, H. (1980). *You can negotiate anything*. Secaucus, NJ: Lyle Stuart.

Dawson, R. (2001). *Secrets of power negotiating*. Franklin Lakes, NJ: The Career Press.

De Dreu, C. K. W., Koole, S. L., & Oldersma, F. L. (1999). On the seizing and freezing of negotiator inferences: Need for cognitive closure moderates the use of heuristics in negotiation. *Personality and Social Psychology Bulletin*, *25*(3), 348–362.

Fisher, R., & Ury, W. (1981). *Getting to yes: Negotiating agreement without giving in*. New York: Penguin Books.

Galinsky, A. D., Gruenfeld, D. H., & Magee, J. C. (2003). From power to action. *Journal of Personality and Social Psychology*, *85*, 453–466.

Giebels, E., De Dreu, C. K. W., & Van de Vliert, E. (2000). Interdependence in negotiation: Effects of exit options and social motive on distributive and integrative negotiation. *European Journal of Social Psychology*, *30*, 255–272.

Kennan, J., & Wilson, R. (1989). Strategic bargaining models and interpretation of strike data. *Journal of Applied Economics*, *4*(*Suppl.*), S87–S130.

Kennan, J., & Wilson, R. (1990). Theories of bargaining delays. *Science*, *249*, 1124–1128.

Kennedy, G. (1994). *Harvard business/The economist field guide to negotiation*. Boston, MA: Harvard Business School Press.

Lanzetta, J. T., & Englis, B. G. (1989). Expectations of cooperation and competition and their effects on observers' vicarious emotional responses. *Journal of Personality and Social Psychology*, *56*(4), 543–554.

Magee, J. C., Galinsky, A. D., & Gruenfeld, D. H. (2007). Power, propensity to negotiate, and moving first in competitive interactions. *Personality and Social Psychology Bulletin*, *33*(2), 200–212.

Mannix, E. A., & Neale, M. A. (1993). Power imbalance and the pattern of exchange in dyadic negotiation. *Group Decision and Negotiation*, *2*, 119–133.

McAlister, L., Bazerman, M. H., & Fader, P. (1986). Power and goal setting in channel negotiations. *Journal of Marketing Research*, *23*, 228–236.

McCarthy, W. (1991). The role of power and principle in getting to yes. In J. W. Breslin & J. Z. Rubin (Eds.), *Negotiation theory and practice* (pp. 115–122). Cambridge, MA: The Program on Negotiation at Harvard Law School.

Moore, D. A. (2004a). Deadline pressure: Use it to your advantage. *Negotiation*, *7*(8). August.

Moore, D. A. (2004b). Myopic prediction, self-destructive secrecy, and the unexpected benefits of revealing final deadlines in negotiation. *Organizational Behavior and Human Decision Processes*, *94*(2), 125–139.

Moore, D. A. (2004c). The unexpected benefits of final deadlines in negotiation. *Journal of Experimental Social Psychology*, *40*(1), 121–127.

Moore, D. A. (2005). Myopic biases in strategic social prediction: Why deadlines put everyone under more pressure than everyone else. *Personality and Social Psychology Bulletin*, *31*(5), 668–679.

Moore, D. A., & Cain, D. M. (2007). Overconfidence and underconfidence: When and why people underestimate (and overestimate) the competition. *Organizational Behavior & Human Decision Processes*, *103*, 197–213.

Moore, D. A., & Kim, T. G. (2003). Myopic social prediction and the solo comparison effect. *Journal of Personality and Social Psychology*, *85*(6), 1121–1135.

Moore, D. A., & Small, D. A. (2008). When it's rational for the majority to believe that they are better than average. In J. I. Krueger (Ed.), *Rationality and social responsibility: Essays in honor of Robyn M. Dawes*. Mahwah, NJ: Erlbaum, in press.

Neale, M. A., & Bazerman, M. H. (1991). *Cognition and rationality in negotiation*. New York: Free Press.

Nisbett, R. E., Caputo, C., Legant, P., & Maracek, J. (1973). Behavior as seen by the actor and as seen by the observer. *Journal of Personality and Social Psychology*, *27*(2), 154–164.

Pinkley, R. A., Neale, M. A., & Bennett, R. J. (1994). The impact of alternatives to settlement in dyadic negotiation. *Organizational Behavior and Human Decision Processes*, *57*, 97–116.

Raiffa, H. (1982). *The art and science of negotiation*. Cambridge, MA: Belknap.

Ross, W. H., & Wieland, C. (1996). The effects of interpersonal trust and time pressure on managerial mediation strategy in a simulated organizational dispute. *Journal of Applied Psychology*, *81*, 228–248.

Roth, A. E., Murnighan, J. K., & Schoumaker, F. (1988). The deadline effect in bargaining: Some experimental evidence. *American Economic Review*, *78*(4), 806–823.

Rubinstein, A. (1982). Perfect equilibrium in a bargaining model. *Econometrica*, *50*(1), 97–109.

Sondak, H., & Bazerman, M. H. (1991). Power balance and the rationality of outcomes in matching markets. *Organizational Behavior and Human Decision Processes*, *50*, 1–23.

Thompson, L. L. (1990). The influence of experience on negotiation performance. *Journal of Experimental Social Psychology*, *26*, 528–544.

Wolfe, R. J., & McGinn, K. L. (2005). Perceived relative power and its influence on negotiations. *Group Decision and Negotiation*, *14*, 3–20.

Yukl, G. (1974). Effects of the opponent's initial offer, concession magnitude and concession frequency on bargaining behavior. *Journal of Personality and Social Psychology*, *30*(3), 323–335.

Yukl, G. A., Malone, M. P., Hayslip, B., & Pamin, T. A. (1976). The effects of time pressure and issue settlement order on integrative bargaining. *Sociometry*, *39*(3), 277–281.

Appendix A

The Car Negotiation (instructions for someone in the role of the buyer, assigned to the condition with a 5-min deadline and instructions to reveal it immediately).

It is time for you to buy a car, and you have your heart set on a Ford Explorer. You cannot afford a new one, and after scouring the used car classified ads you found two Explorers that seem promising. Both are only a couple of years old and both have just the standard features (air conditioning, power steering, AM/FM stereo with CD player, dual front air bags, and 4-wheel ABS braking system), which is really all you want.

The first Explorer you saw was in good condition and does not require any maintenance work. You negotiated the sellers down to a price of $10,000 but then they refused to bring the price down any more. You told them you were going to keep looking and they told you that if you changed your mind and were ready to pay $10,000 you should come back.

The second Explorer was advertised for $10,000 but you think you can get it for less. After taking it on a test-drive, you took it to your mechanic, whom you know well and trust completely. She told you that the car is generally well maintained and in good

shape. However, there are two maintenance issues that need attention: (a) the alternator needs to be replaced, and (b) the tires need to be replaced. Your mechanic said that she happened to have an extra alternator on which she could give you a discount, so it would only cost you $200. Replacing all four tires, however, would cost $400. So, if you get both issues fixed it will cost you $600. Of course, it would be ideal if the seller would agree to fix these problems before you buy the car.

You are preparing to meet the seller of the second Explorer and you are hoping to negotiate the price down. You are ready to make a deal immediately.

The seller expects to have 15 min to negotiate. However, due to your own time constraints, you have a final deadline at 5 min. If you do not have an agreement within 5 min, then you will have to buy the first Explorer you saw for $10,000. You must inform the seller of the 5-min time limit at the very beginning of your negotiation. It should be the first message you send.

You will be paid for your outcome in this exercise. The lower the price you get, the more money you will get paid today. If you pay $10,000 for an Explorer in good working order, you get paid nothing. For every $250 less you pay for the Explorer, you get paid $1 more today. So, if you buy an Explorer for $8,000 you will be paid $8. Remember, you will have to pay the cost of replacing the alternator and the tires if the seller does not.

The Car Negotiation (instructions for someone in the role of the seller, assigned a 15-min deadline).

It is time for you to sell your Ford Explorer. You have had it only a few years, and have generally done a good job maintaining it. It has the standard features: air conditioning, power steering, AM/FM stereo with CD player, dual front air bags, and 4-wheel ABS braking system. You advertised the car with an asking price of $10,000 in the classified section of the local paper. Two potential buyers have come to see the car.

The first buyer offered you $8,000 and refused to pay any more. You were not ready to sell at that price, but she left you her phone number and said that if you changed your mind you should give her a call.

The second buyer took the car out on a test drive and to be inspected by a mechanic. You yourself are fairly familiar with cars, as you manage a tire store. You suspect that the alternator needs to be replaced (a repair that will cost $400), and you know that the tires need to be replaced. You could get tires at a discount in your shop, so it would only cost $200 to replace the tires with new ones. Of course, you prefer to let the buyer deal with these repairs.

The second buyer is coming back from the test drive to negotiate with you. You are ready to make a deal immediately if you can get a better deal than $8,000.

You will have 15 min to negotiate. If you do not have an agreement within 15 min, then you will have to sell to the first buyer for $8,000.

You will be paid for your outcome in this exercise. The higher the price you get, the more money you will get paid today. If you sell your Explorer for $8,000, you get paid nothing. For every $250 more you get for the Explorer, you get paid $1 more today. So, if you sell an Explorer for $10,000 you will be paid $8. Remember to figure in the costs of any repairs you agree to do.

Appendix B

Weak party (buyer, seller)	Final deadline (on weak party, none)	Revelation	Buyer's BATNA	Seller's BATNA
Buyer	Buyer deadline	Immediate	$10,000	$8,000
Buyer	Buyer deadline	No revelation	$10,000	$8,000
Buyer	No final deadline	Immediate	$10,000	$8,000
Seller	Seller deadline	No revelation	$9,000	$7,000
Seller	Seller deadline	No revelation	$9,000	$7,000
Seller	No final deadline	No revelation	$9,000	$7,000
Buyer	Seller deadline	Immediate	$10,000	$8,000
Buyer	Seller deadline	No revelation	$10,000	$8,000
Seller	Buyer deadline	Immediate	$9,000	$7,000
Seller	Buyer deadline	No revelation	$9,000	$7,000

Cost of repairs		
	To buyer	To seller
Alternator	$200	$400
Tires	$400	$200

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