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The Impact of Concession Patterns on Negotiations: When and Why Decreasing Concessions Lead to a Distributive Disadvantage

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Abstract

We propose that making a series of decreasing concessions (e.g., $1,500-1,210-1,180-1,170) signals that negotiators are reaching their limit and that this results in a negotiation disadvantage for offer recipients. Although we find that most negotiators do not use this strategy naturally, seven studies (N=2,311) demonstrate that decreasing concessions causes recipients to make less ambitious counteroffers (Studies 1-5) and reach worse deals (Study 2) in distributive negotiations. We find that this disadvantage occurs because decreasing concessions shape recipients' expectations of the subsequent offers that will be made, which results in inflated perceptions of the counterparts' reservation price relative to the other concession strategies (Study 3). In addition, we find that this disadvantage is particularly large when concessions decrease at a moderate rate (Study 4a) and when decreasing concessions takes place over more (vs. fewer) rounds (Study 4b). Finally, we find that recipients can protect themselves against the deleterious effects of decreasing concession by thinking of a target before they enter the negotiation (Study 5).

Keywords: negotiations, concessions, reservation price, offers, signaling, distributive

Negotiations are ubiquitous. Making the case for a higher budget, leading a change initiative, purchasing goods and services, and discussing employment terms all involve negotiating. A negotiation can be defined as a joint decision-making process in which two or more parties with different interests allocate resources (Pruitt & Carnevale, 1993). Negotiations are also characterized by asymmetric distribution of information and uncertainty as negotiators usually do not have full and reliable information about their counterparts' dispositions and situation (Bottom, 1998; Neale & Fragale, 2006). However, negotiators are motivated to acquire such information because it can help them assess how much value they should aspire to claim (Lax & Sebenius, 1985), how their counterparts would react to their moves (Neale & Fragale, 2006), and how much room they have to negotiate (Pruitt, 1981; Raiffa, 1982). This motivation is heightened especially in negotiations about a single distributive (i.e., zero-sum) issue where the amount of information about one's counterpart is a critical antecedent of one's ability to claim value (Thompson, 2015). Thus, when negotiators are evaluating their counterparts' situation in distributive negotiations, they are sensitive to and rely on various contextual cues, such as offers (Liebert et al., 1968), emotional expressions (Van Kleef et al., 2004),verbal communication (O'Connor & Carnevale, 1997) and reciprocity from counterparts (Weingart & Olekalns, 2004).

One of the most extensively studied contextual cues in distributive negotiations is offers. For example, Galinsky and Mussweiler (2001) theorized that first offers signal a range of plausible agreements that a negotiator prefers over other agreements. Ames and Mason (2015) showed that range offers (e.g., $600-700) signal a more ambitious bottom line than point offers (e.g., $600). Relatedly, prior research has documented that changes in offers over time (i.e., concessions) can signal information about negotiators' intentions and dispositions (Hamner, 1974; Klimoski & Breaugh, 1977). Concessions are defined as "a change of offer in the supposed direction of the other party's interests that reduces the level of benefit

sought" (Pruitt, 1981, p. 19). Making a concession can signal that negotiators are willing to come to an agreement quickly (Esser & Komorita, 1975; Hamner, 1974), are not ambitious (Siegel & Fouraker, 1960), or want to encourage reciprocity (Bateman, 1980; Osgood, 1959).

Although existing research provides useful insights into information that offers and concessions convey about a negotiator's intentions or negotiation situation (Loschelder et al., 2016), it has not systematically examined whether and how specific *changes in magnitude of concessions over time* convey information about one's counterpart. This is important to understand because negotiators often *track* their counterparts' offers throughout the negotiation (Pruitt, 1981) to reduce uncertainty and determine how much they can demand. Two underpowered studies that examined the impact of decreasing concessions on counteroffers found no effect (MacMurray & Lawler, 1986; Yukl, 1974). In addition, two other studies by Druckman and colleagues are relevant to our investigation but operationalized concession patterns as a function of counterparts' concessions and leave it unclear whether decreasing concessions have an effect independent of the counterparts' concessions (Druckman et al., 1972; Druckman & Bonoma, 1976). Moreover, none of these studies offers an explanation for why these effects occur or examined final negotiation outcomes. Accordingly, it remains unclear whether, when, and why concession patterns convey negotiation information and influence negotiation behavior and outcomes.

The current research proposes the *Information-Signaling Model of Concession Patterns* to explain how concession patterns convey negotiation information and are linked to negotiation outcomes, specifically in distributive negotiations. The model proposes that decreasing concessions, defined as a sequence of three or more offers whereby the difference in the magnitude of consecutive offers becomes smaller in each subsequent round, can signal to recipients that their counterparts are close to reaching their reservation price (i.e., the price beyond which one prefers an impasse to an agreement; see Raiffa, 1982). This happens

because recipients of decreasing concessions first recognize the pattern and expect their counterparts to make subsequent offers closer to the previous offer, in line with the decelerating trajectory implied by the offer pattern. The altered perceptions of counterparts' reservation prices are important because they can reduce recipients' subsequent demands and the value they claim from the negotiation.

We tested our theoretical model in seven studies. Studies 1a-b tested whether receiving decreasing concessions causes recipients to make less ambitious counteroffers as compared to receiving concessions of the same size or a single large concession. Study 2 used an interactive negotiation with experienced negotiators and tested whether receiving decreasing concessions leads recipients to attain less profitable agreements because they make less ambitious counteroffers. Study 3 provided evidence for the underlying mechanism that decreasing concessions lead recipients to make less ambitious counteroffers because they shape recipients' expectations of future offers and in turn their perceptions of the counterparts' reservation prices. Studies 4a-b delineated boundary conditions for the effect of decreasing concessions by testing whether the rate at which concessions decrease (Study 4a) and the number of negotiation rounds (Study 4b) influence the magnitude of the distributive disadvantage resulting from decreasing concessions. Finally, Study 5 evaluated whether thinking of a clear target price can mitigate the distributive disadvantage for recipients.

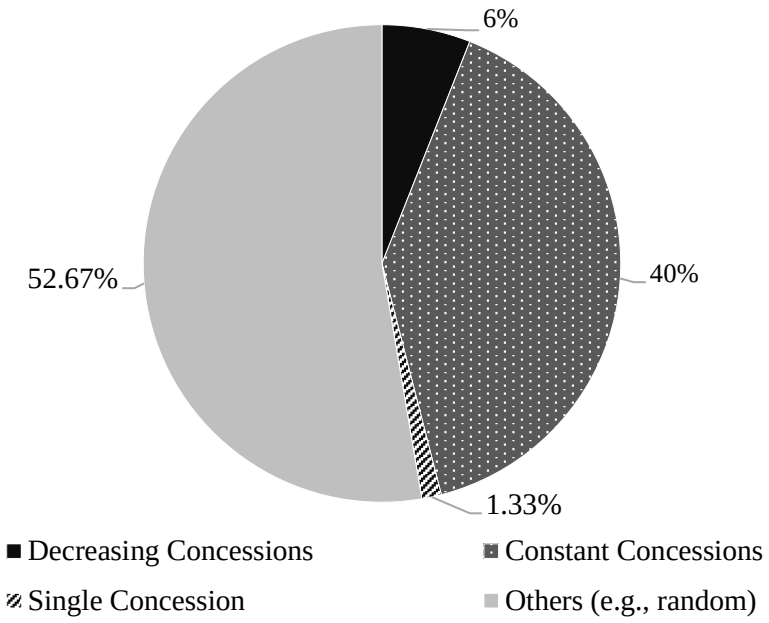
Our research offers several important theoretical contributions to the negotiation literature. First, we extend prior research that documents how contextual cues signal important negotiation information. Whereas past work has primarily shown how static cues (e.g., the first offer) can convey information such as one's reservation price (Ames & Mason, 2015; Galinsky & Mussweiler, 2001; Gunia et al., 2013; Loschelder et al., 2016), our research suggests that dynamic patterns of concessions across multiple rounds matter as well. This is an important insight because negotiations typically involve several rounds across

which negotiators make a series of offers. Second, this research contributes to the literature on concessions in negotiations. Extending past research on concessions, which yields inconclusive findings and has not systematically theorized and examined the information-signaling aspects of concession patterns (and decreasing concessions, in particular), the present research shows that concession patterns influence counteroffers and negotiation agreements because they shape expectations of future offers and reservation price perceptions. Using a series of high-powered experiments, the present research contributes to this literature by articulating when and why concession patterns are linked to negotiation behaviors and outcomes. Third, this research advances the literature by establishing key boundary conditions that increase or mitigate the effectiveness of decreasing concessions.

The present research also offers valuable practical guidance to negotiators. Despite the prevalence of concessions in negotiations, decreasing concessions are not common. Indeed, we asked 150 experienced professionals, most of whom (~70%) had at least five years of work experience, to imagine themselves as a seller and indicate the sequence of offers they would make to a buyer. Very few (6%) people made decreasing concessions across four negotiation rounds (see Figure 1). Instead, the most common strategy (40%) was for participants to make concessions of the same magnitude across rounds (i.e., constant concessions). Furthermore, when asked to list their reasons for not decreasing their concessions across rounds[1], the most common reason mentioned (30.5%) was that negotiators believed decreasing concessions to be either ineffective or less effective than other patterns. The second most commonly mentioned reason (22.7%) was that negotiators were unaware of or had not thought about using decreasing concessions. This suggests that negotiators are not fully aware of and/or leverage the benefits of this strategy.

[1] More details about this survey can be found in the Supplemental Online Materials (SOM).

Figure 1
Distribution of Concession Patterns



Information-Signaling Model of Concession Patterns

The *reservation price* is a fundamental concept in negotiation research and refers to the point beyond which individuals prefer an impasse over an agreement (see Raiffa, 1982, p. 37). For instance, in buyer-seller transactions, the buyer's reservation price refers to the maximum amount s/he is willing to pay, and the seller's reservation price refers to the lowest amount s/he is willing to accept. The distance between both negotiators' reservation prices constitutes the so-called bargaining zone, i.e., the zone within which an agreement can be reached (Raiffa, 1982). For example, if a seller is willing to accept any price above $900 and a buyer is willing to accept any price below $1,300, the bargaining zone lies between $900 and $1,300. Not surprisingly, negotiators' reservation prices serve as an important predictor of negotiation outcomes because they determine how much room there is for each negotiator to concede (Kristensen & Gärling, 2000; Schaerer et al., 2016; Van Kleef et al., 2004).

Although negotiators typically do not have information about their counterparts' reservation prices, and therefore the bargaining zone, they are strongly motivated to form an estimate of the reservation price (Neale & Bazerman, 1991; Pruitt, 1981) because this

information allows them to push for additional concessions and obtain the best possible deal. In addition, negotiators are equally motivated to withhold this information from their counterparts because revealing it is likely to make them vulnerable. Not surprisingly, negotiators go to great lengths to keep such information secret, and sometimes even feign their reservation price to attain more desirable outcomes (Chertkoff & Baird, 1971).

Because negotiators are motivated to form an accurate perception of their counterparts' reservation prices but are typically unable to obtain such information, they rely on other cues to infer their counterparts' reservation prices. Although most research to date has treated the reservation price as fixed (Blount et al., 1996; Galinsky & Mussweiler, 2001; Kim & Fragale, 2005; Larrick & Wu, 2007; Pinkley et al., 1994; White et al., 1994), more recent research suggests that negotiators gradually form an understanding of their counterparts' reservation prices *throughout* the negotiation, for example as a function of the counterparts' emotional expressions (Van Kleef et al., 2004) or the type of offers they receive (Ames & Mason, 2015). Building on this research, we argue that perceptions of counterparts' reservation prices are *malleable* and can be affected by contextual cues that negotiators are exposed to during the negotiation. We propose that one important contextual cue is the pattern of concessions that negotiators receive from their counterparts.

Building on prior work suggesting that negotiators pay attention to their counterparts' offers and concessions to evaluate their counterparts' reservation prices, we propose that receiving decreasing concessions can influence recipients' perceptions of their counterparts' reservation prices because decreasing concessions change recipients' expectations of future offers. Specifically, the expectations of subsequent offers that recipients believe they will receive are based on their counterparts' earlier offers. Past research in several domains is consistent with the prediction that an observer's expectations of a target's future trajectory is shaped by its past trajectory. For instance, Markman and Guenther (2007) demonstrated that

observers expected a sports team to perform better in the future when it had won several games than when it had not. Freyd and Finke (1984) showed that observers perceive an inanimate object to continue rotating in a manner consistent with images of past rotations. Similarly, several studies in the finance literature documented that stock market and real estate investors extrapolate past price trends to form forecasts of future price trends (Case & Shiller, 1990; De Bondt, 1993; De Long et al., 1990; Shiller, 1988).

To explain how concession patterns convey negotiation information and are linked to negotiation outcomes, we propose the *Information-Signaling Model of Concession Patterns*. Based on the finding that observers use past trajectories to predict future ones, our model proposes that when recipients receive decreasing concessions (e.g., $1,500-1,210-1,180-1,170), they expect their counterparts' future offers to be closer to their counterparts' last offers than when they receive concessions that are constant (e.g., $1,500-1,390-1,280-1,170) or when they receive a single concession (e.g., $1,500-1,170). Based on the aforementioned findings that perceptions of counterparts' reservation prices are malleable and affected by contextual cues, our model further proposes that when recipients expect that future offers will be very close to previous offers, they are likely to infer that counterparts are approaching their reservation price. In contrast, when counterparts make constant concessions or a single concession, recipients expect larger future concessions and infer that the counterpart has not reached their reservation price yet.

The effect of decreasing concessions on recipients' perceptions of their counterparts' reservation prices, in turn, has important implications for the remainder of the negotiation. We propose that recipients' construal of the counterparts' reservation prices changes their subsequent demands, such that they make less ambitious counteroffers when they perceive their counterpart to be reaching their reservation price. The reason underlying this prediction is that negotiators generally strive for agreements and are reluctant to declare impasses

(Tuncel et al., 2016). In other words, when negotiators perceive their counterparts to be close to their reservation price, they are likely to interpret this as endangering the agreement and respond with less ambitious demands. This tendency to mismatch a counterpart's competitive stance with greater willingness to make concessions has been well-documented in prior research (Druckman et al., 1972; Druckman & Bonoma, 1976; Liebert et al., 1968; Van Kleef et al., 2004; Yukl, 1974). Imagine again the recipient from the example above, who received decreasing concessions (i.e., $1,500-1,210-1,180-1,170) and perceives the counterpart's reservation price to be around, say, $1,170. This negotiator would likely make a less ambitious subsequent demand to prevent an impasse, compared to a negotiator who receives constant concessions or a single concession who would likely perceive their counterpart's reservation price to be well below $1,170. Thus, if receiving decreasing concessions results in an inflated perception of counterparts' reservation prices, negotiators who receive decreasing concessions will also demand less from their counterparts compared to those who receive constant concessions or a single concession.

> ***Hypothesis 1****: Negotiators who receive decreasing concessions from their counterparts make less ambitious counteroffers than negotiators who receive constant concessions or a single large concession.*

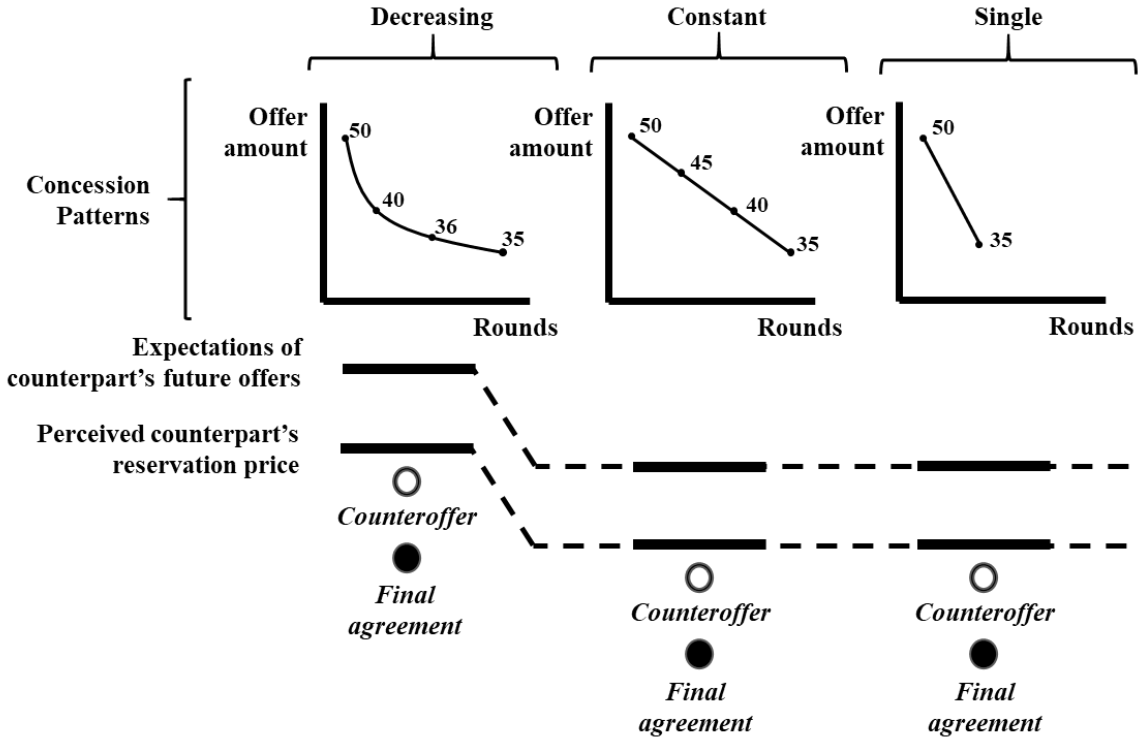
> ***Hypothesis 2****: The effect of concession pattern on counteroffers is sequentially mediated by negotiators' expectations of their counterparts' future offers and perceptions of their counterparts' reservation prices.*

We further expect that these differences in perceived reservation prices and subsequent demands will affect negotiation outcomes. Past negotiation research suggests that initial and subsequent offers are important determinants of final deals. Specifically, in distributive negotiations, wherein negotiators strive for diametrically opposed outcomes, first offers account for up to 85 percent of the variance in negotiation outcomes (Gunia et al., 2013; Loschelder et al., 2014). As such, we hypothesize that negotiators also obtain less

profitable outcomes when they are exposed to decreasing concessions rather than constant concessions or a single large concession (see Figure 2 for a visualization of the *Information-Signaling Model of Concession Patterns*).

> ***Hypothesis 3****: Negotiators who receive decreasing concessions from their counterparts achieve less profitable outcomes than negotiators who receive constant concessions or a single large concession because they make less ambitious counteroffers.*

Figure 2
Information-Signaling Model of Concession Patterns



Note. Decreasing concessions (vs. constant or single concession) causes recipients to expect higher future offers (or closer to counterparts' last offers) and perceive their counterparts' reservation prices as higher, resulting in them making lower counteroffers and attaining less profitable final agreements.

Across our studies, sample size decisions were made as follows: Studies 1a and 2 were convenience samples and were limited by the available cohort size. Thus, we aimed for the maximum possible number of participants in these studies. For the remaining studies, we estimated the minimum sample size based on the effect size of d = .42 corresponding to the effect of concession patterns on counteroffers obtained in Study 1a. Sample size calculations indicated a required size of about 120 per condition to achieve 90% statistical power.

Because we anticipated dropouts, outliers, and duplicate responses, we decided to collect a minimum of 150 observations per condition in Studies 1b, 3, 4a, 4b, and 5.

Our planned exclusion criteria were as follows. For all studies, we excluded outliers falling outside the 2.5 median absolute deviation (MAD) interval (Leys et al., 2013) and duplicate IP addresses. However, only Study 1b contained duplicate IP addresses. For the studies, which utilized a simulation or interactive scenario (i.e., all studies except 4b), we excluded those who completed the negotiation before they had seen the entire concession pattern. Materials, data, and syntax are available here: https://osf.io/tmjwq/.

Study 1a

The aim of Study 1a was to establish the proposed causal relationship between concession patterns (decreasing and constant concessions) and counteroffers (Hypothesis 1).

Method

Participants

We asked 270 Master of Business Administration (MBA) students with diverse nationalities from a global business school to participate in an online negotiation on a voluntary basis, of which ninety-three responded (34%). Participants' mean age was 29.30 years (SD = 2.38), 41.94% were female, and they had an average of 5.49 years (SD = 2.24) of work experience. Using our exclusion criteria, one participant who completed the negotiation before they saw the entire concession pattern was excluded. There were no outliers in this study. We analyzed the remaining 92 observations.

Procedure

We adopted and modified a simulated negotiation paradigm from prior work (Schaerer et al., 2018) and took several steps to increase its realism. First, we advertised this study as an interactive negotiation in which participants would be paired with another person. Second, participants had to wait in an online waiting room, supposedly for other people to

enter before they could start. Third, participants were asked to provide a screen name and were told that they would be randomly matched with another person and assigned to either a renter or a landlord role. In reality, all participants played a renter and negotiated with a landlord (a simulated counterpart).

Prior to the negotiation, participants were told that they were looking to rent a one-bedroom apartment in the city center and that the monthly rent for such apartments in nearby suburban areas typically lies between US$700-US$1,000. They also learned that it was common to negotiate rent, that they found a suitable apartment, and that they would be negotiating with the landlord (named "Casey") of this apartment.

The simulated counterpart, Casey, was programmed to make a series of pre-determined offers across four rounds. Participants were asked to make a counteroffer in each round. The negotiation ended if the participant made an offer higher than the next programmed offer for Casey. Otherwise, the negotiation automatically ended after the fourth and final round during which Casey accepted participants' final counteroffer.

Design

Participants were randomly assigned to a decreasing concessions or a constant concessions condition. In the decreasing condition, the offer sequence was: $1,500-1,300-1,225-1,200. In the constant condition, the offer sequence was: $1,500-1,400-1,300-1,200.

Measures[2]

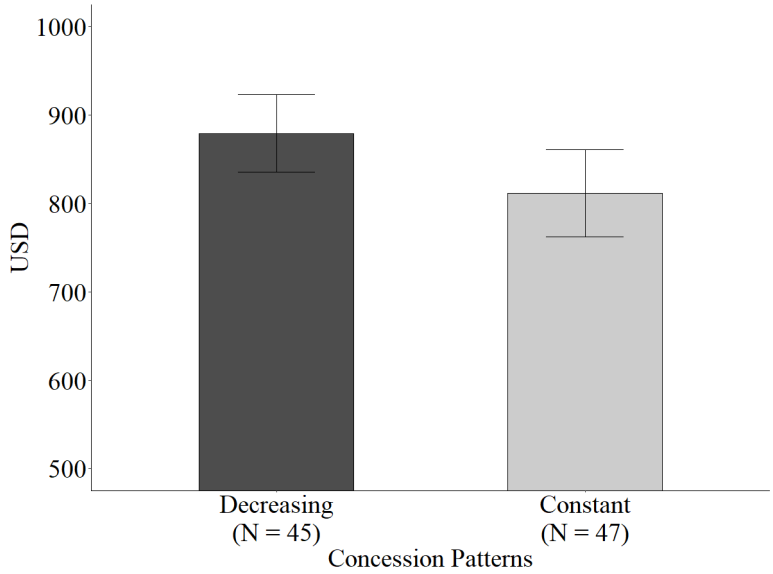
Counteroffers. Our key dependent variable was the counteroffer made in the fourth and final round. We asked participants "What is the counteroffer you would like to make in response to Casey's offer of US$1,200 per month (in US$ per month)?"

[2] Reservation price perceptions measured in Studies 1a, 1b, 2, 4 & 5 are reported in the SOM. We find the same results for reservation price perceptions. In addition, attrition rates (i.e., dropouts who did not see the entire offer pattern) for Studies 1a, 1b, 3, 4a & 5 and manipulation checks for all studies are reported in the SOM.

Results

Hypothesis 1 predicted that counteroffers would be higher when recipients received decreasing concessions (vs. constant concessions). Indeed, counteroffers were higher in the decreasing condition (M = 879.31, SD = 149.52, CI_{95} = [835.63, 923.00]) than in the constant condition (M = 811.45, SD = 172.17, CI_{95} = [762.22, 860.67]), $t(89.17) = 2.02$, $p = .046$, $d = .42$; see Figure 3)[3].

Figure 3
Means of Counteroffers in the Decreasing and Constant Condition (Study 1a)



Note. Recipients made less ambitious (higher) counteroffers in the decreasing condition than in the constant condition. Error bars indicate 95% confidence interval.

Discussion

Study 1a provides initial support for the hypothesis that receiving decreasing concessions causes recipients to make less ambitious demands than receiving constant concessions. This is an important finding because our lay perception study presented in the introduction showed that many negotiators believe constant concessions to be more effective.

Study 1b

Study 1b aimed to replicate Study 1a using a different sample. In addition, Study 1b included a single large concession condition. Because using few concessions is seen as a

[3] Welch's two-sample *t*-tests were used in this and the following studies where we compare only two conditions.

particularly tough negotiation strategy (Bartos, 1967; Tjosvold, 1978), a single concession provides an additional, conservative baseline to assess the effectiveness of decreasing concessions.

Method

Participants

Four hundred and fifty individuals in the United States were recruited from Amazon Mechanical Turk (MTurk) using the TurkPrime platform (Litman et al., 2017) and 451 individuals (M_{age} = 36.91, SD_{age} = 11.17, 43.90% female) completed the task in exchange for $0.70. Using our exclusion criteria, 101 participants were excluded. 20 participants had duplicate IP addresses, 70 were not exposed to the whole concession pattern, and a further 11 were outliers. We analyzed the remaining 350 observations.

Procedure

We used the same paradigm as in Study 1a.

Design

Participants were randomly assigned to one of three conditions. Participants in the decreasing condition received an offer pattern of $1,500-1,300-1,225-1,200. Participants in the constant condition received an offer pattern of $1,500-1,400-1,300-1,200. Participants in the single condition received the following two offers: $1,500-1,200.

Measures

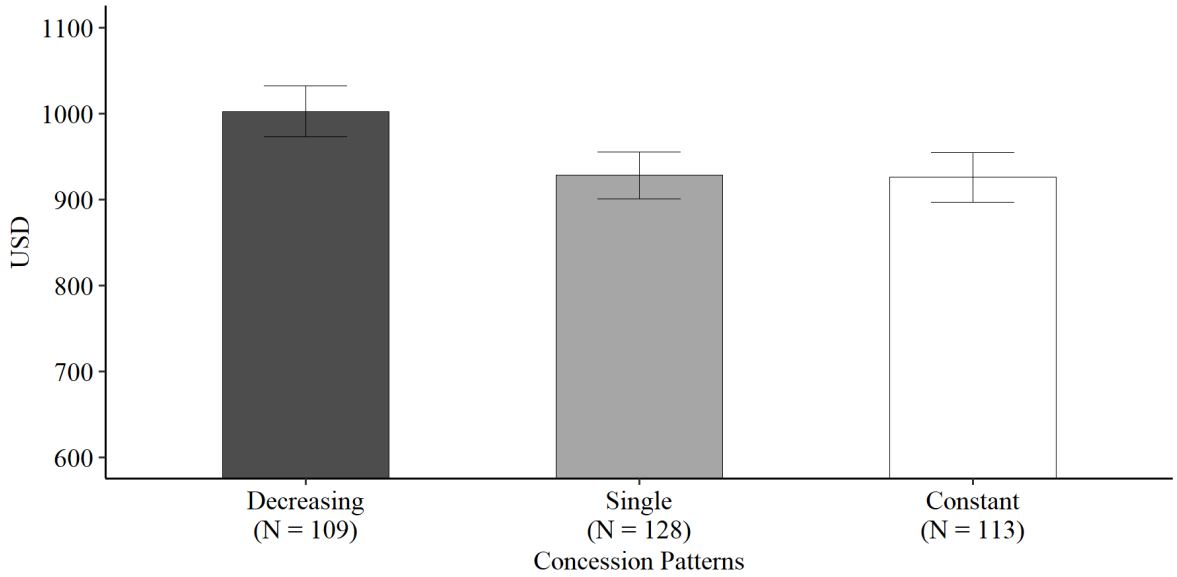
We used the same measure as in Study 1a.

Results

Hypothesis 1 predicted that recipients would make less ambitious counteroffers when they received decreasing concessions. As predicted, recipients in the decreasing condition (M = 1,002.59, SD = 142.38, CI_{95} = [975.86, 1,029.32]) made higher counteroffers than recipients in the constant condition (M = 925.81, SD = 159.35, and CI_{95} = [896.42, 955.19];

$t(347) = 3.65$, $p < .001$, $d = .51$), and those in the single condition ($M = 928.31$, $SD = 165.23$, $CI_{95} = [899.69, 956.94]$; $t(347) = 3.64$, $p < .001$, $d = .48$; see Figure 4). There were no differences between the constant and single conditions ($p = .99$).

Figure 4
Means of Counteroffers (Study 1b)



Note. Recipients made less ambitious (higher) counteroffers in the decreasing condition than in the constant or single conditions. Errors bars indicate 95% confidence intervals.

Discussion

Study 1b replicated the findings from Study 1a with a different sample of negotiators and found that decreasing concessions lead recipients to make less ambitious offers, compared to both constant concessions and a single concession. The findings of Studies 1a and 1b are important because many negotiators (94% in our survey above) did not use decreasing concessions, suggesting that they fail to capitalize on its effectiveness.

Study 2

Study 2 examined the impact of decreasing concessions compared to a single concession on final agreements in the context of an interactive negotiation between negotiators who had extensive work experience ($M = 14.80$ years, $SD = 4.86$).

Method

Participants

Three hundred and ninety-four Executive MBA (EMBA) students with diverse nationalities from a global business school (M_{age} = 38.22, SD_{age} = 4.94, 36.13% female) were recruited in two waves as part of a class exercise and randomly paired up. Three hundred and twenty-four students (or 162 dyads) completed the exercise. Given that this study aimed to investigate the mediating effect of counteroffers on final agreement, our analyses were done on the 121 dyads that reached an agreement. We used the same exclusion criteria as in the prior studies on these 121 dyads: 34 reported extreme values (2.5 MAD) for our dependent variables and a further 14 were not exposed to the entire manipulation, leaving 73 dyads.

Procedure

Participants were randomly assigned to dyads and to the role of a recruiter or a candidate and negotiated over email. They were told that the recruiter and candidate had already agreed on the terms of a job contract and that the only remaining issue was the amount of starting bonus. They were also told that the average bonus in the field was US$23,000. The manipulation of concession patterns was included in the recruiter's role materials. The dependent measures were included in a questionnaire that participants completed after the exercise.

Design

Dyads were randomly assigned to either a decreasing or single condition. In the decreasing condition, the recruiter was asked to make the following series of offers: US$20,000-22,000-22,750-23,000. In the single condition, the recruiter was asked to make these two offers: US$20,000-23,000. All recruiters were further told not to make offers above US$23,000 (even if the negotiation was not completed by the time all the offers were made) and to only accept final offers lower than US$30,000.

Measures

Counteroffers. Consistent with the earlier studies, we coded counteroffers as the offers made by the candidate in response to the last offer by recruiters in the offer sequence. For instance, a candidate's offer of US$25,000 in response to the recruiter's last offer (i.e., US$23,000 in both conditions) is coded as a counteroffer of US$25,000.[4]

Final agreement. Final agreement was assessed using the agreed upon bonus amount.

Results

Consistent with prior research documenting the prevalence of impasses for email negotiations (Swaab et al., 2012), 41 dyads declared an impasse. Impasse frequency did not differ between the decreasing condition (N=25) and single condition (N=16), χ^2 (1, N=162) = 1.37, p = .24. Following the recommendations by Tripp and Sondak (1992), impasse dyads were removed from the analyses.[5]

Hypothesis 1 predicted that counteroffers would be lower when recipients received decreasing concessions than when they received a single concession. Indeed, candidates in the decreasing condition made lower counteroffers (M = 23,650.00, SD = 1,134.82, CI_{95} = [22,298.84, 25,001.16]) than candidates in the single condition (M = 28,161.22, SD = 3,960.31, CI_{95} = [27,215.61, 29,106.84]; t(61.82) = 7.38, p < .001, d = 1.36; see Figure 5a).

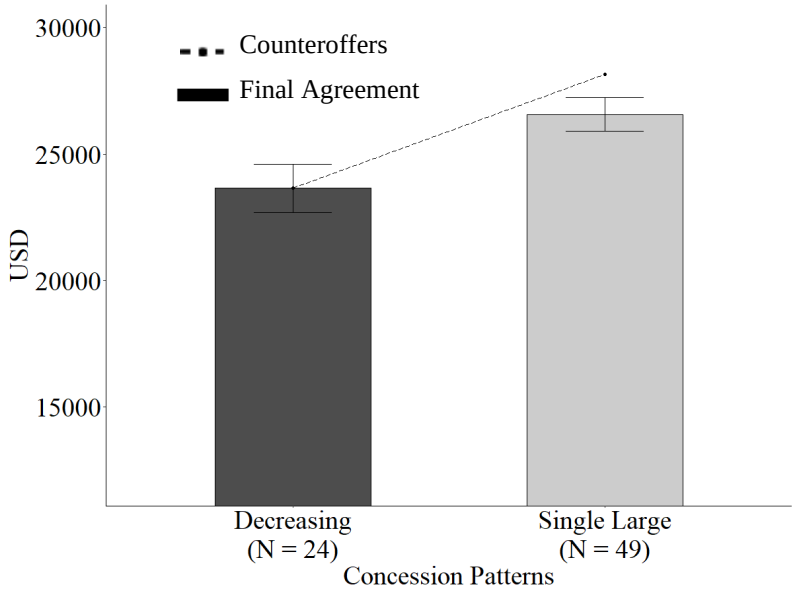
Hypothesis 3 predicted that the effect of concession patterns on final agreements would be mediated by the counteroffers that recipients made. First, we found that candidates obtained less profitable deals in the decreasing condition (M = 23,650.00, SD = 1,134.82, CI_{95} = [22,298.84, 25,001.16]) than candidates in the single condition (M = 26,569.39, SD = 2,745.54, CI_{95} = [25,900.55, 27,238.23]; t(69.64) = 6.41, p < .001, d = 1.24; Figure 5a).

[4] In cases in which recruiters accepted the final counteroffer, the counteroffer was identical to the final agreement.

[5] Nevertheless, the results reported below remained robust when impasses were included (p < .001 for counteroffers and not applicable for final agreements).

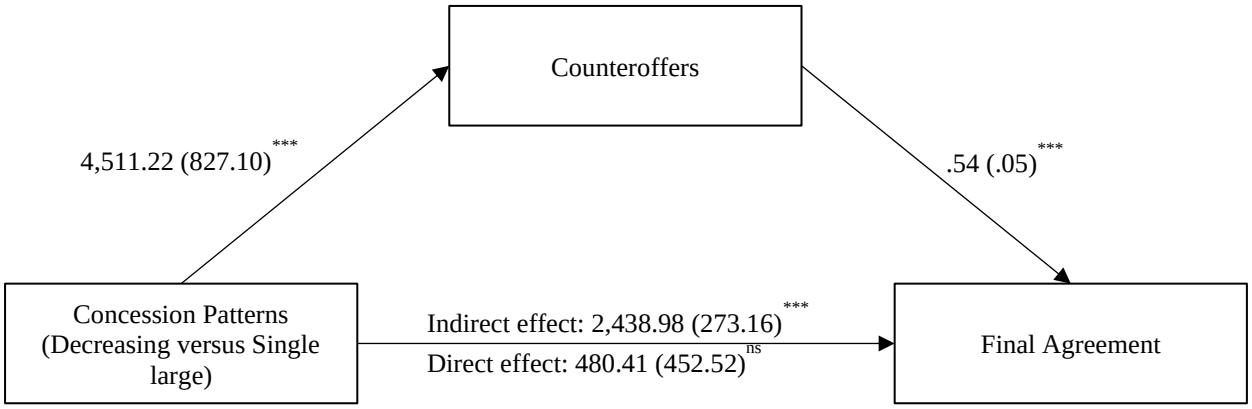
Next, to test the prediction that the effect on final agreements is mediated by the counteroffers made by recipients, we used Hayes's PROCESS model 4. A bootstrapping procedure with 5000 resamples produced a significant and positive 95% confidence interval for the indirect effect of concession patterns on final deals via counteroffers [1,886.25, 2,969.42] (see Figure 5b). These findings show that the effect of concession patterns on final agreements is driven by counteroffers.

Figure 5a
Means of Counteroffers and Final Agreements (Study 2)



Note. Recipients (candidates) made less ambitious (lower) counteroffers and achieved less profitable deals in the decreasing condition than in the single condition. Error bars indicate 95% confidence intervals.

Figure 5b
Mediation of Concession Patterns on Final Agreements via Counteroffers (Study 2)



Note. Regression coefficients are unstandardized, and *SE*s are in parentheses.
*** $p < .001$, ** $p < .01$, * $p < .05$.

Robustness Checks[6]

To test the robustness of the effects reported above, we also conducted a set of supplementary analyses. Irrespective of the analytic approach, the effects for counteroffers and final agreements remained robust (*p*s < .001) and so did the mediation via counteroffers. We describe these analyses below.

Robustness of Effects Across Exclusion Criteria. First, we replicated our analyses with all 121 dyads that reached an agreement (*N*-decreasing = 59, *N*-single = 62). Consistent with Hypothesis 1, candidates made lower counteroffers in the decreasing condition (*M* = 25,514.41, *SD* = 3,506.30, CI_{95} = [24,249.97, 26,778.85]) than candidates in the single condition (*M* = 29,250.79, *SD* = 5,936.73, CI_{95} = [28,017.32, 30,484.26]; *t*(99.81) = 4.24, *p* < .001, *d* = .76). Consistent with Hypothesis 3, candidates also obtained less profitable deals in the decreasing condition (*M* = 24,315.25, *SD* = 2,292.03, CI_{95} = [23,645.00, 24,985.50]) than in the single condition (*M* = 26,512.89, *SD* = 2,862.28, CI_{95} = [25,859.05, 27,166.72]; *t*(115.67) = 4.67, *p* < .001, *d* = .85). A bootstrapping procedure with 5000 resamples produced a significant and positive 95% confidence interval for the indirect effect of concession patterns on final deals via counteroffers [752.10, 1,844.76].

Second, we replicated our analyses when only outliers were excluded (but not those who were not exposed to the entire offer sequence), leaving 87 dyads (*N*-decreasing = 38, *N*-single = 49). Consistent with Hypothesis 1, candidates made lower counteroffers in the decreasing condition (*M* = 23,897.37, *SD* = 1,167.23, CI_{95} = [22,905.86, 24,888.88]) than candidates in the single condition (*M* = 28,161.22, *SD* = 3,960.31, CI_{95} = [27,288.07, 29,034.38]; *t*(58.40) = 7.15, *p* < .001, *d* = 1.39). Consistent with Hypothesis 3, candidates reached less profitable deals in the decreasing condition (*M* = 23,647.37, *SD* = 1,202.02, CI_{95}

[6] We conducted additional analyses to account for an administrative error that occurred during data collection. The results remained robust even after excluding these dyads (refer to p. 16 of SOM).

= [22,934.44, 24,360.30]) than in the single condition (M = 26,569.39, SD = 2,745.54, CI_{95} = [25,941.56, 27,197.21]; $t(69.18) = 6.67$, $p < .001$, $d = 1.32$). The bootstrapping procedure with 5000 resamples also produced a significant and positive 95% confidence interval for the indirect effect of concession patterns on final deals via counteroffers [1,809.71, 2,870.12].

Manually Coding Concession Patterns. To further deal with potential internal validity concerns arising from the group of participants who had not adhered to the instructions, we coded concession patterns manually by assigning recruiters who made strictly smaller concessions in subsequent rounds to the decreasing condition and those who made one concession to the single condition. For instance, a recruiter following the exact offer pattern ($20,000-22,000-22,750-23,000) as well as another who gave one less offer ($20,000-22,000-22,750) would both be coded as decreasing. On the other hand, concessions were coded as single if one concession was made, regardless of the concession amount. The 14 recruiters who did not meet either criteria were excluded from analyses. In dyads who had reached an agreement (N-decreasing = 56, N-single = 52), candidates made lower counteroffers in the decreasing condition (M = 25,786.84, SD = 3,949.19, CI_{95} = [24,620.15, 26,953.54]) than candidates in the single condition (M = 28,207.67, SD = 4,929.15, CI_{95} = [26,986.17, 29,429.17]; $t(97.71) = 2.81$, $p = .005$, $d = .54$), supporting Hypothesis 1. In line with Hypothesis 3, candidates obtained less profitable deals in the decreasing condition (M = 24,457.89, SD = 2,182.97, , CI_{95} = [23,793.74, 25,122.05]) than in the single condition (M = 26,188.44, SD = 2,861.91, CI_{95} = [25,493.09, 26,883.79]; $t(95.11) = 3.52$, $p < .001$, $d = .68$). Finally, a bootstrapping procedure with 5000 resamples produced a significant and positive 95% confidence interval for the indirect effect of concession patterns on final deals via counteroffers [589.89, 1,712.42].

Controlling for Participant Wave. To reach an acceptable sample size, we collected the data in two separate waves. The effects do not change in terms of direction or significance

when we controlled for wave. In line with the results reported above, counteroffers were lower in the decreasing condition (M = 23,687.13, SD = 688.99, CI_{95} = [22,312.98, 25,061.29]) than in the single condition (M = 28,140.01, SD = 480.52, CI_{95} = [27,181.64, 29,098.37]; $F(1, 70) = 29.39$, $p < .001$). Final agreements were also lower in the decreasing condition (M = 23,655.72, SD = 487.79, CI_{95} = [22,682.86, 24,628.59]) than in the single condition (M = 26,566.12, SD = 340.19, CI_{95} = [25,887.62, 27,244.61]; $F(1, 70) = 24.56$, $p < .001$). Finally, a bootstrapping procedure with 5000 resamples produced a significant and positive 95% confidence interval for the indirect effect of concession patterns on final deals via counteroffers after controlling for participant wave [1,816.32, 2,994.93].

Excluding Participants Who Made Additional Offers Beyond the Given Patterns. Some recruiters made offers beyond the offer patterns that were given to them. As a further robustness check, we reran our analyses by excluding these dyads in addition to those already excluded by all the above exclusion criteria (N-decreasing = 24, N-single = 48). Consistent with results above, candidates made lower counteroffers in the decreasing condition (M = 23,650.00, SD = 1,134.82, CI_{95} = [22,291.89, 25,008.11]) than candidates in the single condition (M = 28,122.92, SD = 3,993.04, CI_{95} = [27,162.59, 29,083.25]; $t(60.20) = 7.20$, $p < .001$, $d = 1.34$). Consistent with results above, candidates obtained less profitable deals in the decreasing condition (M = 23,650.00, SD = 1,134.82, CI_{95} = [22,702.17, 24,597.83]) than candidates in the single condition (M = 26,497.92, SD = 2,728.14, CI_{95} = [25,827.70, 27,168.14]; $t(68.42) = 6.23$, $p < .001$, $d = 1.22$). Finally, a bootstrapping procedure with 5000 resamples produced a significant and positive 95% confidence interval for the indirect effect of concession patterns on final deals via counteroffers [1,854.95, 2,940.97].

Discussion

Using a sample of very experienced executive MBA students, Study 2 replicated the findings reported in Study 1b and extended these in a fully interactive setting by showing that

decreasing concessions led to less profitable final agreements for recipients. In addition, Study 2 documented these effects in yet another negotiation context and using different offer values. Studies 1b and 2 compared the effects of decreasing concessions with a single concession. Although we selected the single concession comparison because it is a common approach in negotiations, this design choice also raises questions about the robustness of decreasing concessions relative to other patterns that involve multiple concessions. Although it is possible that the fewer opportunities that recipients had contributed to the observed effect, these concerns should be ameliorated because Study 1b did include a decreasing condition which did not differ from the single condition. In addition, it is possible that the single concession strategy may have been perceived as an ultimatum and therefore backfired. However, our Supplementary Study 1 (in p. 4 of SOM) showed that recipients in the decreasing condition perceived their counterparts to be tougher than recipients in the single condition, suggesting that perceived ultimatum is an unlikely explanation. To further address these potential concerns, the subsequent studies focused on a comparison between decreasing concessions and constant concessions.

Study 3

Whereas Studies 1 and 2 demonstrated the effect of concession patterns on counteroffers and outcomes, Study 3 was designed to test the proposed mechanism underlying the effect of concession strategy on counteroffers. Specifically, Study 3 examined whether the effect of concession patterns on counteroffers is sequentially driven by recipients' expectations of future offers and their subsequent perceptions of their counterparts' reservation prices (Hypothesis 2). In addition, in previous studies, some of the offers in the decreasing conditions (e.g., $1,500-1,300-1,225-1,200) were more specific than in the other conditions (e.g., $1,500-1,400-1,300-1,200). Because offer specificity can influence negotiators' reaction to those offers (Loschelder et al., 2016), we wanted to

replicate the effect using similarly specific offers in all conditions. Our hypotheses and analytic strategy were preregistered here: https://osf.io/jep65.

Method

Participants

Four hundred individuals in the United States were recruited from MTurk and 401 individuals (M_{age} = 39.20, SD_{age} = 12.89, 57.03% female) completed the task in exchange for $0.80. Using the same exclusion rules as in Studies 1 and 2, 133 participants were excluded. 75 participants were not exposed to the whole concession pattern, and a further 58 were outliers. We analyzed the remaining 268 observations.

Procedure

We used a simulation paradigm similar to that used in Study 1a. However, instead of negotiating the rent of an apartment, participants negotiated the price of a second-hand laptop with a simulated counterpart. They were told that their laptop had broken down recently and that they were looking for a new one at the lowest possible price. They were then shown a series of offers that the simulated seller made over the course of the negotiation and subsequently responded to the measures.

Design

In the decreasing condition, the displayed offers were: $1,500-1,210-1,180-1,170. In the constant condition, the offers were: $1,500-1,390-1,280-1,170. Thus, offers were similarly specific (i.e., rounded to $10 increments) in both conditions.

Measures

Expected future offer. Participants estimated the seller's subsequent offer by responding to the question: "Based on the offers you have received from Alex so far, what do you think is the next offer Alex will make? (in US$)."

Reservation price perceptions. Participants estimated the seller's reservation price by responding to the following question: "Based on the offers you have received from Alex so far, what do you think is the lowest price the seller is willing to accept after further negotiations? (in US$)."

Counteroffers. Participants indicated their counteroffers by responding to the following prompt: "What is the counteroffer you would like to make to Alex (in US$)?"

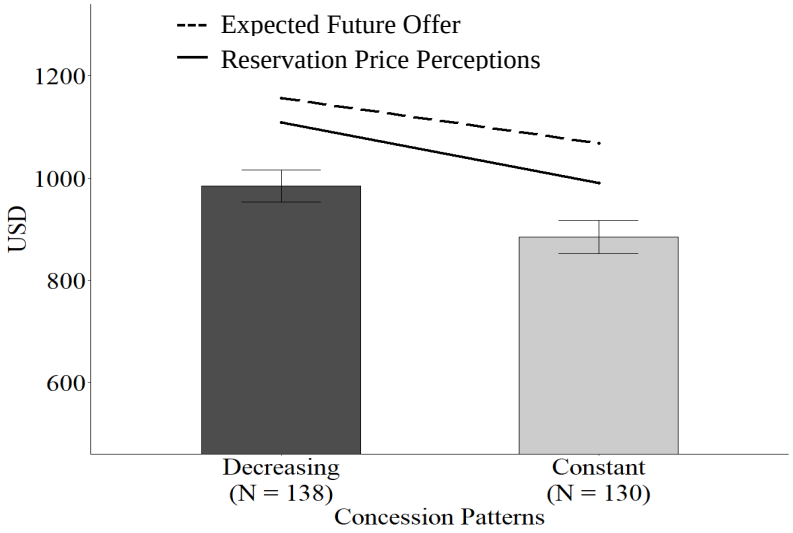
Results

Hypothesis 1 predicted that counteroffers would be higher when recipients received decreasing concessions than when they received constant concessions. Indeed, recipients in the decreasing condition made higher counteroffers (M = 983.99, SD = 186.48, CI_{95} = [952.64, 1,015.34]) than recipients in the constant condition (M = 884.91, SD = 187.64, CI_{95} = [852.61, 917.21]; $t(264.84) = 4.33$, $p < .001$, $d = .53$).

Hypothesis 2 predicted that the effect of concession patterns on counteroffers would be sequentially mediated by recipients' expectations of counterparts' future offers and perceptions of their reservation price. We first examined whether our concession pattern manipulation had a significant effect on the two mediator variables. Indeed, recipients in the decreasing condition (M = 1,156.78, SD = 6.10, CI_{95} = [1,152.33, 1,161.22]) expected their counterparts to make higher offers than recipients in the constant condition (M = 1,067.73, SD = 37.58, CI_{95} = [1,063.15, 1,072.31]; $t(135.39) = 26.69$, $p < .001$, $d = 3.36$). In addition, recipients in the decreasing condition (M = 1,108.97, SD = 57.86, CI_{95} = [1,095.72, 1,122.23]) perceived their counterparts to have higher reservation prices than recipients in the constant condition (M = 990.27, SD = 96.66, CI_{95} = [976.61, 1,003.93]; $t(208.42) = 12.11$, $p < .001$, $d = 1.50$; see Figure 6a).

Figure 6a

Means of Expected Future Offers, Reservation Price Perceptions and Counteroffers (Study 3)

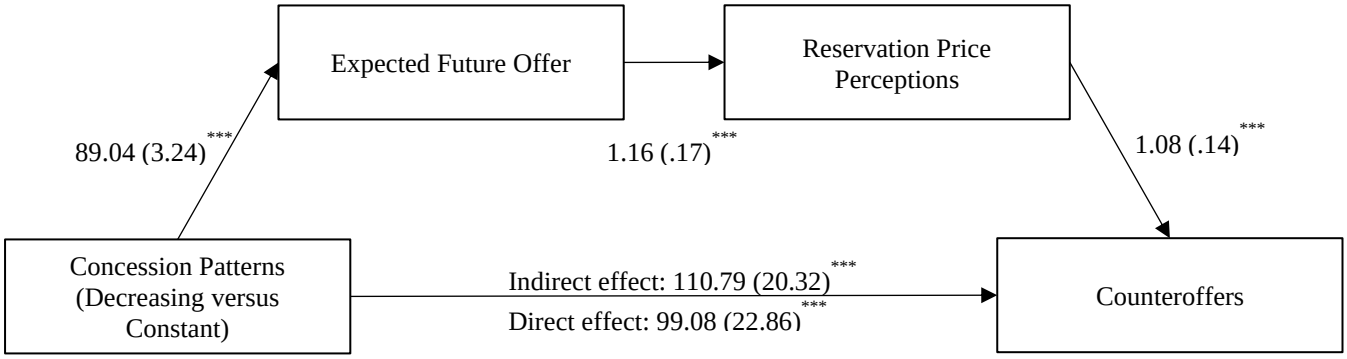


Note. Recipients expected counterparts to give higher future offers, perceived their reservation prices to be higher, and made less ambitious (higher) counteroffers (bar graph) in the decreasing condition than in the constant condition. Error bars indicate 95% confidence intervals.

To test the prediction that the effect on counteroffers is sequentially mediated by expected future offers and reservation price perceptions, we used Hayes's PROCESS model 6. We compared the decreasing condition with the constant condition (coded as decreasing = 1, constant = 0). A bootstrapping procedure with 5000 resamples produced a significant and positive 95% confidence interval for the indirect effect of concession patterns on counteroffers via expected future offers and reservation price perceptions [73.77, 153.16] (see Figure 6b). These findings support our prediction that the effect of concession patterns on counteroffers is driven by expected future offers and reservation price perceptions.

Figure 6b

Serial Mediation of Concession Patterns on Counteroffers (Study 3)



Note. Regression coefficients are unstandardized, and *SE*s are in parentheses.
*** $p < .001$, ** $p < .01$, * $p < .05$.

Alternate Mediation Models

Alternate serial mediation. We examined an alternate mediation model from our prediction. Specifically, we analyzed the effect of concession patterns on counteroffers mediated by reservation price perceptions before expected future offers. Using Hayes's PROCESS model 6, a bootstrapping procedure with 5000 resamples produced a significant and positive 95% confidence interval for the indirect effect of concession patterns on counteroffers via expected future offers and reservation price perceptions [1.33, 28.55]. While this alternative sequence was supported in the current study, two additional studies that included these mediators did not support this reverse causal chain (see supplementary analyses for Studies 4a/b in SOM).

Competing mediators. We also examined an alternate mediation model that pitted expected future offer and reservation price perceptions as competing mediators. Using Hayes's PROCESS model 4, a bootstrapping procedure with 5000 resamples produced a significant and positive 95% confidence interval for the indirect effects of concession patterns on counteroffers via expected future offers [7.31, 158.37] and via reservation price perceptions [94.23, 164.40]. However, in the two additional studies that included these mediators, only reservation price perceptions (but not expected future offers) mediated the effect (see supplementary analyses for Studies 4a/b in SOM).

Jointly, these alternative mediation analyses here and in the SOM suggest that a sequential mediation model whereby concession patterns influence counteroffers first through expected future offers and then through reservation price perceptions, is the most compelling and precise explanation for our hypothesized effects.

Discussion

Study 3 replicated the findings reported in Studies 1 and 2 using offer patterns that were equivalent in their specificity. In addition, Study 3 showed that the effect of concession

patterns on counteroffers is sequentially mediated by expected future offers and reservation price perceptions.

Study 4

Although Studies 1-3 provide robust evidence for the effect of decreasing concessions on counteroffers across different samples and negotiation tasks, negotiators may further amplify the effects of decreasing concessions by modulating the rate at which concessions decrease and the number of concessions (i.e., negotiation rounds) they make.

Study 4a

Study 4a was an exploratory study designed to evaluate whether the effectiveness of decreasing concessions depends on the rate at which concessions decrease. Recipients of decreasing concessions might form different expectations of future offers and perceptions of their counterparts' reservation price, depending on the rate at which the concessions decrease. By rate of decrease we mean how quickly the size of concessions drops off across negotiation rounds. A "fast" rate of decrease involves a relatively large initial concession and relatively small later concessions, whereas in the case of "slow" rate of decrease, the early and later concessions are less discrepant in size. Sample size and analyses were preregistered: https://osf.io/z2b4a.

Method

Participants. Eight hundred individuals in the United States were recruited from Prolific Academic and 801 individuals (M_{age} = 34.94, SD_{age} = 12.23, 50.81% female) completed the task in exchange for £0.60. Using the same (pre-registered) exclusion rules as in prior studies, 351 participants were excluded. Of these, 202 participants had not seen the whole concession pattern, and a further 149 were outliers. We analyzed the remaining 450 observations.

Procedure. We used the same paradigm as in Study 3.

Design. This study used a four condition (concession pattern: decreasing-fast, decreasing-moderate, decreasing-slow, and constant) between-subjects design. In the decreasing-fast condition, the displayed offers were: $1,500-1,175-1,171-1,170. In the decreasing-moderate condition, the displayed offers were: $1,500-1,210-1,180-1,170. In the decreasing-slow condition, the displayed offers were: $1,500-1,330-1,230-1,170. In the constant condition, the offers were: $1,500-1,390-1,280-1,170.

Measures[7]. Participants indicated their counteroffers by responding to the following prompt: "What is the counteroffer you would like to make to Alex (in US$)?"

Results

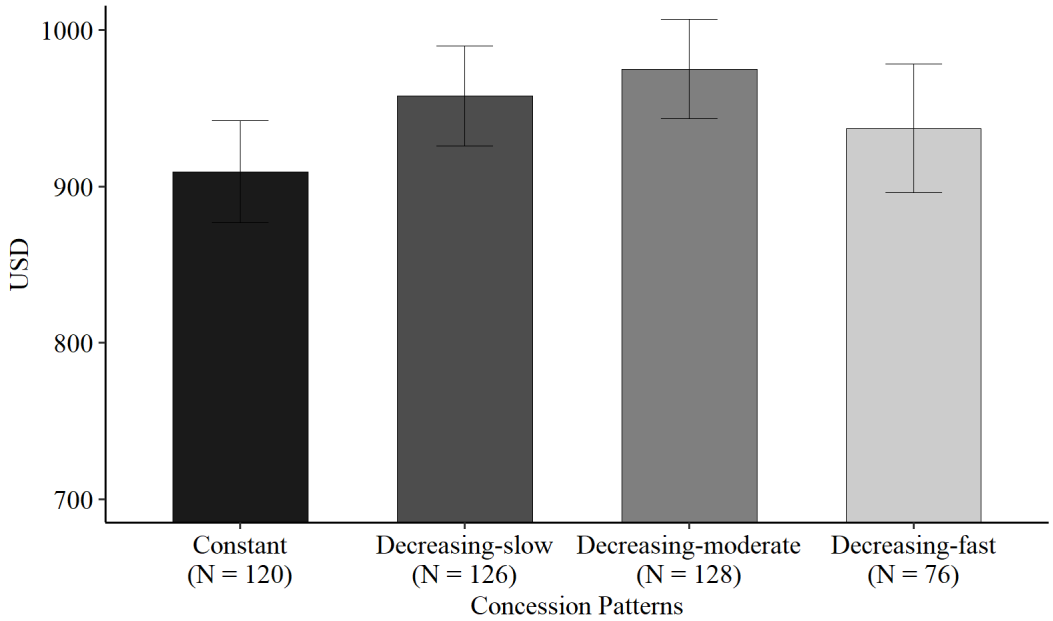
Replicating Hypothesis 1, recipients in the decreasing-moderate condition made higher counteroffers (M = 974.84, SD = 193.76, CI_{95} = [943.16, 1,006.51]) than recipients in the constant condition (M = 909.33, SD = 176.54, CI_{95} = [876.61, 942.04]; $t(446) = 2.83$, $p = .03$, $d = .35$). Counteroffers in the decreasing-slow condition (M = 957.51, SD = 149.83, CI_{95} = [925.58, 989.44]; $t(446) = 2.07$, $p = .19$) and in the decreasing-fast condition (M = 936.88, SD = 217.55, CI_{95} = [895.77, 977.99]; $t(446) = 1.03$, $p = .91$) did not differ from counteroffers made in the constant condition. There were no other significant differences among conditions (ps > .05; see Figure 7).

Discussion

Study 4a replicated the findings reported in Studies 1-3 by showing that decreasing concessions led recipients to make less ambitious counteroffers. More importantly, Study 4a extended these studies by showing that these effects are also contingent on the rate of concessions, such that decreasing concessions at a moderate speed of decrease was the only one that yielded a significant effect relative to the constant condition.

[7] Expected future offer and reservation price perceptions measured in Studies 4a-b are reported in the SOM. The various mediation analyses are also reported in the SOM.

Figure 7
Means of Counteroffers (Study 4a)



Note. Recipients made less ambitious (higher) counteroffers in the decreasing-moderate condition than in the constant condition. There were no significant differences between recipients in the constant condition and recipients in both the decreasing-slow and decreasing-fast conditions. Error bars indicate 95% confidence intervals.

Study 4b

Another factor that may influence the effectiveness of decreasing concessions is the number of negotiation rounds over which concessions are made. Specifically, recipients of decreasing concessions might form stronger or weaker expectations of future offers and perceptions of counterparts' reservation prices, depending on the number of offers that are part of the concession pattern. Thus, Study 4b was designed to explore whether the effectiveness of decreasing concessions depends on the number of negotiation rounds. Sample size and analytic strategy for Study 4b were preregistered: https://osf.io/7byc2.

Method

Participants. Seven hundred and fifty individuals in the United States were recruited from Prolific Academic and 748 individuals (M_{age} = 40.66, SD_{age} = 13.20, 60.83% female) completed the task in exchange for £0.40. Using the same (pre-registered) exclusion criteria

as in the previous studies, 182 observations were excluded. We analyzed the remaining 566 observations.

Procedure. Participants were asked to imagine that they were buyers negotiating the sale of a used car with a seller. They were told that their car had broken down and that they were looking for a new one at the lowest possible price. They were further told that they found a car that fit their needs. They were then shown a sequence of offers that the seller made and thereafter responded to our dependent measures.

Design. This study used a four condition (number of rounds: decreasing-7, decreasing-5, decreasing-3, and constant-3) between-subjects design. The offer sequences were created using the same first and last offers across conditions. In the decreasing-7 condition, the offers were: $15,000-12,850-12,090-11,830-11,710-11,700. In the decreasing-5 condition, the offers were: $15,000-12,820-12,060-11,790-11,700. In the decreasing-3 condition, the offers were: $15,000-12,550-11,700. Finally, in the constant-3 condition, the offers were: $15,000-13,350-11,700.

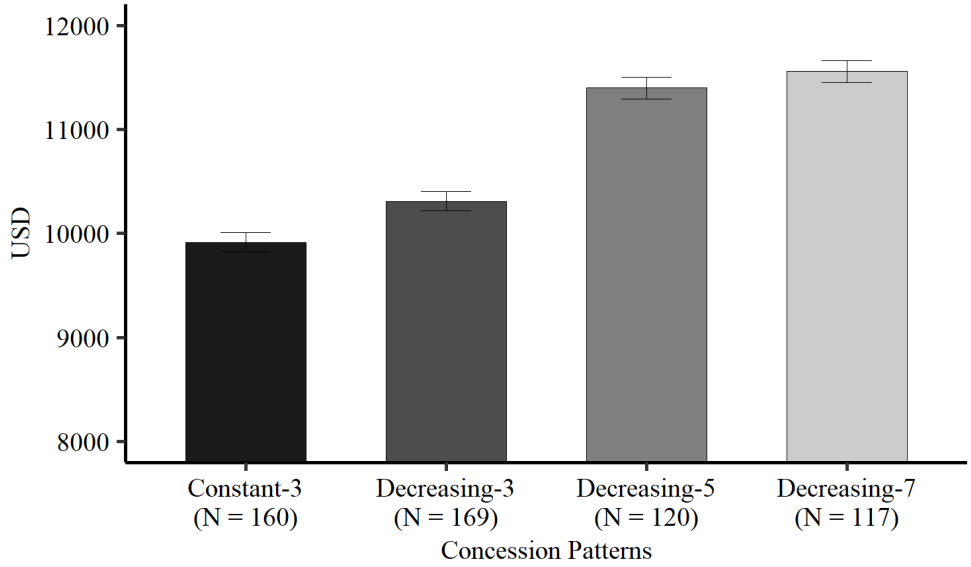
Measures. Participants indicated their counteroffers by responding to the following prompt: “What is the counteroffer you would like to make to Alex (in US$)?”

Results

Replicating Hypothesis 1, recipients in the decreasing-3 condition made higher counteroffers (M = 10,309.75, SD = 751.6, CI_{95} = [10,220.36, 10,399.14]) than recipients in the constant-3 condition (M = 9,915.31, SD = 737.05, CI_{95} = [9,823.44, 10,007.18]; $t(562) = 6.04$, $p < .001$, $d = .53$). In addition, recipients in the decreasing-5 condition made higher counteroffers (M = 11,397.54, SD = 303.36, CI_{95} = [11,292.46, 11,503.62]) than recipients in the decreasing-3 condition ($t(562) = 15.40$, $p < .001$, $d = 1.79$). Recipients in the decreasing-7 condition (M = 11,555.50, SD = 196.67, CI_{95} = [11,448.07, 11,662.94]) made higher

counteroffers than recipients in the decreasing-5 condition ($t(562) = 2.06$, $p = .04$, $d = .62$; see Figure 8).

Figure 8
Means of Counteroffers (Study 4b)



Note. Recipients made less ambitious (higher) counteroffers in the decreasing-3 condition than in the constant-3 condition. They also made higher counteroffers as the number of rounds increased. Error bars indicate 95% confidence intervals.

Discussion

Study 4b replicated the findings from the previous studies by showing that decreasing concessions led recipients to make less ambitious counteroffers. In addition, Study 4b documented that the effect of decreasing concessions on counteroffers is stronger when there are more (vs. fewer) negotiation rounds. Note that because our objective was to understand the *relative* impact of different decreasing concessions that vary in their negotiation rounds on counteroffers, this study does not provide insight into whether the decreasing-5 or decreasing-7 patterns are more effective than their respective baselines (constant-5 or constant-7) compared to how decreasing-3 condition is to its baseline (constant-3).

Study 5

Although Studies 1-4 demonstrated that receiving decreasing concessions can compel recipients to respond with counteroffers less desirable to themselves, they left it unclear how

recipients can guard themselves against such effects. We propose that recipients who keep a target price in mind would not concede excessively to other negotiators who employ decreasing concessions. Past research has demonstrated that negotiators tend to negotiate more ambitiously when they think about their target price (i.e., their ideal outcome) instead of their reservation price (Galinsky & Mussweiler, 2001; Schaerer et al., 2015). This occurs because negotiators' target price is likely to be more favorable to them than their reservation price. Negotiators do not naturally consider their aspirations and typically rely on reservation price information as the most proximate cue for determining their demands (White et al., 1994). Thus, shifting negotiators' attention to a countervailing reference point (i.e., their target price) should minimize the influence of reservation price cues conveyed by concession patterns and, in turn, reduce the distributive disadvantage that recipients of decreasing concessions face (Lord et al., 1984). In other words, negotiators who have a target price in mind should be less likely to concede to other negotiators who employ decreasing concessions. This hypothesis was tested in our final study.

> ***Hypothesis 4****. The effect of decreasing concessions (vs. constant concessions) on counteroffers is moderated by whether negotiators keep a target price in mind, such that decreasing concessions lead to a smaller distributive disadvantage when recipients keep a target price in mind (vs. not).*

Method

Participants

Seven hundred and fifty individuals in the United States were recruited from Prolific Academic with a custom prescreening for those with negotiation experience and 751 individuals (M_{age} = 38.69, SD_{age} = 12.14, 48.9% female) completed the task. Using the same exclusion rules as in previous studies, we excluded 144 participants who did not see the entire concession pattern and additional 93 outliers. We analyzed the remaining 514 participants.

Procedure

We used the same task and concession patterns as in Study 4b and the same simulation approach used in Study 1a so that participants were led to believe that they were negotiating with another participant who played the role of a car seller.

Design

The study was a 2x2 between-subjects design. To manipulate concession patterns, participants were randomly assigned to either a decreasing ($15,000-12,500-12,100-12,000) or constant ($15,000-14,000-13,000-12,000) condition. To manipulate target price intervention, participants were either told that they were aiming to pay $7,500 or were not given any information. To strengthen this manipulation, participants were also asked to write down what their target price was and explain what it meant to them for the negotiation with the seller (see Schaerer, Schweinsberg, Thornley & Swaab (2020) for a similar procedure).

Measures

Counteroffers. We measured participants' counteroffers by asking: "What is the counteroffer you would like to give in response to Alex's offer (in US$)?"

Results and Discussion

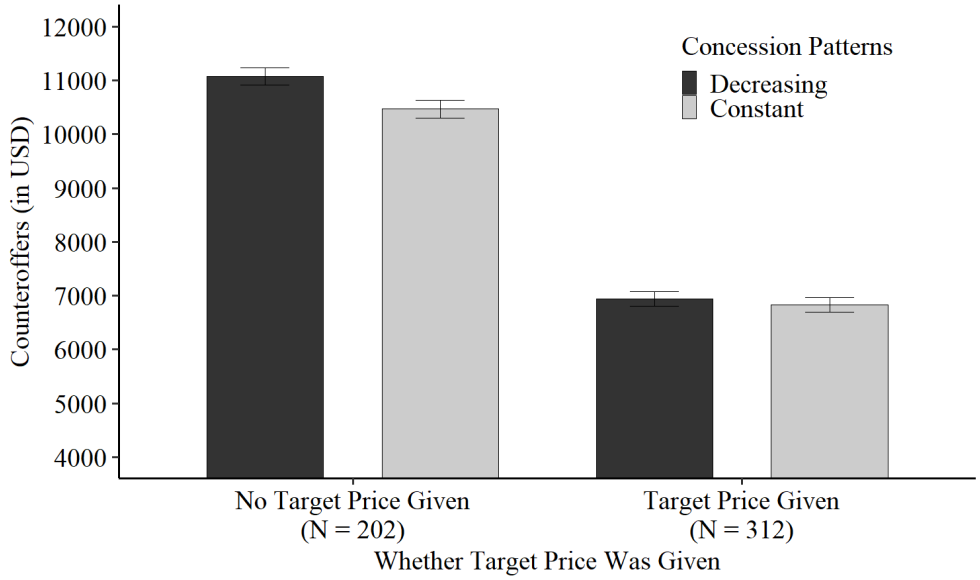
Replicating Hypothesis 1, counteroffers were higher in the decreasing condition (M = 11,080.55, SD = 897.28, CI_{95} = [10,921.34, 11,239.75]) than in the constant condition (M = 10,468.51, SD = 1,209.73, CI_{95} = [10,297.86, 10,639.16]; $t(510) = 5.154.03$, $p < .001$, d = .58) when recipients did not keep a target price in mind. However, supporting Hypothesis 4, counteroffers did not differ between the decreasing condition (M = 6,940.92, SD = 676.98, CI_{95} = [6,811.33, 7,070.51]) and the constant condition (M = 6,833.64, SD = 663.74, CI_{95} = [6,698.10, 6,969.18]; $t(510) = 1.12$, p = .26; see Figure 9) when recipients kept a target price in mind. The interaction effect ($F(1, 510) = 10.97$, p = .001, η_p^2 = .02) and the two main

effects were significant (concession patterns ($F(1, 510) = 22.28$, $p < .001$; target price $F(1, 510) = 2602.81$, $p < .001$).

Study 5 again replicated the effect of concession patterns on counteroffers, but also demonstrated that the effect was attenuated when recipients kept a target price in mind.

Figure 9

Means of Counteroffers for Concession Patterns Moderated by Target Price Intervention (Study 5)



Note. Recipients made less ambitious (higher) counteroffers in the decreasing condition than in the constant condition when they did not keep a target price in mind. This effect is attenuated when they kept a target price in mind. Error bars indicate 95% confidence intervals.

General Discussion

Negotiators typically have incomplete information about their counterparts' negotiation situation and are motivated to acquire such information because it enables them to capture more value from a deal (Neale & Bazerman, 1991; Pruitt, 1981). To do so, negotiators rely on available cues, such as patterns of concessions, to form an impression of the counterparts' bottom line. This, in turn, has important downstream consequences for recipients' negotiation behavior. Across seven experiments, including scenarios, simulations, and interactive negotiations, we found that decreasing concessions (relative to constant concessions or a single concession) cause recipients to concede more (Studies 1–5). We established that the effect of concession patterns on counteroffers are driven by recipients'

expectations of their counterparts' future offers and their subsequent perception of the counterparts' reservation price (Study 3). Moreover, the studies established that these effects held across different samples (e.g., MBAs, Executive MBAs, professionals), consisting of individuals with diverse nationalities. In addition, we documented parameters that qualify these findings by showing that the effect on counteroffers only holds when the concessions decrease at a moderate rate (Study 4a) and that the effect strengthens when the concessions occur over more (vs. fewer) negotiation rounds (Study 4b). Finally, we proposed and tested a theoretically motivated and practically relevant intervention – keeping a target price in mind – that mitigated the distributive disadvantage for concession recipients (Study 5).

Theoretical and Practical Contributions

Our findings contribute to research on negotiations in several different ways. First, our *Information-Signaling Model of Concession Patterns* complements the current understanding of how contextual cues can signal important negotiation information and affect subsequent negotiation outcomes. Concessions are an important aspect of negotiations because they are not only expected but also convey important information about negotiators' intentions (Klimoski & Breaugh, 1977; Pruitt, 1981). Whereas past research has examined how first offers (Galinsky & Mussweiler, 2001; Loschelder et al., 2016) and emotional expressions (Van Kleef et al., 2004) can signal important information, we focused on the *pattern* of concessions that negotiators make during the negotiation. Specifically, we show that changes in negotiators' concessions over multiple rounds provide meaningful information to counterparts about the negotiation situation and their perception of the counterparts' reservation prices. This advances the existing literature by documenting the dynamic manner in which negotiators can shape their counterparts' perceptions over the course of a distributive negotiation.

Second, the present research extends prior findings by articulating the process through which concessions patterns affect negotiation behavior and outcomes. Prior research has proposed that the effects of concessions on negotiation outcomes can be explained by recipients' perceptions of their counterparts' toughness (Hüffmeier et al., 2014; Osgood, 1959; Siegel & Fouraker, 1960). However, we suggest that the informational-signaling aspect of concessions is a more parsimonious explanation, at least when multiple concessions are involved. Our theoretical model suggests that the patterns of concessions from one round to the next shape recipients' perceptions of counterparts' reservation prices because recipients extrapolate the patterns of concessions to future offers. Consequently, this reduces recipients' demands. In support of our mechanism, one of our supplemental studies also demonstrated that the effect of concession patterns on counteroffer is mediated by reservation price perceptions even after controlling for perceived toughness (see Supplemental Study 1 reported in SOM; p. 4). This is an important contribution to the literature because it suggests that concession patterns are an important contextual cue that negotiators use to determine their counterparts' bottom lines.

Third, we extend prior work on concessions in distributive negotiations (Druckman et al., 1972; Druckman & Bonoma, 1976; MacMurray & Lawler, 1986; Yukl, 1974) by exploring important concession parameters that can render decreasing concessions more or less effective. Specifically, Study 4a shows that only a moderate rate of decreasing concessions led to a disadvantage over constant concessions, suggesting that there may be an "optimal" rate of decrease that produces the benefit. Relatedly, Study 4b shows that the number of negotiation rounds has a strong influence on the counteroffers that recipients make. The findings suggest that decreasing concessions are more effective when concessions decrease over more (vs. fewer) rounds.

Our findings also have important implications for practitioners. Even though few negotiators use decreasing concessions strategically and many choose to make constant concessions (see survey data presented in the introduction), our studies show that using decreasing concessions is effective in eliciting more favorable counteroffers in distributive negotiations. Specifically, making decreasing concessions sets expectations about subsequent offers and signals that negotiators are reaching their bottom line (even if they are not) and, in turn, elicits more favorable counteroffers from counterparts. However, because decreasing concessions can be perceived as computationally difficult to employ (see survey in Appendix A of SOM, p. 2), practitioners may want to prepare for their negotiations ahead of time. In addition, the present research tells a cautionary tale for recipients of decreasing concessions. The fact that a significant portion of our studies employed samples of experienced professionals (e.g., MBAs, Executive MBAs) suggests that even experienced negotiators are not immune to the effects of decreasing concessions. Providing a potential remedy, Study 5 demonstrated that negotiators should set a clear target before they sit down at the negotiation table and continue to focus on it throughout the negotiation.

Limitations and Future Directions

Although the present studies provide evidence consistent with our theoretical model, they also offer some exciting opportunities for future research. First, our theoretical model is limited to dyadic negotiations with a single distributive issue. Although many negotiations involve just one issue (e.g., price), negotiations can also be more complex and include both distributive and integrative components (Thompson, 2015). We believe that decreasing concessions that help *claim value* in a distributive negotiation may become an obstacle for *value creation* in integrative negotiations as the use of distributive tactics has been shown to undermine the discovery of integrative potential in more complex negotiations (Deutsch, 1973; Putnam & Wilson, 1989; Walton & McKersie, 1965). Future research could also

identify additional concession patterns that allow negotiators to both claim more value on the distributive aspects of the negotiation and create value on the integrative aspects.

Second, although our studies provide new evidence that suggests that the effect of decreasing concessions may further depend on the rate at which concessions decrease (Study 4a) and the number of negotiation rounds (Study 4b), future research could investigate potential mechanisms for these findings in greater detail. For example, the findings in Study 4a suggest that recipients might fail to recognize decreasing concessions when the rate of decrease is very slow, which is consistent with the idea that for distributive strategies relying on informational cues to be effective, they need to be sufficiently noticeable to overshadow other contextual information present in (often) noisy negotiation settings (see also White et al., 1994). The findings also suggest that there might be a "too much of a good thing" effect (Grant & Schwartz, 2011): overly rapid concession patterns (e.g., $1,500-1,175-1,171-1,170) were no more effective than constant concessions, possibly because they were perceived as contentious and offended the recipients (Lee et al., 2018; Raiffa, 1982; Schweinsberg et al., 2012). In a related vein, Study 4b suggests that decreasing concessions are more effective when concessions decrease over more (vs. fewer) rounds. It could be that recipients of decreasing concessions recognize patterns more clearly when they are reinforced across multiple rounds. Future research should examine this more carefully. Likewise, future research could examine whether decreasing concessions are equally effective when introduced at a later point the negotiation. Although it is possible that decreasing concessions may still shape the expectations of subsequent offers and reservation price perceptions, it is likely that introducing concession patterns at a later point would dilute their effectiveness due to the exposure to additional concessions not part of the pattern.

Third, future research could examine additional contextual factors that limit the effectiveness of decreasing concessions. For instance, in negotiations in which a

counterpart's reservation price is known or easier to observe (e.g., because of common, available, market information), recipients of decreasing concessions may construe the strategy as a self-interested misrepresentation of one's reservation price. Such perceptions might also arise when recipients do not trust their counterparts due to their prior interactions or when they are negotiating with counterparts who are more experienced and competent than they are. These perceptions are important because prior research has shown that people tend to punish negotiators who engage in self-interested deception (Croson et al., 2003; Schweitzer & Croson, 1999). Indeed, in a supplemental study we found that decreasing concessions were no longer effective when the recipients knew their counterparts' reservation prices (see Supplemental Study 2 reported in the SOM), providing preliminary support for the prediction. In addition, given the potential importance of relational mechanisms in these settings, future research should also document effects on subjective outcomes.

Finally, in line with prior work that has defined a negotiator's target price as "an ambitious yet plausible goal" (Siegel & Fouraker, 1960, p. 62; see also Blount White & Neale, 1994), it is unclear whether this intervention would be effective for *any* target price. Further, the effectiveness of a target price intervention is likely also contingent on individual and contextual factors. For example, future research could examine how recipients' desires to maximize or satisfice can influence the effectiveness of a similar target price intervention (Schwartz et al., 2002). Future work could also look at how market information (e.g., range of rental costs) can shape what negotiators deem to be a sufficiently ambitious target and consequently, the effectiveness of the target price intervention (Kristensen & Gärling, 1997).

Conclusion

Based on the idea that perceptions of a counterpart's reservation price are malleable and affected by contextual cues during the negotiation, as well as the finding that observers use past trajectories to predict future ones, we proposed the *Information-Signaling Model of*

Concession Patterns to explain when and why concessions that decrease in size over time result in a negotiation disadvantage for the recipients. Our studies demonstrate that this distributive disadvantage occurs because decreasing concessions signal that one is unable to concede further and reaching their bottom line. These findings illustrate when and why concession patterns shape negotiators behaviour and demonstrate how they can guard against their harmful effects.

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