Social Psychology

A Deep Dive Into Distributive Concession Making and the Likelihood of Impasses in Negotiations

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Negotiation impasses can have severe negative consequences, but only little research attention has been devoted to investigating their causes. Studies on distributive concession making (i.e., high demands and low concessions) as a cause of impasses were inconclusive due to low sample sizes and methodological choices. Moreover, distributive concession making entails two hitherto fully entangled properties: reduction of conceded value and violation of the reciprocity norm. In our experiment, participants negotiated with a confederate who administered different concession patterns that allowed us to disentangle these properties. We found unambiguous evidence that distributive concession making increases the likelihood of impasses. This effect was driven by the reduction of conceded value rather than the violation of the reciprocity norm. Confrontation with distributive concession making led participants to develop negative internal attributions and anger, which mediated the effect of distributive concession making on the impasse rate. Our study contributes to a better understanding of the causes and underlying mechanisms of negotiation impasses.

A negotiation is an attempt to resolve a (perceived) conflict of interests through discussion (Pruitt & Carnevale, 1993). Agreements, however, are not always achieved (e.g., Tripp & Sondak, 1992). Such negotiation impasses can have severe negative consequences on a personal, societal, and even global level, for example when unions go on strike (e.g., Weale, 2020), or when the world at large fails to address climate change adequately because climate conferences cannot find agreement (e.g., Harvey, 2019). Given the immense potential costs of impasses, a comprehensive understanding of the processes that cause negotiations to fail is needed. However, most negotiation research studies the quality of agreements rather than whether an agreement is reached at all (e.g., Cohen et al., 2014; Trötschel et al., 2011). Thus, we have a very limited understanding of the causes of impasses despite regular calls for more pertinent research (e.g., Schweinsberg et al., 2022; Tripp & Sondak, 1992).

One of the best-researched causes of impasses is distributive concession making (e.g., Esser & Komorita, 1975; Maxwell et al., 2003), which is characterized by high demands and low concessions (e.g., Hüffmeier et al., 2014). However, extant pertinent studies were inconclusive because of mixed results (Maxwell et al., 2003), small sample sizes, and minimalistic negotiation tasks with low mundane realism (Esser & Komorita, 1975; Hamner, 1974). Moreover, while it seems plausible that distributive concession making increases the likelihood of impasses, it is unclear why exactly this is the case. In fact, distributive concession making entails two entangled properties that could be responsible for the its effect on impasses: It reduces the recipient's individual negotiation outcomes and violates the social norm of reciprocity (Gouldner, 1960).

Our study contributes to the literature in several ways. First, we add to the sparse literature on impasses by conducting a study specifically designed to investigate impasses rather than the quality of agreements. Traditionally, negotiation research mostly sees agreements as a given and focuses on the varying quality of these agreements (see Cohen et al., 2014; Trötschel et al., 2011). Our study thereby addresses an important research gap because research on the causes of impasses is still sparse (see Schweinsberg et al., 2022). Furthermore, some earlier studies investigating impasses employed methodological choices that might suppress or foster the emergence of impasses artificially, for example by using extremely tight bargaining zones (e.g., O'Connor & Arnold, 2001), or rewarding participants for agreements (e.g., Cotter & Henley, 2017). As a result, the insights these studies provide may be biased. Consequently, we designed our study to allow impasses to emerge nat-

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urally because of the negotiation process rather than because of very specific boundary conditions.

Second, our study addresses different problems with prior studies on the effects of distributive concession making on impasse frequency (e.g., Esser & Komorita, 1975; Maxwell et al., 2003). These studies yielded mixed results, suffered from low statistical power due to small sample sizes and low mundane realism because they neglected interpersonal dynamics of real negotiations by employing minimalistic negotiation environments and tasks. We address these issues by conducting a high-powered confederate study with more realistic negotiation interactions.

Third, by comparing the effects of different concession patterns, we disentangle the two hitherto fully entangled properties of distributive concession making: reduction of the recipient's outcomes and violation of the reciprocity norm. On the one hand, negotiators use distributive concession making to claim value and maximize their own outcomes at the expense of the outcomes of their negotiation counterpart. As a result, possible agreements might become less attractive for the counterpart. On the other hand, distributive concession making violates the norm of reciprocity, which states that people should repay what others have given them and that people can expect to be repaid for what they have given others (Gouldner, 1960). This can lead to the escalation of conflicts (see Mertes & Hüffmeier, 2017; Weingart et al., 1990). By disentangling these two properties, our work contributes to a better understanding of why distributive concession making affects the likelihood of impasses.

Negotiation Impasses

Impasses are often understood as failures to reach an agreement (e.g., Kesner & Shapiro, 1991; Tuncel et al., 2016). Whether or not an impasse should be considered a failure depends on the (expected) economic and socioemotional outcomes at stake (see also Kesner & Shapiro, 1991; Schweinsberg et al., 2022). In negotiations with a positive bargaining zone (i.e., where the parties have overlapping interests), impasses should be avoided because both parties would profit from an agreement. In negotiations with a negative bargaining zone (i.e., where the interests of the parties do not overlap), an impasse should actually be the preferred outcome because neither side would profit from any agreement.

The scarcity of research on the causes of impasses prevents a comprehensive understanding of why impasses occur and what can be done to prevent them (for an overview, see Schweinsberg et al., 2022). It could be argued that extant negotiation literature focusing on the varying quality of agreements makes further research on impasses obsolete. Such an argument would assume that an impasse is equivalent to the worst possible economic outcome. In other words: Whatever lowers the value of a deal should also increase the risk of impasses. However, this argument fails to consider several important aspects.

First, impasses are qualitatively different from low-quality agreements. For instance, in a typical sales negotiation, a low-quality agreement is one in which at least one party experiences an economic loss because the buyer overpays or the seller undercharges, but it is also possible that the two parties communicate their interests so poorly that they come to an agreement that satisfies neither parties' interests and leads to economic losses for both sides (e.g., Cohen et al., 2014; Kesner & Shapiro, 1991). It is critical to understand that an agreement, no matter how low its quality, is still an agreement and if that agreement is implemented (e.g., Mislin et al., 2011), an exchange between the two parties will take place. An impasse, on the other hand, means that there is no agreement that could be implemented and as a result, there is also *no exchange*. An exchange is, however, crucial to the assessment of the negotiation outcomes because unless this exchange takes place, there are no economic wins and losses (aside from the costs of negotiating itself). Thus, negotiation outcomes should not be understood as a spectrum where high quality agreements are on one side of the scale and low quality agreements together with impasses are on the other. Rather, impasses should be understood as a different type of outcome with different consequences and potentially different antecedents.

As we explained above, there are situations where negotiators should prefer impasses over agreements. When negotiators assess the value of an expected agreement and find that it is inferior to their reservation price (e.g., determined by the *best alternative to a negotiated agreement* or BATNA; Fisher et al., 1981), then they should declare impasse to avoid economic losses. However, this is not always the case as negotiators can fall into an agreement trap (Cohen et al., 2014). Tuncel et al. (2016) showed that even experienced negotiators often tend to choose economically inferior agreements over impasses. This finding is driven both by an attraction to agreements and an aversion to impasses.

Second, there are also methodological concerns, as extant studies on the quality of agreements often employ methodological choices limiting their ability to provide valid insights about impasses. These choices might keep impasse rates artificially low (e.g., by punishing participants for reaching impasses or heavily implying the necessity of an agreement in the instructions; Cotter & Henley, 2017; Schweinsberg et al., 2022). Choices like these may explain why impasse rates in experimental negotiation studies are typically lower than what we would expected in the field (see also Coursey, 1982; Petrowsky et al., 2023), which prevents a meaningful statistical analysis of impasses in many studies. Consequently, empirical evidence that antecedents of lower economical outcomes also lead to impasses can often not be provided because impasses are often not analyzed or completely excluded from statistical analysis of other variables (Tripp & Sondak, 1992). We argue that more research investigating impasses rather than the quality of agreements is needed to address this state of affairs (e.g., Schweinsberg et al., 2022).

Distributive Concession Making

Distributive concession making describes a negotiation strategy of making only little concessions, whereby the concessions can be small in size, rare, delayed, or any com-

bination of these aspects (e.g., Esser & Komorita, 1975; Hamner, 1974). Distributive concession making is a part of the broader construct "distributive negotiation behaviors" (also referred to as "hardline bargaining" or "competitive bargaining"; Hüffmeier et al., 2014), which summarize negotiation tactics typically used to increase individual economic negotiation outcomes at the expense of the opponent's individual economic negotiation outcomes (Thompson, 2009), such as threats (e.g., Shapiro & Bies, 1994), deceptions (e.g., Rogers et al., 2017), and making high first offers (e.g., Schweinsberg et al., 2022). In this work, we focus on distributive concession making (cf. Hüffmeier et al., 2014) because this aspect of distributive negotiation behavior has been investigated in the context of impasses before (e.g., Esser & Komorita, 1975; Hamner, 1974) and this research left open different questions. In our study, we operationalize distributive concession making by administering different concession patterns (i.e., sequences of concessions of varying sizes; see the Concession Patterns section below).

The increase of individual economic negotiation outcomes resulting from the use of distributive concession making often comes at the expense of (a) the negotiation counterpart's individual economic outcomes (e.g., Lax & Sebenius, 1986; Thompson, 2009), (b) the overall socio-emotional outcomes (e.g., perceived relationship quality, outcome satisfaction; Curhan et al., 2006; Hüffmeier et al., 2014), and (c) the likelihood of agreement (e.g., Esser & Komorita, 1975; Hamner, 1974). Three studies investigated how distributive concession making increases the risk of impasses. Two of these studies showed that a lack of reciprocity in the form of reduced (Hamner, 1974) or delayed concessions (Esser & Komorita, 1975) increases the risk of impasses, while in the third there was no difference in the impasse rate between the full and reduced reciprocity conditions (Maxwell et al., 2003).[1] Aside from the mixed evidence they provide, these studies are problematic in two other ways: First, all of them investigated distributive concession making in an extremely artificial setting, thus lacking mundane realism and potentially external reliability. While participants were led to believe that there was a counterpart on the other side of a chat program (Maxwell et al., 2003) or in another room (Esser & Komorita, 1975; Hamner, 1974), the interactions with these counterparts were reduced to mere exchanges of numbers. As a result, the participants could not exchange arguments or discuss ideas with their counterpart, which is an important interpersonal aspect of negotiations (e.g., Maaravi et al., 2011;

Thompson, 2009). Second, the studies on distributive concession making used small samples (n = 16-24 per experimental condition) and may, thus, have been severely underpowered (see Giner-Sorolla et al., 2019), increasing the risk of Type I and Type II errors.

In a qualitative study, Mertes and Hüffmeier (2017) interviewed negotiation experts to develop a theoretical framework explaining the emergence of impasses. Their framework proposes that distributive concession making leads to feelings of anger and the formation of negative internal attributions. We will elaborate on these propositions further below. Despite these initial findings and plausible theoretical assumptions, it is still not clear why exactly distributive concession making leads to impasses and which of its properties elicit anger and negative internal attributions. This is because distributive concession making entails two fully entangled properties that can be assumed to increase the likelihood of impasses. These properties are described in the next sections.

The First Property: Value Reduction

One property of distributive concession making is a reduction of the (expected) value for the counterpart in a negotiation because negotiators use distributive concessions to increase their own individual outcomes at the expense of their counterpart's individual outcomes. According to equity theory, people in exchange situations constantly monitor their inputs and outcomes and compare them to their counterparts' inputs and outcomes (Adams, 1965). The one-sided value reduction of distributive concessions creates aversive disadvantageous inequity for the opponent (Fehr & Schmidt, 1999).[2] (Perceived) inequity (i.e., when one party's input to outcome ratio is [perceived to be] superior to the other's) creates tension. The disadvantaged party strives to reduce this tension by protesting the inequity, altering their inputs towards a more favorable input/outcome ratio, or by ending the interaction. Consequently, a negotiator perceiving inequity due to their counterpart's distributive concession making should reduce their concessions to protect their economic interests, which might lead to conflict escalation (Brett et al., 1998), or even decide to leave the negotiation table.

The Second Property: Violation of the Norm of Reciprocity

Another property of distributive concession making is the violation of the social norm of reciprocity by making

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1 Maxwell et al. (2003) do not provide this test. We calculated it from the data presented in 1 (p. 404) in Maxwell et al. (2003). Comparing the agreement rate in the 20% and 100% reciprocity control conditions yielded no statistically significant difference, $\chi^2(1)$ = 3.45, p > .05.

2 Given that we investigate the effect of distributive concession patterns on the likelihood of impasses in a distributive negotiation, in which gains for one side result in equivalent losses for the other side (i.e., a zero-sum situation), we cannot meaningfully distinguish between value reduction and inequity. In such negotiations, reductions in value for one side tend to result in perceived inequity. This perception is additionally strengthened by the way in which we administer our experimental manipulation (see below). Thus, throughout this manuscript, we stick with the term value reduction because it describes the property of distributive concessions that leads to (perceived) inequity.

high demands and little concessions. Social norms are rules shared by the members of a group or society that guide behavior, especially in uncertain situations (Cialdini & Trost, 1998). The norm of reciprocity is the shared understanding that people should repay what others have given them and that people can expect to be repaid for what they have given others (Gouldner, 1960). These expectations also apply to the negotiation context (see also O'Connor & Adams, 1999; Weingart et al., 1990) and are violated by distributive concession making. Violations of the norm of reciprocity, when reciprocated (Weingart et al., 1990), can lead to conflict escalation and thereby impasse.

Anger and Negative Internal Attribution as Mediators

According to Mertes and Hüffmeier's theoretical framework (2017), distributive concession making should lead to anger and negative internal attributions among counterparts in negotiation. Both processes are assumed to mediate the effect of distributive concession making on the likelihood of impasses. Violations of people's expectations and prevalent social norms, including the norm of reciprocity, are among the most common factors *eliciting* anger (Averill, 1982). Anger is "an emotion that involves an appraisal of responsibility for wrongdoing by another person or entity and often includes the goal of correcting the perceived wrong" (Gibson & Callister, 2010, p. 68). Anger is associated with a revenge motive (Averill, 1982). Therefore, negotiators targeted with distributive concession making may retaliate by reciprocating the distributive concession making, which can lead to conflict escalation (e.g., Brett et al., 1998; Weingart et al., 1990).

Furthermore, distributive concession making should elicit negative internal attributions (i.e., the attribution of distributive concession making to a lack of willingness to come to an agreement; Mertes & Hüffmeier, 2017). Distributive concession making is likely to elicit attribution processes because it is unexpected (e.g., O'Connor & Adams, 1999; Pyszczynski & Greenberg, 1981) and has negative consequences (see Fiske, 1980; Hastie, 1984). According to attribution theory (Heider, 1958; Martinko et al., 2011), the behavior shown by a person can be attributed in two different ways: externally and internally.

External attribution means that the behavior is attributed to factors outside of the person, such as situational constraints (i.e., every person would have behaved in a similar way in that situation). Internal attribution means that the behavior is attributed to factors within the person, such as their personality (i.e., the person behaved this way because it reflects who that person is). When making attributions about others, people tend to underestimate situational factors and overestimate dispositional factors (Ross, 1977). This so-called *fundamental attribution error* (Ross, 1977) or *correspondence bias* (Gilbert & Malone, 1995) occurs because the person showing the behavior is salient, while their situational constraints are not (Taylor & Fiske, 1978): Situational constraints typically have no physical manifestation, so they cannot be perceived with the senses (Gilbert & Malone, 1995), but the person and their behavior

can be. Thus, a negotiator's distributive concession making, with its negative consequences for the recipient's individual economic outcomes, should lead to negative internal attributions. Specifically, Mertes and Hüffmeier (2017) propose that the recipient of such concessions develops doubts about their counterpart's willingness to come to an agreement because (e.g., "They negotiate like this because they are not really interested in coming to an agreement!"; see also DeRidder & Tripathi, 1992). This, in turn, should reduce their own willingness to cooperate towards conflict resolution (Mertes & Hüffmeier, 2017).

Concession Patterns

In this study, we manipulate the properties of distributive concession making (i.e., value reduction vs. reciprocity violation) by employing different concession patterns. Concession patterns describe the sequence of concessions that a party makes over the course of a negotiation. These concessions can vary in size. On the lower end, concessions are limited by what the smallest unit of value is. On the upper end, concessions are limited by the maximum amount of value a party can give. Concession patterns are a part of the negotiation strategy and different concession patterns can serve different goals. A negotiator aiming to increase their individual economic outcomes without regard for social-emotional outcomes (i.e., relationship to the other party) or their opponent's economic outcomes, may choose to pursue a hardline strategy (e.g., Hüffmeier et al., 2014), which would translate into a pattern of low concessions (i.e., giving little) and non-concessions (i.e., stand their ground). Negotiators aiming to cooperate with, but not wanting to be exploited by the other party could use the *tit-for-tat* strategy, which is defined by early cooperation and reciprocation of the opponent's moves (Axelrod, 1984; Osgood, 1962). In a negotiation, this would translate into a concession pattern, in which the negotiator starts with an early concession and then proceeds to reciprocate their opponent's ensuing concessions and non-concessions. This strategy has been shown to elicit cooperation effectively (e.g., Komorita et al., 1992; Sheldon, 1999).

Disentangling the potential influence of value reduction and reciprocity violation requires the identification of distinct concession patterns that vary in their properties. In the following paragraphs, we will gradually introduce and describe these concession making patterns and their properties (for a summary, see Table 1). Any information on the operationalization of these patterns in our study can be found in the section "Distributive Concession Making Manipulation" below.

First, the study requires a concession pattern that unites both properties (value reduction and reciprocity violation) as a baseline condition. We will refer to this concession pattern as *consistent distributive concession making*. Second, we require a concession pattern that has neither of these properties as another baseline condition, which we will refer to as *tit-for-tat concession making*. Thus, in accordance with equity theory (Adams, 1965) as well as theorizing on both the detrimental effects of violating reciprocity (Gouldner, 1960), and positive effects of applying tit-for-tat (Axelrod,

Table 1. Overview of the Concession Making Patterns Employed in this Study With Their Respective Properties

CM pattern	Value reduction	Reciprocity violation
Consistent DCM	√[*]	√
Tit-for-tat CM	-	-
Partially DCM	√[†]	√
Norm-conforming partially DCM	√[†]	-

Note. CM = "Concession making", DCM = "Distributive concession making", [*] indicates that the value reduction in this pattern is consistent (i.e., value is reduced with every concession), [†] indicates that the value reduction in this pattern is inconsistent (i.e., only half of the concessions reduce value)

1984), consistent distributive concession making should lead to more impasses than tit-for-tat concession making.

> *Hypothesis 1*: Consistent distributive concession making leads to more impasses than tit-for-tat concession making.

Disentangling the hitherto entangled properties (value reduction and reciprocity violation) requires comparing two concession making patterns that are equivalent with regard to one property, but differ with regard to the other. Therefore, neither of these patterns should share all properties with consistent distributive concession making because this pattern has both properties. However, the patterns can be partially distributive (i.e., more distributive than tit-for-tat, but less distributive than consistent distributive concession making) and equally distributive. Therefore, two patterns of partially (i.e., inconsistent) distributive concession making are needed, which concede an equivalent amount of value. To test the influence of reciprocity violations on the likelihood of impasses, these two patterns of partially distributive concession making must differ with regard to violating the reciprocity norm.

We will refer to the inconsistent distributive concession pattern that should be perceived as violating reciprocity as *partially distributive concession making*. We will refer to the inconsistent distributive concession pattern that should be perceived as adhering to the reciprocity norm as *norm-conforming partially distributive concession making*. Comparing the impasse rates resulting from the two partially distributive concession making patterns would allow us to test the influence of the reciprocity violation property. By definition, both patterns concede an equivalent amount of value. Thus, following the theorizing of the detrimental effects of reciprocity violations above (Gouldner, 1960; Weingart et

al., 1990), the concession pattern that is perceived as violating reciprocity should lead to more impasses than the concession pattern that is not perceived as violating reciprocity.

> *Hypothesis 2:* Partially distributive concession making leads to more impasses than norm-conforming partially distributive concession making.

Both of these patterns of partially distributive concession making would still be distributive in nature. This means that, compared to tit-for-tat concession making, they reduce the value of the recipient. Thus, in accordance with equity theory (Adams, 1965), we formulate the following hypotheses.

> *Hypothesis 3*: Partially distributive concession making leads to more impasses than tit-for-tat concession making.
> *Hypothesis 4*: Norm-conforming partially distributive concession making leads to more impasses than tit-for-tat concession making.

Finally, while both patterns of partially distributive concession making are distributive, they concede more value and are therefore less detrimental to the counterpart's individual outcomes than consistent distributive concession making. Following equity theory (1965), they should lead to fewer impasses than consistent distributive concession making.

> *Hypothesis 5:* Consistent distributive concession making leads to more impasses than partially distributive concession making.
> *Hypothesis 6:* Consistent distributive concession making leads to more impasses than norm-conforming partially distributive concession making.

Methods[3] [4]

In the following, we report how we determined our sample size, all data exclusions, all manipulations, and all measures in the study (Simmons et al., 2012).

Research Design

We used a one-factorial experimental design with four levels (tit-for-tat concession making vs. consistent distributive concession making vs. partially distributive concession making vs. norm-conforming partially distributive concession making), where participants were randomly assigned to one of the four conditions. Participants were led to believe that they negotiated a distributive negotiation task with another participant via an online-chat, who was actu-

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[3] The pre-registration document for this study can be accessed here https://osf.io/d5h8p/?view_only=04f73f6e22d048e598775db7e287a51c. Due to a mistake, this pre-registration was not online before data collection for this study was finished. We share the original document for the sake of transparency. Please note the disclaimer.

[4] Our processed data and materials (i.e., confederate scripts for all experimental conditions, experimenter scripts, adapted negotiation task) can be accessed in original language here: https://osf.io/3haqg/?view_only=3af47b7f429f44cab1a9aa49329582e5.

ally the experimenter and acted as a confederate following a script.[5] We aimed for an equal gender-distribution across all experimental conditions to control for potential gender effects (see Mazei et al., 2015).

A Priori Power Analysis and Sample Size

We conducted an a priori power analysis for χ^2-tests in G*Power (Faul et al., 2007). Given the crucial differences between our study and earlier studies, we did not base these simulations on a precedence effect size and instead decided to determine a sample size that would allow us to reliably detect medium sized effects (d = 0.30), which corresponds to an Odds Ratio of 1.72 (α = .05, 1-β = .80).[6] Based on previous experiences with the manipulations used in this study and the conservatively estimated effect size, we chose proportions of $p1$ = 0.71 (i.e., the estimated impasse rate in the consistent distributive negotiation concession making) and $p2$ = 0.412 (i.e., the estimated impasse rate in the partially distributive negotiation concession making), resulting in a total sample size of 172 (n = 43 per cell).

Sample

Participants (N = 173) were recruited on social media as well as the campus of a major German university (50.3% female, 49.1% male, 0.6% other). Participants were on average 26.98 years old (SD = 8.91). We refrained from recruiting psychology students because their familiarity with research methods and confederate studies could have compromised the internal validity of this study. Participants received a compensation of 15 €. To reduce demand characteristics that might have otherwise led participants towards agreements (see Schweinsberg et al., 2022), this compensation was not bound to the negotiated outcome. Forty-eight participants were employees, 113 studied at a university, five attended high school, and seven had other occupations. The employees indicated their occupations within the RIASEC typology (Holland, 1996). This yielded the following distribution among the six categories of RIASEC: 2.9% realistic, 4.6% investigative, 0.6% artistic, 6.9% social, 5.8% enterprising and 6.9% conventional.[7] Almost all participants indicated that German was their native language (98.9%). There were no differences in negotiation experience and motivation between the conditions, H(3)s $\leqslant$ 7.29, ps $\geqslant$ .063.

Negotiation Task

We used an adapted version of the BioPharm-Seltek case (www.negotiationexercises.com). BioPharm-Seltek is a single-issue distributive negotiation task, in which the two pharmaceutical companies, BioPharm and Seltek, negotiate over the sales price of a factory that Seltek wants to sell and BioPharm wants to buy. We translated the case into German and adapted it to better suit the purposes of our current study in the following three ways.

First, we clarified role instructions to simplify the confederate negotiation script. Specifically, in the revised materials, both role instructions now clearly state that the parties only negotiate the final price. Second, we further simplified information about the bargaining zone. BioPharm could build a new factory for 30 million Euros in total, and Seltek had an alternative offer from a different company worth 12 million Euros. These values represent the parties' BATNAs and, thus, their reservation prices. This established a large bargaining zone (anywhere from 12 to 30 million Euros) to ensure that impasses are the result of the negotiation interaction rather than a narrow zone of possible agreements (cf. O'Connor & Arnold, 2001). Third, instructions for both roles stated that the executive boards at their respective companies had given the participants full authority to decide whether or not they wanted to complete the transaction with the other party or resort to their BATNA (cf. Schweinsberg et al., 2022). We included this instruction to mitigate the perception that impasses are failures to avoid (Kesner & Shapiro, 1991) and to minimize the risk of inducing demand compliance towards agreements by communicating outside expectations (see also Orne, 1962; Schweinsberg et al., 2022). However, to establish the competitive nature of the task, both parties were instructed to maximize their individual outcomes. Each parties' aspiration price coincided with the other party's reservation price. Participants were informed that BioPharm had initially offered 11 million Euros and that Seltek had countered with 31 million Euros. These offers laid the foundation for the negotiation. The BioPharm instructions contained a figure illustrating the bargaining zone, reservation price, and aspirations. For the purpose of standardization in the complex confederate script, the participant always embodied BioPharm (i.e., the buyer-role) and the confederate always embodied Seltek (i.e., the seller-role). Finally, we included publicly available information about the factory. From this information, parties could derive ar-

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5 Although the same person acted as the confederate and the experimenter, we will describe the two roles separately in order to provide an easier reading experience.

6 At first, we considered multiple studies with manipulations comparable to ours as precedence for effect size estimations (Esser & Komorita, 1975; Hamner, 1974; Maxwell et al., 2003). Effect sizes in these studies varied between ω = .24 and ω = .41. However, several issues make these studies ineligible. First, these effect sizes might be overestimated due to the small sample sizes (see also Giner-Sorolla et al., 2019). Second, none of these studies reports data on how the impasse rate is affected by consistent 25% concessions, which we use in the consistent distributive concession making condition. Third, we reduced demand characteristics in instructions that might otherwise lead participants to seek agreements, which we expect to strengthen our manipulations compared to those used in prior studies.

7 Percentages based on the entirety of our sample.

guments and counterarguments to substantiate their offers and counteroffers (see Maaravi et al., 2011).

Procedure

Participants received an email inviting them to a private chatroom on https://stin.to/de. Participants always assumed the buyer-role and, thus, received instructions to enter the chat room under the name "BioPharm". Shortly after the participant had logged in, the experimenter entered the chat under the name "Seltek". In total, there were three users in the chat room: BioPharm (the participant), the Experimenter, and Seltek (both of which were controlled by the experimenter operating in two different browser tabs). The experimenter started the experiment right away so that the participant could not engage in conversation with their supposed counterpart.

All instructions were given to both BioPharm and Seltek to purport that two real people participate in the study. Participants were informed that the study would take place on two different platforms, one of which was the chat window and the other was an online survey that they were asked to open in another browser window or tab. The participants were told that the experimenter would inform them when it was time to fill out the next part of the survey and that the survey, in turn, would inform them when it was time to switch back to the chat. Then, the experimenter sent both BioPharm and Seltek different links to the survey and gave each party a separate code that was later used to match the survey data with the chat logs. After opening the survey, participants gave informed consent to participation and scientific use of their data. The experimenter informed the participants that they had 20 minutes to read the instructions and prepare for the upcoming negotiation. After reading the negotiation instructions, they answered three questions about their first offer, aspirations, and reservation price. If participants signaled that they were ready before the 20 minutes were up, they were asked to wait. This was done to create the illusion of a real second participant (Seltek) who needed the full time to prepare.

The survey then asked participants to switch back to the chat, where the experimenter informed them that they would now negotiate with each other. They were instructed that the negotiation would last for six rounds. This number was determined in a pre-test, in which participants in the BioPharm role made a maximum of six offers (see Appendix A).

Participants were allowed to openly discuss anything that came up during the negotiation. The instructions stated that after each round there would be a short break, during which participants would be asked to go back to the survey and answer a few questions before the negotiation continued. Participants were asked to wait until after the sixth round before they decided on the outcome of the ne-

gotiation. The experimenter reiterated that BioPharm and Seltek had already exchanged offers and counteroffers (i.e., 11 million Euros and 31 million Euros, respectively). Then, the experimenter kicked off the negotiation and asked Bio-Pharm to make the first offer.

The confederate followed a controlled script, which was adjusted according to the experimental conditions (see the Confederate Script and Manipulations section below). After every negotiation round, participants were asked to indicate their willingness to continue the negotiation. After rounds two, four, and six, we measured anger and negative internal attributions (see the Measures section below). When the negotiation concluded, participants indicated whether they wanted to accept Seltek's final offer or not and completed the survey, which included socio-emotional outcomes, negotiation motivation and experience, a suspicion and manipulation check, and demographic information (see the Measures section below). Finally, participants were fully debriefed, compensated, and asked not to inform others about details of this study. In total, each session lasted about 90 minutes.

Confederate Script and Manipulations

The confederate script contained instructions for when and how the confederate made offers. The script served two purposes: First, it was designed to administer the distributive concession making manipulations in a standardized way. Second, it was designed to maintain the impression of a real interaction, in which the negotiators do not only exchange offers but also discuss negotiation-relevant information. We describe all aspects of the script separately below. Although confederates crafted their replies by copying and pasting prepared paragraphs from the script, they were instructed to incorporate waiting times so that the response times appeared plausible to the participants.

Rounds

Each round began with an offer made by the participant and ended with a counteroffer made by the confederate.[8] Counteroffers were presented with standardized phrases: "You have made a concession worth X million. I want to make a concession of Y million. My offer is now Z million Euros." This wording compared the concessions made by the participant and the confederate and thereby put emphasis on the equity (or inequity) resulting from the exchange. To maintain the impression of a real conversation, there were six different variations of this statement, one for each round. X stands for the participant's most recent concession, calculated as the value of the participant's most recent offer minus the value of their previous offer. For example, if a participant made an offer of 15 million Euros and the previous offer was 11 million Euros, then the concession (X) was 4 million Euros. The confederate's conces-

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[8] For the sake of comprehensibility, offers made by the participant will always be referred to as "offers." Offers made by the confederate will always be referred to as "counteroffers."

sion (Y) depended on X and the experimental condition (see the Distributive Concession Making Manipulation subsection below). If the participant made an offer that was lower than (or equal to) their previous offer, then X was negative (or zero) and the confederate made no concession in this round. Z was the confederate's counteroffer, calculated as the confederate's previous counteroffer minus the most recent concession (Y). For example, if a confederate made a concession of 2 million Euros and the previous offer was 31 million Euros, then their new offer was 29 million Euros. The confederate never made a counteroffer unless the participant made an offer first.

In round six, the standardized phrase for the counteroffer differed slightly in that the confederate would indicate that this was their final concession. Even if the participant tried to initiate a seventh round by making another offer or offering to split the difference, the confederate made no further concessions after the sixth round.

Arguments

Our pretest showed that participants tend to justify and defend their offers with one or more arguments (see also Maaravi et al., 2011). The confederate script contained a list of arguments that could counter the arguments participants could derive from the information in the negotiation instructions. To foster the realistic impression of a discussion between two actual participants, confederates presented the counterargument(s) to each of the participant's arguments before making a counteroffer. If the participant made an offer without presenting an argument, confederates presented an argument from the list in standardized order. We expected this to encourage the participant to present arguments, which would contribute to the mundane realism of the interaction. Confederate counteroffers were always accompanied by a counterargument. If the participant presented an argument without making an offer, the confederate presented the counterargument, but made no counteroffer until the participant made an offer first. There were alternative variants and short-forms of each counterargument so that confederate did not have to use the same exact phrasing more than once. If participants presented the same argument multiple times, confederates initiated their counterarguments with statements such as "As I said before ..." or "I can only repeat myself ..." Some participants came up with arguments that could not be derived from the negotiation instructions. For such cases, we implemented an improvisation rule, stating that confederates could improvise their answers as long as they (a) did not contradict any information given in the instructions, and (b) used the same polite and businesslike tone as all other statements written for the Seltek role. A typical example for an improvised response was, "I am unfamiliar with the object of your specific request. I am fairly certain that this was part of the pre-negotiations and that we would have been informed if this was a problematic issue."

The script also contained rules for a variety of specific situations. For example, the script offered standardized answers for when the participant asked the confederate why they did not make more concessions, for when the par-

ticipants tried to talk about topics outside of the negotiation, or when the participant offered the confederate a bribe. In general, these rules were implemented so that the conversation between the participant and confederate would appear more natural and the participant would not see through the deception.

Distributive Concession Making Manipulation

Our operationalization of distributive concession making focuses on concession patterns with varying sizes of concessions. This manipulation has been shown to induce impasses, although this effect is hitherto limited to low-power studies (Esser & Komorita, 1975; Hamner, 1974; Maxwell et al., 2003). We used two kinds of concessions: The first are 100% concessions, in which the value of the concession made by the confederate equals the value of the concession made by the participant beforehand. Thus, these concessions do not reduce value and do not violate the reciprocity norm. The second are 25% concessions, in which the value of the confederate concession is only a quarter of the concession made by the participant. Twenty-five percent concessions both reduce value and violate the reciprocity norm, which means that the two critical properties are intertwined.

We manipulated distributive concession making by employing different patterns of 100% and 25% concessions over the six negotiation rounds (for an overview, see Table 2). In the tit-for-tat condition, the concession pattern consisted of six 100% concessions. This means that every time the participant made a concession, the confederate would respond with a concession of the same value. Consequently, neither reduced value nor reciprocity violation applied to this pattern. In the consistent distributive concession making condition, the pattern consisted of six 25% concessions. This means that every time the participant made a concession, the confederate would respond with a concessions worth only 25% of the participant concession's value. Therefore, both reduced value and reciprocity violation apply to this pattern as is required in our design.

To isolate the possible influence of violated reciprocity, the partially distributive concession making pattern and the norm-conforming partially distributive concession making pattern must concede equivalent value. We achieved this by designing two different concession patterns including balanced amounts of 25% and 100% concessions. Specifically, both conditions entail three 25% concessions and three 100% concessions (see the Manipulation Check section in the results below).

Moreover, only one of these condition patterns should be perceived as violating the reciprocity norm (i.e., the partially distributive concession making pattern), while the other should not be perceived as violating the reciprocity norm (i.e., the norm-conforming partially distributive concession making). We aimed to achieve this by counterbalancing the concessions made within the patterns. In the partially distributive concession making pattern, confederates made 25% concessions for the first three rounds and then switched to 100% concessions for the last three rounds. In the norm-conforming partially distributive con-

Table 2. Illustration of the Distributive Concession Making Manipulations over Six Rounds

CM condition	1st round	2nd round	3rd round	4th round	5th round	6th round
Tit-for-tat CM	100%	100%	100%	100%	100%	100%
Consistent DCM	25%	25%	25%	25%	25%	25%
Partially DCM	25%	25%	25%	100%	100%	100%
Norm-conforming partially DCM	100%	100%	100%	25%	25%	25%

Note. CM = "Concession making", DCM = "Distributive concession making". Percentages represent the size of the concessions made by the confederates depending on the size of the concession made by the participants before.

cession making pattern, confederates made 100% concessions for the first three rounds and then switched to 25% concessions for the last three rounds.

This operationalization of these two patterns should satisfy our criteria for reciprocity violation for two reasons. First, expectations of reciprocity apply to the negotiation context (e.g., Weingart et al., 1990) and they might be stronger early in the negotiation, where negotiators typically still have more leeway to make concessions because they have not yet conceded as much value as they may have conceded later on. Consequently, violations of the reciprocity norm may be more salient in the beginning of negotiations. Moreover, behavior shown early in the negotiation shapes later stages of the negotiation (Olekalns & Smith, 2000) and informs expectations of future behavior. Second, the first three concessions in the partially distributive concession making condition are 25% concessions, which means that confederates in this condition start by violating the norm of reciprocity three times in a row. As a result, the confederates should be seen as more competitive and violating the reciprocity norm. The first three concessions in the norm-conforming partially distributive concession making pattern are 100% concessions, which means that confederates in this condition start by adhering to the norm of reciprocity three times in a row. Consequently, the confederates should be seen as less competitive and not violating the reciprocity norm.

End of the Negotiation and Outcome

The negotiation ended with an *agreement* when one of two conditions were met: either (a) the participant agreed to the confederate's counteroffer at any point during the negotiation, or (b) the confederate's next counteroffer would have been equal to or lower than the participant's last offer. The negotiation ended with an *impasse* when (a) the participant indicated that they did not want to agree to the confederate's final counteroffer after the sixth round, or (b) the participant expressed their wish to end the negotiation before the end of the sixth round. To make the latter case a hard criterion, confederates ascertained that the participant really wanted to exit the negotiation ("Do you want to end the negotiation under the current circumstances?"). When participants confirmed, the negotiation was terminated. However, there was no debriefing until the participants had completed the post-negotiation questionnaire. The confederate never declared impasse.

Measures

Preparation Items

To help participants prepare their strategies for the negotiation, we asked them to write down their aspiration price, reservation price, and the first offer they planned to make.

Manipulation Check

We asked participants to rate the confederate's competitiveness on a 7-point Likert-scale (1 = *not at all* and 7 = *very much*). As a complementary manipulation check, we determined the sum of conceded value over all conditions.

Impasse Rate

The primary dependent measure was the impasse rate. Impasses were indicated by the participant after the sixth round or documented by the experimenter if they occurred at any point prior the end of the sixth round.

Willingness to Continue the Negotiation

After each round, participants were asked to indicate on a 7-point Likert-scale in how far they agreed to the statement "I would like to continue the negotiation" (1 = *fully disagree* to 7 = *fully agree*). We measured this variable for exploratory purposes.

Negative Internal Attributions

For exploratory purposes, we used a self-developed scale consisting of three items to assess negative internal attributions that might emerge because of the confederate's behavior (see Mertes & Hüffmeier, 2017; Morris et al., 1999). Participants rated their counterpart's perceived willingness to come to an agreement on 7-point Likert-scales (1 = *fully disagree* to 7 = *fully agree*). An exemplary item is, "My counterpart wanted the negotiation to fail." Negative internal attributions were measured after the second (α = .75), fourth (α = .77), and sixth round (α = .85).

Anger

For exploratory purposes, we measured anger after the second (α = .82), fourth (α = .89), and sixth round (α = .91) using five items from the German version of the Positive and Negative Affect Schedule (PANAS, Breyer & Bluemke,

2016; Harmon-Jones et al., 2009). Participants were asked to indicate on 5-point Likert-scales in how far the adjectives (i.e., "agitated", "hostile", "angry", "irritated", and "frustrated") described their emotional experience over the last part of the negotiation (1 = *not at all* to 5 = *extremely*).

Socio-Emotional Outcomes

Also for exploratory purposes, we measured socio-emotional negotiation outcomes with a German translation of the Subjective Value Inventory (SVI; Curhan et al., 2006). The SVI consists of 16 items, divided in four subscales of four items each. These subscales are *feelings about the instrumental outcome* (α = .78), *feelings about the self* (α = .63), *feelings about the process* (α = .89), and *feelings about the relationship* (α = .94). Exemplary items are, "Did this negotiation make you feel more or less competent as a negotiator?" and "How satisfied are you with your relationship with your counterpart as a result of this negotiation?" Participants answered these items on varying 7-point Likert-scales.

As another facet of socio-emotional outcomes, we measured the participants' willingness to negotiate with the confederate again using two items (α = .85). These items are "Would you be willing to negotiate with your counterpart again?" and "Would you advise a friend to have a business negotiation with your counterpart?" Participants answered these questions on 7-point Likert-scales (1 = *not at all* to 7 = *very strongly*).

Motivation

Following the approach by Krumm et al. (2015), we measured participant motivation with five items (α = .70) adapted from the Test Attitude Survey (Arvey et al., 1990). An example item is, "I wanted to do well in this negotiation." We asked participants to answer on 5-point Likert-scales (1 = *strongly disagree* to 5 = *strongly agree*).

Negotiation Experience

We measured participants' negotiation experience with the item "How experienced do you consider yourself in negotiations generally (apart from the negotiation you just participated in)?" We asked participants to answer on a 7-point Likert-scale (1 = *not* at all to 7 = *very much*). We assessed negotiation experience because more experienced participants might reach more agreements (see also Hüffmeier et al., 2019; Thompson, 1990b).

Suspicion Checks

After the negotiation and all other measures, we asked participants to indicate in free text whether they noted something that they wanted to share with the experimenters. We used this to exclude participants who reported suspicions about the confederate. Although many participants indicated that they had recognized the underlying pattern of the confederate's concessions, we only excluded participants who reported suspicions about the confederate not being a real participant (*n* = 2).

Demographic Information

We asked participants to indicate whether German was their native language, their gender, age, and occupational status. Working participants classified their occupation within the RIASEC-typology (Holland, 1996). High school students indicated their grade. University students indicated their major. Participants with a different occupational status were asked to describe their occupation in free text.

Results

Table 3 shows the descriptive statistics and intercorrelations for all variables assessed in this study.

Manipulation Check

We conducted two independent tests to check the validity of our assumptions about our experimental manipulations. The amount of value that the confederates in the partially distributive concession making condition (*M* = 6,553k, *SD* = 2,097k) and the norm-conforming partially distributive condition (*M* = 7,329k, *SD* = 2,235k) conceded did not differ, $t(82) = -1.64$, $p = .096$, $d = -0.36$. This finding supports our assumption that these conditions are equivalent with regard to the value reduction property.

However, confederates in the partially distributive concession making condition (*M* = 5.79, *SD* = 1.13) were perceived as more competitive than confederates in the norm-conforming partially distributive concession making condition (*M* = 4.88, *SD* = 1.79), $t(70.71) = 2.82$, $p = .006$, $d = 0.61$. While this is not direct proof that participants see partial distributive concession making, but not norm-conforming partial distributive concession making, as a violation of the reciprocity norm, this difference in perceived competitiveness is likely the result of how concessions are structured within these conditions (see the Concession Patterns and Distributive Concession Making Manipulation sections above).

Confirmatory Analyses

The following hypotheses tests refer to the frequencies depicted in Table 4. We used χ^2-tests to compare the likelihood of impasses between the conditions. As the hypotheses were directional and in accordance with related recommendations (Lakens, 2016), we used one-tailed testing. Supporting Hypothesis 1, impasses were more likely to be the result of consistent distributive concession making than tit-for-tat concession making, $\chi^2(1) = 26.37$, $p < .001$, Cramer V = .55.

Contrary to Hypothesis 2 and not confirming an influence of reciprocity violations on the emergence of impasses, partially distributive concession making did not lead to more impasses than norm-conforming partially distributive concession making, $\chi^2(1) = 0.54$, $p = .408$, Cramer V = .03.

Supporting Hypothesis 3 and confirming an influence of reduced value on the emergence of impasses, we found that impasses were more likely in the partially distributive con-

Table 3. Descriptive Statistics and Intercorrelations for All Variables

	Variable	N	M (SD)	Intercorrelations																		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	Agreement/Impasse	173	0.64 (0.48)	1																				
2	Willingness to continue (Round 1)	173	6.02 (1.59)	.09	1																			
3	Willingness to continue (Round 2)	173	5.50 (1.71)	.16*	.65*	1																		
4	Willingness to continue (Round 3)	173	5.01 (1.96)	.16*	.47***	.63***	1																	
5	Willingness to continue (Round 4)	173	4.79 (1.99)	.22**	.37***	.52***	.72***	1																
6	Willingness to continue (Round 5)	173	4.62 (2.08)	.27***	.30***	.41***	.57***	.69***	1															
7	Negative internal attribution (Round 2)	173	2.97 (1.45)	-.24***	-.18**	-.28***	-.27***	-.19***	-.11*	1														
8	Negative internal attribution (Round 4)	170	3.04 (1.55)	-.37***	-.17**	-.23***	-.30***	-.36***	-.30***	.52***	1													
9	Negative internal attribution (Round 6)	173	2.85 (1.74)	-.51***	-.05	-.16**	-.19**	-.28***	-.27***	.39***	.59***	1												
10	Anger (Round 2)	167	1.78 (0.74)	-.27***	-.21***	-.33***	-.29***	-.21***	-.13*	.36***	.24***	.26***	1											
11	Anger (Round 4)	168	1.98 (0.90)	-.23***	-.10	-.17**	-.24***	-.31***	-.20***	.25***	.45***	.36***	.50***	1										
12	Anger (Round 6)	170	1.98 (0.99)	-.36***	-.08	-.13*	-.16**	-.24***	-.22***	.18**	.32***	.51***	.43***	.57***	1									
13	Satisfaction (outcome)	173	4.37 (1.28)	.39***	.01	.05	.14*	.15**	.19***	-.32***	-.32***	-.47***	-.27***	-.28***	-.38***	1								
14	Satisfaction (self)	173	4.91 (0.93)	.20**	.04	.06	.11	.14*	.13*	-.17**	-.15**	-.29***	-.21***	-.25***	-.29***	.49***	1							
15	Satisfaction (process)	173	3.87 (1.58)	.45***	.09	.18**	.24***	.26***	.30***	-.37***	-.44***	-.55***	-.28***	-.34***	-.44***	.60***	.33***	1						
16	Satisfaction (relationship)	173	3.77 (1.67)	.42***	.07	.14*	.25***	.27***	.32***	-.35***	-.46***	-.55***	-.28***	-.33***	-.42***	.52***	.30***	.69***	1					
17	Willingness to negotiate again	173	4.17 (1.74)	.42***	.06	.14*	.27***	.33***	.34***	-.30***	-.38***	-.52***	-.29***	-.36***	-.42***	.51***	.37***	.62***	.67***	1				
18	Manipulation check	173	5.29 (1.67)	-.26***	.01	-.01	-.00	.02	-.02	.21***	.19**	.23***	.20***	.16***	.20***	-.33***	-.17**	-.34***	-.26***	-.24***	1			
19	Motivation	168	4.36 (0.52)	-.01	.25***	.17**	.21***	.22***	.17**	-.09	-.14*	-.08	.00	-.04	.02	.05	.12	.06	.06	.12	.13	1		
20	Age	173	26.89 (8.91)	-.08	.00	.09	.11	.06	.10	-.12*	-.09	-.08	-.12*	.16**	-.07	.12**	.14*	.10	.14*	.16**	-.14*	-.05	1	
21	Experience	173	3.23 (1.66)	-.13	.03	.01	.12	.05	-.02	-.08	.01	-.01	-.06	-.04	.02	.15*	.20***	.01	.08	.06	-.02	.07	.12*	1

Note. N = 173, *** p < .001, ** p < .01, * p < .05. Distributive concession making condition and gender were not included because there were more than two factor levels

Table 4. Frequencies of Agreements and Impasses Across Experimental Conditions

CM condition	Agreements	Impasses	Total	Impasse rate
Tit-for-tat CM	37	6	43	14.0%
Consistent DCM	14	30	44	68.2%
Partially DCM	29	14	43	32.6%
Norm-conforming partially DCM	30	13	43	30.2%
Total	110	63	173	

Note. CM = "Concession making", DCM = "Distributive concession making"

cession making condition than in the tit-for-tat concession making condition, $\chi^2(1) = 4.17$, $p = .021$, Cramer V = .22.

Supporting Hypothesis 4 and again confirming an influence of reduced value, there were more impasses in the norm-conforming partially distributive concession making condition than in the tit-for-tat concession making condition, $\chi^2(1) = 3.31$, $p = .035$, Cramer V = .20.

Supporting Hypothesis 5 and again confirming an influence of reduced value, the impasse rate in the consistent distributive concession making condition was higher than in the partially concession making condition, $\chi^2(1) = 11.04$, $p < .001$, Cramer V = .36.

Supporting Hypothesis 6 and again confirming an influence of reduced value, impasses were also more likely in the consistent distributive concession making condition than in the norm-conforming partially distributive concession making condition, $\chi^2(1) = 12.53$, $p < .001$, Cramer V = .38.[9]

Exploratory Analyses

As the assumption of normality was violated for all variables, we used non-parametrical or robust tests. We used two-tailed tests because all analyses presented here are explorative in nature and we had no directional hypotheses. All follow-up pairwise comparisons were Bonferroni-corrected (Field, 2013).

Development of Negative Internal Attributions

First, we explored how the different forms of distributive concession making affected the development of negative internal attributions over the course of the negotiation (see Mertes & Hüffmeier, 2017). The descriptive statistics as well as the significant comparisons within and between conditions are depicted in Table 5. Participants who had received non-reciprocal (25%) concessions for the first two rounds reported more negative internal attributions than participants who had received reciprocal (100%) conces-

sions for the first two rounds. This pattern continued after the fourth round. After round six, participants in the consistent distributive concession making condition reported more negative internal attributions than participants in the other three conditions did.

Next, we explored how negative internal attributions developed over the course of the negotiation within the four conditions. The result patterns within the partially distributive concession making condition and the norm-conforming partially distributive condition making condition are contrasted in Figure 1. Participants in the tit-for-tat concession making and norm-conforming partially distributive concession making conditions did not develop stronger negative internal attributions over the course of the six rounds. In contrast, participants in the consistent distributive concession making condition developed stronger negative internal attributions. In the partially distributive concession making condition, the negative internal attributions formed by the participants after round two became less negative over the course of the negotiation.
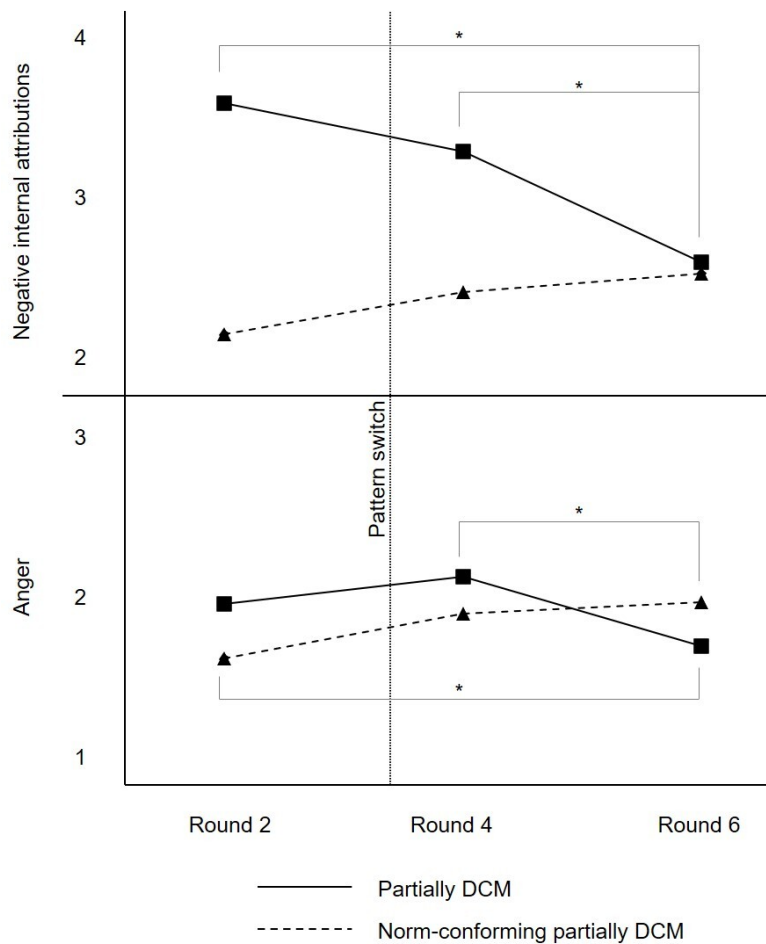
Anger

We then explored how the different patterns of distributive concession making affected the experience of anger over the course of the negotiation (see Table 5). After both the second and fourth round, participants in the consistent distributive concession making and partially distributive concession making condition reported more anger than participants in the tit-for-tat concession making condition. At the end of the negotiation, participants in the consistent distributive concession making condition reported more anger than participants in the non- *and* the partially distributive concession making conditions. No other comparison yielded significant results.

Next, we explored how feelings of anger developed over the course of the negotiation within the four conditions. Again, the result patterns within the partially distributive concession making condition and the norm-conforming

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9 There were three cases, in which participants agreed to buy the Seltek factory in the chat before the end of the sixth round, but did not indicate an agreement in the questionnaire administered after the negotiation. One of these cases was from the tit-for-tat concession making condition, one was from the consistent distributive concession making condition, and one was from the partially distributive concession making condition. In these cases, it was unclear whether the participants failed to give the correct answer or whether they had reconsidered and no longer wanted to implement the deal (see also Mislin et al., 2011). To ensure the robustness of our findings, we repeated the hypothesis tests as described in the Confirmatory Analyses section after excluding these cases. This analysis yielded equivalent results, supporting the robustness of our findings.

Figure 1. *The Development of Negative Internal Attributions and Anger Over Six Rounds Compared Between the Partially Distributive Concession Making Condition and the Norm-Conforming Partially Distributive Concession Making Condition*

partially distributive condition making condition are contrasted in Figure 1. In the tit-for-tat concession making condition, participants' feelings of anger did not change. In both the consistent and norm-conforming partially distributive concession making conditions, participants reported stronger feelings of anger over the course of the negotiation. Finally, in the partially distributive concession making condition, the feelings of anger that had initially developed over the first half of the negotiation, declined over the second half. No other comparison yielded significant results.

Willingness to Continue the Negotiation

We further explored how the different patterns of distributive concession making affected the willingness to continue the negotiation over the first five negotiation rounds (see Table 5). After the third round, the willingness to continue was lower in the consistent distributive and partially distributive concession making conditions than in the tit-for-tat concession making condition. After the fourth round, the willingness to continue was lower in only the consistent distributive concession making condition than in the tit-for-tat concession making condition. None of the other comparisons yielded significant results.

Then, we determined how the willingness to continue the negotiation developed over the course of the negotiation within the four conditions. With the exception of the partially distributive concession making condition, the willingness to continue the negotiation declined between the first and last round irrespective of the concession making exerted by the experimenter acting as the confederate. In the partially distributive concession making condition, the willingness to continue initially decreased in the first half of the negotiation, but increased descriptively (yet, not significant) over the second half of the negotiation. No other comparison yielded significant results.
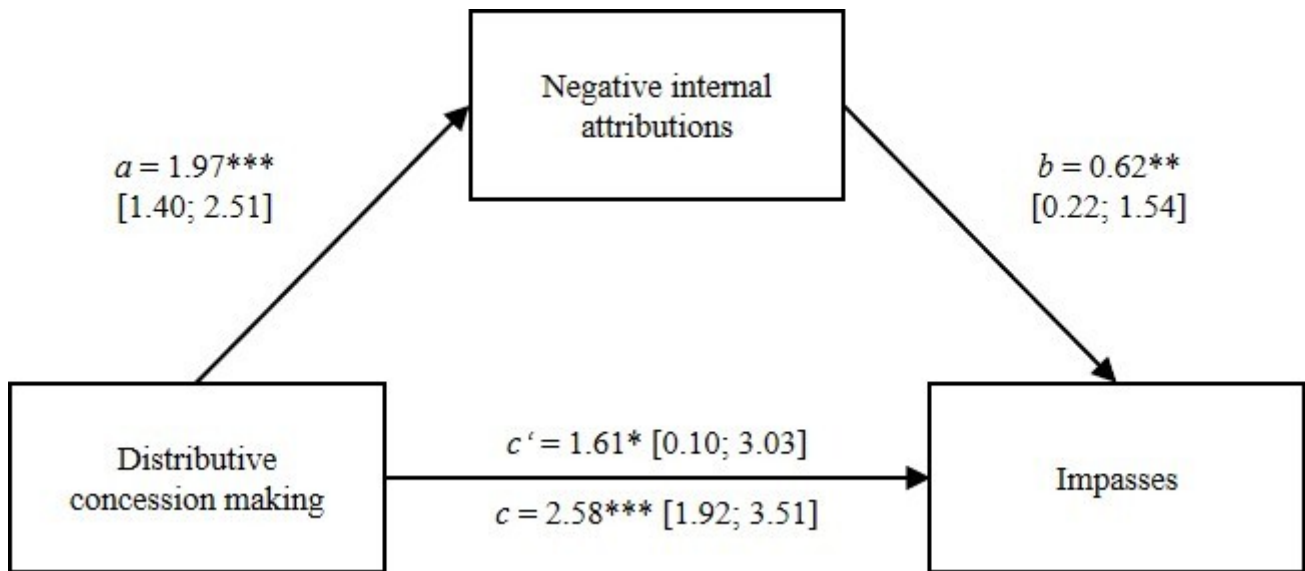
Mediation Analyses

To gain more insight into the processes underlying the effect of distributive concession making on impasses (see Mertes & Hüffmeier, 2017), we conducted exploratory mediation analyses using model 4 in PROCESS 4.0 macro for SPSS (Hayes, 2018). First, we used the mean negative internal attributions (i.e., the average of the measurements after rounds two, four, and six) as the mediator of the effect of consistent distributive (vs. tit-for-tat) concession making on the impasse rate. The results are depicted in Figure

Table 5. Means and Standard Deviations of Negative Internal Attributions, Anger, and Willingness to Continue the Negotiation Over Six Rounds Across All Four Conditions

	CM condition	Negative internal attributions M (SD)					Anger M (SD)					Willingness to continue the negotiation M (SD)						
		Round 2	Round 4	Round 6	$\chi^2_F(2)$	sig. within-comparisons	Round 2	Round 4	Round 6	$\chi^2_F(2)$	sig. within-comparisons	Round 1	Round 2	Round 3	Round 4	Round 5	$\chi^2_F(4)$	sig. within-comparisons
a	Tit-for-tat CM	2.35 (1.28)	2.17 (1.25)	1.95 (1.50)	7.08*		1.52 (0.55)	1.49 (0.54)	1.71 (0.85)	3.20		6.00 (1.90)	5.74 (2.01)	5.72 (1.80)	5.42 (2.06)	5.02 (2.28)	22.16***	r1r5
b	Consistent DCM	3.76 (1.54)	4.27 (1.54)	4.28 (1.74)	9.77**	r2r6	2.04 (0.94)	2.40 (1.09)	2.53 (1.22)	13.67**	r2r6	6.07 (1.28)	5.39 (1.48)	4.59 (1.96)	4.25 (2.01)	4.14 (2.03)	68.21***	r1r3, r1r4, r1r5, r2r6
c	Partially DCM	3.59 (1.14)	3.29 (1.07)	2.60 (1.40)	16.14***	r2r6, r4r6	1.96 (0.67)	2.13 (0.75)	1.70 (0.66)	9.76**	r4r6	5.91 (1.67)	5.30 (1.63)	4.49 (1.90)	4.77 (1.72)	5.09 (1.48)	34.52***	r1r3, r1r4
d	norm-conforming partially DCM	2.15 (1.08)	2.41 (1.36)	2.53 (1.39)	3.44		1.62 (0.66)	1.90 (0.89)	1.97 (0.91)	12.19**	r2r6	6.12 (1.47)	5.56 (1.71)	5.26 (1.99)	4.74 (2.03)	4.23 (2.30)	44.92***	r1r4, r1r5
	H(3)	47.85***	50.05***	44.16***			16.15**	24.79***	16.83***			1.22	6.60	13.78**	9.43*	7.21		
	sig. between-comparisons	ab, ac, bd, cd	ab, ac, bd, cd	ab, bc, bd			ab, ac	ab, ac	ab, bc					ab, ac	ab			

Note. CM = "Concession making", DCM = "Distributive concession making". *** $p < .001$, ** $p < .01$, * $p < .05$. Noted significant comparisons are significant to the alpha level set by Bonferroni-correction. Descriptions in the "sig. within-comparisons" columns indicate the rounds between which the means differed significantly (e.g., an "r2r6" states that the means in the specific condition differed significantly between rounds two and six).

Figure 2. Exploratory Mediation Analysis Testing Negative Internal Attributions as the Mediator of the Effect of Consistent Distributive (vs. Tit-For-Tat) Concession Making on Agreements

Note. Unstandardized path-coefficients reported with 95% confidence intervals in brackets. Confidence intervals based on 5000 bootstrap samples. *** $p < .001$, ** $p < .01$, * $p < .05$

2. We found a statistically significant indirect effect, $a \times b$ = 1.22, 95% CI = [0.40; 3.17], suggesting that negative internal attributions mediate the effect of consistent distributive concession making on impasses. We determined the change in explained variance by conducting logistical regression analysis. A logistical regression analysis with impasses as the dependent variable and the condition as the predictor (equivalent to the c-path in the mediation model) yielded Nagelkerke's R^2 = .37. Including negative internal attribution into this model (i.e., the c'-path) as an additional predictor yielded Nagelkerke's R^2 = .46. A logistic regression analysis with forward selection suggests that the c'-path model is superior to the c-path model, $\chi^2(2)$ = 35.45, $p < .001$.

Figure 2

Second, we conducted a further mediation analysis, using mean anger (i.e., the average of the measurements after rounds two, four, and six) as the mediator of the effect of consistent (vs. tit-for-tat) concession making on the impasse rate (see Mertes & Hüffmeier, 2017). The results are depicted in Figure 3. Again, a statistically significant indirect effect indicated that experienced anger mediates the effect of consistent distributive concession making on impasses, $a \times b$ = 0.73, 95% CI = [0.12; 1.94]. A logistical regression model with impasses as the dependent variable and both the condition and anger as predictors yielded a Nagelkerke's R^2 = .47 (compared to a Nagelkerke's R^2 = .37 when only the condition was included). A logistic regression analysis with forward selection suggests that the c'-

path model is superior to the c-path model, $\chi^2(2)$ = 33.57, $p < .001$.[10] For additional mediation models, see Appendix C.

Discussion

We investigated the effects of different patterns of distributive concession making on the likelihood of impasses in a confederate experiment designed to disentangle the two properties of distributive concession making (i.e., reduction of conceded value and violation of the norm of reciprocity). Our findings show that distributive concession making increases the likelihood of impasses and that the impasse rate increases with the degree of distributivity. The two conditions designed to test the influence of violations of the norm of reciprocity did not differ in the observed impasse rate, thus suggesting conceded value—and not violations of the reciprocity norm—as the decisive property underlying the effect of distributive concession making on impasses. Finally, exploratory mediation analysis revealed indirect effects of consistent distributive concession making on impasses via emerging negative internal attributions about the other party's willingness to come to an agreement and feelings of anger.

Theoretical Implications

Our study offers several theoretical implications for various theoretical models, such as equity theory (Adams, 1965), the *Graduated Reciprocation in Tension-Reduction* model (GRIT; Osgood, 1962), or the theoretical framework

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10 When we ran a parallel mediation model with both negative internal attributions and anger as mediators, we found neither a significant indirect effect via negative internal attributions, $a1 \times b1$ = 0.81, 95% CI = [-0.31; 2.82], nor a significant indirect effect via anger, $a2 \times b2$ = 0.40, 95% CI = [-0.46; 1.62]. This result may emerge due to shared variance explained by the mediators. However, given the small sample size (N = 78), this finding may also be attributable to a lack of statistical power (Fritz & MacKinnon, 2007; Schoemann et al., 2017).
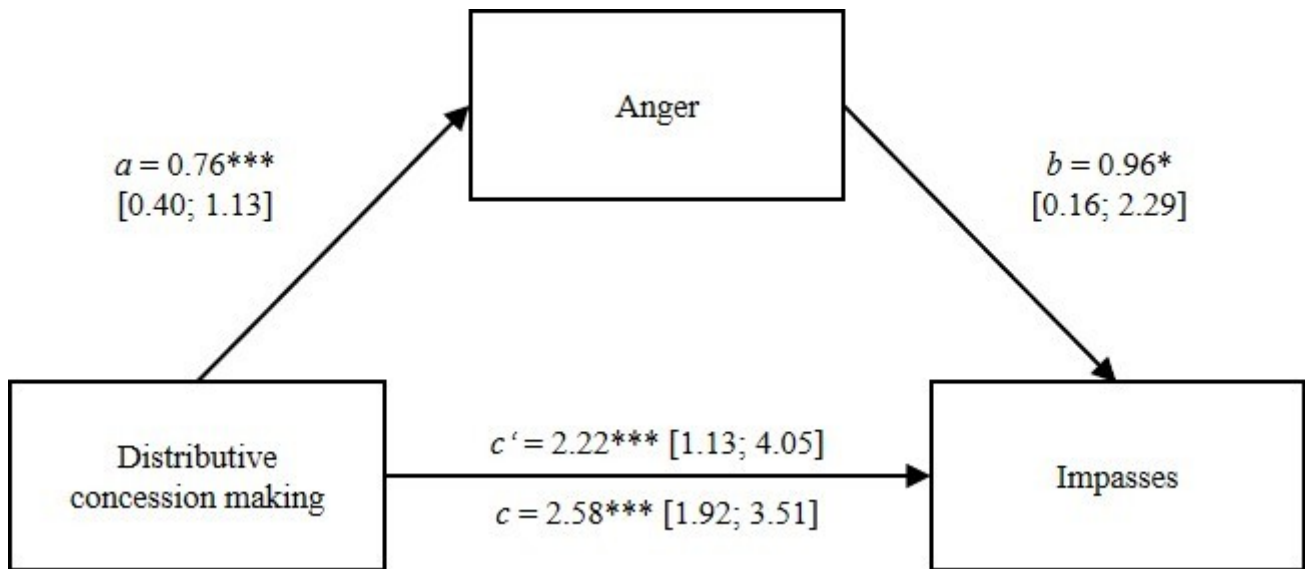
Figure 3. Exploratory Mediation Analysis Testing Anger as the Mediator of the Effect of Consistent Distributive (vs. Tit-For-Tat) Concession Making on Agreements

Note. Unstandardized path-coefficients reported with 95% confidence intervals in brackets. Confidence intervals based on 5000 bootstrap samples. *** $p < .001$, ** $p < .01$, * $p < .05$

by Mertes and Hüffmeier (2017). By showing that distributive concession making drastically increases the likelihood of impasses, we contribute to the current understanding of what causes negotiations to fail as well as to the knowledge of the unintended consequences of distributive concession making. Prior studies have investigated the effects of distributive concession making on impasses (e.g., Esser & Komorita, 1975; Hamner, 1974; Maxwell et al., 2003), but the mixed results they provided were inconclusive due to small sample sizes and the use of abstract, minimalistic negotiation tasks with little mundane realism. We addressed these issues by conducting a well-powered confederate experiment that was specifically designed to investigate impasses and allowed for realistic interactions between the negotiation parties, contributing to the external validity of our findings. Thereby, we provide unambiguous evidence for the detrimental effect of distributive concession making on the likelihood of agreements. Our findings are in line with our hypotheses that we derived from equity theory (Adams, 1965).

Our study also advances the knowledge of why distributive concession making leads to more impasses by disentangling its two different underlying properties: Distributive concession making reduces the value conceded to the other party and violates the social norm of reciprocity (Gouldner, 1960). We found that all patterns of distributive concession making (i.e., which all reduced conceded value) led to more impasses than tit-for-tat concession making. Partially distributive concession making and norm-conforming partially distributive concession making conceded proportionally equivalent value. However, partially distributive concession making was designed to be perceived as a violation of the reciprocity norm and norm-conforming partially distributive concession making was designed to be perceived as conforming to the norm of reciprocity. Despite the expected and observed differences in perceived com-

petitiveness, these conditions did not differ in the resulting impasse rate, which suggests that the effect of distributive concession making on impasses is mainly driven by the reduction of value rather than violations of the reciprocity norm.

Our findings regarding the effects of partially distributive concession making suggest that negotiators may be highly sensitive to beneficial changes in their opponents' concession making. Recall that in the partially distributive negotiation condition, confederates made consistent nonreciprocal offers in the first three rounds and then switched to making consistent reciprocal offers for the next three rounds. Our repeated measurements of negative internal attributions, anger, and willingness to continue showed that this switch led to positive developments: Negative internal attributions and feelings of anger that initially built up in the first half of the negotiation decreased over the second half of the negotiation. The willingness to continue the negotiation, which declined over the first half, recovered over the second half. This is notable because the willingness to continue the negotiation steadily declined in all other conditions, meaning that the rebound is unique to the pattern of partially distributive concession making. Thus, it appears that changes from hard- to softline strategies in concession making do not go unnoticed and have an overall positive effect (while the reversed change did not have a comparable effect). Moreover, we found that partially distributive concession making led to significantly fewer impasses than consistent distributive concession making. This finding is in line with the notion of GRIT (Osgood, 1962), which states that concessions can break tensions and thereby promote conflict resolution.

Our findings emphasize the importance of interpersonal processes for the emergence of negotiation impasses and show that declaring impasses is not always the result of rational decision-making. While impasses are often framed as

failures, there are of course some instances in which impasses should be the preferred and rational outcome (e.g., Kesner & Shapiro, 1991; Tuncel et al., 2016). For example, if the bargaining zone in a one-shot negotiation is negative (i.e., there is no overlap between the parties' interests), then an agreement would be detrimental to both parties. In that case, an impasse would be the rational option (e.g., Mertes & Hüffmeier, 2017; Schweinsberg et al., 2022). However, a negative bargaining zone does not always lead to an impasse (e.g., Cohen et al., 2014; Krause et al., 2006; Tuncel et al., 2016), meaning that there are *irrational agreements* (i.e., agreements that entail losses for at least one party, but occurred anyway).

Our findings clearly demonstrate *irrational impasses*. We used a negotiation task with a large bargaining zone. In every single negotiation conducted in our study, the participants received an offer preferable to their BATNA by the second round at the latest. If the participants' decision-making was primarily driven by comparing the expected outcome with their reservation price (i.e., BATNA), there should have been no impasses because there was always a profitable offer on the table. Yet, we still see considerable impasse rates in every condition of our experimental design. Thus, this finding shows that interpersonal processes play a critical role in the emergence of impasses and that impasses are not always the result of rational decision-making with a focus on profits.

Our findings also contribute to the literature on attribution processes in negotiation interactions. So far, the formation of attributions received relatively little attention in negotiation research (for a notable exception, see Morris et al., 1999). Mertes and Hüffmeier (2017) proposed that distributive concession making would lead the recipient of this behavior to form negative internal attributions about their counterpart's willingness to come to an agreement. Our findings support this proposition: We found that consistent distributive concession making increased perceptions of the negotiator as unwilling to come to an agreement, while consistent tit-for-tat concession making did not spark such perceptions. This finding further adds to the knowledge of the potential adverse effects of hardline tactics (see Hüffmeier et al., 2014) and on interpersonal socio-emotional negotiation outcomes (e.g., Curhan et al., 2006; Thompson, 1990a).

Finally, we contribute to the understanding of the emergence of experienced anger in negotiations and its influence on the negotiation outcomes. Unlike expressed anger (e.g., Sharma et al., 2020; van Kleef et al., 2004), experienced anger was rarely investigated in negotiations (for notable exceptions, see Butt & Choi, 2006; Johnson et al., 2009). Mertes and Hüffmeier (2017) proposed that distributive concession making would lead negotiators to experience anger, which could impair their judgement (e.g., Lerner & Keltner, 2001; Tiedens & Linton, 2001) and lead

them to retaliate (e.g., Averill, 1982). We found that consistently distributive concession making increases feelings of anger experienced by the recipient. This finding advances our knowledge of the negative consequences of distributive concession making on the intrapersonal socio-emotional outcomes of negotiations (e.g., Curhan et al., 2006; Thompson, 1990a).

Practical Implications

Our findings also have at least three practical implications for negotiators. First, while distributive concession making can be an effective tool to increase one's individual outcomes (e.g., Hüffmeier et al., 2014; Lax & Sebenius, 1986), our study provides further evidence for its potential detrimental effects on other economic and socio-emotional outcomes. Some negotiators might consider consistent distributive negotiating a viable strategy (cf. Harvard Law School Program On Negotiation, 2011; Mnookin et al., 2000),[11] but based on our findings we strongly advise against pursuing a consistently distributive strategy, especially in negotiations, in which impasses are costly and maintaining a positive relationship with the counterpart is important.

Second, partially distributive concession making as operationalized in our study, however, may help to mitigate the negative consequences of consistent distributive concession making. It is still distributive in nature and therefore allows negotiators to increase their individual outcomes, but it balances the risk of impasses by reducing the degree of distributivity over time. The change from hardline to softline offers is in line with two-phase models proposing that successful negotiations follow two phases: A first that is characterized by competitiveness and a second, which is characterized by cooperation (see Adair & Brett, 2005; Pruitt, 1971; see also Harinck & De Dreu, 2004). We also found that this strategic change had several other positive consequences for the socio-emotional outcomes and the negotiation process. Negative internal attributions and feelings of anger that had formed over the first half of the negotiation declined over the second half. Thus, in negotiations where achieving good individual outcomes appears especially important, negotiators may be well advised to (strongly) claim value in the beginning of the negotiation and then switch to consistent reciprocal concession making to increase the likelihood of agreement and the socio-emotional outcomes of the negotiation.

Finally, we found that negotiators who are exposed to sequences of non-reciprocal concessions develop increasing doubts about their counterpart's willingness to come to an agreement and that these doubts mediate the effect of distributive concession making on the likelihood of impasses (see Mertes & Hüffmeier, 2017). Negotiators pursuing a distributive strategy may be well advised to reaffirm their willingness to come to an agreement verbally to counteract the

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11 Please note that these authors do not advise consistent hardline-bargaining, but rather advise negotiators to prepare for the case that their opponent engages in consistent distributive concession making.

development of negative internal attributions that might affect the likelihood of agreement negatively.

Limitations and Future Research

Despite the useful insights it provides, our study has limitations that should be addressed in future research. We obtained indirect evidence that partially distributive concession making may be perceived as violating the reciprocity norm, but norm-conforming partially distributive concession making may be not (see the Distributive Concession Making Manipulation section above). However, this evidence is indirect because we measured perceived competitiveness rather than perceived reciprocity violation. To improve on this aspect of our study, future research should include measures of perceived reciprocity violations.

All studies investigating the effects of distributive concession making on impasses, including our own, had participants interact with their simulated counterparts via computer-mediated communication (e.g., Kiesler et al., 1984) or comparable forms of analogous communication. Consequently, these interactions lacked most forms of verbal, non-verbal, and paralinguistic communication (e.g., Schroeder et al., 2017, 2019). These studies therefore neglected important interpersonal dynamics that form a core aspect of negotiations. For example, the lack of social context in computer-mediated communication dampens the development of rapport (cf. Drolet & Morris, 2000). Negotiators in computer-mediated negotiations show more hostile behavior (Stuhlmacher & Citera, 2005) and hard negotiation tactics (Galin et al., 2007) than negotiators in face-to-face negotiations. Consequently, face-to-face negotiations are less likely to end in impasses than computer-mediated negotiations (Jap et al., 2011). In sum, the generalizability of our findings to face-to-face situations might be limited. Future research should address this problem by investigating the causes of impasses in face-to-face negotiations.

We used self-reports to measure the anger experienced by the participant. Such measures have several well-known problems. For example, they might be biased by social desirability concerns (see Averill, 1982; Bartz et al., 1996). They also cannot measure emotions in the moment they emerge. Future research should use innovative approaches, such as automated facial expression analysis (e.g., Fanti et al., 2017; Jiang et al., 2019), to circumvent the disadvantages of self-report measures for assessing emotions in negotiations.

Moreover, our findings may be limited by our participants always assuming the buyer role, a decision we made to standardize the complex confederate script. However, we specifically structured the negotiation task to avoid differences between the roles: Both roles had the same goal (i.e., maximizing their value), the bargaining zone was large and completely symmetrical, both roles had equivalent BATNAs and complete authority to decide whether or not they wanted to take the deal or resort to their alternative. However, future studies should look into possible role effects in the context of distributive concession making.

While the findings of our exploratory mediation analyses testing the mediating role of negative internal attributions and anger provide tentative support for the propositions from the theoretical framework by Mertes and Hüffmeier (2017), they must be interpreted carefully. The sample size in our study was calculated to detect the main effects of distributive negotiation behavior on impasses and not the mediation effects we explored. Future research should investigate these mediations with an adequately powered study (e.g., Fritz & MacKinnon, 2007; Schoemann et al., 2017). Since we used a measurement-of-mediation design (i.e., we did not include an experimental manipulation of the mediator, cf. Spencer et al., 2005), the relationships between the mediators and the dependent variables (i.e., the b-path) are correlational. This leaves a possibility that the relationships between mediators and impasses are confounded, which we cannot rule out (Pirlott & MacKinnon, 2016).

Conclusion

Negotiation impasses can have severe negative consequences, but they have been relatively neglected by negotiation research. Our findings show unambiguous evidence for the detrimental effect of distributive concession making on the likelihood of agreement, which is mainly due to less conceded value and less (if at all) due to violations of the reciprocity norm. We further provide insights into the underlying mechanisms of impasses. Thus, our work advances the knowledge of what causes impasses and of how they may be prevented.

Competing Interests

The authors do not have any interests that might be interpreted as influencing their research.

Author Contributions

All authors designed this research. Dana Kunz and Marc Mertes were involved in data collection. Marc Mertes processed and analyzed the data. All authors interpreted the findings. Marc Mertes and Dana Kunz drafted the manuscript, and Dana Kunz, and Joachim Hüffmeier provided revisions. All authors gave their final approval of the manuscript submitted.

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To access data and materials, follow this link: https://osf.io/3haqg/?view_only=3af47b7f429f44cab1a9aa49329582e5.

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Appendix

A - Pretest: Number of Offers Exchanged

We conducted a pretest to determine how many offers and counteroffers are exchanged when participants negotiate the task, which was crucial to develop a realistic confederate script. We recruited $N = 40$ students (50% female) from a major German university who participated in same-sex dyads and for course credit or a compensation of 7.50 €. There were no confederates in this pretest. Participants arrived at the lab two at a time. They were randomly assigned to the BioPharm and Seltek roles in same-sex dyads. They prepared for 20 minutes and then negotiated for 15 minutes (the longer duration in the main study results from the regular interruptions and the asynchronous nature of text-based communication). Afterwards, participants were debriefed and compensated.

Participants in the BioPharm role made up to six offers ($M = 2.8$, $SD = 1.54$). This finding was in line with findings by De Dreu and Van Lange (1995), who found that participants negotiating with a computer-simulated partner mostly became suspicious after, but not before the sixth round of exchanges. Sixteen of the 20 negotiation dyads reached agreement (20% impasse rate). This impasse rate suggests that the negotiation task is not too difficult to find an agreement and that participants assumed that an impasse is an acceptable outcome. Impasse rates were identical for both male and female dyads.

B – Participant Concessions

To test to what extent the concession making pattern affects the recipient's concessions, we aggregated the concessions made by the participants over the first (rounds 1-3) and second half of the negotiation (rounds 4-6). We then conducted bootstrapped paired *t*-tests to compare the sums in all four conditions.[12] In the tit-for-tat concession making condition, participants made more concessions in the first three rounds than in the later three rounds, $M_{Diff} = 3,060,526.32$, $SD = 3,175,713,54$, $t(37) = 5.94$, $p < .001$, $d = 0.96$. Although the difference was less pronounced, this was also the case in the consistent distributive concession making condition, $M_{Diff} = 1,677,556.82$, $SD = 2,796,742.78$, $t(43) = 3.98$, $p < .001$, $d = 0.60$, and the norm-conforming partially distributive concession making condition, $M_{Diff} = 2,542,236.84$, $SD = 4,007,360.58$, $t(37) = 3.91$, $p < .001$, $d = 0.63$. Only in the partially distributive concession making condition did aggregated concessions not differ between the first and second half of the negotiation, $M_{Diff} = 578,571.43$, $SD = 3,823,864.30$, $t(41) = 0.98$, $p = .333$, $d = 0.15$.

C – Additional Mediation Models

To address specific questions from the review team, we ran additional mediation analyses. Please note that due to the power considerations with regard to parallel mediation discussed in the limitations section, these analyses describe simple mediation models using only one mediator. The results are described in Table I.

First, we compared partially distributive concession making and norm-conforming partially distributive concession making to detect mediation effects that are only driven by perceived violations versus non-violations of the norm of reciprocity. We found an indirect effect via negative internal attributions, $a \times b = 0.73$, 95% CI [0.24; 1.61], but not anger $a \times b = 0.08$, 95% CI [-0.16; 0.44].

Second, we compared consistent distributive concession making and partially distributive concession making to detect mediation effects driven by only the higher degree of value reduction. Here, we found both an indirect effect via negative internal attributions, $a \times b = 0.64$, 95% CI [0.18; 1.46], and an indirect effect via anger, $a \times b = 0.34$, 95% CI [0.01; 1.00].

Finally, we compared consistent distributive concession making and norm-conforming partially distributive concession making. We found an indirect effect via negative internal attributions $a \times b = 1.08$, 95% CI [0.35; 2.26], but not anger $a \times b = 0.29$, 95% CI [-0.005; 0.90]. These last findings are difficult to interpret because comparing these two patterns of distributive concession making entails an important confounding in that both conditions reduce value (to a different degree) and one of them is perceived to violate reciprocity while the other is not.

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12 We thank one of our anonymous reviewers for suggesting this analysis.

Table I. Additional Exploratory Mediation Models With Impasses as the Outcome Variable

CM Condition	Mediator	*a*	*b*	*c*	*c'*	*a×b*
Partially DCM (vs. norm-conforming partially DCM)						
	NIA	0.75***	0.97***	0.11	-0.69	0.73 [0.24; 1.61]
	Anger	0.09	0.80*	0.11	0.06	0.08 [-0.16; 0.44]
Consistent DCM (vs. partially DCM)						
	NIA	1.01***	0.64***	1.49***	1.10*	0.64 [0.18; 1.46]
	Anger	0.40*	0.85*	1.49***	1.25*	0.34 [0.01; 1.00]
Consistent DCM (vs. norm-conforming partially DCM)						
	NIA	1.76***	0.61**	1.60***	0.69	1.08 [0.35; 2.26]
	Anger	0.49*	0.59	1.60***	1.34**	0.29 [-0.005; 0.90]

Note. CM = "Concession Making", DCM = "Distributive Concession Making", NIA = "Negative Internal Attributions", *** *p* < .001, ** *p* < .01, * *p* < .05, 95% confidence intervals in brackets. Unstandardized path coefficients reported.

Supplementary Materials

Peer Review History

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