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# Concession Patterns in Dyadic Negotiations: Empirically Contrasting Sunk Cost, Loss Aversion, and Rationality Predictions

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## Abstract

To understand the far-reaching effects of offers on negotiation outcomes, researchers have predominantly focused on first offers, while largely neglecting the subsequent negotiation process with its offer exchanges and concession patterns. We argue that this first-offer supremacy leaves a crucial element of the negotiation process largely unobserved. To address this gap, the present registered report examines key questions regarding the intrapersonal effects of concession patterns and the impact of one's prior concessions on subsequent behavior. Drawing on different literatures, we developed three competing hypotheses: (1) the loss-aversion hypothesis (larger prior concessions leading to *smaller* future concessions and to less integrative behavior), versus (2) the sunk-cost hypothesis (larger prior concessions leading to *larger* future concessions and to more integrative behavior), versus (3) the rationality hypothesis (prior concessions leaving future behavior unaffected). Pilot study data in a distributive setting ($N = 166$) show promising effects for our paradigm and research question, corroborating that prior concessions indeed impact negotiators' subsequent behavior. Building on these data, we outlined two additional preregistered experiments to replicate and extend our pilot findings by examining the underlying psychological mechanisms and generalizing from a distributive negotiation (Study 1) to a multi-issue integrative setting (Study 2). Preregistered analyses show evidence for different processes: In the distributive Study 1, larger concessions made later negotiation behavior more assertive (loss-aversion hypothesis). In the integrative Study 2, however, negotiation behavior was unaffected by prior concessions (rationality hypothesis). Finally, exploratory analyses in both studies reveal empirical support for the sunk-cost hypothesis in the predominant subset of negotiators who decided to continue their concessionary behavior. We discuss and integrate these findings.

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## Author Note

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# Concession Patterns in Dyadic Negotiations: Empirically Contrasting Sunk Cost, Loss Aversion, and Rationality Predictions

Negotiations are a ubiquitous social endeavor characterized by elements of competition, cooperation, and joint decision-making (Brett & Thompson, 2016; Lax & Sebenius, 1986; Raiffa, 2007; Zartman, 1977). This process of joint decision-making is fueled by the exchange of offers and counteroffers between different parties, which ultimately ends in a deal (i.e., parties agree to a proposed offer; Fisher et al., 1981) or with an impasse (i.e., at least one party disagrees with a proposal and terminates the negotiation process; Petrowsky et al., 2023; Schweinsberg et al., 2012, 2022, 2023a). While a multitude of studies, $n > 100$ articles, has highlighted the substantial role of the first offer for predicting subsequent negotiation processes and results (e.g., Galinsky & Mussweiler, 2001; see Petrowsky et al., 2025, for literature search on first-offer effects; see Schweinsberg et al., 2023b, for transparency in quantifying prior research), remarkably few studies, $n = 13$ articles, have investigated the role of offer exchanges and concession patterns for predicting intrapersonal cognitions and negotiation outcomes (e.g., Tey et al., 2021; Yukl, 1974a, 1974b; see Table 1). Although concessions are a fundamental part of nearly every negotiation across various contexts, negotiation research is lacking a systematic investigation of concession patterns and their accompanying psychological mechanisms. In short: We know a lot about *when* and *how* to set first offers and which *outcome effects* these might elicit (i.e., the start and end of a negotiation; e.g., Jäger et al., 2015; Loschelder et al., 2016a), but we know little about what happens in between first offers and final outcomes (i.e., negotiators' *concession patterns* and how they shape psychological processes and negotiation behavior).

The present registered report addresses this gap by systematically examining whether, how, and why prior concessions systematically impact negotiators' willingness to engage in further concessions. We derive three competing predictions from the literature, suggesting that larger prior concessions (1) reduce further concessions and hinder integrative solutions (loss aversion), (2) facilitate further concessions and ease integrative solutions (sunk cost), or (3) do not systematically impact further concession making and integrative solutions (rationality). A pilot study with $N = 166$ participants empirically tests these predictions in a distributive setting and finds tentative support for one of them. Two subsequent preregistered experiments seek (a) to conceptually replicate the preliminary findings from the pilot study, (b) to examine the underlying psychological mechanisms (Study 1 and 2), and (c) to generalize the effect and extend our understanding from distributive (Study 1) to integrative negotiations (Study 2).

### Prior Research on Concession Making in Negotiations

As mentioned above, research on concessions in negotiations remains scarce (see Table 1). 50 years ago, early negotiation research (e.g., Yukl, 1974a, 1974b) suggested that one's own concessions are mainly driven by the opponent's concessions (e.g., magnitude, frequency, speed), shaping a reactive and interpersonal perspective on concession effects (see also Benton et al., 1972;

Chertkoff & Conley, 1967). More recent findings further illuminated this interpersonal perspective: Concession patterns signal diagnostic information about the conceding negotiator's limit (i.e., decreasing concession steps signal that the limit is approaching) and elicit less ambitious counteroffers by the counterpart (Tey et al., 2021). Distributive concession strategies (i.e., high demands, low concessions; Hüffmeier et al., 2014) further lead to a reduction of conceded value and eventually to impeded deal-making and higher impasse rates (Maxwell et al., 2003; Mertes et al., 2023). In sum, all these papers investigated the effect of concession patterns as a *situational* process variable (i.e., formal part of the negotiation) and their *inter*personal impact on negotiation outcomes (e.g., Tey et al., 2021; Yukl, 1974a), impasse rates (e.g., Mertes et al., 2023), or feelings of (violated) reciprocity or inequity (e.g., Gouldner, 1960; Maxwell et al., 2003; Pruitt & Syna, 1984).

In contrast, the intrapersonal perspective on concessions—which mental processes and decision rules are at play while negotiators concede and how these mental processes affect negotiators' concession making (Caputo, 2013)—has not been thoroughly investigated. This is surprising and potentially problematic given that the vast majority of first-offer effects on outcomes are substantially driven and explained by such *intra*personal processes and cognitive biases (e.g., anchoring, framing, fixed-pie perceptions, insufficient adjustment, selective accessibility, or self-serving biases; Babcock & Loewenstein, 1997; Galinsky & Mussweiler, 2001; Kriss et al., 2011; Liu et al., 2016; Loschelder et al., 2014, 2016a; Majer et al., 2020; O'Connor & Adams, 1999; Thompson & Hastie, 1990; Thompson et al., 1999; Tversky & Kahneman, 1974). We hence propose that *intra*personal concession effects also influence negotiations: (1) prior concession patterns impact further concession making (i.e., the behavioral, functional level), and (2) this concession making is influenced by cognitive biases and heuristics (i.e., the cognitive level; De Houwer, 2011). Drawing on prior literature, competing (and directionally different) predictions can be derived for these research questions—we outline three competing hypotheses and perspectives for how (and why) one's prior concessions will (or will not) influence one's future behavior and concession making. In short, our research aims to answer two important questions: Do negotiators concede more versus less after having made prior concessions, or are they unaffected by the negotiation's concession history? And which perceptions and motivations can explain this behavior?

## Three Competing Predictions for the Influence of Prior Concessions on Future Behavior

Based on prior empirical evidence and theorizing, we outline three competing perspectives to predict the intrapersonal effects of prior concessions on future negotiation behavior. As there are only few papers on concession patterns and their effects in negotiations (see Table 1), it proved insufficient to draw solely on findings from psychological negotiation research for theorizing and hypothesis development. We therefore turned to the broader literature on (ir)rational decision-making. This literature review suggested three (competing) predictions for how and why negotiators' prior concessions influence their future behavior in negotiations. We will outline these three perspectives (1) loss aversion, (2) sunk costs, and (3) rationality consecutively—structuring the respective sections in parallel to present a brief introduction (What is it?), the mechanisms (What are the mechanisms?), as well as their implications for decision-making, negotiations, and the present hypotheses (see Table 2).

**Table 1.** *Overview of Past Empirical Research on the Effects of Concession Making*

| Reference | Finding | Level |
|---|---|---|
| Chertkoff & Conley (1967) | Extreme initial offers with infrequent concessions yielded the best outcomes, while frequent concessions prompted reciprocity. | Interpersonal |
| Komorita & Brenner (1968) | Concessions by negotiators are inversely related; firm strategies may increase advantageous agreements but decrease fairness, while starting with a fair offer and remaining firm elicits least yielding. | Interpersonal |
| Pruitt & Drews (1969) | Time pressure and opponent's concessions did not influence the negotiators' concessions, but over time, concession size decreased from large to small concessions. | Interpersonal |
| Benton et al. (1972) | Following a flexible concession-making schedule (as opposed to an intransigent, that is, no-concession schedule) was more effective in achieving monetary gain, and counterparties were more satisfied with their outcomes. | Interpersonal |
| Yukl (1974a) | Small (compared to large) concessions by the opponent led to more favorable final offers, lower aspirations, and the opponent was perceived as tougher. | Interpersonal |
| Yukl (1974b) | Small (compared to large) concessions by the opponent led to lower negotiators' aspirations, more concessions, and the opponent was perceived as stronger. | Interpersonal |
| Esser & Komorita (1975) | Incompletely reciprocated concessions led to smaller concessions in the last offer, with this effect of violated reciprocity being stronger for competitive negotiators. | Interpersonal |
| Komorita & Esser (1975) | Reciprocity of concessions induced further concession making, but reciprocity of non-concessions induced concessions only if concessions were also fully reciprocated. | Interpersonal |
| Turnbull et al. (1976) | Face-to-face communication and higher power were most effective for joint outcomes, while prior concession strategies had little influence on negotiation outcomes. | Inter- and intrapersonal |
| Wall (1981) | Negotiators did not reciprocate concessions, but rather they repeated concessions that were reinforced by large opponent concessions. | Interpersonal |
| Kwon & Weingart (2004) | Gradual and delayed (compared to immediate) opponent's concessions increased the negotiator's object valuation and satisfaction with the negotiated outcome. | Interpersonal |
| Azmi & Voon (2016) | Gradual (compared to delayed) opponent's concessions elicited smaller concessions, but experience did not moderate the relationship between concession timing and the final offer. | Interpersonal |
| Tey et al. (2021) | Decreasing concessions led to less ambitious counteroffers due to recipients' inflated expectations of subsequent offers, particularly when concessions decreased moderately over more rounds. | Interpersonal |

*Note.* Articles are ordered along their publication date. The column finding denotes the most important finding on concession making (i.e., other results are not depicted). Cited articles were identified using the following search terms: TI (conced* OR concession*) AND AB (negotiat* OR bargain*) in the databases "APA PsycInfo", "APA PsycArticles", "Psychology and Behavioral Sciences Collection", and "PSYNDEX". From $n = 35$ peer-reviewed articles identified, we removed articles that were not experimental ($n = 7$), deviated too far from our research focus of dyadic negotiations (e.g., political standoffs; $n = 9$), or assessed concessions as a dependent variable, rather than as an independent variable ($n = 6$). In total, we identified $n = 13$ articles. The full list of all identified articles is available on OSF.

### The Loss-Aversion Perspective – Conceding Impedes Further Concessions

**What is it?** The seminal prospect theory (Kahneman & Tversky, 1979) postulates that people evaluate outcomes relative to a reference point. Outcomes below the reference point are coded as losses and outcomes above the reference point are coded as gains. Prospect theory further posits that losses loom larger than equivalent gains (i.e., loss aversion). People dislike incurring losses and try to prevent them. To illustrate, the discomfort experienced from losing $100 surpasses the pleasure derived from gaining an equivalent amount. Loss aversion has received considerable empirical support in social sciences (for a meta-analysis, see Brown et al., 2024; Neumann & Böckenholt, 2014; for a critical discussion, see Gal & Rucker, 2018).

**What are the mechanisms?** While the prospect theory does not propose a specific psychological mechanism underlying loss aversion (Gal, 2006; Gal & Rucker, 2018), numerous studies have endeavored to unravel its potential causes. Loss aversion has been attributed to variations in the attention drawn to gains and losses (Carmon & Ariely, 2000), the way they are retrieved from memory (Johnson et al., 2007), individuals' affective forecasting (Kermer et al., 2006), or the processing of affective stimuli in the brain (De Martino et al., 2006).

**Implications for decision-making?** Loss aversion significantly impacts decision-making in both risky and non-risky choices, as individuals actively seek to avoid losses (e.g., Gächter et al., 2022; Kahneman & Tversky, 1979). For instance, individuals reject gambles with positive expected values that involve potential losses (Rabin, 2000). Loss aversion also impacts decisions involving others, as seen in more selfish and aggressive behavior in dictator or ultimatum games framed in terms of losses rather than gains (Fiedler & Hillenbrand, 2020; Neumann et al., 2018; cf. Leliveld et al., 2009).

**Implications for negotiations?** Loss aversion also plays an important role in negotiations. Viewed through the lens of mental accounting, concessions can be conceptualized as ongoing mental expenses incurred throughout the negotiation process. These concessions are perceived as losses, subtracted from the mental account established at the negotiation's outset (Thaler, 1980). Consistent with this perspective, research indicates that negotiators are more concession averse when proposals are framed to highlight their own resources (i.e., 'offers' vs. 'requests'; Majer et al., 2020; Trötschel et al., 2015) or framed in terms of losses rather than gains (De Dreu et al., 1994; Neale & Bazerman, 1985).

**What do we hypothesize?** Building on prior research, one can argue that larger prior concessions induce a sense of loss in negotiators and thus lead to smaller future concessions in an attempt to minimize further losses. We therefore derive the following hypotheses:

> ***H1a.*** Negotiators who have previously made larger (smaller) concessions to the counterpart make smaller (larger) concessions, i.e., more (less) ambitious counteroffers with their next move.
>
> ***H1b.*** Negotiators who have previously made larger (smaller) concessions to the counterpart report a lower (higher) willingness to accept the next offer by their counterpart.

### The Sunk-Cost Perspective – Conceding Facilitates Further Concessions

While the loss-aversion perspective conceptualizes prior concessions as losses to a mental account, a different phenomenon from decision-making research lends itself to operationalize concessions more akin to investments (of time, effort, and money)—the concept of *sunk costs*.

**What is it?** Sunk costs represent investments or efforts incurred in the past (Arkes & Blumer, 1985; Thaler, 1980). From a micro-economical perspective, individuals should not be influenced by prior investments made in a project (Heath, 1995), which should therefore no longer be considered in current or future decision-making processes (Arkes & Blumer, 1985). However, decision-makers systematically overestimate prior investments, leading them to make larger future investments into a project or object when they have already invested in them in the past—a phenomenon widely known as the "sunk-cost fallacy" (e.g., Garland & Newport, 1991).[1]

**What are the mechanisms?** The sunk-cost fallacy has been explained by at least two mechanisms. First, individuals tend to mentally justify previous decisions to reduce their cognitive dissonance (Festinger, 1954), leading them to invest more in the future instead of withdrawing from irrational options (i.e., justification of prior investments; proposed by Rubin & Brockner, 1975; Ku et al., 2005; Teger, 1980). Second, stemming from research on auctions, individuals ascribe higher values to items throughout the bidding process (compared to their true value, i.e., overestimation), leading to an (over)appreciation of the product (Bazerman & Samuelson, 1983).

**Implications for decision-making?** Findings of sunk-cost fallacies are widely distributed across different domains with far-reaching effects—in psychology (e.g., Astebro et al. 2007; Strough et al. 2008), management (e.g., Garland, 1990; Negrini et al., 2022), marketing (e.g., Soman & Cheema, 2001), auctions (Bazerman & Samuelson, 1983; Galinsky et al., 2009; Ku et al., 2005), sports (Keefer, 2015, Staw & Hoang, 1995), and various other fields (e.g., Guler, 2007; Máñez et al., 2009; see Roth et al., 2015, for a review). Contrary to this broad application in various decision-making contexts, the application of sunk-cost effects in negotiation research is rare.

**Implications for negotiations?** To our knowledge, there is only one exception to this neglect of sunk cost in negotiations. Diekmann et al. (1996) focused on the transmission of sunk costs between two negotiating parties in the housing market (i.e., buyers making larger concessions to sellers who previously paid more for a negotiation good). As pointed out earlier for general concession research (e.g., Tey et al., 2021; Yukl, 1974b), this research again focused on *inter*personal processes (see also Olivola, 2018). In an intrapersonal perspective, little is known about the effects of sunk costs on negotiators' perception, behavior, or outcomes.

This neglect is surprising for at least two reasons: First, negotiations, by nature, unfold over time, making negotiators susceptible to the overestimation of earlier investments (i.e., concessions; Navarro & Fantino, 2009; Tey et al., 2021). Second, negotiations represent dynamic situations wherein parties are continually forced to make decisions (i.e., accept or decline an offer) and allocate and monitor resources mentally (Thaler, 1985; Tsay & Bazerman, 2009), which makes them a suitable domain for expecting sunk-cost effects.

In the context of negotiations, parties' own prior concessions could be mentally processed as investments made, therefore triggering a justification of prior investments and the emergence of the sunk-cost fallacy. In a similar vein, improved evaluation (i.e., product appreciation) of the

[1] The concept of sunk costs shares similarities with the phenomenon of escalation of commitment (Staw, 1976; Staw & Ross, 1987; see also Sleesman et al., 2012)—with the sunk cost effect being considered an important driver of escalation of commitment (Sleesman et al., 2012). As an important conceptual distinction, sunk costs primarily involve the strictly economical attachment to past investments, while escalation of commitment is broader and includes the tendency to persist with failing endeavors due to the emotional or psychological need to validate prior decisions (Brockner, 1992; Moon, 2001; Rubin & Brockner, 1975).

negotiated issue would lead to higher concessions (i.e., "If I concede this much, I must really like this object"). Hence, larger prior concessions would lead to larger future concessions in the same negotiation.[2]

**What do we hypothesize?** Building on the sunk-cost fallacy, one can thus derive the following hypotheses—diametrically opposed to H1a/H1b:

> ***H2a.*** Negotiators who have previously made larger (smaller) concessions to the counterpart also make larger (smaller) concessions, i.e., less (more) ambitious counteroffers with their next move.
>
> ***H2b.*** Negotiators who have previously made larger (smaller) concessions to the counterpart report a higher (lower) willingness to accept the next offer by their counterpart.

**The Rationality Perspective – Conceding Does Not Affect Further Concessions**

**What is it?** Besides these two perspectives driven by cognitive biases, there is a third standpoint in this debate—the rationality perspective (Davis & Holt, 1993; Kahneman & Tversky, 1979; Smith, 1962; Tversky & Kahneman, 1974). Within a strictly rational-economic framework, the magnitude of negotiators' next concession should logically and rationally be influenced solely by considerations about the their target or limit—but certainly not by any prior concessions. This stance aligns with micro-economic principles and normative cost-benefit analyses (Heath, 1995) which both assume that present decisions should remain unaffected by prior investments in a given project (Arkes & Ayton, 1999). In line with the *homo economicus* concept, rational individuals should not consider prior costs or hypothetical investments in their subsequent decision-making (Kahneman & Tversky, 1976). Finally, normative rational choice theory (Boudon, 2003) points out that individuals should opt for the maximum benefit, evaluating alternatives exclusively in terms of *concurrent* costs and benefits.

**Implications for decision-making?** Empirical findings across various fields, such as economics, psychology, or sociology, show evidence for rational decision-making. Behavioral economists even argue that, while individuals do apply heuristics in their daily lives, these strategies are typically well-adapted and might be referred to as "ecologically rational" (Camerer & Loewenstein, 2004, p. 11) as they lead to reasonable, and thus, rational decisions (see also Coleman, 1990; Fehr & Schmidt, 2006). Finally, other streams of research showed that human biases are reduced under certain circumstances (e.g., Kahneman, 2011; Nemeth & Kwan, 1987; Stanovich & West, 2000; Svenson & Benson, 1993), further supporting the argument that individuals *can* decide rationally.

**Implications for negotiations?** Applying this rationality perspective to negotiations, prior concessions should primarily stem from considerations about negotiators' target or limit rather than being affected by their prior concessions. Through a decision-analytic lens, concessions can be conceptualized as stand-alone, individual decisions (Tsay & Bazerman, 2009); each concession,

[2] Beyond sunk costs, other psychological mechanisms predict that larger prior concessions could lead to higher future concessions. For instance, one could argue that prior concessions act as an aggregated numerical anchor for future concessions (Schaerer et al., 2016). Also, one's individual need for consistency over time (Festinger, 1954; Lecky, 1945), Gestalt theory (Koffka, 1935), and self-perception theory (Bem, 1967, 1972; see also Goldstein & Cialdini, 2007) could trigger higher future concessions to be consistent with prior behavioral patterns.

**Table 2.** *Summary of Three Competing Perspectives on Intrapersonal Concession Effects*

| Perspective | What is it? | What Are the Mechanisms? | Implications for Decision-Making | Implications for Negotiations | Hypotheses |
|---|---|---|---|---|---|
| **Loss Aversion** | – Prospect theory (Kahneman & Tversky, 1979) posits that losses loom larger than equivalent gains<br>– People dislike incurring losses and try to prevent them<br>– Concessions are mental expenses (i.e., losses) on negotiators' mental account | – Attention (Carmon & Ariely, 2000)<br>– Retrieval from memory (Johnson et al., 2007)<br>– Affective forecasting (Kermer et al., 2006)<br>– Processing of affective stimuli in the brain (De Martino et al., 2006) | – Gambles that involve potential losses (Rabin, 2000)<br>– Economic games (e.g., dictator or ultimatum games) framed in terms of losses vs. gains (Neumann et al., 2018) | – Individuals are more concession averse when offers highlight the individual's resources (Trötschel et al., 2015)<br>– Individuals concede less when offers are framed as losses rather than gains (De Dreu et al., 1994)<br>– Individuals are more self-oriented in loss-negotiations (Sondak et al., 1995) | – Larger prior concessions induce a sense of loss and thus lead to *smaller* future concessions, *lower* acceptance rates, *less* integrative behavior, and *lower* joint outcomes, all to minimize further losses. |
| **Sunk Cost** | – Sunk costs represent investments incurred in the past (Arkes & Blumer, 1985; Thaler, 1980).<br>– Concessions are prior investments (i.e., sunk cost) on a mental account<br>– People overestimate prior investments, leading them to make larger future investments into this project (Garland & Newport, 1991) | – Justification of prior investments (Rubin & Brockner, 1975) and cognitive dissonance reduction (Festinger, 1954)<br>– Attribution of higher value throughout bidding or negotiating processes (Bazerman & Samuelson, 1983) | – Investment decisions in management (Negrini et al., 2022)<br>– Marketing choices (Soman & Cheema, 2001)<br>– Decision-making in sports (Staw & Hoang, 1995)<br>– Various other fields (see Roth et al., 2015, for a review) | – Sunk costs are transmitted between two negotiating parties (Diekmann et al., 1996)<br>– Negotiations are susceptible to the overestimation of earlier investments (i.e., concessions; Tey et al., 2021), as they require continuous allocation of resources (Tsay & Bazerman, 2009) | – Larger prior concessions induce a sense of having made large investments already and thus lead to *larger* future concessions, *higher* acceptance rates, *more* integrative behavior, and *higher* joint outcomes, all to reduce cognitive dissonance and justify prior investments. |
| **Rationality** | – Traditional economics assume that human beings generally act in rational ways (Smith, 1962)<br>– Individuals *should* not consider prior costs or hypothetical investments in their subsequent decision-making<br>– Concessions are stand-alone, individual decisions | – Homo economicus (Kahneman & Tversky, 1976)<br>– Normative rational choice theory (Boudon, 2003)<br>– Normative cost-benefit analyses (Heath, 1995) | – Individuals apply heuristics in their daily lives, but the strategies are well-adapted (i.e., "ecologically rational"; Camerer & Loewenstein, 2004, p. 11) as they lead to reasonable/rational decisions<br>– Human biases are reduced under certain circumstances (Kahneman, 2011) showing that individuals *can* behave rationally | – Each concession, viewed independently, should be evaluated and decided upon in an independent manner—irrespective of prior concessions<br>– Future concessional patterns remain unaffected by prior concessions | – Larger prior concessions do *not* affect future concessions, acceptance rates, integrative behavior, and joint outcomes (i.e., null effects emerge). |

viewed independently, would then be evaluated and decided upon in an independent manner. Consequently, current decisions (i.e., next concession) should remain unaffected by prior decisions (i.e., prior concessions).

**What do we hypothesize?** Building on the rationality of economic agents, one can derive a third, competing set of hypotheses:

***H3a.*** Negotiators' prior concessions do not affect their future concessions, i.e., the magnitude of their counteroffer with their next move.

***H3b.*** Negotiators' prior concessions do not affect their willingness to accept the next offer by their counterpart.

### Interim Conclusion and Contribution of the Present Research

Building on three different streams of literature, we developed three competing predictions for how negotiators' prior concession patterns affect their willingness to concede further. Does a sense of loss aversion accumulate over time, thereby impeding further concessions (i.e., loss aversion)? Do the sunk-cost fallacy and inherent involvement make it more likely to invest more, thereby facilitating further concessions (i.e., sunk-cost perspective)? Or are negotiators rational enough to base their willingness to concede solely on their own target or limit, ultimately neglecting prior concessions (i.e., rationality perspective)? We gathered first evidence to illuminate these competing perspectives in a pilot study.

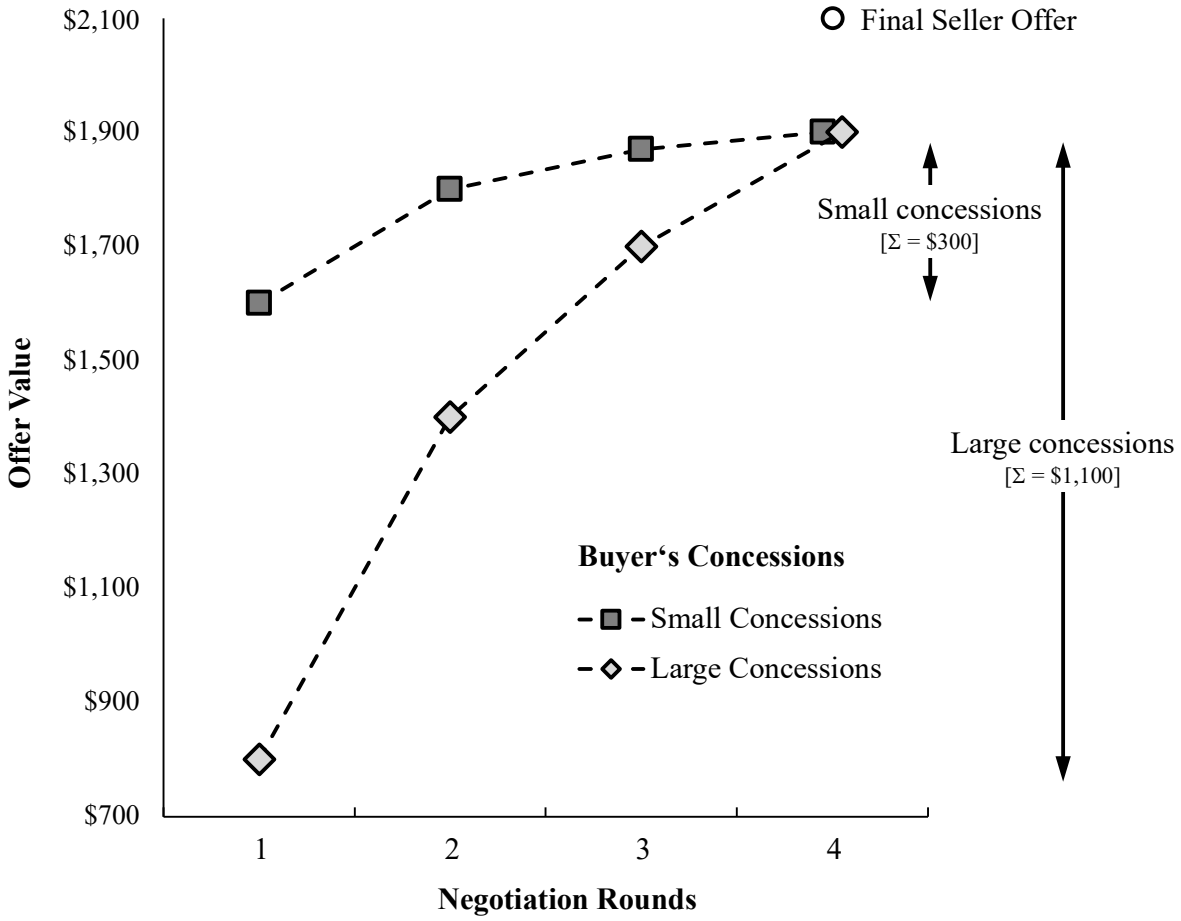
## Pilot Study – Buyers Concede to Sellers

We conducted a pilot study to test our basic experimental paradigm for investigating intrapersonal concession effects in distributive negotiations ($N = 166$ from *MTurk*). Participants assumed the role of buyers and were presented with an online negotiation scenario for the sale of a bike in an animated chat interface. In this chat interface, participants were guided through four consecutive negotiation rounds, with an offer having been made by them and by the seller in each round (note that the participants did not actively make offers but were asked to imagine that they had made the predefined offers themselves). Throughout this simulated back-and-forth concession process, the seller's offers were left unclear to rule out possible effects of reciprocity, anchors, or the assumed zone of possible agreement. Participants were told that the seller made "another concession to their latest offer", but no monetary value for the seller's offer was displayed in the chat interface (see OSF). Therefore, participants only knew the value of their own (predefined) concessions. With this manipulation we made sure to measure the pure intrapersonal, rather than the interpersonal, effect of negotiators' own concessions. Eventually, participants (i.e., buyers) were presented with the seller's latest offer (this time with a monetary value) in the same chat interface and asked to indicate their willingness-to-accept (WTA) the offer (in %) and to make another counteroffer (in $).

The experiment featured two conditions (see Figure 1): (1) a large concession condition, in which participants imagined to have already made large concessions to the seller (i.e., from a first offer of $800 to the most recent offer of $1,900), and (2) a small concession condition, in which participants imagined to have made small(er) prior concessions (i.e., from a first offer of $1,600 to the most recent offer of $1,900). Again, note that the simulated seller also made concessions, but no monetary values were displayed to the participants before the seller's final offer. Importantly, the two conditions solely differed in the magnitude of own total concessions

made ($\Sigma$ = \$1,100 vs. $\Sigma$ = \$300), but not in the number of concessions made ($n$ = 3) or in the magnitude of the latest offer made by the buyer (i.e., \$1,900) or the seller (i.e., \$2,100). All experimental materials, the video simulation of the concession manipulation, all data, and analysis code are available at https://osf.io/u8grv/.

**Figure 1.** Operationalization of Small vs. Large Concessions




*Note*. To rule out unintended interpersonal effects, participants (i.e., buyers) were told that seller made "another concession to their latest offer" after each counteroffer, but the value of this counteroffer was not displayed in the chat interface. Participants were assigned to either a small concession condition (i.e., having made small prior concessions of $\Sigma$ = \$300, with an initial offer of \$1,600; dark gray squares) or a large concession condition (i.e., having made large prior concessions of $\Sigma$ = \$1,100, with an initial offer of \$800; light gray rhombs). The number of prior concessions ($n$ = 3) was held constant between conditions. After negotiation round 4, participants were informed about the monetary value of the seller's final offer (\$2,100 in both conditions)

**Results**

Data analysis revealed a significant difference in counteroffers between the large concession ($M$ = \$2,000.75, $SD$ = \$61.39) and the small concession condition ($M$ = \$1,985.09, $SD$ = \$50.08)—a conventionally 'small' effect ($d$ = 0.283). This descriptive difference ($M_{Diff}$ = \$15.66; i.e., 7.83% of the ZOPA) was nonsignificant according to common significance thresholds, $t(164) = 1.811$, $p = .072$. Nonetheless, the direction of this difference points towards H2a: larger prior concessions leading to larger future concessions (sunk-cost perspective). The direction of the effect speaks against H1a (larger prior concessions impeding future concessions; loss-aversion perspective) and H3a (prior concessions *not* affecting future concessions; rationality perspective).

For buyers' WTA, we found no significant differences, $t(164) = 0.857$, $p = .393$, $d = 0.134$, between the large concession ($M$ = 55.53%, $SD$ = 28.69%) and small concession condition ($M$ = 51.90%, $SD$ = 25.81%). This cautiously speaks against both H1b (loss-aversion perspective) and H2b (sunk-cost perspective). A Bayesian analysis with a default Cauchy prior of 0.707 resulted in a $BF_{01} = 4.219$—that is, 'substantial' evidence for a true null effect (H3b; rationality perspective) according to common Bayesian conventions (Wagenmakers et al., 2011). The fact that negotiators' own concession making did not impact their willingness-to-accept was somewhat surprising, especially considering that the bivariate correlation between counteroffer and willingness-to-accept was highly significant ($r = .514$, $p < .001$). One possible explanation would be that people are less familiar with statements or decisions in percent rather than with absolute numbers (Hoffrage et al., 2000). In addition, in real-life negotiations and other decisions in daily-life, people are typically forced to make binary choices (i.e., accept vs. decline). We have thus added another measure based on absolute values to our subsequent Study 1.

In sum, we find tentative evidence for a sunk-cost effect of prior concessions on future counteroffers (albeit small in size and nonsignificant, i.e., $p = .072$), as well as empirical evidence for prior concessions *not* affecting negotiators' willingness to accept the seller's next offer (a 'substantial' Bayesian null effect). In all, the pilot study (1) offers an in-principle confirmation of the viability of the experimental paradigm, (2) suggests that previously neglected biases might indeed play a role in negotiation research, and (3) leads us to believe that there is more to uncover in further studies with larger sample sizes. Specifically, future research should (a) attempt to replicate the sunk-cost effect on future concessions, (b) examine competing mediators derived from the different theoretical accounts, and (c) substantiate the Bayesian absence of evidence for concession effects on WTA. Based on this assessment, we preregistered and subsequently conducted two additional experiments to gain deeper insights into intrapersonal concession effects in distributive (Study 1) and integrative (Study 2) negotiations.

## Overview of the Preregistered Experiments

We sought to build on the pilot study findings with two additional preregistered experiments in a threefold way: First, we sought to replicate the results of the pilot study with a larger sample (Study 1) that is sufficiently powered to detect conventionally small effect sizes. Second, we planned to generalize the present empirical findings across negotiation settings and to extend our results to an integrative negotiation setting with potential win-win agreements (Study 2). Third, we intended to investigate and empirically test competing psychological mediators—derived from the different theoretical accounts—to explain the emergence of the effect in

distributive, but also integrative negotiations (Study 1 and 2). The approved stage-1 protocol for this registered report is publicly available on OSF (https://osf.io/74s3d/).

## Study 1 – Psychological Mechanisms in a Distributive Setting

Study 1 sought to replicate the concession effect from the pilot study with a larger sample while additionally assessing competing psychological mediators.

### Method

#### *Sample*

An a priori power analysis with the conventionally 'small' effect size from the pilot study ($d = 0.283$) and a power of 90% revealed a necessary total sample size of $N = 528$ (Faul et al., 2007). We conservatively estimated that around 10% of participants might fail attention checks (Douglas et al., 2023), thus aspiring to recruit a total of $N = 581$ participants. We recruited participants via Prolific, an online research platform with higher data quality than MTurk (see Peer et al., 2022). We sampled U.S. residents and used $ as negotiation currency. As preregistered, we excluded participants who failed the attention check ($n = 62$; slightly more than the estimated 10%-attrition of $n = 53$). Our final sample consisted of $N = 519$ participants ($M_{age} = 37.20$ years, $SD_{age} = 13.05$ years; 47.98% female, 51.45% male, 0.58% other), yielding a high statistical power of 89.57% (*pwr* package in R; Champely et al., 2022).

### Procedure and Design

We applied a procedure and experimental design very similar to our pilot study. Participants assumed the role of buyers and responded to an online negotiation scenario in which a seller is offering them a laptop for sale. Participants were assigned to either a large concession condition (i.e., imagining to have made large prior concessions of $\Sigma = \$1{,}100$) or a small concession condition (i.e., imagining to have made small prior concessions of $\Sigma = \$300$; see Figure 1). Importantly, participants were told that the other party made "another concession to their latest offer", but there was no monetary value displayed in the chat interface (see OSF for experimental material). Participants therefore only knew the monetary value of their own predefined concessions. With this manipulation we made sure to measure the pure intrapersonal, rather than the interpersonal, effect of one's own concessions. Only the seller's last offer (i.e., $2,100) was displayed as a numeric value. The number of prior concessions and monetary value of the seller's last offer were again held constant between conditions.

### Dependent Variables

As in the pilot study, we assessed participants' willingness-to-accept (WTA) the seller's latest offer (in % and in absolute numbers) and participants' last counteroffer (in $) as key dependent variables. We further assessed four different psychological mechanisms derived from the literature to test for mediator effects (with 3 items each): (1) loss aversion (e.g., "I feel like I have already lost a lot of money in this negotiation"; $\alpha = .87$), (2) justification of prior investments

(e.g., "Given my prior investments, I really wanted to reach a deal"; sunk-cost perspective; α = .72), (3) product appreciation (e.g., "I really valued the product offered by the seller"; sunk-cost perspective; α = .81), and (4) rational decision-making (e.g., "I feel that my prior concessions in the negotiation process did *not* affect my final offer and WTA" ; α = .59). All items were measured on 7-point Likert scales (1 = *not at all*, 7 = *very much*; see Appendix for all verbatim items). We randomized the order in which mediators are measured to control for unintended order effects. All materials and data are publicly available on OSF (https://osf.io/u8grv/).

## Results

### *Negotiation Differences Between Large and Small Prior Concessions*

As preregistered, we conducted two-tailed *t*-tests to examine group differences in our main dependent variables: participants' last counteroffer, their WTA (individual WTA in %), and their WTA in absolute numbers (global WTA; i.e., "Out of 100 negotiations like this, how many buyers would accept the seller's final offer?"). Data analyses revealed a significant difference in counteroffers between the large concession ($M$ = \$1,926.55, $SD$ = \$229.01) and the small concession condition ($M$ = \$1,964.86, $SD$ = \$70.82), $t(303.66) = -2.564$, $p = .011$, $d = 0.227$. The size of prior concessions indeed influenced buyers' final counteroffers: with larger prior concessions leading to smaller final counteroffers. This pattern supports the loss-aversion account, as buyers made markedly lower (i.e., more assertive) counteroffers after having made larger prior concessions (H1a). For buyers' individual WTA (in %), we found no significant difference between the large concession ($M$ = 42.44%, $SD$ = 33.30%) and the small concession condition ($M$ = 43.81%, $SD$ = 29.76%), $t(508.26) = -0.494$, $p = .622$, $d = 0.043$. As this result was non-significant, we also conducted a Bayesian *t*-test, $BF_{01} = 9.096$, which revealed conventionally 'moderate' evidence for the null hypothesis (H3a; Lee & Wagenmakers, 2013). For buyers' global WTA, results corroborated the findings for the final counteroffer: Participants in the large concession condition reported a significantly lower willingness to accept the seller's last offer ($M$ = 45.01, $SD$ = 25.68), compared to participants in the small concession condition ($M$ = 49.58, $SD$ = 24.14), $t(513.63) = -2.086$, $p = .038$, $d = 0.183$. This again supports the loss-aversion perspective and its predictions for negotiators' willingness-to-accept (H1b).

### *Psychological Mechanisms in a Distributive Setting*

In the next preregistered step, we conducted parallel mediation analyses to simultaneously test the four theoretically proposed mechanisms explaining the effect of prior concessions on following concession patterns. In all mediation models, we included size of prior concessions as the independent variable (0 = small vs. 1 = large) and entered (1) perceived loss aversion, (2) justification of prior investments, (3) product appreciation, and (4) rational decision-making as parallel mediators (see Table 3 for descriptive results). We used the PROCESS macro in *R* (Model 4; Hayes, 2013), full information maximum likelihood estimation, and bootstrapped 95% confidence intervals (CI) with 5,000 bootstrapped resamples for all effects (see SOM for complete results).

**Table 3.** *Descriptive Results for the Psychological and Behavioral Mechanisms in Study 1 and 2*

| Mechanism | Study 1 | | | | Study 2 | | | |
|---|---|---|---|---|---|---|---|---|
| | Small Concessions | | Large Concessions | | Small Concessions | | Large Concessions | |
| | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| **Psychological Mechanisms** | | | | | | | | |
| Loss Aversion | $4.96_a$ | 1.58 | $5.33_b$ | 1.56 | $4.42_a$ | 1.30 | $4.63_b$ | 1.35 |
| Justification of Prior Investments | $4.97_a$ | 1.19 | $4.74_b$ | 1.34 | 5.34 | 1.04 | 5.24 | 0.96 |
| Product Appreciation | 5.15 | 1.23 | 5.07 | 1.25 | 5.40 | 1.04 | 5.33 | 1.10 |
| Rational Decision-Making | 4.26 | 1.15 | 4.15 | 1.23 | 4.22 | 1.21 | 4.18 | 1.17 |
| **Behavioral Mechanisms** | | | | | | | | |
| Time [c] | | | | | 35.97 | 49.50 | 33.86 | 40.28 |
| Switches [d] | | | | | 6.82 | 5.66 | 7.36 | 6.18 |

*Note.* Psychological mechanisms were measured on 7-point scales (1 = *not at all*, 7 = *very much so*) and in randomized order after the dependent variables. [a,b] Mean values with different subscripts differed significantly in the respective study ($p < .05$). The behavioral mechanisms were measured implicitly in Study 2 only. [c] Time was measured as the total time participants spent inspecting their counterpart's payoff table (in seconds). [d] Switches captured the number of times participants switched between their own and the counterpart's payoff table (only one table was visible at a time).

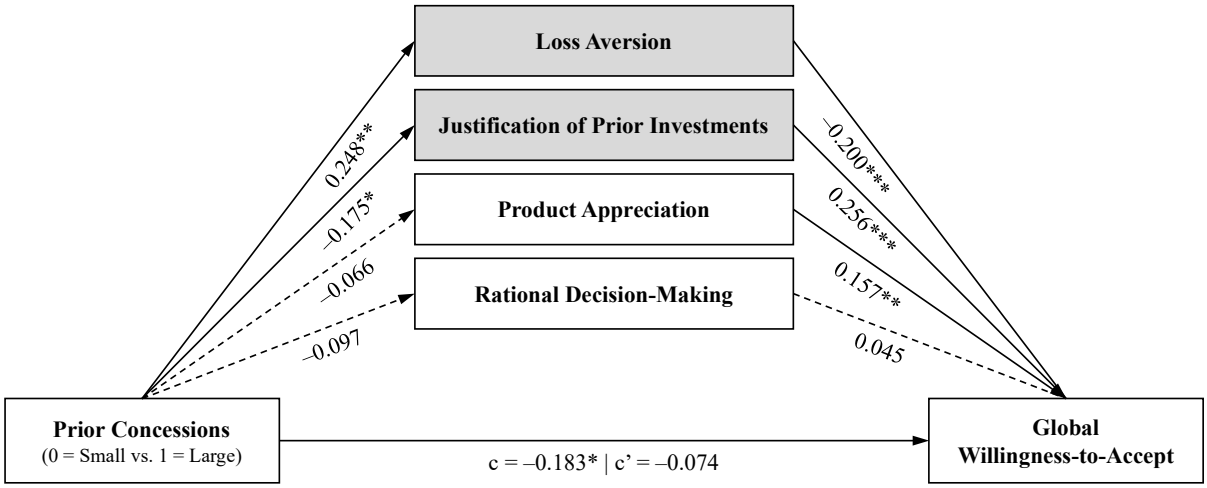
The first mediation model with the final counteroffer as the dependent variable revealed that larger prior concessions predicted higher perceived loss aversion (β = 0.238, p = .006) and less justification of prior investments (β = –0.182, $p = .038$; see Table 3). The other two mediators, rational decision-making (β = –0.094, $p = .286$) and product appreciation (β = –0.068, $p = .442$), remained unaffected by the size of prior concessions. Furthermore, the mediation analysis revealed a total effect of prior concessions on final counteroffer ($b = –38.306$, $SE = 14.822$, 95% CI [–67.424, –9.188), corroborating the significant *t*-test result showing that larger concessions led to markedly lower final counteroffers. This direct effect remained significant after including all mediators ($b = –38.158$, $SE = 14.325$, 95% CI [–66.300, –10.016]). Despite the two significant a-paths for loss aversion and prior investments, no indirect effects emerged—the total indirect effect was also not significant ($b = –0.148$, $SE = 5.337$, 95% CI [–11.361, +10.242]).

For the second mediation model with buyers' individual WTA as the dependent variable, a complementary result pattern emerged. As expected, given the non-significant *t*-test, we found no total effect ($b = –1.370$, $SE = 2.771$, 95% CI [–6.813, +4.074]) and observed no direct effect after including all mediators ($b = 2.695$, $SE = 2.192$, 95% CI [–1.611, +7.001]). However, the indirect effects via loss aversion ($b = –2.176$, $SE = 0.856$, 95% CI [–3.931, –0.623]) and justification of prior investments ($b = –1.205$, $SE = 0.662$, 95% CI [–2.684, –0.090]) were

significant, suggesting that these perceptions play a significant role in shaping individual WTA. Lower WTA coincided with higher levels of perceived loss aversion (β = –0.297, $p < .001$) and less justification of prior investments (β = 0.210, $p < .001$).

The third mediation analysis with global WTA as the dependent variable revealed a full mediation via loss aversion and justification of prior investments (Figure 2): The significant total effect ($b$ = –4.565, $SE$ = 2.187, 95% CI [–8.862, –0.267]) disappeared after including all mediators ($b$ = –1.814, $SE$ = 1.918, 95% CI [–5.581, +1.954]; zero included in the CI). The indirect effects via loss aversion ($b$ = –1.241, $SE$ = 0.531, 95% CI [–2.424, –0.352]) and justification of prior investments (b = –1.119, $SE$ = 0.636, 95% CI [–2.517, –0.012]) were both significant. Again, higher perceived loss aversion (β = –0.200, $p < .001$) and less justification of prior investments (β = 0.256, $p < .001$) coincided with lower global WTA (see b-paths in Figure 2). These results suggest that the negative relationship between negotiators' own prior concessions and WTA is mediated by a higher perceived loss aversion and less justification of prior investments following larger prior concessions (see Figure 2).

**Figure 2.** *Mediation Model of Prior Concessions on Global WTA in Study 1*




*Note.* The mediation model shows the effects of prior concessions (0 = small vs. 1 = large) on global willingness-to-accept were mediated by loss aversion, justification of prior investments, product appreciation, and rational decision-making in Study 1. Gray boxes indicate significant indirect effects, continuous lines indicate significant regression weights. Estimates for indirect effects are based on a bootstrapping procedure with 5,000 bootstrap samples. Path coefficients display standardized β regression weights.
*** $p < .001$, ** $p < .01$, * $p < .05$.

### Exploratory Analyses for Participants' Counteroffers

Whilst these results broadly point in the direction of the loss-aversion reasoning, we sought to gain a more precise understanding of the underlying patterns in the data. When carefully examining the distribution of counteroffers, it was surprising that some buyers decided not to make any more concessions—in stark contrast, they even 'reversed' their previous standing offer of

$1,900. To better understand this pattern and how it influences the overall pattern of results, we divided the buyers into two subsets: the majority of buyers continued to negotiate *within* the zone-of-possible agreements (ZOPA, i.e., between $1,900 and $2,100; $n = 482$; 92.87%) and thus moved farther *towards* their counterpart with the final counteroffer. In contrast, a select subsample of buyers, unexpectedly, decided to make their final counteroffer outside of the ZOPA (i.e., below their last standing offer $1,900; n = 37; 7.13%). This latter subsample decided to move *away* from their counterpart again and to rescind an offer that they had already made (i.e., $1,900).

These exploratory subset analyses are interesting for at least two reasons: First, in the, arguably small, subsample of participants (7.13%) who moved *away* from their counterpart (i.e., counteroffers below $1,900), the loss-aversion effect described in the preregistered analyses was markedly amplified. Specifically, in this subset, participants in the large concession condition made significantly smaller (more assertive) final counteroffers ($M = \$1{,}306.59$, $SD = \$429.12$) than participants in the small prior concession condition ($M = \$1{,}734.67$, $SD = \$95.76$). That is, negotiators undercut their 'own' standing offer of $1,900 significantly stronger, $t(23.987) = -4.517$, $p < .001$, $d = 1.267$.

Second, in the larger subsample of participants (92.87%) who moved *toward* their counterpart (as initially expected), the loss-aversion effect was reversed and trended toward the sunk-cost effect described in the pilot study. Participants in the large concession condition made descriptively *higher* final counteroffers ($M = \$1{,}984.59$, $SD = \$36.49$) than participants in the small concession condition ($M = \$1{,}978.84$, $SD = \$37.04$), $t(479.41) = 1.718$, $p = .087$, $d = 0.156$. This latter pattern of results closely resembles the one from the pilot study and trends in the direction of a sunk-cost effect. We return to this explorative finding in the general discussion.

### Interim Discussion

Study 1 sought to investigate the intrapersonal effects of prior concessions on subsequent negotiation behavior in a distributive negotiation setting. Preregistered analyses with all participants supported a loss-aversion reasoning for counteroffers (in line with H1a) and global WTA (in line with H1b): Larger prior concessions made negotiators loss averse and led to lower, that is, more assertive final counteroffers and also lower WTA rates. This effect for WTA was fully mediated by higher loss aversion and less justification after larger concessions—buyers felt they had already *lost* a large amount of money by their own concessions, *justified* their prior concessions less, and were thus ultimately *less willing* to accept the seller's offer to prevent further losses.

This overall result pattern stands at odds with the results of our pilot study, which found (1) no effect on individual WTA and (2) tentative evidence for the sunk-cost rather than the loss-aversion perspective. Interestingly, exploratory analyses revealed that the loss-aversion effect on counteroffers was particularly strong in a subsample of 7% of participants who decided to rescind their prior offer. Amongst the vast majority of buyers (93%) who decided to proceed with concessions toward the seller, however, this effect reversed and—at least descriptively—supported the findings from the pilot study and the sunk-cost reasoning.

## Study 2 – Perspective-Taking and Creating Value in an Integrative Setting

Study 2 sought to replicate and extend the findings from the prior studies in an integrative negotiation setting with the potential for tradeoffs and win-win agreements. We move away from

a single-issue price negotiation and instead test our hypotheses in a three-issue negotiation (Pruitt & Lewis, 1975; see also Loschelder et al., 2016b). Unlike distributive negotiations that revolve around the zero-sum division of resources and require concessions on all negotiation issues (Craver, 2010; Thompson, 2006), integrative negotiations are characterized by (a) the opportunity for mutually beneficial outcomes (Fisher et al., 1991; Weingart et al., 1999) and (b) parties conceding on less important issues in return for gains on more important issues (i.e., "logrolling"; Froman & Cohen, 1970). While the hypothesized effects for the distributive outcome (i.e., claiming value with the counteroffer) of the negotiation remain the same for Study 2, the competing mechanisms (i.e., loss aversion, sunk cost, and rationality) additionally suggest markedly different outcomes for negotiation behavior within an *integrative* setting.

Further advancing the loss-aversion perspective, previous research has shown that people make more self-serving mistakes in individual decision-making tasks (Leib et al., 2019) and act more individualistically in loss contexts compared to gain contexts (Poppe & Valkenberg, 2003). Also in negotiations, this more individualistic social value orientation predicted less attentional focus on the other party's (vs. one's own) payoffs (Fiedler et al., 2013; Trötschel et al., 2013). Finally, negotiated agreements have been found to be less integrative for loss (compared to gain) negotiations (Sondak et al., 1995). Based on this research, and additional to the prior hypotheses from Study 1, we derived the following hypotheses for the integrative setting of Study 2:

***H1c.*** Negotiators who have previously made larger (smaller) prior concessions invest less (more) effort and perspective-taking into finding integrative solutions.

***H1d.*** Negotiators who have previously made larger (smaller) prior concessions create less (more) integrative value.

Further advancing the *sunk-cost perspective*, negotiators' own prior concessions should be mentally processed as investments made, therefore evoking self-justification processes (Brockner, 1992), improved evaluations of the negotiated issues (Festinger, 1954), and an overestimated probability of a successful conclusion of the negotiation (Arkes & Hutzel, 2000). In an integrative setting where negotiators potentially (and typically) concede on several issues (Vetschera et al., 2012), the feeling of sunk costs could be more pronounced. This could ultimately lead to investing even more (i.e., making larger concessions) in order to successfully complete the project (i.e., to successfully reach an agreement). Participants with sunk-cost perceptions should therefore put more effort into perspective-taking and the identification of integrative potential. Additional support for the sunk-cost perspective lies in the nature of integrative negotiations: While distributive negotiations are more similar to individual decision-making processes (and heuristically-driven failures thereof), integrative negotiations share more similarities with joint decision-making (Fisher et al., 1981; Zartman, 1977). Previous research has shown that groups are even more susceptible to the sunk cost fallacy (Seibert & Goltz, 2001), again supporting the idea that the risk of falling prey to the sunk-cost fallacy seems to be increased in mutually interdependent settings. From a sunk-cost perspective, we therefore derive the following hypotheses:

***H2c.*** Negotiators who have previously made larger (smaller) prior concessions invest more (less) effort and perspective-taking into finding integrative solutions.

***H2d.*** Negotiators who have previously made larger (smaller) prior concessions create more (less) integrative value.

Finally, in line with our theorizing in the introduction and building on the *rationality* perspective of economic agents, we derive the following set of hypotheses:

***H3c.*** Negotiators' prior concessions will not affect their effort and perspective-taking into finding integrative solutions.
***H3d.*** Negotiators' prior concessions will not affect the integrative value they create.

## Method

In Study 2, we applied our experimental paradigm to an integrative setting in a three-issue negotiation (Pruitt & Lewis, 1975; see also Loschelder et al., 2016). The negotiation revolved around the sale of a café and featured three issues: transfer fee, coffee beans, and furniture. The payoff structure was slightly adjusted from the seminal task developed by Pruitt and Lewis (1975; see Loschelder et al., 2016b) to (1) include more options for larger variance in potential counteroffers and (2) increase the maximum value on each issue to preserve the initial distances between the different options. Each issue featured 21 options (A–U) with a maximum value of 13,000 individual points (see Appendix for details).

### *Sample*

An a priori power analysis with the same parameters and considerations as in Study 1 again led to an aspired sample size of $N = 581$. We again recruited U.S. residents via Prolific (participants from Study 1 were not able to enter Study 2). As we did not implement attention checks in the integrative setting and no outcome-related attention checks are possible, we report the results from the full sample of $N = 581$ participants ($M_{age} = 39.12$ years, $SD_{age} = 13.12$ years; 48.36% female, 49.57% male, 2.07% other). This sample yields a statistical power of 92.42% for detecting an effect size as found in the pilot study (i.e., $d = 0.283$; Champely et al., 2022).

### *Procedure and Design*

As in Study 1, we used a vignette study in a chat interface and participants again assumed the role of buyers. Participants were guided through three consecutive negotiation rounds (see Study 1). However, as this was an integrative negotiation setting, participants made package offers on all three issues simultaneously (e.g., I-I-K; see Appendix). Similar to Study 1, participants were asked to imagine having made several predefined package offers and were told that the other party had made "another concession to their latest offer" (i.e., without revealing the concession value of their counteroffer).

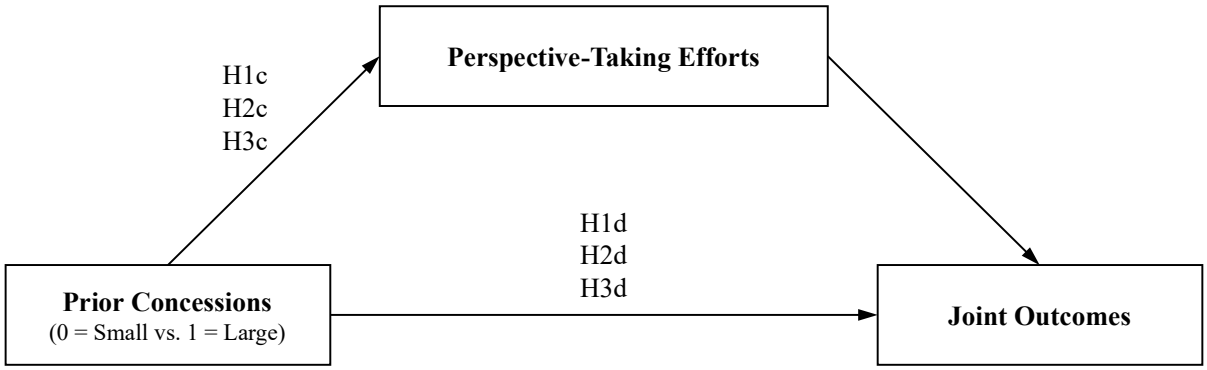
Again, Study 2 featured two conditions. Participants were assigned to either a large concession condition (i.e., imagining to have made large prior concessions; $\Sigma = 4{,}650$ individual points; from 12,250 to 7,600) or a small concession condition (i.e., imagining to have made small prior concessions; $\Sigma = 1{,}700$ individual points; from 9,300 to 7,600). Again, the two conditions did not differ in the number of concessions made, nor in the last offer made by the buyer (i.e., worth 7,600 individual points for the participant); they solely differed in magnitude of negotiators' own concessions to isolate the *intra*personal concession effects (i.e., 4,650 points vs. 1,700 points). As this was an integrative negotiation and package counteroffers would have been informative of the underlying priorities (see Loschelder et al., 2016b), the participants were not presented with a last offer by the seller (see Study 1) and were therefore not asked to indicate their willingness-to-accept. At all times throughout the negotiation, participants had access to their own payoff table (see OSF and Appendix).

***Dependent Variables***

We assessed two key dependent variables. First, to measure claiming value (see Study 1), we calculated the individual points participants would earn with their final offer. Second, to measure creating value, we calculated the integrativeness of participants' final offer (i.e., the joint points both parties would achieve with the participant's final offer).

As in Study 1, we assessed four different psychological mechanisms derived from the literature to test for mediator effects (i.e., loss aversion, justification of prior investments, product appreciation, and rationality; see Study 1 and Appendix). Additionally, we assessed two behavioral mediators, for which we drew inspiration from research by Giacomantonio and colleagues (2010, Study 1): After seeing their own concessions and offers, participants were given access to their counterpart's payoff table (i.e., their underlying interests and priorities; see Giacomantonio et al., 2010). In this phase, two buttons appeared on participants' screens—one leading to their own payoff table and one leading to their counterpart's payoff table. Clicking on either of these buttons displayed the corresponding table while simultaneously hiding the unselected table. This allowed us to capture (a) the total *time* participants spend viewing their counterpart's table (i.e., perspective-taking efforts in trying to understand the counterpart's priorities) as well as (b) the *number of switches* between tables (i.e., deliberate comparisons of own vs. the other party's priorities; see also Fiedler et al., 2013). Both measures of perspective-taking behavior serve as mediating mechanisms that should facilitate the identification of integrative potential and increase joint outcomes. After a maximum of three minutes, participants were asked to indicate their final package offer, including all three issues. After the assessment of our dependent variables, we measured the verbatim mediators in randomized order (see Appendix; loss aversion, $\alpha = .81$; justification of prior investments, $\alpha = .71$; product appreciation, $\alpha = .83$; rational decision-making, $\alpha = .54$). All materials and data are publicly available on OSF (https://osf.io/u8grv/).

**Figure 3.** *Overview of Additional Hypotheses in Study 2 and Theoretical Model for Creating Value*




*Note.* We ran a parallel mediation model with multiple mediators estimated simultaneously. Here, only the hypotheses H1c–H3c and H1d–H3d are displayed. Perspective-taking efforts were measured as (1) time spent on the counterparty's payoff table and (2) number of switches between one's own payoff table and the counterparty's payoff table.

**Results**

***Negotiation Differences Between Large and Small Prior Concessions***

As preregistered, we conducted two-tailed *t*-tests to examine group differences in our main dependent variables: participants' claimed value and participants' created value. We did so by calculating the individual points (for claimed value) and joint points (for created value) that negotiators would make with their final counteroffer.

Frequentist data analyses revealed no significant difference in claimed value between the large concession ($M$ = 7,707.01, $SD$ = 1,821.97) and the small concession condition ($M$ = 7,656.55, $SD$ = 1,349.65), $t(568.66) = 0.383$, $p = .702$, $d = 0.031$. Bayesian analyses showed 'strong' evidence for the null hypothesis (i.e., $BF_{01} = 10.078$; Lee & Wagenmakers, 2013). This is in line with the rationality perspective (H3a), suggesting that the size of prior concessions does not affect later counteroffers.

Similarly, for created value—the integrativeness of the final offer—we found no significant difference, $t(491.64) = –0.555$, $p = .579$, $d = 0.047$ (i.e., 'moderate' Bayesian evidence for the null hypothesis, $BF_{01} = 9.220$; Lee & Wagenmakers, 2013) between the large ($M$ = 13,153.34, $SD$ = 392.11) and the small concession condition ($M$ = 13,174.72, $SD$ = 514.61). In all, the preregistered analyses suggest that participants' prior concessions did not influence their own claimed value, nor did it increase the value created at the joint level (thus supporting the rationality perspective; H3d).

***Psychological Mechanisms in the Integrative Setting***

As in Study 1, we followed our registered analysis protocol and conducted parallel mediation analyses of the four underlying mechanisms. We again included size of prior concessions as the independent variable (0 = small vs. 1 = large) and considered the same four parallel mediators (see Table 3 for descriptive results on the mediators in Study 2). We used the PROCESS macro in *R* (Model 4; Hayes, 2013), full information maximum likelihood estimation, and bootstrapped 95% CI with 5,000 resamples for all effects (see SOM for complete results).

The first mediation model with claimed value as the dependent variable revealed that larger prior concessions predicted higher perceived loss aversion ($\beta = 0.165$, $p = .048$), but did not affect justification of prior investments ($\beta = –0.107$, $p = .199$), product appreciation ($\beta = –.080$, $p = .339$), and rational decision-making ($\beta = –.033$, $p = .688$). The mediation analysis corroborated the non-significant total effect of prior concessions on claimed value ($b$ = 50.452, $SE$ = 135.039, 95% CI [–214.773, +315.678]). After including all mediators, neither the direct effect ($b$ = 75.462, $SE$ = 134.777, 95% CI [–189.252, +340.176]), nor the total indirect effect were significant ($b$ = –25.010, $SE$ = 26.843, 95% CI [–82.099, +24.134]).

The second mediation model with created value as the dependent variable corroborated the *t*-test's null finding. The total effect ($b$ = –21.375, $SE$ = 37.671, 95% CI[–95.364, +52.614]), the direct effect after including all mediators ($b$ = –18.179, $SE$ = 37.916, 95% CI [–92.649, +56.292]), and the total indirect effect ($b$ = –3.197, $SE$ = 5.539, 95% CI [–15.144, +7.287]) were not significant.

***Behavioral Mechanisms in an Integrative Setting***

To extend our understanding of how prior concessions might affect integrative behavior, we additionally preregistered two behavioral mechanisms: (1) the time participants spent inspecting the counterpart's payoff table and (2) the number of switches between their own and the counterpart's payoff table (see Table 3 for descriptive statistics).

For the time spent examining the other's table, no significant difference emerged between the large ($M$ = 33.86s, $SD$ = 40.28) and the small concession condition ($M$ = 35.97s, $SD$ = 49.50), $t(511.94) = -0.558$, $p = .577$, $d = 0.047$ ('moderate' Bayesian evidence for the null hypothesis, $BF_{01} = 9.223$; Lee & Wagenmakers, 2013). Similarly, we found no significant difference for how often negotiators switched between payoff tables in the large ($M$ = 7.36, $SD$ = 6.82) and the small concession condition ($M$ = 6.82, $SD$ = 5.66), $t(575.83) = 1.099$, $p = .272$, $d = 0.091$ (with 'moderate' Bayesian evidence for the null hypothesis, $BF_{01} = 6.037$; Lee & Wagenmakers, 2013). This moderately supports H3c (rationality perspective).

Finally, we repeated the mediation analysis with the behavioral mediators. In line with the non-significant group differences reported above, larger prior concessions did not coincide with more time spent with the other's payoff table ($\beta = -0.047$, $p = .571$) or the number of switches between payoff tables ($\beta = 0.091$, $p = .276$). Furthermore, no direct effect ($b = -22.915$, $SE$ = 37.733, 95% CI [–97.026, +51.196]) and no total indirect effect emerged ($b = 1.540$, $SE$ = 5.330, 95% CI [–8.184, +13.460]).

***Exploratory Subset Analyses for Counteroffers***

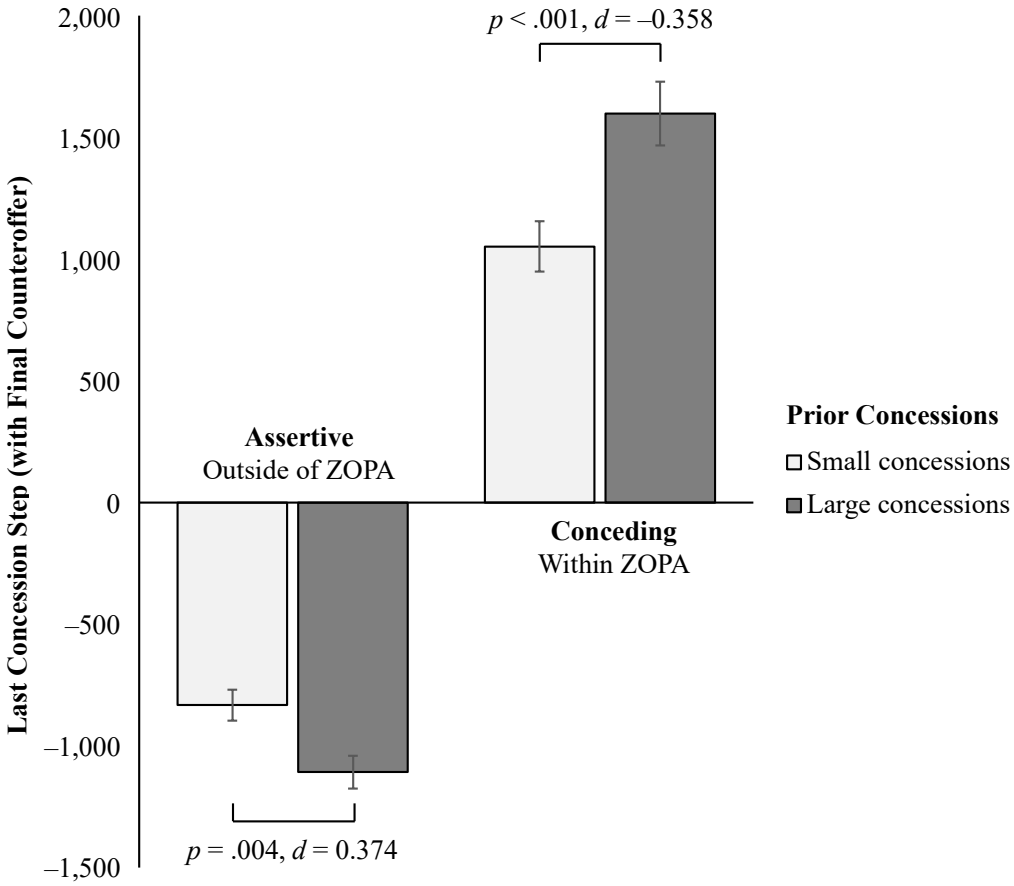
Given Study 1's exploratory findings for participants who decided to concede within vs. outside of the ZOPA, we conducted similar subset analyses in this integrative Study 2. We again split the sample into two subsets: As in Study 1, the majority of buyers made their final counteroffer within the ZOPA (i.e., ≤ 7,600 points for themselves; $n$ = 353, 60.76%). The other, smaller subsample, however, also decided to make their final counteroffer outside of the ZOPA (i.e., > 7,600 points for themselves; $n$ = 228, 39.24%). Analyses with these subsamples yield a highly similar result pattern as in the distributive Study 1—albeit, participants were more evenly distributed across the two subsamples.

First, in the smaller subsample of participants (approx. 40%), who decided to move *away* from their counterpart in an assertive manner and to rescind their previous offer (i.e., counteroffers *outside* the ZOPA; $N$ = 228), a previously obscured loss-aversion effect emerged: Participants in the large concession condition claimed significantly *more* with their final counteroffer ($M$ = 9,402.40, $SD$ = 1,535.07) than participants in the small concession condition ($M$ = 8,886.41, $SD$ = 1,159.70), $t(224.39) = 2.889$, $p = .004$, $d = 0.374$. Like the approx. 7% of participants in the distributive Study 1, these negotiators decided to undercut their own final offer and to claim more value—indicating a strong loss-aversion effect in this subsample, and particularly strong in the large concession condition (Figure 4).

In stark contrast and also corroborating Study 1 findings, a highly significant sunk-cost effect emerged in the larger subsample of participants (approx. 60%; $N$ = 353), who decided to move *toward* their counterpart with their final counteroffer. They made further concessions *within* the ZOPA and did not rescind their prior offer. In this subsample, participants claimed significantly *less* for themselves in the large concession ($M$ = 6,585.71, $SD$ = 892.96) than in the small concession condition ($M$ = 6,884.15, $SD$ = 758.24), $t(341.91) = -3.396$, $p < .001$, $d = -0.358$. Just as the majority of participants in the distributive Study 1 (approx. 93%), buyers who decided to concede *within* the ZOPA showed a diametrically opposed concession pattern: they conceded *more*

after already having made larger (compared to smaller) concessions—indicating a sunk-cost effect in this subsample (see Figure 4). In all, the present interaction effect, together with Study 1 findings, suggests that participants show negotiation behavior that is either highly indicative of loss aversion *or* the sunk-cost effect—whether negotiators opt to remain *within* the ZOPA (or not) appears to be the decisive factor (or indicator) that differentiates the loss-aversion and sunk-cost account, respectively.

**Figure 4.** *Effect of Prior Concessions on Claimed Value in the Assertive vs. Conceding Subsamples in Study 2*




*Note.* The average last concessions in points (with Standard Errors as whiskers) are displayed for two subsamples—(1) assertive participants who decided to move *away* from their counterparts with their last concession and to rescind their prior offer (i.e., own points > 7,600, thus outside of ZOPA; $n = 228$, 39.24%; left panel). In contrast, (2) participants who decided to move farther *toward* their counterpart with their last concession and to concede *within* the ZOPA (i.e., own

points ≤ 7,600 points; $n$ = 353, 60.76%; right panel). The zero line indicates the last standing own offer of 7,600 points. Positive values thus indicate concessions in favor of the counterpart. Negative values, however, indicate 'reversed' concessions and rescinded prior offers, that is, more value claimed by the negotiators. Whereas the two bars on the left support the loss-aversion reasoning, $t(224.39) = 2.889$, $p = .004$, $d = 0.374$, the two bars on the right support the sunk-cost reasoning, $t(341.91) = –3.396$, $p < .001$, $d = –0.358$.

## General Discussion

To our knowledge, the present research is the first to examine the *intra*personal effects of negotiators' prior concessions on their future negotiation behavior, as well as the underlying psychological mechanisms. Based on our review of the literature on biases and decision-making, we formulated and tested three competing theoretical predictions: larger prior concessions lead to (i) *smaller* future concession and less integrative behavior ("loss aversion"), vs. (ii) *larger* future concessions and more integrative behavior ("sunk cost"), or (iii) no differences in future concessions and integrative behavior ("rationality"). Findings and preregistered analyses from two high-powered studies reveal a somewhat mixed pattern: While larger concessions generally made negotiators less willing to accept further offers and to make more aggressive counteroffers in the distributive Study 1, preregistered analyses from Study 2 show no significant differences, seemingly supporting the rationality account. Importantly, however, non-preregistered exploratory analyses shed important novel light on these result patterns and allude to a highly influential interpersonal moderation: negotiators differ in whether they decide to continue to concede (within the ZOPA; the majority) or to rescind their prior last offer and claim more value for themselves after having already made concessions (outside the ZOPA). The majority of participants in both studies, who opted to make further concessions, showed a result pattern that supported the sunk-cost perspective. The minority of participants who decided to rescind their previous offer showed empirical support for the loss-aversion reasoning and claimed more value for themselves—particularly in the large-concession condition. It was also this minority of participants (approx. 7%) that drove the overall loss-aversion outcome in the distributive Study 1. We will discuss potential explanations for these differences in reactions to having already made concessions below, as well as potential reasons for the different results in distributive vs. integrative negotiations.

### Loss Aversion in Distributive Negotiations

Distributive settings typically revolve around the zero-sum division of resources and require concessions on all negotiation issues (Craver, 2010; Thompson, 2006). Somewhat surprising at first blush, the preliminary findings from our pilot study were generally reversed in Study 1: The pilot study had tentatively supported a sunk-cost reasoning—larger prior concessions increasing later concessions. The high-powered Study 1 did not replicate this pattern; instead, an inverted loss-aversion effect emerged in the full sample (see Heath, 1995; Thaler, 1985). Consistent with the seminal prospect theory account (Kahneman & Tversky, 1979), participants who already made large concessions (and thus mentally accounted for the larger looming losses) were significantly less willing to accept the seller's offer and made more assertive final counteroffers; put differently, they were more focused on their own interests and also more likely to reject the offer to prevent taking further losses (De Dreu et al., 1994; Neale & Bazerman, 1985). Our mediation analyses back the claim that larger prior concessions felt like larger mental expenses

(Thaler, 1980). Conceptually, and statistically, this purely intrapersonal concession effect on negotiation behavior was thus (fully) explained by an increased feeling of losses and less justification throughout the negotiation process. As a result, after encountering these larger mental costs, negotiators were not willing to make further concessions (i.e., at least not in the form of accepting a final offer) and would thus risk an impasse.

**Norm Violations After Experienced Loss Aversion**

This overall effect pattern supporting the loss-aversion account in the distributive Study 1 was driven by a comparably small minority of participants (see exploratory analyses in Study 1). After having made large concessions, some buyers opted to make a final counteroffer *outside* of the ZOPA and, to that end, decided to rescind their previous offer and to counter more assertively. These buyers were also more likely to *markedly* undercut their own prior limit after making large concessions—that is, after having offered \$1,900 already, they reversed their prior offers more extremely and ultimately went back to an even lower number ($M \approx$ \$1,300). Participants who had made smaller concessions went less strongly below their prior limit (i.e., $M \approx$ \$1,700). In all, this behavior of going below one's prior offer is at odds with common expectations and social norms in a back-and-forth negotiation process; plausibly it is an expression of reactance after negotiators experienced loss aversion (e.g., Quick et al., 2015). This interpretation is in line with previous findings showing that people who experience loss aversion are generally more motivated to cheat (Schindler & Pfattheicher, 2017) and engage in more unethical behavior (Reinders Folmer & De Cremer, 2012). This pattern paves an avenue for further research to investigate the effects of concessionary behavior on reactive or unethical behavior in negotiations.

The most central question that future research needs to address is which interpersonal characteristics can explain why certain individuals seem to experience loss aversion (and opt to rescind their prior offer), while the majority of negotiators in both studies seem to experience a sunk-cost effect and make more concessions—particularly when they have already conceded more in the prior negotiations. We can only speculate about potential underlying reasons but negotiators' social value orientation (e.g., Loschelder et al., 2014; Murphy & Ackermann, 2014) qualifies as a promising predictor—with proself individuals more likely experiencing loss aversion after having conceded, while prosocially motivated individuals could more likely experience sunk cost and concede farther.

**Overall Rational Behavior in Integrative Negotiations is Also Moderated**

Unlike relatively simple distributive negotiations, integrative negotiations are fueled by the opportunity for mutually beneficial outcomes (Fisher et al., 1991) and parties conceding on less important issues to gain value on more important issues (i.e., "logrolling"; Froman & Cohen, 1970). Integrative negotiations are typically more complex as they involve a larger number of issues and require more cooperation to jointly create value (Fisher et al., 1981). The integrative Study 2 did not replicate the overall loss-aversion effect observed in the distributive Study 1: Buyers who had already made larger concessions were not generally less (or more) conceding in their final counteroffer. Put differently, the size of prior concessions did not affect later negotiation behavior (H3a). Participants also did not create more (or less) value with their counteroffers (H3d). At first sight, this result pattern seems to support a rationality effect.

Admittedly, a more probable explanation for this overall null finding is the co-occurrence of loss aversion *and* sunk costs processes (see our reasoning above; see also Ku et al., 2005): Analyses in both studies showed that a minority of participants (7% in Study 1, approx. 40% in Study 2), experience loss aversion and make extremely assertive counteroffers (i.e., outside of the ZOPA)—particularly in the high-concession condition. If loss-averse negotiators decide to rescind an offer and to make highly aggressive counteroffers, this likely comes at the cost of higher impasse rates (Petrowsky et al., 2023, 2025) or lower negotiation satisfaction (Curhan et al., 2010). The comparably few participants fully drive the observed loss-aversion main effect in Study 1.

Our exploratory findings that dig deeper than the preregistered analyses add important nuance to this conclusion, however: The majority of participants (93% in Study 1, approx. 60% in Study 2) opted to make further concessions *within* the ZOPA and then showed a reversed behavioral pattern that supports the sunk-cost reasoning (Figure 4): They conceded more towards the counterpart—particularly when they had previously already made large concessions. Hence, if a negotiator decides to adhere to common negotiation norms to continue negotiating within the ZOPA—and the majority did—they gave more weight to already committed sunk costs and made *more* generous offers in the interests of the other party (Thaler, 1980).

***Sunk-Cost Effect Within the ZOPA – But Also Sunk Cost Processes?***

From an economic standpoint, this irrational behavior within the ZOPA is akin to many findings in decision-making behavior or management (e.g., Astebro et al. 2007; Garland, 1990; Negrini et al., 2022; see Roth et al., 2015, for a review). The phenomenon at hand displays the fallacy of giving undue weight to 'lost' mental costs and thus making irrational decisions (Thaler, 1980) in an attempt to justify the own previous behavior (Rubin & Brockner, 1975; Ku et al., 2005; Teger, 1980). While the behavioral effect of prior concessions on future concessions is in line with the sunk-cost account, our item-based measure of sunk costs did not statistically mediate the effect. This somewhat surprising null-finding could point to (1) our experimental manipulations not having worked after all, (2) our preregistered items not validly capturing the intended sunk-cost construct or, relatedly, participants not having introspective access to these psychological mechanisms, and/or (3) other theoretical accounts impacting the underlying process.

First, given the consistent pattern of effects across both studies, we deem the option of a null finding—due to experimental manipulations not having worked—unlikely. Second, the self-report items may not have successfully measured the intended constructs: The proposed mechanisms such as sunk-cost perceptions or loss aversion could—just like other cognitive biases in psychology—not be consciously accessible (Greenwald & Banaji, 1995); instead, they might only be discussed phenomenologically. In line with this notion, hardly any research to date has explicitly *measured* these mechanisms (Gal, 2006; Gal & Rucker, 2018). Rather, the unconscious biases are regarded either as objective end products (e.g., as irrational decisions that could be traced back to inaccessible and prior perceptual, procedural, or attentional shortcomings; Sokol-Hessner et al., 2009) or as an individual propensity (e.g., individual differences in susceptibility to loss aversion; Cabedo-Peris et al., 2024). This creates a particular challenge for research that seeks to examine the underlying process with explicit measures. More indirect or implicit measures might be needed to fill this gap in future research (see Nosek et al., 2011, for a similar reasoning); the behavioral measures in this registered report—although more cleanly operationalized—could be considered as a starting point for this future research avenue.

Third, alternative mechanisms that we did not assess here could be at play and account for the observed effects. For instance, an individual's need for consistency (Festinger, 1954; Lecky, 1945) and self-perception theory (Bem, 1967, 1972; see also Goldstein & Cialdini, 2007) offer plausible explanations: Past behaviors (i.e., larger prior concessions) could be reflected in later behavioral patterns for reasons of consistency (i.e., large future concessions). Also, prior concessions could influence later concessions primarily because negotiators anchor themselves (Kristensen & Gärling, 1997; Schaerer et al., 2016). While the results pattern in Study 2 suggests this (i.e., larger concessions were followed by equally large concessions in either direction; see Figure 4), Study 1 provides similar indications of this mechanism. For instance, when only investigating last counteroffers that were outside the ZOPA (i.e., below their prior offer of $1,900), this 'undercutting' was more severe in the large compared to the small prior concession condition. Hence, the larger the prior concessions, the larger the 'undercutting' tendency in the loss-averse direction. This could point to anchoring or reference point effects of prior concessions influencing later concessions (Schaerer et al., 2016, 2020).

**Theoretical Implications**

What does this combination of main effects, exploratory in-depth findings, and inconclusive result pattern for the underlying mechanisms mean for the related theorizing? Overall, the experimental results do not provide definitive evidence for one of the three postulated accounts of theorizing. In the light of our preregistered analyses, the distributive Study 1 suggests loss aversion, while the integrative Study 2 indicates a null finding in line with rational decision making. Closer inspection of the data reveals a bimodal reaction patterns by negotiating participants: This pattern suggests that *both* loss aversion and sunk cost may be at play. We wish to highlight two noteworthy results: (1) the stronger loss-aversion effect on negotiation behavior and (2) the differential effects between negotiators within vs. outside the ZOPA. First, markedly fewer participants in Study 1 (and Study 2) experienced loss aversion. Overall, however, this loss aversion likely led participants to refrain from accepting the sellers' offer and from conceding more; instead, they rescinded their own last offer and countered markedly more assertively. The comparably few participants (7%) were sufficiently loss-averse to evoke an overall result pattern in line with the loss-aversion account. In all, loss aversion is likely a key driver of assertive negotiation behavior and impasses in distributive and potentially also integrative negotiations (see Petrowsky et al., 2025; Schweinsberg et al., 2022). Future research should examine why the ratio of participants who opted to rescind their offer in a distributive task (7%) was much lower than in the integrative setting (≈40%). To speculate, it seems plausible that rescinding one's offer is a stronger violation in a distributive, single-issue negotiation—that is, reversing one's offer (a single number, i.e., $,1900) might be a stronger subjective norm violation than across three negotiation issues changing the price so that, overall, there is less value to the counterpart than the previous offer.

Second, we wish to emphasize again that both in simple distributive but also in more complex integrative settings, higher prior concessions differentially influenced future behavior. Whereas those negotiators who decided to stay within the ZOPA seemed to fall prey to the sunk-cost fallacy, negotiators who stepped back from their prior offers, acted even more assertively to avoid incurring further losses. As mentioned above, interpersonal differences could account for these different behavioral patterns: individuals' social value orientation (De Dreu & Van Lange, 1995), power motivation (Anderson & Thompson, 2004), prior negotiation experience

(Loewenstein & Thompson, 2006), or their dark triad (Crossley et al., 2016; see Escher et al., 2025, for a review) could determine why individuals tend to react psychologically very differently to the identical manipulation (having made concessions in a multi-round negotiation).

**Conclusion**

The present research examined (1) the intrapersonal effects of negotiators' prior concessions on their future negotiation behavior along with (2) the underlying psychological mechanisms (3) in a distributive (Study 1) vs. an integrative negotiation setting (Study 2). A literature review had identified three potential drivers of effects: loss aversion, sunk costs, and rationality. Based on the results of three experiments, we find diverging results that partly support each of the three perspectives. Our preregistered analyses point to the loss-aversion perspective in the distributive Study 1 and to a null-finding in line with the rationality perspective in the integrative Study 2. Exploratory in-depth analyses, however, paint a more nuanced picture and cautiously suggest a different pattern: Negotiators who decided to stay within the ZOPA seemed to fall prey to sunk-cost errors, whereas negotiators who opted to rescind their prior offers, seemed to act particularly assertive to prevent further losses. Our findings hopefully pave the way for future research to illuminate the role of concession patterns in negotiations, the intrapersonal mechanisms behind concession effects, and, most importantly, the reason why some negotiators appear to react loss-averse while others show behavioral reactions in line with the sunk-cost phenomenon.

## References

Anderson, C., & Thompson, L. L. (2004). Affect from the top down: How powerful individuals' positive affect shapes negotiations. *Organizational Behavior and Human Decision Processes, 95*(2), 125–139. https://doi.org/10.1016/j.obhdp.2004.05.002

Arkes, H. R., & Blumer, C. (1985). The psychology of sunk cost. *Organizational Behavior and Human Decision Processes, 35*(1), 124–140. https://doi.org/10.1016/0749-5978(85)90049-4

Arkes, H. R., & Ayton, P. (1999). The sunk cost and concorde effects: Are humans less rational than lower animals? *Psychological Bulletin, 125*(5), 591–600. https://doi.org/10.1037/0033-2909.125.5.591

Arkes, H. R., & Hutzel, L. (2000). The role of probability of success estimates in the sunk cost effect. *Journal of Behavioral Decision Making, 13*(3), 295–306. https://doi.org/bhsnmw

Astebro, T. B., Jeffrey, S. A., & Adomdza, G. K. (2007). Inventor perseverance after being told to quit: The role of cognitive biases. *Journal of Behavioral Decision Making, 20*(3), 253–272. https://doi.org/10.1002/bdm.554

Azmi, A. C., & Voon, Y. H. (2016). The effect of clients' auditing experience and concession-timing strategies on auditor-client negotiations. *Group Decision and Negotiation, 25*(5), 1049–1069. https://doi.org/10.1007/s10726-016-9474-x

Babcock, L., & Loewenstein, G. (1997). Explaining bargaining impasse: The role of self-serving biases. *Journal of Economic Perspectives, 11*(1), 109–126. https://doi.org/10.1257/jep.11.1.109

Bazerman, M. H., & Samuelson, W. (1983). I won the auction but don't want the prize. *Journal of Conflict Resolution, 27*(4), 618–634. https://doi.org/10.1177/0022002783027004003

Bem, D. J. (1967). Self-perception: An alternative interpretation of cognitive dissonance phenomena. *Psychological Review, 74*(3), 183–200. https://doi.org/10.1037/h0024835

Bem, D. J. (1972). Self-perception theory. *Advances in Experimental Social Psychology, 6*, 1–62. https://doi.org/10.1016/S0065-2601(08)60024-6

Benton, A. A., Kelley, H. H., & Liebling, B. A. (1972). Effects of extremity of offers and concession rate on the outcomes of bargaining. *Journal of Personality and Social Psychology, 24*(1), 73–83. https://doi.org/10.1037/h0033368

Boudon, R. (2003). Beyond rational choice theory. *Annual Review of Sociology, 29*(1), 1–21. https://doi.org/10.1146/annurev.soc.29.010202.100213

Brett, J. M., & Thompson, L. (2016). Negotiation. *Organizational Behavior and Human Decision Processes, 136*, 68–79. https://doi.org/10.1016/j.obhdp.2016.06.003

Brockner, J. (1992). The escalation of commitment to a failing course of action: Toward theoretical progress. *Academy of Management Review, 17*(1), 39–61. https://doi.org/10.5465/amr.1992.4279568

Brown, A. L., Imai, T., Vieider, F. M., & Camerer, C. F. (2024). Meta-analysis of empirical estimates of loss aversion. *Journal of Economic Literature, 62*(2), 485–516. https://doi.org/10.1257/jel.20221698

Cabedo-Peris, J., Merino-Soto, C., Chans, G. M., & Martí-Vilar, M. (2024). Exploring the loss aversion scale's psychometric properties in Spain. *Scientific Reports, 14*, 15756. https://doi.org/10.1038/s41598-024-66695-6

Camerer, C., & Loewenstein, G. (2004). Behavioral economics: Past, present, future. In C. Camerer, G. Loewenstein, & M. Rabin (Ed.), *Advances in Behavioral Economics* (pp. 3–52). Princeton University Press. https://doi.org/10.1515/9781400829118-004

Caputo, A. (2013). A literature review of cognitive biases in negotiation processes. *International Journal of Conflict Management, 24*(4), 374–398. https://doi.org/10.1108/ijcma-08-2012-0064

Carmon, Z., & Ariely, D. (2000). Focusing on the forgone: How value can appear so different to buyers and sellers. *Journal of Consumer Research, 27*(3), 360–370. https://doi.org/10.1086/317590

Chertkoff, J. M., & Conley, M. (1967). Opening offer and frequency of concession as bargaining strategies. *Journal of Personality and Social Psychology, 7*(2, Pt. 1), 181–185. https://doi.org/10.1037/h0024997

Coleman, J. S. (1990). Commentary: Social institutions and social theory. *American Sociological Review, 55*(3), 333–339. https://doi.org/10.2307/2095759

Craver, C. B. (2010). The inherent tension between value creation and value claiming during bargaining interactions. *Cardozo Journal of Conflict Resolution, 12*(1), 1–18.

Curhan, J. R., Elfenbein, H. A., & Eisenkraft, N. (2010). The objective value of subjective value: A multi-round negotiation study. *Journal of Applied Social Psychology, 40*(3), 690–709. https://doi.org/10.1111/j.1559-1816.2010.00593.x

Davis, D. D., & Holt, C. A. (1993). Experimental economics: Methods, problems, and promise. *Estudios Económicos, 8*(2), 179–212. https://doi.org/10.24201/ee.v8i2.288

De Dreu, C. K. W., Carnevale, P. J. D., Emans, B. J. M., & van de Vliert, E. (1994). Effects of gain-loss frames in negotiation: Loss aversion, mismatching, and frame adoption. *Organizational Behavior and Human Decision Processes, 60*(1), 90–107. https://doi.org/10.1006/obhd.1994.1076

De Dreu, C. K. W., & Van Lange, P. A. M. (1995). The impact of social value orientations on negotiator cognition and behavior. *Personality and Social Psychology Bulletin, 21*(11), 1178–1188. https://doi.org/10.1177/01461672952111006

De Houwer, J. (2011). Why the cognitive approach in psychology would profit from a functional approach and vice versa. *Perspectives on Psychological Science, 6*(2), 202–209. https://doi.org/10.1177/1745691611400238

De Martino, B., Kumaran, D., Seymour, B., & Dolan, R. J. (2006). Frames, biases, and rational decision-making in the human brain. *Science, 313*(5787), 684–687. https://doi.org/10.1126/science.1128356

Diekmann, K. A., Tenbrunsel, A. E., Shah, P. P., Schroth, H. A., & Bazerman, M. H. (1996). The descriptive and prescriptive use of previous purchase price in negotiations. *Organizational Behavior and Human Decision Processes, 66*(2), 179–191. https://doi.org/10.1006/obhd.1996.0047

Douglas, B. D., Ewell, P. J., & Brauer, M. (2023). Data quality in online human-subjects research: Comparisons between MTurk, Prolific, CloudResearch, Qualtrics, and SONA. *PloS One, 18*(3), e0279720. https://doi.org/10.1371/journal.pone.0279720

Escher, Y. A., Petrowsky, H. M., Curhan, J. R., Lee, A. J., Stoeckli, P. L., Elfenbein, H. A., & Loschelder, D. D. (2025). *The negotiator personality: Expert predictions vs. data-driven insights from higher-order latent modeling* [Manuscript submitted for publication]. Leuphana University Lüneburg, Germany.

Esser, J. K., & Komorita, S. S. (1975). Reciprocity and concession making in bargaining. *Journal of Personality and Social Psychology, 31*(5), 864–872. https://doi.org/10.1037/h0076692

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175–191. https://doi.org/10.3758/bf03193146

Fehr, E., & Schmidt, K. M. (2006). The economics of fairness, reciprocity and altruism – Experimental evidence and new theories. *Handbook of the Economics of Giving, Altruism and Reciprocity, 1*, 615–691. https://doi.org/10.1016/S1574-0714(06)01008-6

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*, 117–140. https://doi.org/10.1177/001872675400700202

Fiedler, S., Glöckner, A., Nicklisch, A., & Dickert, S. (2013). Social value orientation and information search in social dilemmas: An eye-tracking analysis. *Organizational Behavior and Human Decision Processes, 120*(2), 272–284. https://doi.org/10.1016/j.obhdp.2012.07.002

Fiedler, S., & Hillenbrand, A. (2020). Gain-loss framing in interdependent choice. *Games and Economic Behavior, 121*, 232–251. https://doi.org/10.1016/j.geb.2020.02.008

Fisher, A. C. (1981). *Resource and environmental economics*. Cambridge University Press.

Fisher, R., Ury, W. L., & Patton, B. (1991). *Getting to yes: Negotiating agreement without giving in* (2nd ed.). Penguin.

Froman, L. A., & Cohen, M.D. (1970). Compromise and logroll: Comparing the efficiency of two bargaining processes. *Behavioral Science, 15*, 180–183. https://doi.org/10.1002/bs.3830150209

Gal, D. (2006). A psychological law of inertia and the illusion of loss aversion. *Judgment and Decision Making, 1*(1), 23–32. https://doi.org/10.1017/S1930297500000322

Gal, D., & Rucker, D. D. (2018). The loss of loss aversion: Will it loom larger than its gain? *Journal of Consumer Psychology, 28*(3), 497–516. https://doi.org/10.1002/jcpy.1047

Galinsky, A. D., & Mussweiler, T. (2001). First offers as anchors: The role of perspective-taking and negotiator focus. *Journal of Personality and Social Psychology, 81*(4), 657–669. https://doi.org/10.1037/0022-3514.81.4.657

Galinsky, A. D., Ku, G., & Mussweiler, T. (2009). To start low or to start high? The case of auctions versus negotiations. *Current Directions in Psychological Science, 18*(6), 357–361. https://doi.org/10.1111/j.1467-8721.2009.01667.x

Garland, H. (1990). Throwing good money after bad: The effect of sunk costs on the decision to escalate commitment to an ongoing project. *Journal of Applied Psychology, 75*(6), 728–731. https://doi.org/10.1037/0021-9010.75.6.728

Garland, H., & Newport, S. (1991). Effects of absolute and relative sunk costs on the decision to persist with a course of action. *Organizational Behavior and Human Decision Processes, 48*(1), 55–69. https://doi.org/10.1016/0749-5978(91)90005-E

Gächter, S., Johnson, E. J., & Herrmann, A. (2022). Individual-level loss aversion in riskless and risky choices. *Theory and Decision, 92*, 599–624. https://doi.org/10.1007/s11238-021-09839-8

Giacomantonio, M., De Dreu, C. K. W., & Mannetti, L. (2010). Now you see it, now you don't: Interests, issues, and psychological distance in integrative negotiation. *Journal of Personality and Social Psychology, 98*(5), 761–774. https://doi.org/10.1037/a0017879

Goldstein, N. J., & Cialdini, R. B. (2007). The spyglass self: A model of vicarious self-perception. *Journal of Personality and Social Psychology, 92*(3), 402–417. https://doi.org/10.1037/0022-3514.92.3.402

Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review, 25*(2), 161–178. https://doi.org/10.2307/2092623

Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review, 102*(1), 4–27. https://doi.org/10.1037/0033-295X.102.1.4

Guler, I. (2007). Throwing good money after bad? Political and institutional influences on sequential decision making in the venture capital industry. *Administrative Science Quarterly, 52*(2), 248–285. https://doi.org/10.2189/asqu.52.2.248

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.

Heath, C. (1995). Escalation and de-escalation of commitment in response to sunk costs: The role of budgeting in mental accounting. *Organizational Behavior and Human Decision Processes, 62*(1), 38–54. https://doi.org/10.1006/obhd.1995.1029

Hoffrage, U., Lindsey, S., Hertwig, R., & Gigerenzer, G. (2000). Communicating statistical information. *Science, 290*(5500), 2261–2262. https://doi.org/10.1126/science.290.5500.2261

Hüffmeier, J., Freund, P. A., Zerres, A., Backhaus, K., & Hertel, G. (2011). Being tough or being nice? A meta-analysis on the impact of hard- and softline strategies in distributive negotiations. *Journal of Management, 40*(3), 866–892. https://doi.org/10.1177/0149206311423788

Jäger, A., Loschelder, D. D., & Friese, M. (2015). How self-regulation helps to master negotiation challenges: An overview, integration, and outlook. *European Review of Social Psychology, 26*(1), 203–246. https://doi.org/10.1080/10463283.2015.1112640

Johnson, E. J., Häubl, G., & Keinan, A. (2007). Aspects of endowment: A query theory of value construction. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 33*(3), 461–474. https://doi.org/10.1037/0278-7393.33.3.461

Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*(2), 263–292. https://doi.org/10.2307/1914185

Keefer, Q. A. W. (2015). Performance feedback does not eliminate the sunk-cost fallacy: Evidence from professional football. *Journal of Labor Research, 36*(4), 409–426. https://doi.org/10.1007/s12122-015-9215-y

Kermer, D. A., Driver-Linn, E., Wilson, T. D., & Gilbert, D. T. (2006). Loss aversion is an affective forecasting error. *Psychological Science, 17*(8), 649–653. https://doi.org/10.1111/j.1467-9280.2006.01760.x

Koffka, K. (1935). *Principles of Gestalt psychology*. Routledge.

Komorita, S. S., & Brenner, A. R. (1968). Bargaining and concession making under bilateral monopoly. *Journal of Personality and Social Psychology, 9*(1), 15–20. https://doi.org/10.1037/h0025700

Komorita, S. S., & Esser, J. K. (1975). Frequency of reciprocated concessions in bargaining. *Journal of Personality and Social Psychology, 32*(4), 699–705. https://doi.org/10.1037/0022-3514.32.4.699

Ku, G., Malhotra, D., & Murnighan, J. K. (2005). Towards a competitive arousal model of decision-making: A study of auction fever in live and Internet auctions. *Organizational Behavior and Human Decision Processes, 96*(2), 89–103. https://doi.org/10.1016/j.obhdp.2004.10.001

Kriss, P. H., Loewenstein, G., Wang, X., & Weber, R. A. (2011). Behind the veil of ignorance: Self-serving bias in climate change negotiations. *Judgment and Decision Making, 6*(7), 602–615. https://doi.org/10.1017/s1930297500002643

Kwon, S., & Weingart, L. R. (2004). Unilateral concessions from the other party: Concession behavior, attributions, and negotiation judgments. *Journal of Applied Psychology, 89*(2), 263–278. https://doi.org/10.1037/0021-9010.89.2.263

Lax, D. A., & Sebenius, J. K. (1986). Interests: The measure of negotiation. *Negotiation Journal, 2*(1), 73–92. https://doi.org/10.1007/bf00998936

Lecky, P. (1945). *Self-consistency; a theory of personality*. Island Press.

Lee, M. D., & Wagenmakers, E.-J. (2013). *Bayesian cognitive modeling: A practical course*. Cambridge University Press. https://doi.org/10.1017/CBO9781139087759

Leib, M., Pittarello, A., Gordon-Hecker, T., Shalvi, S., & Roskes, M. (2019). Loss framing increases self-serving mistakes (but does not alter attention). *Journal of Experimental Social Psychology, 85*, Article 103880. https://doi.org/10.1016/j.jesp.2019.103880

Leliveld, M. C., van Beest, I., van Dijk, E., & Tenbrunsel, A. E. (2009). Understanding the influence of outcome valence in bargaining: A study on fairness accessibility, norms, and behavior. *Journal of Experimental Social Psychology, 45*(3), 505–514. https://doi.org/10.1016/j.jesp.2009.02.006

Liu, W., Liu, L. A., & Zhang, J. (2016). How to dissolve fixed-pie bias in negotiation? Social antecedents and the mediating effect of mental-model adjustment. *Journal of Organizational Behavior, 37*(1), 85–107. https://doi.org/10.1002/job.2025

Loewenstein, J., & Thompson, L. L. (2006). Learning to negotiate: Novice and experienced negotiators. In L. L. Thompson (Ed.), *Negotiation theory and research* (pp. 77–97). Psychosocial Press.

Loschelder, D. D., Friese, M., Schaerer, M., & Galinsky, A. D. (2016a). The too-much-precision effect. *Psychological Science, 27*(12), 1573–1587. https://doi.org/10.1177/0956797616666074

Loschelder, D. D., Stuppi, J., & Trötschel, R. (2014). "€14,875?!": Precision boosts the anchoring potency of first offers. *Social Psychological and Personality Science, 5*(4), 491–499. https://doi.org/10.1177/1948550613499942

Loschelder, D. D., Trötschel, R., Swaab, R. I., Friese, M., & Galinsky, A. D. (2016b). The information-anchoring model of first offers: When moving first helps versus hurts negotiators. *Journal of Applied Psychology, 101*(7), 995–1012. https://doi.org/10.1037/apl0000096

Majer, J. M., Zhang, K., Zhang, H., Höhne, B. P., & Trötschel, R. (2020). Give and take frames in shared-resource negotiations. *Journal of Economic Psychology, 90*, 102492. https://doi.org/10.1016/j.joep.2022.102492

Máñez, J. A., Rochina-Barrachina, M. E., Sanchis, A., & Sanchis, J. A. (2009). The role of sunk costs in the decision to invest in R&D. *The Journal of Industrial Economics, 57*(4), 712–735. https://doi.org/10.1111/j.1467-6451.2009.00398.x

Maxwell, S., Nye, P., & Maxwell, N. (2003). The wrath of the fairness-primed negotiator when the reciprocity norm is violated. *Journal of Business Research, 56*(5), 399–409. https://doi.org/10.1016/s0148-2963(01)00262-4

Mertes, M., Kunz, D., & Hüffmeier, J. (2023). A deep dive into distributive concession making and the likelihood of impasses in negotiations. *Collabra, 9*(1). https://doi.org/10.1525/collabra.88929

Moon, H. (2001). The two faces of conscientiousness: duty and achievement striving in escalation of commitment dilemmas. *Journal of Applied Psychology, 86*(3), 533–540. https://doi.org/10.1037/0021-9010.86.3.535

Murphy, R. O., & Ackermann, K. A. (2014). Social value orientation: Theoretical and measurement issues in the study of social preferences. *Personality and Social Psychology Review, 18*(1), 13–41. https://doi.org/10.1177/1088868313501745

Navarro, A. D., & Fantino, E. (2009). The sunk-time effect: An exploration. *Journal of Behavioral Decision Making, 22*(3), 252–270. https://doi.org/10.1002/bdm.624

Neale, M. A., & Bazerman, M. H. (1985). The effects of framing and negotiator overconfidence on bargaining behaviors and outcomes. *Academy of Management Journal, 28*(1), 34–49. https://doi.org/10.2307/256060

Negrini, M., Riedl, A., & Wibral, M. (2022). Sunk cost in investment decisions. *Journal of Economic Behavior & Organization, 200*, 1105–1135. https://doi.org/10.1016/j.jebo.2022.06.028

Nemeth, C. J., & Kwan, J. L. (1987). Minority influence, divergent thinking and detection of correct solutions. *Journal of Applied Social Psychology, 17*(9), 788–799. https://doi.org/10.1111/j.1559-1816.1987.tb00339.x

Neumann, N., & Böckenholt, U. (2014). A meta-analysis of loss aversion in product choice. *Journal of Retailing, 90*(2), 182–197. https://doi.org/10.1016/j.jretai.2014.02.002

Neumann, T., Kierspel, S., Windrich, I., Berger, R., & Vogt, B. (2018). How to split gains and losses? Experimental evidence of dictator and ultimatum games. *Games, 9*(4), 1–19. https://doi.org/10.3390/g9040078

Nosek, B. A., Hawkins, C. B., & Frazier, R. S. (2011). Implicit social cognition: From measures to mechanisms. *Trends in Cognitive Sciences, 15*(4), 152–159. https://doi.org/10.1016/j.tics.2011.01.005

O'Connor, K. M., & Adams, A. A. (1999). What novices think about negotiation: A content analysis of scripts. *Negotiation Journal, 15*(2), 135–147. https://doi.org/10.1111/j.1571-9979.1999.tb00187.x

Olivola, C. Y. (2018). The interpersonal sunk-cost effect. *Psychological Science, 29*(7), 1072–1083. https://doi.org/10.1177/0956797617752641

Peer, E., Rothschild, D., Gordon, A., Evernden, Z., & Damer, E. (2022). Data quality of platforms and panels for online behavioral research. *Behavior Research Methods, 54*(4), 1643–1662. https://doi.org/10.3758/s13428-021-01694-3

Petrowsky, H. M., Boecker, L., Escher, Y. A., Henjes, M.-L., Friese, M., Galinsky, A. D., Gunia, B., Lee, A. J., Schaerer, M., Schweinsberg, M., Soliman, M., Swaab, R., Troll, E. S., Weber, M., & Loschelder, D. D. (2025). *The power and peril of first offers in negotiations: A conceptual, meta-analytic, and experimental synthesis.* [Manuscript submitted for publication]. Leuphana University Lüneburg, Germany.

Petrowsky, H. M., Schweinsberg, M., Seitz, L., Funk, B., & Loschelder, D. D. (2023). Deal or no deal? How round vs precise percentage offers and price-ending mimicry affect impasse risk in over 25 million eBay negotiations. *Journal of Economic Psychology, 94*, 102584. https://doi.org/10.1016/j.joep.2022.102584

Poppe, M., & Valkenberg, H. (2003). Effects of gain versus loss and certain versus probable outcomes on social value orientations. *European Journal of Social Psychology, 33*(3), 331–337. https://doi.org/10.1002/ejsp.149

Pruitt, D. G., & Drews, J. L. (1969). The effect of time pressure, time elapsed, and the opponent's concession rate on behavior in negotiation. *Journal of Experimental Social Psychology, 5*(1), 43–60. https://doi.org/10.1016/0022-1031(69)90005-5

Pruitt, D. G., & Lewis, S. A. (1975). Development of integrative solutions in bilateral negotiation. *Journal of Personality and Social Psychology, 31*(4), 621–633. https://doi.org/10.1037/0022-3514.31.4.621

Pruitt, D. G., & Syna, H. (1985). Mismatching the opponent's offers in negotiation. *Journal of Experimental Social Psychology, 21(*2), 103–113. https://doi.org/10.1016/0022-1031(85)90009-5

Quick, B. L., Kam, J. A., Morgan, S. E., Liberona, C. A. M., & Smith, R. A. (2015). Prospect theory, discrete emotions, and freedom threats: An extension of psychological reactance theory. *Journal of Communication, 65*(1), 40–61. https://doi.org/10.1111/jcom.12134

Rabin, M. (2000). Risk aversion and expected-utility theory: A calibration theorem. *Econometrica, 68*(5), 1281–1292. https://doi.org/10.1111/1468-0262.00158

Raiffa, H. (2007). *Negotiation analysis: The science and art of collaborative decision making*. Harvard University Press.

Reinders Folmer, C. P., & De Cremer, D. (2012). Bad for me or bad for us? Interpersonal orientations and the impact o losses on unethical behavior. *Personality and Social Psychology Bulletin, 38*(6), 760-771. https://doi.org/10.1177/0146167211436252

Roth, S., Robbert, T., & Straus, L. (2015). On the sunk-cost effect in economic decision-making: A meta-analytic review. *Business Research, 8*(1), 99–138. https://doi.org/10.1007/s40685-014-0014-8

Rubin, J. Z., & Brockner, J. (1975). Factors affecting entrapment in waiting situations: The Rosencrantz and Guildenstern effect. *Journal of Personality and Social Psychology, 31*(6), 1054–1063. https://doi.org/10.1037/h0076937

Schaerer, M., Loschelder, D. D., & Swaab, R. I. (2016). Bargaining zone distortion in negotiations: The elusive power of multiple alternatives. *Organizational Behavior and Human Decision Processes, 137*, 156–171. https://doi.org/10.1016/j.obhdp.2016.09.001

Schaerer, M., Schweinsberg, M., Thornley, N., & Swaab, R. I. (2020). Win-win in distributive negotiations: The economic and relational benefits of strategic offer framing. *Journal of Experimental Social Psychology, 87*, Article 103943. https://doi.org/10.1016/j.jesp.2019.10394

Schindler, S., & Pfattheicher, S. (2017). The frame of the game: Loss-framing increases dishonest behavior. *Journal of Experimental Social Psychology, 69*, 172–177. https://doi.org/10.1016/j.jesp.2016.09.009

Schweinsberg, M., Ku, G., Wang, C. S., & Pillutla, M. M. (2012). Starting high and ending with nothing: The role of anchors and power in negotiations. *Journal of Experimental Social Psychology, 48*(1), 226–231. https://doi.org/10.1016/j.jesp.2011.07.005

Schweinsberg, M., Petrowsky, H. M., Funk, B., & Loschelder, D. D. (2023a). Understanding the first-offer conundrum: How buyer offers impact sale price and impasse risk in 26 million eBay negotiations. *Proceedings of the National Academy of Sciences, 120*(32), https://doi.org/10.1073/pnas.2218582120

Schweinsberg, M., Thau, S., & Pillutla, M. M. (2022). Negotiation impasses: Types, causes, and resolutions. *Journal of Management, 48*(1), 49–76. https://doi.org/10.1177/01492063211021657

Schweinsberg, M., Thau, S., & Pillutla, M. (2023b). Research-problem validity in primary research: Precision and transparency in characterizing past knowledge. *Perspectives on Psychological Science, 18*(5), 1230–1243. https://doi.org/10.1177/17456916221144990

Seibert, S. E., & Goltz, S. M. (2001). Comparison of allocations by individuals and interacting groups in an escalation of commitment situation. *Journal of Applied Social Psychology, 31*(1), 134–156. https://doi.org/10.1111/j.1559-1816.2001.tb02486.x

Sleesman, D. J., Conlon, D. E., McNamara, G., & Miles, J. E. (2012). Cleaning up the big muddy: A meta-analytic review of the determinants of escalation of commitment. *Academy of Management Journal, 55*(3), 541–562. https://doi.org/10.5465/amj.2010.0696

Smith, V. L. (1962). An experimental study of competitive market behavior. *Journal of Political Economy, 70*(2), 111–137. https://doi.org/10.1086/258609

Sokol-Hessner, P., Hsu, M., Curley, N. G., Delgado, M. R., Camerer, C. F., & Phelps, E. A. (2009). Thinking like a trader selectively reduces individuals' loss aversion. *Proceedings of the National Academy of Sciences, 106*(13), 5035–5040. https://doi.org/10.1073/pnas.0806761106

Sondak, H., Neale, M. A., & Pinkley, R. (1995). The negotiated allocation of benefits and burdens: The impact of outcome valence, contribution, and relationship. *Organizational Behavior and Human Decision Processes, 64*(3), 249–260. https://doi.org/10.1006/obhd.1995.1103

Soman, D., & Cheema, A. (2001). The effect of windfall gains on the sunk-cost effect. *Marketing Letters, 12*(1), 51–62. https://doi.org/10.1023/a:1008120003813

Stanovich, K. E., & West, R. F. (2000). Advancing the rationality debate. *Behavioral and Brain Sciences, 23*(5), 701–717. https://doi.org/10.1017/s0140525x00623439

Staw, B. M. (1976). Knee-deep in the big muddy: A study of escalating commitment to a chosen course of action. *Organizational Behavior & Human Performance, 16*(1), 27–44. https://doi.org/10.1016/0030-5073(76)90005-2

Staw, B. M., & Hoang, H. (1995). Sunk costs in the NBA: Why draft order affects playing time and survival in professional basketball. *Administrative Science Quarterly, 40*(3), 474–494. https://doi.org/10.2307/2393794

Staw, B. M., & Ross, J. (1987). Behavior in escalation situations: Antecedents, prototypes, and solutions. *Research in Organizational Behavior, 9*, 39–78.

Strough, J., Mehta, C. M., McFall, J. P., & Schuller, K. L. (2008). Are older adults less subject to the sunk-cost fallacy than younger adults? *Psychological Science, 19*(7), 650–652. https://doi.org/10.1111/j.1467-9280.2008.02138.x

Svenson, O., & Benson, L. III. (1993). Framing and time pressure in decision making. In O. Svenson & A. J. Maule (Eds.), *Time pressure and stress in human judgment and decision making* (pp. 133–144). Plenum Press. https://doi.org/10.1007/978-1-4757-6846-6_9

Teger, A. I. (1980). *Too much invested to quit*. Pergamon General Psychology Series.

Tey, K. S., Schaerer, M., Madan, N., & Swaab, R. I. (2021). The impact of concession patterns on negotiations: When and why decreasing concessions lead to a distributive disadvantage. *Organizational Behavior and Human Decision Processes, 165*, 153–166. https://doi.org/10.1016/j.obhdp.2021.05.003

Thaler, R. (1985). Mental accounting and consumer choice. *Marketing Science, 4*(3), 199–214. https://doi.org/10.1287/mksc.4.3.199

Thaler, R. H. (1980). Toward a positive theory of consumer choice. *Journal of Economic Behavior and Organization, 1*(1), 39–60. https://doi.org/10.1016/0167-2681(80)90051-7

Thompson, L. L. (2006). Negotiation: Overview of theory and research. In L. L. Thompson (Ed.), *Negotiation theory and research* (pp. 1–6). Psychology Press. https://doi.org/10.4324/9780203943243

Thompson, L., & Hastie, R. (1990). Social perception in negotiation. *Organizational Behavior and Human Decision Processes, 47*(1), 98–123. https://doi.org/10.1016/0749-5978(90)90048-e

Trötschel, R., Bündgens, S., Hüffmeier, J., & Loschelder, D. D. (2013). Promoting prevention success at the bargaining table: Regulatory focus in distributive negotiations. *Journal of Economic Psychology, 38*, 26–39. https://doi.org/10.1016/j.joep.2012.03.006

Trötschel, R., Loschelder, D. D., Höhne, B., & Majer, J. M. (2015). Procedural frames in negotiations: How offering my resources versus requesting yours impacts perception, behavior, and outcomes. *Journal of Personality and Social Psychology, 108*(3), 417–435. https://doi.org/10.1037/pspi0000009

Tsay, C., & Bazerman, M. H. (2009). A decision-making perspective to negotiation: A review of the past and a look to the future. *Negotiation Journal, 25*(4), 467–480. https://doi.org/10.1111/j.1571-9979.2009.00239.x

Turnbull, A. A., Strickland, L., & Shaver, K. G. (1976). Medium of communication, differential power, and phasing of concessions: Negotiating success and attributions to the opponent.

*Human Communication Research, 2*(3), 262–270. https://doi.org/10.1111/j.1468-2958.1976.tb00485.x

Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science, 185*(4157), 1124–1131. https://doi.org/10.1126/science.185.4157.1124

Tversky, A., & Kahneman, D. (1992). Advances in Prospect Theory: Cumulative representation of uncertainty. *Journal of Risk and Uncertainty, 5*(4), 297–323. https://doi.org/10.1007/bf00122574

Wagenmakers, E.-J., Wetzels, R., Borsboom, D., & van der Maas, H. L. J. (2011). Why psychologists must change the way they analyze their data: The case of psi: Comment on Bem (2011). *Journal of Personality and Social Psychology, 100*(3), 426–432. https://doi.org/10.1037/a0022790

Wall, J. A. (1977). Operantly conditioning a negotiator's concession making. *Journal of Experimental Social Psychology, 13*(5), 431–440. https://doi.org/10.1016/0022-1031(77)90028-2

Weingart, L. R., Hyder, E. B., & Prietula, M. J. (1996). Knowledge matters: The effect of tactical descriptions on negotiation behavior and outcome. *Journal of Personality and Social Psychology, 70*(6), 1205–1217. https://doi.org/10.1037/0022-3514.70.6.1205

Yukl, G. (1974a). Effects of the opponent's initial offer, concession magnitude and concession frequency on bargaining behavior. *Journal of Personality and Social Psychology, 30*(3), 323–335. https://doi.org/10.1037/h0036895

Yukl, G. A. (1974b). Effects of situational variables and opponent concessions on a bargainer's perception, aspirations, and concessions. *Journal of Personality and Social Psychology, 29*(2), 227–236. https://doi.org/10.1037/h0036013

Zartman, W. (1977). Negotiation as a joint decision-making process. *Journal of Conflict Resolution, 21*(4), 619–638. https://doi.org/10.1177/002200277702100405

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**Peter L. Stoeckli** (Ph.D.) is a research associate and co-owner of a consulting firm that specializes in negotiation processes and assessment centers (and in particular in leadership and negotiation skills). In his research, he focuses on value-based negotiations and on how to best capture negotiating competences. As a consultant, he conducts assessment centers for organizations in research and practice and is co-head of the competence center for assessment and development centers of the Swiss Armed Forces.

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## Appendix

**Table S1.** *Item List for Assessment of the Mediators in Study 1 and 2*

| Construct | Item |
|---|---|
| **Loss Aversion** | I feel like I have already lost a lot of money in this negotiation. |
| | Given my prior concessions, it hurt me to make more concessions with my final offer. |
| | Accepting the seller's final offer of $2,100 would have felt like a monetary loss for me. (adapted for Study 2) |
| **Justification of Prior Investments** | Given my prior investments, I really wanted to reach a deal. |
| | Given my prior investments, conceding a bit more with my last offer was easy for me. |
| | In light of my prior investments, it was important to me to bring this negotiation to a good end. |
| **Product Appreciation** | I really valued the product offered by the seller. (adapted for Study 2) |
| | Given my prior investments, I truly appreciate this product's quality. (adapted for Study 2) |

| | |
|---|---|
| | I feel like this negotiation was worth it (in terms of time, effort, and money). |
| **Rational Decision-Making** | I feel that my prior concessions in the negotiation process did *not* affect my final offer and willingness-to-accept. (adapted for Study 2) |
| | My final offer and willingness-to-accept were driven by my goal and my limit in this negotiation. (adapted for Study 2) |
| | My final offer and willingness-to-accept was *not* affected by my prior concessions. (adapted for Study 2) |

**Table S2.** *Negotiation Issues Including Options with Individual Points for Buyer and Seller*

| Transfer fee | | | | | Coffee beans | | | | | Furniture | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Price | Buyer | Seller | LC | SC | Price | Buyer | Seller | LC | SC | Price | Buyer | Seller | LC | SC |
| A | 6,000 | 0 | | | A | 5,000 | 0 | | | A | 2,000 | 0 | | |
| B | 5,700 | 300 | Offer 1 | | B | 4,750 | 100 | Offer 1 | | B | 1,900 | 250 | | |
| C | 5,400 | 600 | | | C | 4,500 | 200 | | | C | 1,800 | 500 | Offer 1 | |
| D | 5,100 | 900 | | | D | 4,250 | 300 | | | D | 1,700 | 750 | | |
| E | 4,800 | 1,200 | | | E | 4,000 | 400 | | | E | 1,600 | 1,000 | | |
| F | 4,500 | 1,500 | Offer 2 | Offer 1 | F | 3,750 | 500 | | | F | 1,500 | 1,250 | | |
| G | 4,200 | 1,800 | | | G | 3,500 | 600 | Offer 2 | Offer 1 | G | 1,400 | 1,500 | | |
| H | 3,900 | 2,100 | | Offer 2 | H | 3,250 | 700 | | Offer 2 | H | 1,300 | 1,750 | Offer 2 | Offer 1 |
| I | 3,600 | 2,400 | Offer 3 | Offer 3 | I | 3,000 | 800 | Offer 3 | Offer 3 | I | 1,200 | 2,000 | | |
| J | 3,300 | 2,700 | | | J | 2,750 | 900 | | | J | 1,100 | 2,250 | | Offer 2 |
| K | 3,000 | 3,000 | | | K | 2,500 | 1,000 | | | K | 1,000 | 2,500 | Offer 3 | Offer 3 |
| L | 2,700 | 3,300 | | | L | 2,250 | 1,100 | | | L | 900 | 2,750 | | |
| M | 2,400 | 3,600 | | | M | 2,000 | 1,200 | | | M | 800 | 3,000 | | |
| N | 2,100 | 3,900 | | | N | 1,750 | 1,300 | | | N | 700 | 3,250 | | |
| O | 1,800 | 4,200 | | | O | 1,500 | 1,400 | | | O | 600 | 3,500 | | |
| P | 1,500 | 4,500 | | | P | 1,250 | 1,500 | | | P | 500 | 3,750 | | |
| Q | 1,200 | 4,800 | | | Q | 1,000 | 1,600 | | | Q | 400 | 4,000 | | |
| R | 900 | 5,100 | | | R | 750 | 1,700 | | | R | 300 | 4,250 | | |
| S | 600 | 5,400 | | | S | 500 | 1,800 | | | S | 200 | 4,500 | | |
| T | 300 | 5,700 | | | T | 250 | 1,900 | | | T | 100 | 4,750 | | |
| U | 0 | 6,000 | | | U | 0 | 2,000 | | | U | 0 | 5,000 | | |

*Note*. LC = large concession condition; SC = small concession condition. Columns LC and SC denote the package offer per round by the participants (i.e., buyer). Shaded cells indicate the package offers in both conditions and over the three negotiation rounds (from light to dark gray). Note that the number of prior concessions and offer value of the last offer (i.e., offer "I–I–K" in dark gray) will be held constant between conditions. Transfer fee constitutes a distributive issue, while coffee beans and furniture allow for integrative tradeoffs (adapted from Pruitt & Lewis, 1975).

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# Resolving Conflict in Interpersonal Relationships using Passive, Aggressive, and Assertive Listening Statements

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## Abstract

Anger, an emotion that can emerge during conflict, directly impacts relationships (Björkqvist, 1997; Winer et al., 2024; Winer et al., 2023). One skill that has the potential to reduce anger in conflict is effective listening—as distinct from *hearing*, understood as a purely physiological, auditory process, because *listening* includes interpretation and feedback, such as spoken responses (Udo, 2023). Yet, minimal research has investigated the influence of listening response statements on relational outcomes. As such, the purpose of this research was to examine how six assertive, passive, and aggressive listening response statements affect relational outcomes. There were 975 university student participants in this mixed-methods study. Researchers utilized repeated measures multivariate analysis of variance to examine which of the six listening response statements produced the highest and lowest relational outcomes, such as a willingness to work together with a class partner after a conflict. The quantitative results indicated that assertive listening response statements led to the best relational outcomes. The qualitative findings also support the use of assertive listening to manage conflict in healthy ways. This research provides unique applications and conclusions for both researchers and practitioners.

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## Introduction

Anger is a complex emotion that is often intensified during discord. While scholars and trainers have long sought to understand the role of anger in interpersonal conflict, there has been a lack of applied research aimed at guiding people in navigating anger to move past conflict and improve relationships (Dunbar et al., 2022). This gap underscores the need for scholars and practitioners to develop research-informed communication strategies for understanding and resolving conflict.

Existing research on communication in relational conflict has often focused on assertive messaging as a key to resolution (e.g., Gambrill & Richey, 1975). This concept of assertiveness, often described as a balance between passive and aggressive interactional postures, has been well-explored (e.g., Hedlund & Lindquist, 1984). Assertive communication is often found to be helpful in conflict because it allows individuals to express their thoughts and feelings openly and honestly while respecting the rights and opinions of others (Winer et al., 2023). This balanced approach helps to mitigate misunderstandings and reduce the escalation of conflict. However, much of the research has emphasized verbal expression and the delivery of messages, with less attention given to the listening component of communication, which is commonly distinguished from the physiological process of hearing, in that listening involves interpretation and usually some form of response (Udo, 2023).

Many studies of effective listening operationalize the concept of 'active listening' (e.g., Udo, 2023), which involves body language and feedback statements meant to convey attention and openness, clarify understanding, and encourage successful interactions. A few concepts, such as empathic or mindful listening, are often modeled as variants of active listening, synthesized with it, or posed as alternatives to it (Drollinger et al., 2006; Gottman, 1999). While these highlight the value of attentiveness and altruism in active, empathic, and mindful listening, the listener may not feel like they can express their viewpoints or maintain self-respect within the conversation.

This study, therefore, proposes the practice of *assertive listening*, which is built upon the foundation of active listening while having a different purpose and focus. Active listening is often used in psychotherapy (Fitzgerald & Leudar, 2010) and is primarily an intrapersonal process. Assertive listening is more effective for conflict resolution and is primarily an interpersonal process. Both are important for anger management, as a listening skill, and at resolving conflict and promoting self-esteem based on feedback from a speaker. The specific differences between the two constructs are clarified within the literature review of this paper.

Assertive listening is a novel, unexplored concept that has yet to be theorized, tested, or applied. It emerged as a category from this paper's reported study, which utilizes a mixed-methods design to test the efficacy of specific listening feedback statements through a survey-based experiment with university students throughout the United States. The project sheds light on different subtypes of passive, aggressive, and assertive listening response statements. By exploring how the different word structures of listening-response statements during conflict may intensify or mitigate anger, express or suppress emotions, resolve or exacerbate conflict, make a person feel listened to or ignored, and improve or impair the relationship, this study has the potential to reframe our understanding and teaching of conflict resolution. Furthermore, this research addresses a specific gap in the empirical literature, with its conception of 'assertive listening' skills, since existing studies on anger resolution have devoted scarce attention to listening and associated feedback, verbal and nonverbal, despite widespread recognition that listening well—as opposed to

merely *hearing* what's said—is crucial to the success of relationships and interactions (Dunbar et al., 2022). This study also examined the effectiveness of listening skills taught in *The Game Changer*, a board game designed to improve conflict resolution and anger management in personal relationships (Winer, in press, 2025). The game helps participants recognize their use of passive or aggressive listening styles and develop assertive listening skills for more constructive communication (Winer, in press, 2025).

## Background of the Study

Listening is widely acknowledged as an essential component of quality communication and conflict resolution in various contexts (Udo, 2023). Existing research has emphasized the benefits of effective listening for interpersonal relationships and trust-building, albeit mostly in general (Kluger & Itzchakov, 2022) and without a focus on 'assertive listening' response phrasing. Its significance in educational settings, particularly among students, warrants specific attention (Khaydarova, 2023), since collaboration is a pivotal part of students' learning experiences (Deiparine et al., 2023), and communication skills like listening and conflict resolution are essential for fostering effective collaboration (Lailiyah et al., 2021). Therefore, understanding and promoting effective listening among students is paramount.

Given the lack of empirical research examining assertive listening, it is valuable to explore this topic, not least as it applies to students. As such, this study examines the different effects that passive, aggressive, and listening responses have on student-team relational outcomes, such as a willingness to work with the same person again, after conflict resolution. Specifically, this study identifies whether assertive listening responses yield better relational outcomes than passive or aggressive responses and categorizes which responses are perceived as passive, aggressive, or assertive.

## Literature Review

### The Importance of Listening

The importance of effective listening cannot be understated; it has the potential to be transformative. Yet, individuals often underestimate the complexities involved in the listening process. The act of listening is more than simply hearing a message; this multi-step process also includes accurately interpreting and appropriately responding to the message, depending on the communication context (Udo, 2023). When practiced effectively, listening may improve individuals' attitudes, values, personal philosophies, trust, intimacy, and well-being (Kluger & Itzchakov, 2022; Weinstein et al., 2021). Moreover, those who feel listened to have been shown to demonstrate increased emotional maturity, be more open to new experiences, and manage conflict more effectively (Weinstein et al., 2021).

### Listening to Anger in Conflict

Effective listening presents a challenge when strong emotions, like anger, hurt, and pain are involved (Chism, 2020). In these instances, parties might struggle with active listening, which involves "(*a*) unobservable behaviors of the listener (e.g., comprehension), which influence (*b*) observable behaviors of the listener (e.g., their statements, gaze, eye contact, posture), which in

turn inform (*c*) perceptions and evaluations of the speaker (e.g., feeling listened to)" (Kluger & Itzchakov, 2022, p. 122). However, this active-listening foundation can still give rise to overly passive or even, perhaps after delay, aggressive listening responses (Schwanke, 2024). Therefore, unintended ill-considered defensive reactions from active listening might be expressed, or conversely, feelings might be suppressed, festering resentment. In either case, the relationship is worsened because the listener may not feel like they can express their viewpoints or maintain self-respect within the conversation (Schwanke, 2024). With the shortcomings of active listening considered, it is important to examine the effectiveness of assertive listening.

## Listening Response

Due to the dyadic nature of listening, it must be conceptualized from both the listener's and speaker's perspectives (Kluger & Itzchakov, 2022; Yip & Fisher, 2022), as the listener may switch roles with the speaker and respond with either verbal or nonverbal feedback (Udo, 2023). When this occurs, several types of listening responses might be appropriate in various communication contexts. For example, a listener might respond by paraphrasing to clarify what the speaker has said (Kluger & Itzchakov, 2022). Additionally, a listener might respond by sharing a supportive statement encouraging the speaker to continue talking (Kluger & Itzchakov, 2022).

### *Passive, Aggressive, and Assertive Listening Responses*

Communication is heavily impacted by the style in which people communicate, and this is often related to the directness of the message. The most common styles include passive, aggressive, and assertive communication (Sherman, 1999). Passive communicators prefer to convey indirect messages that are vaguely agreeable (Hedlund & Lindquist, 1984). Aggressive communicators respond with hostility and pose little regard for others (Hedlund & Lindquist, 1984). Lastly, assertive communicators demonstrate mutual respect by listening for information and not judging the sender.

Past researchers have examined assertiveness in anger-inducing interactions. Deffenbacher et al. (1994) found that individuals who undertook assertiveness social skills training reported reduced anger in comparison to the control group. Further, evidence shows that higher levels of assertiveness reduced anger and violence among health practitioners and their clients in work environments (Wardany et al., 2022; Weger et al., 2014). Studies have also shown that high assertiveness is related to openness and agreeableness (Akkaya & Tuzgol Dost, 2021) and confident expression of individuals' needs (Erbay & Akcay, 2013). Further, assertive communication de-escalates conflict (see, for example, Winer, 2024; Ishi & Kanda, 2019; Rimland, 1982; Scherer, 1986). For instance, assertiveness has been positively related to conflict management patterns such as collaboration and compromising (Rahman et al., 2018).

Winer's Relationship Communication Training (RCT) coding system has been used to study conflict for thirty years—particularly passive, aggressive, and assertive communication in interpersonal contexts, including student relationships (Dunbar et al., 2022). Winer (2024), using this extensive research and his therapeutic experience, identified six listening response archetypes, based on empirical observation and theoretic adaptation from Satir (1972, 1988) and Rogers and Farson (1957/1987), that positively or negatively impacted conflict resolution. They are: (1) Passive Rescuer, (2) Passive Avoider, (3) Aggressive Advice Giver, (4) Aggressive Evaluator, (5) Assertive Probability, and (6) Assertive Certainty. The distinctiveness of these categories from

each other and their relevance to conflict resolution is grounded in their empirical application and refinement over years of therapeutic practice and their derivation from eminent interpersonal-communication theory (Winer et al., 2024; Winer, 2024; Winer, in press, 2025; Rogers & Farson, 1957/1987; Satir 1972; 1988). Depending on the situation, one's listening response can amplify or reduce anger, encourage the expression or suppression of emotions, ease or worsen conflict, make someone feel heard or overlooked, and strengthen or damage the relationship.

**Passive Rescuer.** This listening archetype is exemplified when individuals are uncomfortable with conflict or strong emotions and respond passively. For example, a Passive Rescuer might minimize the conflict and say, "Don't worry; everything is going to be okay." Often, this response language can come across as comforting, and the initial speaker might feel cared for. Yet, in reality, their feelings are not addressed, and the conflict remains unresolved.

**Passive Avoider.** This listening archetype includes individuals whose discomfort with conflict leads them to avoid resolution, especially by redirecting the focus away from the conflict. Satir (1972) characterizes this archetype as a distractor who responds with irrelevant actions or communication. The Passive Avoider is unassertive but also uncooperative in the resolution process (Thomas, 2008). For example, they might respond with, "I think I understand why you are angry with me. Let's discuss it at another time," and they might try to postpone the discussion repeatedly. Avoiders often display neuroticism and withdraw from interactions, and their interactors may feel dismissed during conflict (Tehrani & Yamini, 2020). Further, they are likely to withdraw from conflict, which can escalate their partners' emotional reactions, such as anger, aggression, and vengefulness (Du et al., 2023; Hample & Hample, 2019).

**Aggressive Advice Giver.** Individuals exemplifying this listening archetype often feel confident they know the appropriate way to handle conflicts and, as a result, attempt to dominate the conversation. Aggressive Advice Givers' responses are advice-focused and often begin with the word *you* or *why*. For example, an advice giver may respond with, "You know you need my help." This kind of advice-giving is motivated by the desire for control and power (Schaerer et al., 2018). Advice givers have been shown to display fewer backchanneling and paraphrasing behaviors in interactions in comparison to active listeners, causing their interactors to feel ignored (Weger et al., 2014). Findings have also shown that unwanted advice might increase others' defensiveness and cause people to shut down during conflict (Helgeson, 2003; Bodie et al., 2013). It also deters the effective listening process during conflict (Roloff & Ifert, 2014), reduces relationship satisfaction (Feng & MacGeorge, 2006), and elicits negative reactions, making effective dialogue more difficult (Floyd, 2010).

**Aggressive Evaluator.** People exemplifying the Aggressive Evaluator archetype frequently issue judgments within conflict situations, such as interpreting others' needs and feelings and categorizing or labeling people. For example, an evaluator might respond with, "You're overreacting." Aggressive Evaluators may play the mind reader, seeming to know more about others than they know about themselves (Gibb, 1961). Evaluators also focus on blaming their communication partners and their statements during interactions (Satir, 1972), thereby making individuals feel under attack (Bodie et al., 2013). Evaluating others during the listening process has been correlated with higher levels of neuroticism (Weaver et al., 1996), and it may trigger anger in others. Further, evaluative listening may be perceived as hurtful and dishonest, which may lead to negative relationship outcomes (Zhang, 2009).

**Assertive Certainty.** In situations of anger or conflict, those exemplifying an Assertive Certainty archetype practice a type of active listening that recognizes their interlocutor's concerns and boundaries while making clear their own; these listening response statements typically use an

"I-You-Me" word structure. An example of an Assertive Certainty response statement would be, "I know you are feeling upset with me, and I want to check it out with you." They demonstrate confidence and assurance in their perceptions of the conflict. Assertive communication allows partners to cope with stress and genuinely express their perspectives, which enhances overall relationship satisfaction (Kuhn et al., 2018; Moss et al., 2021).

**Assertive Probability.** Similar to Assertive Certainty, individuals representing the Assertive Probability archetype engage conflict with direct communication that honors the boundaries and concerns of all parties involved. However, the listening-response language is more tentative. For example, they might say something like, "This is how I think you are feeling towards me, and I want to check it out with you." They carefully frame their listening responses as just their interpretations of the conflict, and they ask for input from the other to clarify. This offers a softer approach to sensitive conflict topics to reduce the emotional tensions of the conversation. The listener using probability-based language signals that they are not seeking to control the conversation, but rather to share and understand the emotional experience, which can strengthen the bond by fostering trust and a shared responsibility in the relationship (Winer, 2024).

### *Active Listening versus Assertive Listening*

Active listening and assertive listening are similar yet distinct constructs. Active listening was developed by Carl Rogers and Richard Farson (1957/1987). Active Listening is particularly effective in intrapersonal conflict situations, where an individual experiences emotional distress independent of the listener's actions. Assertive Listening, as conceptualized by Winer (2024), is an advanced listening strategy designed specifically for interpersonal conflict resolution, where the speaker's emotional response is directed toward the listener. It extends Active Listening by incorporating an additional acknowledgment of the listener's involvement in the conflict. Active listening is used primarily in therapy and counseling and finds its application in personal relationships when someone is angry, hurt, or anxious from unresolved emotional issues from their childhood, relationships, or traumatic experiences, but is most effective with someone outside the relationship, such as a therapist or counselor. When Active Listening involves verbal feedback, these responses are commonly based on an "I-You" structure, as in, "My thought is you are feeling angry," whereas Assertive Listening is based on an "I-You-Me" structure, e.g., "My thought is you are feeling angry with me."

Past research has established the link between active listening skills and reduced anger (Dil & Cam, 2024), reduced feelings of being ignored (Malesevic et al., 2021), enhanced conflict resolution (Fischer-Lokou et al., 2016), being open to share (Bodie et al., 2015), and enhancing professional relationships outcomes such as relationship satisfaction and commitment (Manusov et al., 2018; Weger et al., 2010). Despite its effectiveness in intrapersonal emotional regulation, Active Listening proves insufficient in interpersonal conflict scenarios, where the speaker's emotional distress is directly linked to the listener's actions. In such contexts, the absence of explicit acknowledgment of the listener's role may lead to unresolved tensions.

For this reason, Winer (2024) added that connection by adding the word "Me" to the "I-You" listening-statement structure. Unlike the Active Listening structure "I-You," which is first person to second person, an Assertive Listening "I-You-Me" structure is first person followed by second person and back to first person (Dunbar et al., 2022). By incorporating the "Me" component, Assertive Listening promotes accountability, making it a more effective strategy for interpersonal conflict. The added "Me" signals that the listener understands and acknowledges that they are a

source of the speaker's feelings. The word "Me" in Assertive Listening brings the speaker to the listener in an interpersonal exchange, and it is thereby instrumental in resolving the conflict. An example of an Assertive Listening response is, "My thought is you are feeling anger toward me." From past research on assertiveness in interactions between listeners and senders, it is known to be linked to reduced anger in relationships (Wardany et al., 2022), increased expression (Erbay & Akcay, 2013), and increased conflict resolution (Winer, 2024; Ishi & Kanda, 2019), as well as positive relational outcomes such as relationship satisfaction and feeling understood (Atristain-Suárez & Castaños-Cervantes, 2024; Ogonwa & Ezenwa, 2024). While both active and assertive listening are effective at reducing anger by increasing the feeling of being listened to, assertive listening is often more proactively effective at resolving conflict in interpersonal relationships. Comparatively, active listening can be said to work more *intra*personally, whereas in conflict situations, assertive listening is more *inter*personally efficacious.

## Hypothesis and Research Questions

Both the literature on the importance of effective listening (Satir, 1972; Udo, 2023) and Winer's (2024) practice-based coding of listening responses informed this study. As a result, the researchers searched for empirical evidence of effective listening-response statement types to test the theorization of assertive listening. With that aim, the following hypothesis and research questions were formulated:

**H1:** An assertive listening response will have better relational outcomes (as measured by relationship harm and the desire to work with a partner in the future) than a passive or aggressive listening response.

Moreover, the researchers were interested in measuring how these six listening responses differ across multiple relational outcomes (both positive and negative). Although the authors predicted that assertive listening would produce better relational outcomes than both passive and aggressive listening, no prior research had empirically examined the differences between these six types of listening statements regarding perceived levels of anger, feeling ignored, being open to sharing, resolving conflict, and improving the relationship. Thus, we proposed a series of research questions:

***RQ1a.*** Are there significant differences in perceived *levels of anger* across the six listening responses?

***RQ1b.*** Are there significant differences in perceived *levels of feeling ignored* across the six listening responses?

***RQ1c.*** Are there significant differences in perceived *levels of open to sharing* across the six listening responses?

***RQ1d.*** Are there significant differences in perceived *levels of resolving conflict* across the six listening responses?

***RQ1e.*** Are there significant differences in perceived *levels of improving the relationship* across the six listening responses?

Lastly, there are benefits of examining how people will perceive each listening response as being passive, aggressive, or assertive. This could help them choose appropriate responses in conflict scenarios. Thus, the researchers proposed a second research question:

***RQ2.*** Which listening responses will most likely be seen as most passive, aggressive, and assertive?

## Method

This study utilized a mixed-methods design, which enabled the researchers to answer the research questions and test the hypothesis using a combination of quantitative and qualitative analyses (Fetters et al., 2013). By utilizing mixed methods to analyze data, researchers can interpret experiences, events, and variables of interest in a systematic and comprehensive way. Qualitative analysis provides in-depth information about participants' perceptions and a focus on the importance of their experiences (Taylor et al., 2016). Quantitative analysis allows researchers to examine the relationship between variables through association and use summary statistics to describe the sample (Thomas, 2004). Our dependent measures constituted five relational outcome measures (i.e., anger, feeling ignored, open to sharing, likely to resolve conflict, relationship satisfaction) all rated on a scale from 1 (not at all) to 5 (extremely). Additionally, we had participants rate each listening statement on perceived passiveness, aggressiveness, and assertiveness, rated on a scale from 1 (very unlikely) to 5 (very likely). Moreover, we had a personal preference dependent measure, such that participants rated their personal preference for each listening statement, on a scale from 1 (least preferred) to 5 (most preferred).

### Recruiting

After receiving approval from the Institutional Review Board (IRB), researchers began the recruitment process using a convenience sampling strategy. Students from higher education institutions in California, Texas, and New York were recruited. After students expressed interest in participating, they provided their consent electronically via Qualtrics. Then, they completed the survey.

### Participants and Demographics

1,038 participants were initially recruited for the present study. In the process of data cleaning, a small number of participants (n = 66) were excluded from the analysis. The reasons for exclusion included a high number of missing values and patterned responses, which could potentially compromise the integrity of the analysis. Thus, 66 participants were removed if they exhibited response patterns suggestive of non-engagement, such as providing the same rating (e.g., 5, 5, 5) across multiple items, indicating lack of variation in their answers. Additionally, participants with substantial missing data were excluded to ensure the robustness and validity of the findings, as incomplete data can introduce bias and reduce the reliability of the results. As a result, 975 participants remained. By removing these participants, we aimed to enhance the quality and accuracy of the dataset, ensuring that the remaining data truly reflects the intended measures and constructs. After cleaning the data, 975 participants remained. The sample is representative of the diversity in these geographic regions (see Table 1).

**Table 1.** *Sample Demographics*

| Category | Percentages (Actual) |
|---|---|
| Year in school | |
| Freshman | 10.4% (101) |
| Sophomore | 27.3% (266) |
| Junior | 38.4% (374) |
| Senior | 24% (234) |
| Major | |
| Communication | 29.2% (291) |
| Human Sciences | 5.7% (55) |
| Advertising | 1.2% (12) |
| Other | 63.9% (617) |
| Gender | |
| Male | 25.5% (249) |
| Female | 73.1% (713) |
| Non-binary | 0.9% (9) |
| Confidential | .1% (4) |
| Race | |
| White or Caucasian | 51.4% (501) |
| Hispanic or Latino/a | 17.3% (169) |
| Black or African American | 4.2% (41) |
| Asian or Asian American | 8.9% (87) |
| Biracial or multiracial | 16.1% (157) |
| Middle Eastern | 0.8% (8) |
| American Indian or Alaska Native | 0.6% (6) |
| Native Hawaiian or Pacific Islander | 0.2% (2) |
| Did not disclose | 0.4% (4) |
| Age | |
| 18-71 (M = 21.11, SD = 4.45) | 100% (975) |

**Procedures**

All participants completed the virtual informed-consent form and answered the verification questions such as their age, gender, ethnicity, along with their level of education, year in school, whether they are enrolled in either a 2- or 4-year institution, and their major. Next, they were presented with a survey describing the following scenario:

> You and your classmate are working on a final-grade group project. As the sender, you express your anger because you feel your coworker is not doing their part. Your coworker will share six listening responses with you, and we want your response to each statement. Imagine that both of you appear non-threatening, standing 3–5 feet away from each other, have slow body movements, use direct eye contact, teeth and lips apart, and speak with a non-threatening tone of voice. Try not to be influenced by any nonverbal behavior of your coworker and only consider their listening statement.

This scenario provided a consistent imagined interaction to help participants picture a similar image when responding to the survey. Also, they were asked to not be influenced by nonverbal behavior that could be imagined during a conflict—for instance, a frown, arms crossed, or yelling behavior— in an attempt to have participants focus solely on the language of the listening statement.

Along with the scenario, participants were provided definitions related to passive, aggressive, and assertive listening, to ensure they all had common knowledge before providing their responses. These definitions defined listening styles to help students understand the difference between *assertive*, *passive*, and *aggressive* in general; however, we did not define specific statements or categories of the study (i.e., avoider, rescuer) to avoid bias. (1) With a *passive* statement, you do not feel heard or understood; you withdraw and do not desire to share your feelings. In this context, the listener wants to avoid listening to how you feel and avoid the possibility of any confrontation. (2) With an *aggressive* statement, you feel attacked, judged, and evaluated and do not want to share your feelings. In this context, the listener wants to change how you feel by judging and blaming and not taking any responsibility for this. (3) An *assertive* statement makes you feel listened to and understood, not judged or evaluated, and safe sharing your feelings. In this context, the listener wants to listen and share with you how they feel.

After reviewing the scenario and provided definitions, participants were given the following statements in the same order and asked to provide their relational outcome responses (angry, ignored, open to sharing, likely to resolve, will improve relational satisfaction) about each statement. Specifically, all participants were presented with the passive rescuer listening statement first, aggressive advice giver statement second, aggressive evaluator statement third, assertive probability statement fourth, and passive avoider statement last. Additionally, the student participants were asked how they would respond (aggressive, assertive, passive). The following statements were adapted from previous scholarship (see Table 2; Winer et al., 2024). After each listening statement, participants were then instructed to indicate their reactions on a scale from 1 (not at all) to 5 (extremely). After each listening statement and subsequent reactions, participants were then asked to rate each statement on its perceived level of passivity, aggressiveness, and assertiveness on a 1 (very unlikely) to 5 (very likely) scale. Next, participants were then shown all listening statements and asked to rank order them from 1 (least) to 5 (most) passive, aggressive, and assertive. Finally, participants were asked to rate each listening statement on their personal preference from 1 (least preferred) to 5 (most preferred) and provide an open-ended response to why they chose their most and least preferred. Upon completion, participants were debriefed of the true purpose of the study, thanked for their time, and dismissed.

After participants had completed their responses to each statement, they were directed to rank statements by preference and to provide open-ended statements about why they answered the way they did. Finally, they were asked how likely the most and least preferred statements were to resolve the problem and how likely they were to work with the other individual in the future.

**Table 2.** *Survey Statements*

| Statement | Listening Response Archetype | Category |
|---|---|---|
| "I think I understand why you are angry with me. Everything is going to be okay." | Passive Rescuer | Passive 1 |
| "I think I understand why you are angry with me. Let's watch the basketball game instead." | Passive Avoider | Passive 2 |
| "I think I understand why you are angry with me. You know you need my help." | Aggressive Advice Giver | Aggressive 1 |
| "I think I understand why you are angry with me. You should listen to what I have to say." | Aggressive Evaluator | Aggressive 2 |
| "I think I understand why you are angry with me. My thought is that you are angry with me for the way I've treated you." | Assertive Probability | Assertive 1 |
| "I think I understand why you are angry with me. I know that you are angry with me for the way I've treated you." | Assertive Certainty | Assertive 2 |

## Results

### Quantitative Results

Researchers ran a repeated measures Multivariate Analysis of Variance (MANOVA) in the General Linear Model in SPSS version 28.0 to answer hypothesis (H1) and our series of RQs (1a–e), broken down by a series of posthoc pairwise comparisons to answer. Each series of relational outcomes measures (i.e., anger, ignored, open to sharing, likely to resolve conflict, improve the relationship) were run separately because the primary focus of the study was on anger in conflict interactions while examining passive, assertive, and aggressive listening statements; thus, it was important to isolate anger by itself. It was also valuable to examine whether other relational outcomes might capture what is happening conceptually.

First, the researchers ran a manipulation check to ensure the stimuli (passive, aggressive, and assertive statements) were measuring what they were intended to measure. Thus, participants were asked to rate which of the six statements were most assertive, passive, and aggressive. From this, the Passive Avoider statement (M = 3.55, SD = 1.57) was rated the most passive, the Aggressive Advice Giver statement (M = 3.37, SD = 1.57) was rated the most aggressive, and the Assertive Probability statement (M = 3.36, 1.63) was rated the most assertive. Three separate one-way repeated measures ANOVAs were run to determine whether there was a significant difference between each of the rated statements. The results indicated a main effect for *passive statements* ($F(4,884) = 43.45$, $p < .001$, $\eta 2 = .164$). A series of paired sample t-tests then determined that the Passive Avoider statement was rated significantly more passive than all other statements, $p < .001$. Next, a main effect for *aggressive statements* was found ($F(4, 491) = 18.02$, $p < .001$, $\eta 2 = .128$). A series of paired sample t-tests determined that the Aggressive Advice Giver was rated significantly more aggressive than all other statements, $p < .001$. Furthermore, a third main effect for *assertive statements* was found ($F(4, 905) = 24.91$, $p < .001$, $\eta 2 = .099$). A series of paired sample t-tests determined that the Assertive Probability stated was rated significantly more assertive than all other statements, $p < .001$.

Hypothesis (H1) predicted that an assertive listening response would produce better relational outcomes than a passive or aggressive listening response. So, a one-way repeated measures MANOVA was conducted with *listening response* (5 levels) on the relational outcome judgments (anger, ignored, open to sharing, likely to resolve conflict, and relationship satisfaction; see Table 3). A repeated measures MANOVA was conducted to examine the effect of *Listening Statement* on perceived levels of *anger*, *feeling ignored*, *openness to sharing*, *resolving conflict*, and *relationship satisfaction*. The results indicated a significant multivariate effect of *Listening statement,* Wilks' $\Lambda = .297$, $F(25, 915) = 109.60$, $p < .001$, partial $\eta^2 = .713$.

This indicates that the way different listening statements were presented had a significant impact on how participants perceived levels of anger, feeling ignored, openness to sharing, resolving conflict, and relationship satisfaction. The significant effect shows that these perceptions changed in a meaningful way depending on the listening statement given. Next, to address our series of research questions, we followed up with univariate tests and pairwise comparisons to examine the specific effects on each of these dependent variables separately.

*Follow-Up Univariate Tests*

Subsequent univariate ANOVAs were conducted to examine the effects of *Listening statement* on each of the dependent variables separately.

**Anger**

A significant main effect for *listening statement type* occurred on *anger*, $F(5, 4695) = 502.74$, $p < .001$, $\eta^2 = .349$). Post-hoc pairwise comparisons indicated that participants' perceived *anger* was significantly higher for aggressive advice giver (M = 3.24, SD = 1.15) than passive rescuer (M = 2.28, SD = .98), $p < .001$. Participants' perceived *anger* was significantly higher for the aggressive advice giver (M = 3.24, SD = 1.15) than the aggressive evaluator (M = 2.66, SD = 1.10), $p < .001$. Participants' perceived *anger* was significantly higher for aggressive evaluator (M = 2.66, SD = 1.10) than assertive probability (M = 1.90, SD = 0.99), $p < .001$. Participants'

perceived *anger* was significantly higher for the passive avoider (M = 3.52, SD = 1.22) statement than assertive probability (M = 1.90, SD = 0.99), p < .001 (See Figure 1).

***Table 3. MANOVA of Differences in Relational Outcomes***

| *Listening Statement* | Statement | *Angry* | *Feeling Ignored* | *Open to Sharing* | *Resolve Conflict* | *Relationship Satisfaction* |
|---|---|---|---|---|---|---|
| Passive Rescuer | P. Rescuer | 2.28 (.98) | 2.39(1.16) | 3.21 (1.01) | 3.28 (1.08) | 3.08 (1.15) |
| | A. Advice Giver | 3.24 (1.15)*** | 3.01 (1.20)*** | 2.45 (1.07)*** | 2.40 (1.12)*** | 2.18 (1.14)*** |
| | A. Evaluator | 2.66 (1.10)*** | 2.56 (1.18)*** | 2.99 (1.07)*** | 2.99 (1.06)*** | 2.81 (1.14)*** |
| | A. Probability | 1.90 (.99)*** | 1.82 (1.06)*** | 3.68 (.98)*** | 3.73 (.98)*** | 3.67 (1.03)*** |
| | P. Avoider | 3.52 (1.22)*** | 3.98 (1.17)*** | 2.15 (1.13)*** | 1.92 (1.11)*** | 1.92 (1.12)*** |
| | A. Certainty | 1.97 (.99)*** | 1.85 (1.04)*** | 3.62 (.97)*** | 3.67 (.98)*** | 3.56 (1.05)*** |
| Aggressive Advice Giver | A. Advice Giver | 3.24 (1.15) | 3.01 (1.20) | 2.45 (1.07) | 2.40 (1.12) | 2.18 (1.14) |
| | A. Evaluator | 2.66 (1.10)*** | 2.56 (1.18)*** | 2.99 (1.06)*** | 2.99 (1.06)*** | 2.81 (1.13)*** |
| | A. Probability | 1.90 (.99)*** | 1.82 (1.06)*** | 3.68 (.98)*** | 3.73 (.98)*** | 3.67 (1.03)*** |
| | P. Avoider | 3.52 (1.22)*** | 3.98 (1.17)*** | 2.15 (1.13)*** | 1.92 (1.11)*** | 1.92 (1.12)*** |
| | A. Certainty | 1.97 (.99)*** | 1.85 (1.04)*** | 3.62 (.97)*** | 3.67 (.98)*** | 3.56 (1.05)*** |
| Aggressive Evaluator | A. Evaluator | 2.66 (1.10) | 2.56 (1.18) | 2.99 (1.06) | 2.99 (1.06) | 2.81 (1.13) |
| | A. Probability | 1.90 (.99)*** | 1.82 (1.06)*** | 3.68 (.98)*** | 3.73 (.98)*** | 3.67 (1.03)*** |
| | P. Avoider | 3.52 (1.22)*** | 3.98 (1.17)*** | 2.15 (1.13)*** | 1.92 (1.11)*** | 1.92 (1.12)*** |
| | A. Certainty | 1.97 (.99)*** | 1.85 (1.04)*** | 3.62 (.97)*** | 3.67 (.98)*** | 3.56 (1.05)*** |
| Assertive Probability | A. Probability | 1.90 (.99) | 1.82 (1.06) | 3.68 (.98) | 3.73 (.98) | 3.67 (1.03) |
| | P. Avoider | 3.52 (1.22)*** | 3.98 (1.17)*** | 2.15 (1.13)*** | 1.92 (1.11)*** | 1.92 (1.12)*** |
| | A. Certainty | 1.97 (.99)* | 1.85 (1.04) | 3.62 (.97)* | 3.67 (.98)* | 3.56 (1.05)*** |
| Passive Avoider | P. Avoider | 3.52 (1.22) | 3.98 (1.17) | 2.15 (1.13) | 1.92 (1.11) | 1.92 (1.12) |
| | A. Certainty | 1.97 (.99)*** | 1.85 (1.04)*** | 3.62 (.97)*** | 3.67 (.98)*** | 3.56 (1.05)*** |

*Note.* Means listed. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

**Ignored**

A significant main effect for *listening statement type* occurred on feeling ignored, F (5,4695) = 578.98, p <. 001, $\eta^2 = .381$). Post-hoc pairwise comparisons indicated that participants' perceived *feeling ignored* was significantly higher at aggressive advice giver (M = 3.01, SD = 1.20) than passive rescuer (M = 2.39, SD = 1.16), p < .001. Participants' perceived *feeling ignored* was significantly higher at aggressive advice giver (M = 3.01, SD = 1.20) than aggressive evaluator (M = 2.56, SD = 1.18), p < .001. Participants' perceived *feeling ignored* was significantly higher at aggressive evaluator (M = 2.56, SD = 1.18) than assertive probability (M = 1.82, SD = 1.06), p < .001. Participants' perceived *feeling ignored* was significantly higher at passive avoider (M = 3.98, SD = 1.17) than assertive probability (M = 1.82, SD = 1.06), p < .05 (See Figure 2).

**Figure 1.** *Perceived Anger Comparing the Six Listening Responses*

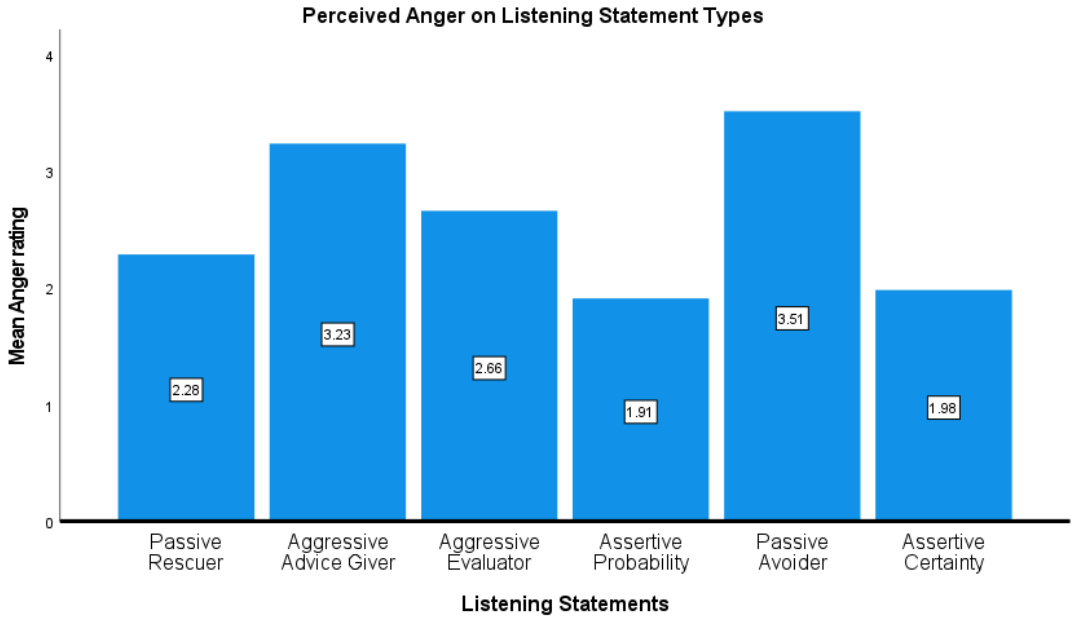
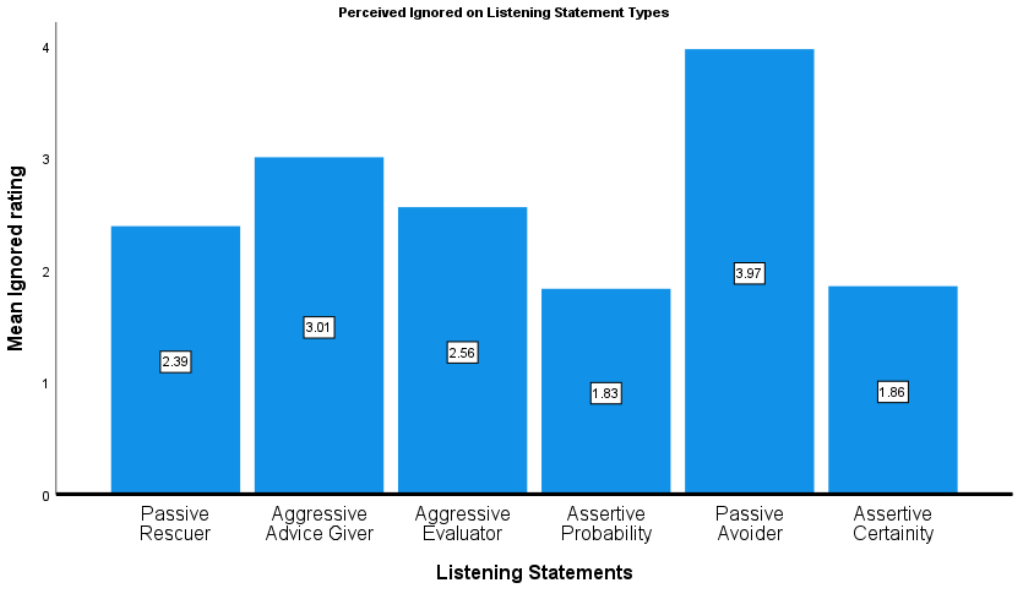



**Figure 2.** *Perceived Ignored Comparing the Six Listening Responses*

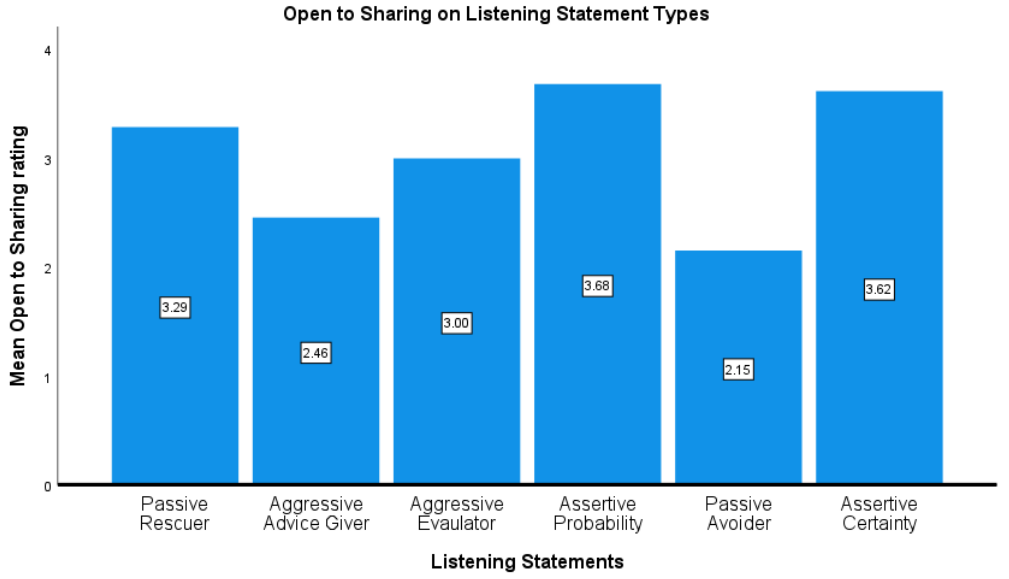



## Open to Sharing

A significant main effect for *listening statement type* occurred on openness to sharing, $F(4, 3780) = 414.84$, $p = <.001$, $\eta^2 = .306$. Post-hoc pairwise comparisons indicated that participants' perceived *feeling open to sharing* was significantly higher at passive rescuer ($M = 3.20$, $SD = 1.01$) than aggressive advice giver ($M = 2.45$, $SD = 1.07$), $p < .001$. Participants' perceived *feeling open*

*to sharing* was significantly higher at aggressive evaluator (M = 2.99, SD = 1.07) than aggressive advice giver (M = 2.56, SD = 1.18), p < .001. Participants' perceived *feeling open to sharing* was significantly higher at assertive probability (M = 3.68, SD = 0.98) than aggressive evaluator (M = 2.99, SD = 1.07), p < .001. Participants' perceived *open to sharing* was significantly higher at assertive probability (M = 3.68, SD = 0.98) than the passive avoider (M = 2.15, SD = 1.13), p < .001 (See Figure 3).

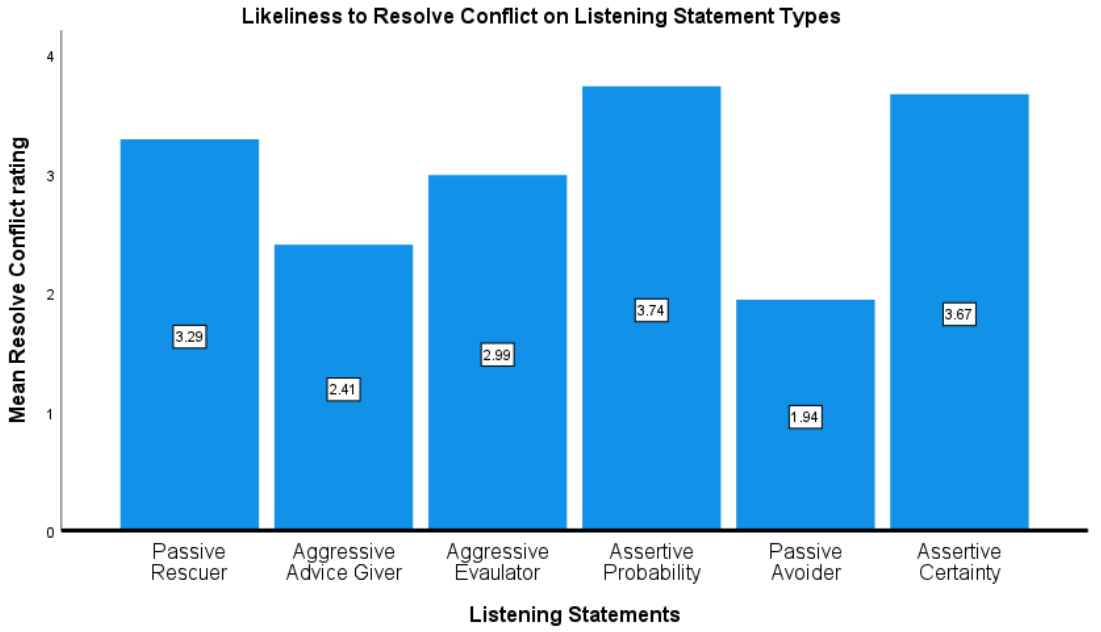
**Figure 3.** *Perceived Open to Sharing Comparing the Six Listening Responses*




**Resolve Conflict**

A significant main effect for *listening statement type* occurred on likely to resolve conflict, F (5, 4695) = 541.76, p = <.001, $\eta^2$ = .366. Post-hoc pairwise comparisons indicated that participants' perceived *feeling likely to resolve the conflict* was significantly higher at passive rescuer (M = 3.28, SD = 1.08) than aggressive advice giver (M = 2.39, SD = 1.12), p < .001. Participants' perceived *feeling likely to resolve the conflict* was significantly higher at aggressive evaluator (M = 2.99, SD = 1.06) than aggressive advice giver (M = 2.39, SD = 1.12), p < .001. Participants' perceived *feeling likely to resolve the conflict* was significantly higher at assertive probability (M = 3.73, SD = 0.98) than aggressive evaluator (M = 2.99, SD = 1.06), p < .001. Participants' perceived *feeling likely to resolve the conflict* was significantly higher at assertive probability (M = 3.73, SD = 0.98) than passive avoider (M = 1.92, SD = 1.11), p < .001 (see Figure 4).

**Figure 4.** *Perceived Likelihood to Resolve Conflict Comparing the Six Listening Responses*




## Relationship Satisfaction

A significant main effect for *listening statement type* occurred on perceived relationship satisfaction, F (5, 4695) = 491.57, p = <.001, $\eta^2$ = .344. Post-hoc pairwise comparisons indicated that participants' perceived *relationship satisfaction* was significantly higher at passive rescuer (M = 3.08, SD = 1.15) than aggressive advice giver (M = 2.17, SD = 1.14), p < .001. Participants' perceived feeling of *relationship satisfaction* was significantly higher at aggressive evaluator (M = 2.81, SD = 1.13) than aggressive advice giver (M = 2.18, SD = 1.14), p < .001. Participants' perceived *relationship satisfaction* was significantly higher at assertive probability (M = 3.67, SD = 1.03) than aggressive evaluator (M = 2.81, SD = 1.13), p < .001. Participants' perceived *relationship satisfaction* was significantly higher at assertive probability (M = 3.67, SD = 1.03) than passive rescuer (M = 1.92, SD = 1.12), p < .001 (see Figure 5).

## Qualitative Findings

The researchers utilized Braun and Clarke's (2023) qualitative thematic analysis to answer RQ2, which inquired about which listening responses will be seen as passive, aggressive, or assertive. This method includes six phases that guide researchers through the data analysis process. First, researchers familiarize themselves with the textual data by noting initial ideas. Then, as they read through the participant responses, they create initial codes. Next, researchers generate themes by connecting similar codes. After reviewing and naming the themes and subthemes, researchers finish the data analysis by selecting the final extracts and writing their findings (Braun & Clark, 2023). By describing and identifying trends and patterns in the data, researchers can extract insights that might otherwise be overlooked (Taylor et al., 2016). Specifically, the researchers were exploring what statements would most likely be seen as passive, aggressive, or assertive and why (see Figure 6).

**Figure 5.** *Perceived Relationship Satisfaction Comparing the Six Listening Responses*

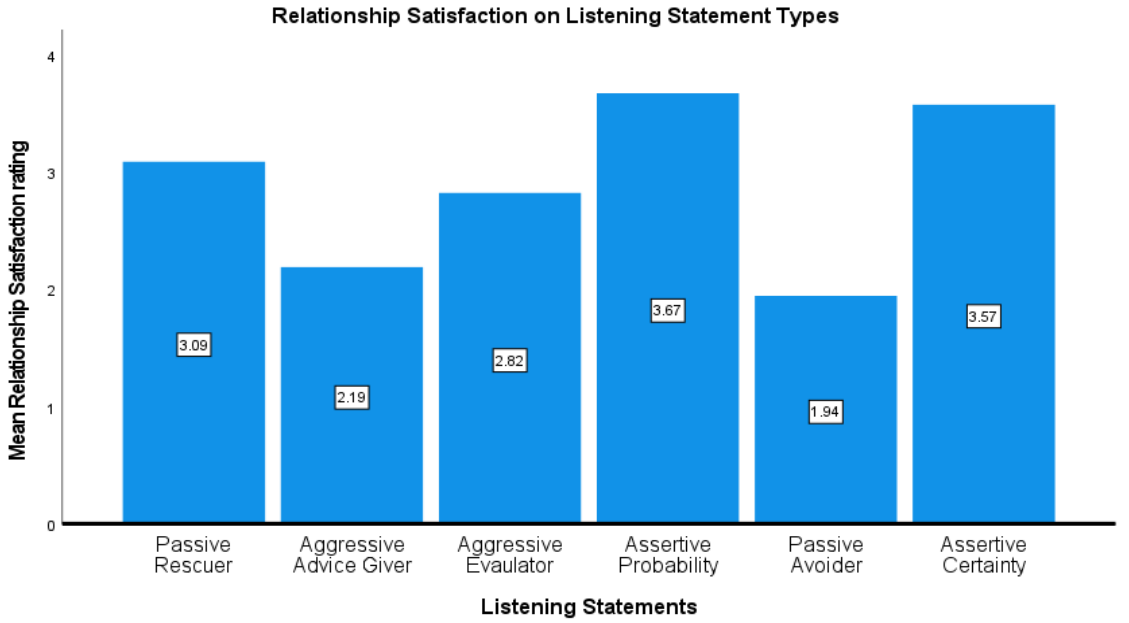


**Figure 6.** *Listening Responses*

| Passive Listening Response | Aggressive Listening Response | Assertive Listening Response |
|---|---|---|
| • **Passive Avoidance in Conflict**<br>  • Indirect Passive Communication<br>  • Avoiding Conversations<br>  • Disregarding Listening to Concerns<br>  • Dismissing Conflict Issues<br>• **Escalation of Conflict and Emotional Tensions in Relationships**<br>  • Escalating Conflict and Relationship Tensions<br>  • Intensifying Anger and Aggression<br>  • Degradation of Others<br>  • Lack of Validation of Feelings and Thoughts<br>• **Lack of Mutual Conflict Resolution**<br>  • Unwillingness to Collaborate and Work Together<br>  • Failure to Reach Conflict Resolution | • **Communicating with Aggression**<br>  • Provoke More Anger and Escalate the Conflict<br>  • Disrespectful<br>  • Combative and Hostile<br>  • Evaluative<br>• **Dark Personality Traits**<br>  • Narcissism<br>  • Machiavellianism<br>• **Unwilling to Listen**<br>• **Display Ignorance**<br>• **Conflict Resolution Issues**<br>  • Difficulty in Resolving Conflicts<br>  • Closed Conflict Communication<br>  • Lack of Collaboration | • **Assertiveness in Communication**<br>  • Expressive and Direct Communication<br>  • Open Communication and Feedback<br>  • Sharing Thoughts and Feelings about the Problem<br>• **Owning Up to Problematic Behaviors**<br>  • Accountability and Personal Responsibility<br>  • Self-awareness of Problematic Behavior Leading to Conflict<br>  • Apologetic for Wrongful Treatment<br>• **Emotional Validation While Active Listening**<br>  • Acknowledgement and Validation of Feelings<br>  • Feeling Listened to and Understood<br>  • Understanding of Anger and Frustration<br>• **Responding with Socio-Emotional Skills**<br>  • Empathic and Compassionate<br>  • Caring and Kind<br>  • Respectful<br>  • Non-confrontational<br>  • Relatable<br>• **Willingness to Resolve the Conflict** |

*Themes and Codes from the Qualitative Analysis of RQ2*

**Table 4.** *Passive Listening Response*

| Themes | Sub-Themes | Example Quotes |
|---|---|---|
| Passive avoidance in conflict | Indirect passive communication | *"It is not okay to leave people in the dark and not be straight up with what needs to be addressed."*<br>*"It was the statement that seemed the most passive to me."* |
| | Avoiding conversations | *"They ignore[d] the entire conversation as a whole."*<br>*"They want the conversation to go away."* |
| | Disregarding listening to concerns | *"I do not feel understood at all or if the person even listened to my concerns."*<br>*"Refuse to listen and instead want to redirect my attention."* |
| | Dismissing conflict issues | *"It completely neglects to resolve the conflict rather, pushing it off to do something else without addressing it."*<br>*"They completely ignore the problem and try to set a distraction."* |
| Escalation of conflict and emotional tensions in relationships | Escalating conflict and relationship tensions | *"They are making the situation worse by doing things not related to the project."*<br>*"They did not seem interested in repairing the relationship."* |
| | Intensifying anger and aggression | *"It would greatly piss me off, because it sounds like a very smug statement."*<br>*"It was the most unreasonable and aggressive response, which also makes people respond aggressively."* |
| | Degradation of others | *"If I feel that I did most of the work for the project, that statement feels very degrading and invalidating."*<br>*"I think changing the subject is rude and inconsiderate, especially when there is a problem needing to be addressed."* |
| | Lack of validation of feelings and thoughts | *"I felt as if they are invalidating my feelings and ignoring what I have to say."* |

| | | |
|---|---|---|
| | | *"They completely move past why I am upset and want to do what they want to do instead."* |
| Lack of mutual conflict resolution | Unwillingness to collaborate and work together | *"They don't want to work on the group project and don't take it seriously, and finishing the group project would be the main goal for me."* |
| | | *"They don't seem like they are willing to work."* |
| | Failure to reach conflict resolution | *"Likely that the person does not wish to solve the conflict."* |
| | | *"This statement takes us nowhere, and I see no way to reconcile after it."* |

**Aggressive Listening Response**

| Themes | Sub-Themes | Example Quotes |
|---|---|---|
| Communicating with aggression | Provoke more anger and escalate the conflict | *"This will only anger me more, as I will want to believe that I do not need this person who I am angry at's help."* |
| | | *"By acting like they did nothing wrong would make me angrier in this situation."* |
| | Disrespectful | *"It seems like an insult, like as if they are saying that I need to depend on them."* |
| | | *"They seemed very disrespectful."* |
| | Combative and hostile | *"It seemed like the statement most likely to start a fight."* |
| | | *"I feel that this was more of an attack."* |
| | Evaluative | *"I don't need someone telling me I am wrong just right away unless they are truly willing to help me."* |
| | | *"Very judgmental."* |
| Dark Personality Traits | Narcissism (Self-centered) | *"This response shows that the person is conceited."* |
| | | *"This just sounds so self-centered."* |
| | Narcissism (Arrogant) | *"Came off as very arrogant and rubbed me the wrong way."* |
| | | *"It is a very cocky statement."* |
| | Narcissism (Condescending) | *"Having someone talk to me like that feels condescending."* |
| | | *"My classmate is being very condescending."* |
| | Narcissism (Avoiding blame) | *"They do not take blame for their actions."* |
| | | *"It deflects blame."* |

| | | |
|---|---|---|
| | Machiavellianism (Manipulation) | *"It sounds a little manipulating."*<br>*"The classmate has their own perception of my feelings and is imposing them onto me."* |
| | Machiavellianism (Indifference) | *"Indifferent of my feelings and the problem."*<br>*"It completely disregards the entire situation."* |
| | Machiavellianism (Dismissive) | *"Feels incredibly dismissive."*<br>*"It comes across as dismissive."* |
| | Machiavellianism (Lacking empathy and caring) | *"It makes me feel like they could care less."*<br>*"They don't care about the way they've treated you."* |
| Unwilling to Listen | | *"I did not feel heard, I felt pushed to the side."*<br>*"Shows a lack of willingness to listen."* |
| Display ignorance | | *"Ignorant tone related to this statement."*<br>*"They sound ignorant."* |
| Conflict resolution issues | Difficulty in resolving conflicts | *"It allows the situation to be more dramatic and overstimulates everyone involved. It makes it more difficult to reach a solution."*<br>*"Our conflict is not likely to be resolved at all."* |
| | Closed conflict communication | *"Their response overall left me feeling less likely to continue the conversation and mend the conflict."*<br>*"I believe that they are distracted and going on a tangent, which shows they are not open to having a mature conversation about their lack of consideration, which will not resolve any conflicts."* |
| | Lack of collaboration | *"It feels like they don't want to work together."*<br>*"The person has already not been helpful with the project."* |

**Assertive Listening Response**

| Themes | Sub-Themes | Example Quotes |
|---|---|---|
| Assertiveness in communication | Expressive and direct communication | *"The most direct, and it is clear and concise communication in regards to conflict."* |

| | | |
|---|---|---|
| | | *"My partner is being entirely upfront with me and gets to the point. It is the most assertive and brings both of our feelings to the table."* |
| | Open communication and feedback | *"It gives the most open communication that doesn't attack me as the person being spoken to."*<br>*"Opens up the conversation rather than being defensive."* |
| | Sharing thoughts and feelings about the problem | *"I could explain to the person that I'm angry because they will not do their work or participate in a group setting to successfully get the task done."*<br>*"It is sharing their thoughts; I would also feel that they are inviting me to share my thoughts in a quite polite way."* |
| Owning up to problematic behaviors | Accountability and personal responsibility | *"The person recognizes what they have done wrong and is taking responsibility for it."*<br>*"It demonstrates accountability of their behaviors and actions."* |
| | Self-awareness of problematic behavior | *"Cognizant of the fact that their actions are the cause of the anger. [This] means that they will probably be more open to the idea of listening to the problem and taking steps to fix it."*<br>*"Shows that they are aware of their actions and their words and know I'm upset."* |
| | Apologetic for wrongful treatment | *"They acknowledge that they treated me wrong."*<br>*"It offers some semblance of an apology for their actions and at least attempts to get to the root of the problem."* |
| Emotional validation while active listening | Acknowledgement and validation of feelings | *"I personally would like to be acknowledged for my feelings and know that they know why I am upset."*<br>*"This statement makes your feelings and thoughts feel valid and heard."* |
| | Feeling listened to and understood | *"It is reassuring, and I feel heard and understood."*<br>*"I feel listened to and that my response would matter."* |
| | Understanding of anger and frustration | *"They understand why I am angry with them."* |

| | | |
|---|---|---|
| | | *"The person is making an effort to understand my anger."* |
| Responding with socio-emotional skills | Empathic and compassionate | *"Makes me the most likely to empathize with them."* |
| | | *"Showing compassion."* |
| | Caring and kind | *"It shows that they care about what I have to say."* |
| | | *"It is the kindest statement out of all of them."* |
| | Respectful | *"Directly addresses the main concern in a respectful manner."* |
| | | *"Most likely to earn some respect from me."* |
| | Non-confrontational | *"It's non-confrontational."* |
| | | *"This statement allows for less confrontation. It opens a window to dive into the possibilities of what is making me feel that way."* |
| | Relatable | *"It related the most with me."* |
| | | *"It's a response I can see myself giving."* |
| Willingness to resolve the conflict | | *"It addresses the conflict and could lead to a faster way to resolve it."* |
| | | *"They seem more likely to work things out and settle the conflict by coming to an agreement or doing their work."* |

Findings from the qualitative data analysis indicate what listening responses were perceived to be the most passive, aggressive, or assertive (See Table 4). The listening statement, "I think I understand why you are angry with me. Let's watch the basketball game," was seen as the most passive in comparison to other listening statements, which was supported by 5 macro-level themes. When considering aggressiveness, the listening statement, "I think I understand why you are angry with me. You know you need my help" was perceived as the most aggressive in comparison to other listening statements with 5 macro-level codes. Further, the listening statement, "I think I understand why you are angry with me. My thought is that you are angry with me by the way I've treated you," was viewed to be the most assertive in comparison to other listening statements based on 5 macro-level codes.

In further examining the macro-codes, comparisons were made to better understand the listening statements. In examining the *listening reactions* of the different statements, passive listening responses yielded passive avoidance in conflict reactions such as using indirect passive communication, avoiding conversations, and disregarding listening to others' concerns, which make individuals feel unheard. Similarly, with an aggressive listening response, individuals were unwilling to listen during conflicts. Yet, with the assertive listening response, individuals felt validated while listening, from the validation of their feelings and for feeling listened to and understood regarding their anger and frustration.

In examining *emotional reactions* across listening statements, the assertive listening response enabled individuals to respond with socio-emotional skills such as being empathic and

compassionate, caring and kind, respectful, non-confrontational, and relatable. However, the passive listening response escalated emotional tensions in relationships by intensifying anger and aggression and the desire to degrade the responder. The aggressive listening response provoked the most anger and was perceived to be disrespectful, combative and hostile, and evaluative.

Passive and aggressive listening responses also yielded significant *conflict resolution problems*. Passive listening responses were linked with being unwilling to collaborate and work together and a failure to reconcile the problem. Further, aggressive listening responses were based on difficulty in conflict resolution, closed conflict communication and a lack of collaboration. However, assertive listening responses enabled participants to become willing to resolve conflict.

## Discussion

This study examined how assertive, passive, and aggressive listening responses affect relational outcomes, including levels of anger, being ignored, wanting to share feelings, desire for conflict resolution, and relationship satisfaction. It also examined the differences between the six categories of listening responses in conflict resolution. Finally, this study investigated how these listening responses would be perceived using communication styles such as passive, aggressive, and assertive. To date, this is the first study to test listening responses empirically in interpersonal relationships using Winer's RTC framework (Dunbar et al., 2022; Winer, 2024) and the first to operationalize the concept of assertive listening and to empirically test six listening-response statements as passive, assertive, and aggressive.

The findings indicate that assertive listening statements, the Assertive Probability and Assertive Certainty categories, in comparison with passive and aggressive listening, were more effective at reducing anger, decreasing feelings of being ignored, increasing levels of openness to share, increasing the likelihood of resolving conflict, and increasing satisfaction with the relationship. These findings contribute to past research that has found that assertiveness can help to reduce anger (Deffenbacher et al., 1994; Wardany et al., 2022) and can enable the expression of personal needs (Erbay & Akcay, 2013).

Aside from further confirming prior findings that assertive communication has positive relational effects, this study provides evidence that this applies also to listening response statements, and it establishes what 'word structures' constitutes such language. More specifically, the language of the assertive probability listening statement (i.e., 'my thought is that you are angry with me for the way I've treated you') was the most effective across our findings. From the results of this study, one can also conclude that the passive and aggressive listening statements, such as the Avoider, Advice Giver, and Evaluator listening statements, were more likely to trigger feelings of being ignored than other statements.

The Avoider, Advice Giver, and Evaluator listening statements were also more likely to increase anger in comparison to other statements. These listening statements relate to past work on avoidance, evaluating, and advice-giving, which are known to induce anger during conflicts (Du et al., 2023; Hample & Hample, 2019). With these statements, individuals are not directly addressing the conflict, which explains why other individuals' anger is increased.

Similarly, results indicated that the Avoider, Advice Giver, and Evaluator listening statements reduced sharing in conflict situations, which could affect resolution. When refusing to share or avoiding conflict entirely, others may withdraw from the interaction (Tehrani & Yamini, 2020). In other words, it is important to balance sharing feelings and advice when reconciliation is the goal.

Overall, these findings consistently showed that assertive listening is the best approach for resolving conflict. When examining the assertive listening categories, assertive probability was more effective at conflict resolution than assertive certainty due to the language structure (i.e., *my thought is* vs. *I know*). This finding is consistent to prior assertiveness research (Winer, 2024; Ishi & Kanda, 2019; Rimland, 1982; Scherer, 1986). In contrast, the Avoider, Advice Giver, and Evaluator listening statements were the least likely to resolve conflict. A reason for this is that genuine communication becomes difficult to achieve when using these statements because others are likely to react negatively.

Assertive probability listening was also more likely to improve the relationship during conflict than the other five statements. Our finding contributes to past work that has found that assertive communication improves relationship satisfaction in relationships (Moss et al., 2021; Kuhn et al., 2018). In contrast, the findings indicated that the Passive Avoider, Aggressive Advice Giver, and Aggressive Evaluator were likely to worsen the relationship. This may be due to the fact that individuals who engage in avoidance patterns might also have attachment avoidance, which often decreases relationship satisfaction (Flicker et al., 2021).

Our findings can also be applied using Communication Accommodation Theory (CAT), which is theoretical framework that enhances interpersonal relationship outcomes during conflict interactions (Giles, 1973; Gallois et al., 2005). From this theoretical perspective, listening statements can be understood based on three strategies: convergence, divergence, and maintenance. For example, I-You-Me statements (assertive listening) statements represent convergence, or an alignment with one's partner through assertive expression and empathic responses. On the other hand, You or Why (the advice-giver and the evaluator) aggressive listening statements represent divergence because these pronouns lead to blame and emotional distancing. The avoider and rescuer (passive listening) reflect maintenance or the status quo through avoiding and restraining emotionally during the interaction. The CAT perspective enables the understanding of the tone and pronoun symmetry of interactions through accommodation techniques. Thus, the present study's findings are strengthened through the lens of CAT in analyzing how student populations accommodate others using pronoun listening language to fulfill effective conflict and relational outcomes.

## Implications and Applications

Winer and colleagues' existing research on RCT dissects communication in conflict into specific components, such as verbal communication (Winer et al., 2024) and nonverbal communication (Winer et al., 2023), offering a structured approach to understanding each element. By conducting an empirical study on listening responses in conflict, this research has important theoretical implications; it further develops RCT and also modernizes the communication style categories of Satir (1972, 1988), reinforcing their relevance in contemporary settings. When integrated with the existing research on RCT, the findings of this study may help individuals address communication issues in conflict by identifying and addressing each component of the interaction.

Along with theoretical implications, this study has meaningful practical implications in various settings, such as in personal relationships, classrooms, therapeutic offices, and businesses. In communication classrooms, teachers focus on active listening and empathy when teaching listening (Gable, 2007). Similarly, these skills are often emphasized in personal relationships, therapeutic and business settings. Yet, the results of this study reveal that there may be benefits to

teaching assertive listening skills to improve relationships and de-escalate conflicts. This discovery could enhance our understanding and teaching of conflict resolution, offering a unique and impactful perspective.

This study not only highlights the implications of teaching and learning assertive listening skills but also offers practical applications. For instance, the results show the impact of various word structures on relational outcomes. As such, scholars and practitioners could utilize these phrases as a model for creating guides with user-friendly, easy-to-comprehend, and easy-to-use phrases to reduce conflict. Additionally, since this study clearly details the verbal structure of each listening-response skill (i.e., assertive probability and assertive certainty), individuals could design role-plays and case studies to practice these skills in different environments. Then, as individuals practice assertive listening, they might have improved confidence in practicing these skills in real-life conflict scenarios (see Appendix).

## Limitations

While this study offers value and significance to the field of conflict management and resolution, it is important to address its limitations. First, listening statements were presented in the exact same order for all participants. When using a within-subjects design, it is vital to counterbalance stimuli to rid the possibility of order effects. It is plausible that by presenting the same order of listening statements to our participants, they could 'practice' or become better at answering these statements. Second, carryover effects are possible as participants' answers to statements one and two could influence how they answer statements five or six. As a result, the researchers acknowledge that order effects can lead to potential confounding variables, ultimately biasing results. However, while order effects can present problems in the generalizability of research, the data did not show a pattern that would suggest order effects, since the different listening statement types still elicited such varying results amongst our dependent measures. Despite presenting the stimuli in a fixed order to all participants, our results support that the observed outcomes on dependent measures (anger, feeling ignored, openness to sharing, resolving conflict, relationship satisfaction) were driven by the inherent characteristics of the listening statements rather than order effects. First, this conclusion is substantiated by empirical evidence from the MANOVA table (see Table 3) showing significant differences across the statements. Second, Brooks (2012) recommends visual inspection to detect for order effects, and Figures 1 through 5 of the present study consistently reveal equivalence across conditions with no systematic trends or decline in participant responses. In Figure 2, for example, the Passive Avoider statement, presented fifth to participants, elicited the highest ignored ratings, consistent with our theoretical predictions. These patterns are also observed across all five figures, further confirming the absence of order effects and supports the empirical strength of the findings (David & Johnson, 1956). Third, since the students self-reported how they might feel in a conflict scenario, researchers could not corroborate their responses. Fourth, the convenience sampling technique was chosen as researchers had access to students at the institutions where they worked, which might limit the generalizability of the findings. Fifth, in the survey, students were asked to imagine a conflict within a classroom context. Although this is a common activity within classrooms, it is possible that student participants had not previously experienced this type of conflict. Sixth, the hypothetical scenario asked all participants to imagine the same scene to enable them to focus on the language rather than imagined nonverbal cues; however, this can pose an unforeseen bias in some participants. Seventh, this study did not include an active listening condition in the study because

the focus was to conduct an exploratory study on assertive listening in relation to other listening archetypes; however, adding this condition in future research can be beneficial in understanding any statistical differences between active listening and assertive listening statements. Finally, it should be noted that participants were US university students, and cross-cultural differences likely exist concerning what constitutes passive, aggressive, or assertive communication, and the effects of each (Singhal & Nagao, 2009).

## Conclusion

This study addresses the gap between conflict research and practice by attempting to identify clear and effective listening statements and specific verbal parameters that can be taught to manage conflict in various contexts of interpersonal relationships. Individuals can benefit from using the results to identify passive and aggressive listening statements as well as develop best practices for using the assertive listening statements, such as by voicing assertive probability, to decrease anger and increase feelings of being listened to and being open to sharing, commitment to resolving conflict, and satisfaction in relationships. Moreover, it supports the notion that adjusting verbal statements can go a long way in resolving conflict peacefully because making clear messages may reduce defensive reactions, which may benefit individuals, couples, practitioners, trainers, and professionals in reconciling interpersonal differences.

## References

Atristain-Suárez, C., & Castaños-Cervantes, S. (2024). Assertive relationship between teacher and student: The starting point for building healthy interpersonal relationships. In Atristain-Suárez, C., Castaños-Cervantes, S. (Eds.), *Assertiveness in educational and pedagogical strategies for institutional competitiveness* (pp. 255–271). Palgrave Macmillan. https://doi.org/10.1007/978-3-031-58885-3_13

Akkaya, M., & Tuzgol Dost, M. (2021). An examination of university students' level of assertiveness according to self-construal and five-factor personality traits. *Kastamonu Education Journal, 29*(2), 480–489. https://doi.org/10.24106/kefdergi.718520

Björkqvist, K. (1997). Learning aggression from models: From a social learning toward a cognitive theory of modeling. In S. Feshbach, & J. Zagrdozka (Eds.). *Aggression: Biological, developmental, and social perspectives* (pp. 69–81). Springer US.

Bodie, G. D., Vickery, A. J., Cannava, K., & Jones, S. M. (2015). The role of "active listening" in informal helping conversations: Impact on perceptions of listener helpfulness, sensitivity, and supportiveness, and discloser emotional improvement. *Western Journal of Communication, 79*(2), 151–173. https://doi.org/10.1080/10570314.2014.943429

Bodie, G. D., Worthington, D. L., & Gearhart, C. (2013). The Listening Styles Profile–Revisited (LSP-R): A scale revision and evidence for validity. *Communication Quarterly, 61*(1), 72–90. https://doi.org/10.1080/01463373.2012.720343

Braun, V., & Clarke, V. (2023). Thematic analysis. In H. Cooper, M. N. Coutanche, L. M. McMullen, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology: Research designs: Quantitative, qualitative, neuropsychological, and biological* (2nd ed., pp. 65–81). American Psychological Association. https://doi.org/10.1037/0000319-004

Brooks, J. L. (2012). Counterbalancing for serial order carryover effects in experimental condition orders. *Psychological Methods, 17*(4), 600–614. https://doi.org/10.1037/a0029310

Chism, M. (2020). Radical listening: How to stay in control of conversations. *Physician Leadership Journal*, *7*(6), 62–64.

David, F. N., & Johnson, N. L. (1956). Some tests of significance with ordered variables. *Journal of the Royal Statistical Society: Series B (Methodological), 18*(1), 1–31. http://www.jstor.org/stable/2983731

Deffenbacher, J. L., Thwaites, G. A., Wallace, T. L., & Oetting, E. R. (1994). Social skills and cognitive-relaxation approaches to general anger reduction. *Journal of Counseling Psychology, 41*(3), 383–396. https://doi.org/10.1037/0022-0167.41.3.386

Deiparine, J., Glenn, A., Groenewald, E., Zamora, M., Pansacala, N., & Kilag, O. K. (2023). Enhancing student engagement: An exploration of five high-impact teaching practices. *Excellencia: International Multi-disciplinary Journal of Education (2994-9521)*, *1*(6), 498–508.

Dil, S., & Cam, M. (2024). The mediator role of mindfulness in the relationship between the listening skills and anger management skills of emergency health care professionals. *International Emergency Nursing, 75*(1), 101475. https://doi.org/10.1016/j.ienj.2024.101475

Drollinger, T., Comer, L. B., & Warrington, P. T. (2006). Development and validation of the Active Empathetic Listening scale. *Psychology & Marketing, 23*(2), 161–180. https://doi.org/10.1002/mar.20105

Du, X., Ren, Y., & Yuan, X. (2023). How do decision makers evaluate advice from advisors with happy and angry expressions? A behavioral and ERP study. *Cognition and Emotion, 37*(4), 852–862. https://doi.org/10.1080/02699931.2023.2206999

Dunbar, N. E., Jackson, F. F. J., & Nassuna, R. (2022). A communication coding system for use in high-conflict interpersonal relationships. *Frontiers in Communication, 7*(85), 1–10. https://doi.org/10.3389/fcomm.2022.863960

Erbay, E., & Akcay, S. (2013). Assertiveness skill of social work students: A case of Turkey. *Academic Research International, 4*(2), 316–323. http://www.savap.org.pk/journals/ARInt./Vol.4(2)/2013(4.2-33).pdf

Feng, B., & MacGeorge, E. L. (2006). Predicting receptiveness to advice: Characteristics of the problem, the advice-giver, and the recipient. *Southern Communication Journal, 71*(1), 67–85. https://doi.org/10.1080/10417940500503548

Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs—principles and practices. *Health Services Research*, *48*(6), 2134–2156. https://doi.org/10.1111/1475-6773.12117

Fischer-Lokou, J., Lamy, L., Gueguen, N., & Dubarry, A. (2016). Effects of active listening, reformulation, and imitation on mediator success: Preliminary results. *Psychological Reports, 111*(3), 994–1010. https://doi.org/10.1177/0033294116646159

Fitzgerald, P., & Leudar, I. (2010). On active listening in person-centred, solution-focused psychotherapy. *Journal of Pragmatics, 42*(12), 3188–3198. https://doi.org/10.1016/j.pragma.2010.07.007

Flicker, S. M., Sancier-Barbosa, F., Moors, A. C., & Browne, L. (2021). A closer look at relationship structures: Relationship satisfaction and attachment among people who

practice hierarchical and non-hierarchical polyamory. *Archives of Sexual Behavior, 50*(1), 1401–1417. https://doi.org/10.1007/s10508-020-01875-9

Floyd, J. J. (2010). Listening: A dialogic perspective. In A. D. Wolvin (Ed.), *Listening and human communication the 21st century* (pp. 127–140). Wiley-Blackwell.

Gable, J. (2007). *Counselling skills for dietitians* (2nd ed.). Blackwell Publishing.

Gallois, C., Ogay, T., & Giles, H. (2005). Communication accommodations theory: A look back and a look ahead. In W. B. Gudykunst (ed.), *Theorizing about intercultural communication* (pp. 121-148). Sage.

Gambrill, E. D., & Richey, C. A. (1975). An assertion inventory for use in assessment and research. *Behavior Therapy, 6*(4), 550–561. https://doi.org/10.1016/S0005-7894(75)80013-X

Gibb, J. R. (1961). Defense level and influence potential in small groups. In Petrullo, L. & Bass, B. M. (Eds.), *Leadership and Interpersonal Behavior* (pp. 66–81). Holt, Rinehart, and Winston.

Giles, H. (1973). Accent mobility: A model and some data. *Anthropological Linguistics, 15*(2), 87-105. https://www.jstor.org/stable/30029508

Gottman, J. M. (1999). *The marriage clinic: A scientifically-based marital therapy*. WW Norton & Company.

Hample, D., & Hample, J. M. (2019). There is no away: Where do people go when they avoid an interpersonal conflict? *Negotiation and Conflict Management Research, 13(*4), 304–325. https://doi.org/1111/ncmr.12170

Hedlund, B. L., & Lindquist, C. U. (1984). The development of an inventory for distinguishing among passive, aggressive, and assertive behavior. *Behavioral Assessment, 6*(4), 379–390. https://psycnet.apa.org/record/1985-19065-001

Helgeson, V. S. (2003). Social support and quality of life. *Quality of Life Research, 12*, 25–31. https://doi.org/10.1023/a:1023509117524

Ishi, C.T., & Kanda, T. (2019). Prosodic and voice quality analyses of loud speech: Differences of hot anger and far-directed speech. *Proceedings of the Workshop on Speech, Music and Mind* (SMM 2019), 1–5. doi: 10.21437/SMM.2019-1

Khaydarova, L. (2023). Effective and modern methods of teaching listening skills. *Scientific Progress*, *4*(3), 36–42.

Kluger, A. N., & Itzchakov, G. (2022). The power of listening at work. *Annual Review of Organizational Psychology and Organizational Behavior*, *9*, 121–146. https://doi.org/10.1146/annurev-orgpsych-012420-091013

Kuhn, R., Bradbury, T. N., Nussbeck, F. W., & Bodenmann, G. (2018). The power of listening: Lending an ear to the partner during dyadic coping conversations. *Journal of Family Psychology, 32*(6), 762–772. https://doi.org/10.1037/fam0000421

Lailiyah, M., Setiyaningsih, L. A., Wediyantoro, P. L., & Yustisia, K. K. (2021). Assessing an effective collaboration in higher education: A study of students' experiences and challenges on group collaboration. *EnJourMe (English Journal of Merdeka): Culture, Language, and Teaching of English*, *6*(2), 152–162.

Malesevic, V., Jelic, G., & Vekaric, G. (2021). Importance of conscious attention capacity in removing the causes of active listening distractions. *International Conference on Research in Management and Economics, 1*(1), 1–11.

Manusov, V., Stofleth, D., Harvey, J. A., & Crowley, J. P. (2018). Conditions and consequences of listening well for interpersonal relationships: Modeling active-empathic listening,

social-emotional skills, trait mindfulness, and relational quality. *International Journal of Listening, 34*(2), 110–126. https://doi.org/10.1080/10904018.2018.1507745

Moss, J. G., Firebaugh, C. M., Frederick, H., Morgan, S. M., & Mozes-Carmel, A. (2021). Assertiveness, self-esteem, and relationship satisfaction. *International Journal of Arts and Social Science, 4*(2), 235–245. www.ijassjournal.com

Ogonwa, H. C., & Ezenwa, M. O. (2024). Assertiveness and social support as correlates of marital satisfaction among married Christian couples in Asaba. *Nnadiebube Journal of Social Sciences, 5*(1), 45–63. https://www.nnadiebubejss.org/index.php/njss/article/view/90/80

Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality, 36*(6), 556–563. https://doi.org/10.1016/S0092-6566(02)00505-6

Rahman, R. M. A., Hosny, W. A., & Ata, A. A. (2018). Conflict management styles, assertiveness and stress among nursing students. *IOSR Journal of Nursing and Health Sciences, 2*(2), 49–59. https://doi.org/10.9790/1959-0702084959

Rimland, B. (1982). The altruism paradox. *Psychological Reports, 51*(2), 521–522. https://doi.org/10.2466/pr0.1982.51.2.521

Rogers, C.R., & Farson, R.E. (1987). Active Listening. In R. G. Newman, M. A. Danziger, & M. Cohen (Eds.), *Communication in Business Today* (excerpt). Heath and Company. (Original work published 1957).

Roloff, M. E., & Ifert, D. E. (2014). Conflict management through avoidance: Withholding complaints, suppressing arguments, and declaring topics taboo. In S. Petroni (Ed.), *Balancing the secrets of private disclosures* (pp. 151–179). Lawrence Erlbaum.

Satir, V. (1972). *Peoplemaking*. Science and Behavior Books, Inc.

Satir, V. (1988). *The new peoplemaking*. Science and Behavior Books.

Scherer, K. R. (1986). Vocal affect expression: A review and a model for future research. *Psychological Bulletin, 99*(2), 143–165. https://doi.org/10.1037/0033-2909.99.2.143

Schaerer, M., Tost, L. P., Huang, L., Gino, F., & Larrick, R. (2018). Advice giving: A subtle pathway to power. *Personality and Social Psychology Bulletin*, *44*(5), 746–761. https://doi.org/10.1177/0146167217746341

Schwanke, J. (2024). *The principal's guide to conflict management*. ASCD.

Sherman, R. (1999). Understanding your communication style. *Online Women's Business Center*. https://www.ownexams.com/documents/doc_63.pdf

Singhal, A., & Nagao, M. (2009). Assertiveness as communication competence: A comparison of the communication styles of American and Japanese students. *Asian Journal of Communication, 3*(1), 1–18. https://doi.org/10.1080/01292989309359570

Taylor, S. J., Bogdan, R., & DeVault, M. (2016). *Introduction to qualitative research methods: A guidebook and resource*. John Wiley & Sons.

Tehrani, H. D., & Yamini, S. (2020). Personality traits and conflict resolution styles: A meta-analysis. *Personality and Individual Differences, 157*(15), 109794. https://doi.org/10.1016/j.paid.2019.109794

Thomas, A. B. (2004). *Research skills for management studies*. Routledge.

Thomas, K. W. (2008). Thomas-Kilmann conflict mode. *TKI Profile and Interpretive Report*, *1*(11).

Udo, M. S. (2023). ICT in listening as a language skill. *EPRA International Journal of Multidisciplinary Research*, *9*(4), 123–128. https://doi.org/10.36713/epra2013

Wardany, S.W., Suryani, S, & Sriati, A. (2022). Effect of assertiveness training to reduce anger in patients at risk of violence behavior: A literature review. *Malaysian Journal of Medicine and Health Sciences, 18*(SUPP3), 267–271.

Weaver III, J. B., Watson, K. W., & Barker, L. L. (1996). Individual differences in listening styles: Do you hear what I hear? *Personality and Individual Differences, 20*(3), 381–387. https://doi.org/10.1016/0191-8869(95)00194-8

Weger, H., Bell, G. C., & Emmett, M. C. (2010). Active listening in peer-interviews: The influence of message paraphrasing on perceptions of listening skill. *International Journal of Listening, 24*(1), 34–49. https://doi.org/10.1080/10904010903466311

Weger, H., Bell, G. C., Minei, E. M., & Robinson, M. C. (2014). The relative effectiveness of active listening in initial interactions. *International Journal of Listening, 28*(1), 13–31. https://doi.org/10.1080/10904018.2013.813234

Weinstein, N., Itzchakov, G., & Legate, N. (2021). The motivational value of listening during intimate and difficult conversations. *Social and Personality Psychology Compass*, *16*(2), e12651. https://doi.org/10.1111/spc3.12651

Winer, S. (in press, 2025). *The game changer* [Board Game]. Self-published.

Winer, S. (2024*). Relationship intelligence: From conflict to caring*. Amazon. https://www.amazon.com/Relationship-Intelligence-Conflict-Steven-Winer-ebook/dp/B0DLLLPV91?ref_=ast_author_dp

Winer, S., Dunbar, N. E., Summary, J. J., & Jordan Jackson, F. F. (2023). Understanding the effect of vocal behaviors in high conflict situations in personal relationships. *Professional Psychology: Research and Practice, 54*(6), 470–478. https://doi.org/10.1037/pro0000533

Winer, S., Ramos Salazar, L., Anderson, A. M., & Busch, M. (2024). Resolving conflict in interpersonal relationships using passive, aggressive, and assertive verbal statements. *International Journal of Conflict Management, 35*(2), 334–359. https://doi.org/10.1108/IJCMA-03-2023-0048

Yip, J., & Fisher, C. M. (2022). Listening in organizations: A synthesis and future agenda. *Academy of Management Annals*, *16*(2), 657–679. https://doi.org/10.5465/annals.2020.0367

Zhang, S. (2009). Sender-recipient perspectives of honest but hurtful evaluative messages in romantic relationships. *Communication Reports, 22*(2), 89–101. https://doi.org/10.1080/08934210903032448

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## Appendix

**Illustrating the statements and potential responses**

You are listening to someone you care about who is sharing their anger with you. You have three different response style choices. In this situation, you need to assess how each listening response will affect the sender and their perception of your response. Which would you choose?

**Passive Listening Responses**

**Passive Avoider**: "You think you have a problem? What about my problem?"
**Passive Rescuer**: "Don't worry, everything will be okay."

**How might these responses affect the sender?**

- This person will often become angrier.
- They might feel ignored.
- They might be resistant to sharing their feelings.
- They will be unlikely to want to resolve the conflict.
- They often see the relationship as less satisfying.

**How might the sender perceive this response?**

- You might be seen as avoiding, ignoring conflict interactions, and dismissing issues.
- You produce emotional tensions in the relationship, tending to intensify anger.
- You may be perceived as unwilling to collaborate and work together.

**Aggressive Listening Responses**

**Aggressive Advice Giver:** "You need to stop being so angry."
**Aggressive Evaluator:** "You're just over-sensitive."

**How might these responses affect the sender?**

- This person will often become angrier.
- They will likely feel ignored.
- They will not want to share their feelings.
- They will be unlikely to want to resolve conflict.
- They will see the relationship as less satisfying.

**How might the sender perceive this response?**

- Provoking more anger and escalating the conflict.
- People might also view you as self-centered, arrogant, condescending, avoiding blame, manipulating, indifferent, lacking empathy, and indifferent.
- Some might see you as unwilling to listen, having difficulty resolving conflict, lacking in collaboration, and unable to work with others during conflict interactions.

**Assertive Listening Responses**

**Assertive Certainty:** "I know you are angry with me, and you want me to listen to you."
**Assertive Probability:** "My thought is you're feeling angry with me, and you want me to listen to you."

**How might these responses affect the sender?**

- You may move this person from passive or aggressive to assertive.
- This person's anger will lower.
- They more often feel listened to.
- They may be willing to express vulnerability about how they feel.
- They may be more likely to resolve conflict and see the relationship as satisfying.

**How might the sender perceive this response?**

- You are direct in expressing your thoughts and feelings about the problem.
- You are accountable and personally responsible, self-aware of problematic behavior leading to conflict, and apologetic for wrongful treatment.
- You acknowledge the sender and validate their feelings, enable the mutual expression of feelings, show empathy, caring, kindness, and respect, and are non-confrontational and relatable.

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# Conflict Issues in Start-up Co-founders: Typology and Measurement

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## Abstract

This work develops and validates the Conflicts among Co-founders (COCO) scale, expanding the existing typology of conflicts. In the first study, qualitative results suggest the existence of four types of conflict issues. In the second study, analyses yield three dimensions of the COCO scale. In the third study, Confirmatory Factor Analysis and reliability analyses show psychometric robustness of the COCO scale: money, norms, and vision. This work addresses a gap in the currently available measures of conflict tailored to the specific context of start-ups. Implications for entrepreneurial practice are discussed.

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## Conflict Issues in Start-up Co-founders: Typology and Measurement

Start-ups, often founded by teams of entrepreneurs (Lazar et al., 2020; Carland & Carland, 2012), are among the current top priorities for economic growth. Founding teams are crucial to venture performance, investment decisions, and survival (Knight et al., 2020). To survive and flourish in an extremely competitive context, these teams need to be highly innovative and effective. Although team-based start-ups offer considerable advantages over solo ventures, they often fail to realize their full potential due to conflicts that give rise to dysfunctional team dynamics (Schoss et al., 2022). Indeed, 50% (United States Department of Labor, 2016) up to 95% (Gage, 2012) of new businesses fail in their first years, conflicts between co-founders being one of the top reasons for this failure (DeMers, 2018; Lance, 2016).

However, conflicts are inevitable in high-performing teams (Amason, 1996; Wheelan, 1994), and they are not always destructive. Paradoxically, conflicts can boost innovation and decision-making quality (de Wit et al., 2012), contributing in this way to venture entrepreneurial success. This paradox of conflict is inherent for start-up co-founders whose core task is to come to shared decisions on high-stakes issues (e.g., investments, operations, values) while operating in a unique context of high demands and low resources (Ensley et al., 2002) that makes them fertile ground for conflicts.

The current scales for evaluating workplace conflict categorize it into different types that do not assess the actual substance of the conflict. However, negotiation literature recognizes conflict issues as a fundamental dimension of any disagreement (Odell, 2013). A growing body of research shows that the nature of the conflict issue, or what the conflict is actually about, is a key predictor of negotiation processes and outcomes (Harinck et al., 2000; Harinck & Van Kleef, 2012). For instance, negotiations involving scarce resources, such as money, are generally more feasible but tend to elicit less integrative behavior, as one party's gain is perceived as the other's loss. In contrast, negotiations centered on qualitative issues (e.g., norms or long-term rules) often promote more flexible and exploratory behavior (Odell, 2013). However, when norms and values are at stake, reaching agreement becomes particularly difficult, as these issues are not easily subject to trade-offs (Steinel & Harinck, 2020). Unlike financial resources, values are often deeply tied to individuals' identities, and parties may resist collaboration if they believe that mutually beneficial outcomes would require compromises that threaten their core moral beliefs (Wade-Benzoni et al., 2002). Thus, to capture the complexity of conflict dynamics, it is essential to move beyond traditional typologies of conflict and directly examine the content of conflict issues.

Building on this, in the context of new venture teams, conflictive issues specific to entrepreneurial settings can be seen as potential stressors (Kozusznik & Euwema, 2020). Such issues are likely to represent both opportunities and threats (Lazarus & Folkman, 1984) and may trigger stress-related responses. Because these stressors are subjective, they can impact the well-being of entrepreneurs in different ways. This requires a tool that measures specific conflict issues while allowing for individual interpretation of that stressor, rather than relying on traditional conflict types that assume uniform effects (e.g., "task" vs. "relationship" conflict). This approach aligns with the growing interest in well-being in entrepreneurship research (Stephan et al., 2023) and may help identify factors that protect against negative outcomes such as burnout.

The purpose of this study is to uncover a typology of conflict issues among start-up co-founders and to develop a tool to measure those. Achieving these aims will allow us to advance scholarship on the management of contradictions to understand the origins and consequences of organizational conflict (Kolb & Bartunek, 1992), as well as to design interventions aimed at

improving co-founders' decision-making quality, team efficiency, and start-up entrepreneurial success.

**Performance and Survival of Start-ups**

Start-ups are the engine of the US (Haltiwanger et al., 2013) and the European (Malchow-Møller et al., 2011; see also Morris et al., 2016) job growth. Keeping with the Small Business Jobs Act (Office of Entrepreneurial Development, 2019) and the Small Business Act (European Commission, 2008) principles, governments worldwide aim at supporting entrepreneurs in creating new businesses and ensuring more supportive environments for start-ups, so they can thrive and grow. To achieve this high performance, start-up co-founders need to survive as a team, operate in an extremely uncertain, challenging, and competitive context (Hmieleski & Cole, 2021; Lazar et al., 2022), and be highly innovative by developing excellent performance and decision-making (De Dreu & Beersma, 2005).

We understand start-ups as recently formed companies (up to five or so years) with a clear growth ambition (Covin et al., 2006; Morris et al., 2016), unconstrained by geography. In this way, we draw a distinction between potential high growth start-ups (Sohl, 1999) and a broader concept of a new venture that are companies in their "early stages of development and growth" (Klotz et al., 2014, p. 227), which includes more types of ventures (e.g., "survival" or "lifestyle" companies (Morris et al., 2016).

The management of start-ups is generally a shared effort (Gartner et al., 1994), and start-ups are likely to be founded by teams of entrepreneurs (Carland & Carland, 2012; Lazar et al, 2020). Start-up *c*o-founders are persons who jointly launch a business (Forster & Jansen, 2010) and who *"actively participate in the development and implementation of its strategy (e.g., setting the vision and mission, obtaining resources, hiring employees)"* (Klotz et al., 2014, pp. 227–228). The importance of start-up co-founders for venture success resonates with the upper echelon perspective (Finkelstein & Hambrick, 1996) that has been adopted as the primary lens for studying new venture team performance (Klotz et al., 2014) and that links top team dynamics with the whole firm performance (Amason, 1996; Ensley et al., 2002). Indeed, it is known that, in the start-up context, co-founders' influences on their organization can last for years after the founders have left or even passed on (Nelson, 2003). Indeed, conflicts between co-founders are one of the top reasons for start-up failure (DeMers, 2018; Lance, 2016). One of the explanations for this collapse is that poorly managed conflicts have deleterious effects on decision making (De Dreu & Beersma, 2005), which is key for effectiveness and innovation (Leaptrott, 2009), and survival of the start-up (de Wit et al., 2012; Dijkstra et al., 2009).

Even though the number of studies focused on entrepreneurial teams increased (Cooney, 2005), co-founders as key actors for start-up functioning have received limited attention in research (Forster & Jansen, 2010). Indeed, a review by Wennberg (2013) shows that still only 30 out of 134 studies on high-growth ventures published between 1985 and 2013 contained data on their co-founders or top teams.

**The Paradox of Organizational Conflict**

Conflict, the interactive social process arising from tensions between two or more people due to actual or perceived differences in ideas or values (Wall & Callister, 1995), is inevitable and essential in the development and functioning of high performing teams (Amason, 1996; Wheelan,

1994), being a continuous challenge for organizations (Babalola et al., 2018). For start-up co-founders, managing conflictive issues is core business, and it is not bad *per se* (Belén García et al., 2015; de Wit et al., 2012). Indeed, paradoxically, conflict might have positive outcomes (de Wit et al., 2012): it can facilitate superior start-up performance (Ensley et al., 2002), ensure creativity and high-quality decision making, yet, being at the same time, an impediment to it (Amason, 1996), because it may weaken the ability of the group to work together (Schweiger et al., 1986) or even lead to departure by offended team members (Ensley et al., 2002). Likewise, the pursuit of consensus (lack of conflict) may reduce creativity (De Dreu & De Vries, 1997) and decision quality (Amason, 1996). This paradoxical relationship resonates with the dialectic perspective that conceives of such contradictory forces as the need for innovation as well as stability that are simultaneously present in high-performing teams of co-founders and that are central to organizational dynamics (Kellett, 1999). Dealing with the paradox of conflict to ensure optimal decision making requires what is referred to as constructive controversy, understood as an open-minded discussion of opposing views for mutual benefit (Tjosvold et al., 2015).

**Conflictive Issues Among Start-up Co-founders**

Conflicts are especially relevant for start-up co-founders because the issues on their agenda require challenging discussions. Specifically, they are confronted with nonroutine, ambiguous, and complex types of tasks (Ensley et al., 2002) that require intense decision making (Jin et al., 2017) and make some amount of disagreement inevitable (Ensley et al., 2002). These tasks include reaching agreement on the business plan, investment strategies, product or service development and promotion, seeking customers and potential partners, and putting into place organizational processes and procedures (Amason et al., 2006; Edelman et al., 2016; Zahra et al., 2000).

Furthermore, decision-making among start-up co-founders occurs under stressful conditions, exposure to which is known to be associated with an increase in conflict (O'Brien & DeLongis, 1997) and predictive of conflict-inducing behavior, such as withdrawal, aggressive or antisocial behavior (Bergen et al., 2004; Sprague et al., 2011; Verona & Kilmer, 2007). These stressful conditions arise from the high job demands that start-up co-founders face and the limited resources they possess (Ensley et al., 2002). On the one hand, the start-up environment is highly uncertain (Chandler et al., 2005; Lazar et al., 2022), volatile, and ambiguous (Chen et al., 2017), which is especially the case for high-tech innovative start-ups that embrace rapid technological change (Keeble, 1990). To be successful, start-ups see themselves pressured to stand out from the existing companies on the market, and this requires creativity and intensive learning, with minimal losses in efficiency and motivation (Ensley et al., 2002). The uncertainty, novelty, and high stakes in entrepreneurs' daily lives make maintaining harmonious interpersonal relationships particularly challenging (Yu et al., 2022). On the other hand, in their early stages, start-ups have limited resources (Hitt et al., 2011), including poor working conditions (Hasle & Limborg, 2006), a lack of necessary capital, and liquidity constraints (Evans & Jovanovic, 1989). Start-up founders have often limited, if any, business knowledge, entrepreneurial experience, and business relations (Nielsen & Lassen, 2012).

Additionally, founding teams still need to establish shared norms for collaboration and joint strategic decision-making, making conflict a common and critical aspect of interactions within these teams (De Jong et al., 2013). Under such conditions, new firms often face crises, which can trigger destructive behaviors in response to ego threats (Brownell & Embry, 2024).

Misalignment among team members can even lead to the premature departure of co-founders during the early formation phase of the venture (Lazar et al., 2020).

Finally, the composition of the co-founding team can also be a source of conflict. During the early stages of start-up team formation, members bring complementary expertise, which, while beneficial, can lead to discrepancies. Without common ground, these can lead to entrenchment that can undermine communication and coordination, and potentially result in early turnover or costly efforts to address the conflictive issues (Lazar et al., 2022). Co-founding teams are also typically diverse in age, gender, ethnicity, education, and life experiences, all of which can exacerbate conflicts (Leffel et al., 2012). Also, start-ups are often built on long-standing relationships (e.g., among close friends or family members) that are more exposed to conflict than non-family firms (Ensley & Pearson, 2005), formed by less closely related business partners. In fact, the co-founder relationship, characterized by a shared vision, has been compared to that of a married couple (Overall, 2025). These close relationships are often put at stake when developing their business, which can add heat to an already challenging situation.

### *Towards the Development of the Typology of Conflict Issues Among Start-up Co-Founders*

Several studies explain the overall nature of organizational conflict. Scholars distinguish task, relationship, and process conflict (Jehn et al., 2008) that can co-occur (de Wit et al., 2012). Empirical findings suggest that different team members can experience more conflict than others while exposed to the same conflict types (Sinha et al., 2016) and they show that the extent to which the type of conflict can have detrimental effects on individual well-being and organizational effectiveness can vary (de Wit et al., 2012).

Current scales for evaluating workplace conflict categorize it into types typically seen as either constructive (task-oriented, cognitive) or destructive (emotional, interpersonal), in relation to team outcomes. However, meta-analyses indicate that traditional measures of task conflict (the so-called 'constructive' conflict) show zero correlations with team performance (de Wit et al., 2012; O'Neill et al., 2013). Also, these scales do not assess the actual substance of the conflict. This research explicitly refers to the particular conflict-eliciting issues encountered by start-up co-founders that require daily management of tensions, which can be "*catalyst*[s] *for creativity and understanding as well as for animosity and resentment*" (Ensley et al., 2002, p. 366).

In this study, we build on Deutsch's (1973) theoretical framework of conflict, which emphasizes that the nature of the issue is a core determinant of whether conflict escalates or is resolved constructively. Deutsch (1973) identifies several types of conflictive issues- including control over resources (e.g., money), beliefs, and values- as fundamental to understanding conflict dynamics. These dimensions align with the Money, Norms, and Vision dimensions of the COCO scale, supporting that traditional conflict typologies (e.g., task vs. relationship conflict) may overlook critical nuances in start-up co-founder conflict.

We also draw from the contingency theory of conflict management perspective (Rahim, 2002), which explains that effective conflict resolution depends on aligning strategies with the specific characteristics of the conflict situation, including the issue at stake. Thus, understanding *what* co-founders disagree about is critical, as different conflict issues may differentially predict team functioning, decision quality, and venture success. The COCO scale addresses this gap by offering a validated, context-specific tool to assess conflict issues in early-stage start-ups.

Negotiation research helps further explain why conflict issues matter, viewing them as a fundamental dimension of disagreement (Odell, 2013). Research has shown that the nature of the

conflict issue significantly predicts negotiation processes and outcomes (Harinck et al., 2000; Harinck & Van Kleef, 2012). For example, negotiations over scarce resources often promote distributive behavior, while qualitative issues, such as norms or rules, encourage more exploratory, integrative behavior (Odell, 2013). However, when norms and values are at stake, reaching agreement becomes particularly difficult, as these issues are not easily subject to trade-offs (Steinel & Harinck, 2020). Therefore, a focus on the content of conflict is critical for understanding and managing the complexities of interpersonal conflict in start-ups.

We situate these ideas within the entrepreneurial context through the lens of the upper echelons perspective (Finkelstein & Hambrick, 1996), which explains how top team disagreements shape venture performance (Amason, 1996; Ensley et al., 2002; Klotz et al., 2014). By capturing the core issues of co-founder conflict, the COCO scale offers a deeper lens on early-stage team functioning and start-up outcomes. We address the call to carry out more research that focuses on the intricate nature of conflict (Olson & Golish, 2002) that would uncover specific conflict issues among start-up co-founders. Although conflicts among start-up co-founders appear to be an important subject for study (Chen et al., 2017; Ensley et al., 2002), conflict issues among start-up co-founders have remained largely unexplored.

Entrepreneurial teams significantly differ from ordinary work teams in organizations due to a lack of established norms, the presence of equity sharing, and a high degree of managerial decision-making latitude (Li et al., 2025), which can all constitute unique conflict issues within these teams. First, unlike traditional work teams that function under established norms, routines, and structures, early-stage entrepreneurial teams are characterized by weak social situations in which norms regarding appropriate behavior have yet to be established (Klotz et al., 2014; Li et al., 2025). In this context, disagreements over norms, such as expectations around appropriate behavior and role responsibilities, appear to be one of the core conflictive issues in entrepreneurial teams. These disagreements are closely linked to the concept of role ambiguity, which refers to a lack of clarity regarding duties, authority, time allocation, and interpersonal relationships, as well as the absence of clear guidelines or predictable consequences for behavior (Rizzo et al., 1970). Co-founding teams are particularly vulnerable to role ambiguity, which is associated with increased tension, hostility (Kahn et al., 1964), and interpersonal conflict (Tidd et al., 2004), which highlights the importance of understanding conflict in entrepreneurial teams (Chen et al., 2017).

Second, equity sharing among entrepreneurial team members increases their sensitivity to conflicting viewpoints on the venture's strategic direction (Chen et al., 2017), making them particularly vulnerable to money-related conflict issues. The extensive literature on negotiation emphasizes the role of conflicts of interest in shaping such disagreements. Specifically, equity-sharing negotiations within entrepreneurial teams can evoke fixed-pie perceptions, where team members assume that any gain in ownership or decision rights for one individual necessarily entails a loss for another (Thompson, 1990). This reflects a systematic judgment bias, especially in negotiations over tangible resources such as money, where integrative outcomes and mutual gains are often possible (Thompson and Hastie, 1990; Bazerman and Neale, 1983). These misperceptions can fuel or escalate financial disagreements.

Finally, entrepreneurial teams operate with a high degree of managerial discretion and decision-making latitude, meaning that their vision shapes the venture's long-term success (Klotz et al., 2014), but also may expose them to diverging opinions, making disagreements about the venture's vision likely to emerge. This context can also promote behaviors like asserting dominance, devaluing others' contributions, or forming coalitions that undermine teamwork (Bendersky and Hays, 2012). Along these lines, Wakefield and Sebora (2004) identified four

conflictive issues as particularly salient in new family businesses: conflicts over money and compensation, managerial roles, ownership and control, and strategic vision. While these dimensions offer a useful starting point for understanding conflictive issues in entrepreneurial settings, the authors did not provide a rationale for how the four conflict dimensions were conceptually derived, nor did they describe the development process or psychometric validation of the items used to measure them.

In this study, we seek to advance scholarship on the management of disagreements by broadening the typology of conflicts to include conflict issues among start-up co-founders that would allow us to gain more detailed insight into the topics over which start-up co-founders have disagreements. Specifically, the aim of this work is twofold: 1) to expand the existing typology of conflicts to include a classification of conflict issues especially present among start-up co-founders; and 2) to develop and validate a tool that allows measuring conflict issues among start-up co-founders that is tailored to the specificity of start-ups.

Uncovering the conflictive issues among start-up co-founders and classifying these allows us to enhance our understanding of the catalysts for the paradoxical (positive and negative) outcomes of conflict for start-up top team performance. By focusing specifically on the topics of conflict among start-up co-founders, we can advance our understanding of the interactions in start-up teams and begin to build a new, issue-centered conceptual framework of conflict in start-ups that may help explain both start-up failure and entrepreneurial success. Also, uncovering a typology of conflict issues among start-up co-founders and validating a new instrument to assess these will allow us to design interventions intended at creating awareness of conflict issues and at addressing the most relevant heated themes in start-up top teams since the early stages of development of the venture. All this can help to prevent a destructive accumulation of tensions among co-founders and to ensure space for constructive controversy that may enable innovation, team efficiency (see Tjosvold, 2008 for a review), and boost start-up top team strategic advantage (Chen et al., 2005).

## Study 1. Types of Conflictive Issues in Start-ups

The two main objectives of Study 1 were (a) to determine the types of conflictive issues among start-up co-founders and (b) to classify them in meaningful categories. To address these aims, we used a mix of qualitative and quantitative approaches: first, we carried out semi-structured interviews to obtain qualitative data about conflictive issues among start-up co-founders. This qualitative information served to elaborate categories of conflict issues in start-up top teams by means of multidimensional scaling and cluster analysis.

### Method

#### *Participants and Procedure*

In order to determine units of analysis, we carried out interviews with 21 start-up founders and entrepreneurship experts who were independent of one another, reaching in this way the

recommended sample size (Creswell & Poth, 2018). Participants were contacted directly or through a university incubator of entrepreneurship between January and February 2018. 73% of the start-up founders were men. 80% were married or in a marriage-like relationship, and 20% were single. The start-ups were founded between 2012 and 2017 and thus ranged between 1 and 6 years ($M$ = 2.93, $SD$ = 1.54) and had between 2 and 5 co-founders ($M$ = 3.0, $SD$ = .88). The participation was voluntary, and the participants were assured of the confidentiality of their data.

Because we were interested in collecting detailed information about conflictive issues among start-up co-founders, we adopted a participant-driven method of inquiry. This decision was grounded in established practices for inductive item generation, particularly when constructs are underexplored, conceptual dimensions are not yet well-defined, and content is best derived from the lived experiences of the target population (Hinkin, 1998). As Clark and Watson (1995) emphasize, drawing item pools from participant experiences is essential for content validity. Our approach closely aligns with the methodology of Behfar et al. (2008), who also used a participant-driven method of inquiry to understand how participants themselves (rather than the researchers) think about team conflict dynamics (Behfar et al., 2008). To this end, we carried out semi-structured interviews during which we included two open-ended questions, asking start-up co-founders to describe "the topics of disagreements (if any) they had with their start-up co-founder(s) since their start-up was created" and "give examples of the milestones or events in the development in the start-up that provoked most tensions or disagreements with their start-up co-founder(s)" to elicit both broad and context-specific accounts of conflict (Clark & Watson, 1995; Hinkin, 1998). We used the term "disagreements" in our interview questions rather than "conflict" to encourage more open and accurate participant responses. In line with prior work in social and organizational psychology, we follow a definition of conflict that centers on interpersonal disagreement (e.g., Amason & Sapienza, 1997; Barki & Hartwick, 2004; Jehn, 1995; Simons & Peterson, 2000). Research suggests that individuals may perceive the term "conflict" as emotionally charged or stigmatized, which can lead them to downplay or avoid acknowledging its presence (Kerwin et al., 2011). In contrast, "disagreement", while lying at the core of interpersonal conflict, is generally less emotionally loaded (Barki & Hartwick, 2004). We asked about critical milestones because tensions between co-founders often arise during key transitional events in the start-up lifecycle, such as external financing rounds, product launches or modifications, recruitment, strategic shifts, and organizational growth (Hellmann et al., 2019; Kaulio, 2003; Leffel et al., 2012; Sarfati et al., 2020). All interviews were carried out face-to-face by a psychologist, except for one, which, due to geographical constraints, was carried out over the phone.

### *Analyses: Classifying Conflictive Issues Among Start-up Co-Founders by Using Participant Concept Mapping*

The concept mapping method is a participatory content analysis (Jackson & Trochim, 2002) that combines traditional content analysis and semantic mapping analysis (Behfar et al., 2008), allowing, in this way, to analyze the responses on the types of conflict issues among start-up co-founders. The aim of concept mapping is to produce clusters of similar thematic categories, and it is carried out in five-steps: (a) determining units of analysis, (b) participant sorting of units, (c) multidimensional scaling analysis, (d) cluster analysis, and (e) cluster labelling (Behfar et al., 2008).

**Determining Units of Analysis.** In this step, units of analysis were created from the statements generated by the respondents in response to the two open-ended questions in the semi-

structured interviews. All the responses about the conflictive issues were decomposed into single statements by the research team. Repetitions from the same person were eliminated. This process yielded 136 statements on sources of conflicts among start-up co-founders.

**Participant Sorting of Units of Analysis.** To avoid introducing researcher bias to the remaining steps of the concept mapping analysis, post-graduate students attending "Organizational Change" course (91% master, 9% doctoral) were used as decision makers. Because students in this course had expertise with the topic of organizational conflict, we considered this group an adequate one to sort the units of analysis. We gave 22 students (77% women) a set of cards with printed statements (i.e., units of analysis) on them and instructed them to organize cards containing similar ideas together into piles. We asked them to create as many piles as they considered adequate, to give each of their piles a name, and not to create a "Miscellaneous/others" pile. The students worked in dyads, none of which had formally appointed leaders. Thus, both members of each dyad were jointly responsible for making decisions in the group.

**Multidimensional Scaling Analysis.** We used the information from the sorting to carry out a multidimensional scaling analysis in order to create a map of conceptual similarity between the units of analysis. First, we created a 136 x 136 binary square matrix (rows and columns represent statements on sources of conflicts among start-up co-founders) for each individual sorter. Cells indicated whether or not a pair of statements was classified by a particular coder as belonging to the same category (1 = yes vs. 0 = no). Second, we aggregated the 11 individual matrices and, based on the multidimensional scaling of the aggregated matrices, we used SPSS v.22 software (IBM Corp., 2017) to create coordinate estimates that served to elaborate a two-dimensional map of distances between the statements. We chose a two-dimensional space as it provides the most relevant input for a cluster analysis (Kruskal & Wish, 1978).

**Cluster Analysis.** We carried out a two-step cluster analysis developed by Chiu and colleagues (2001) on the multidimensional scaling coordinates to find the cluster solution (i.e., the classification of conflict issues among start-up co-founders) that best represented the structure of the data. In order to do that, we used the Bayesian Information Criterion (BIC) and the cluster solution silhouette.

**Cluster Labelling**. After arriving at a final cluster solution, we reassessed the statements in each category. We took into account the names for each pile given by the original sorters to choose labels that best reflected the quintessence of each category. We based all the cluster labels on the original labels given by the sorters or on the statements formulated by the participants.

## Results

### *Initial List of Conflict Statements*

The interviews yielded 136 statements on sources of conflicts among start-up co-founders. Example statements were: "Setting the division of the shares"; "Another co-founder being tied stronger with his/her another activity than with the start-up"; "Not feeling valued by the other founders"; and "Objectives of adventure are not shared by all co-founders (e.g., a fast exit orientation vs. a long-term orientation)."

### *Concept Map of Conflicts Among Start-up Co-founders*

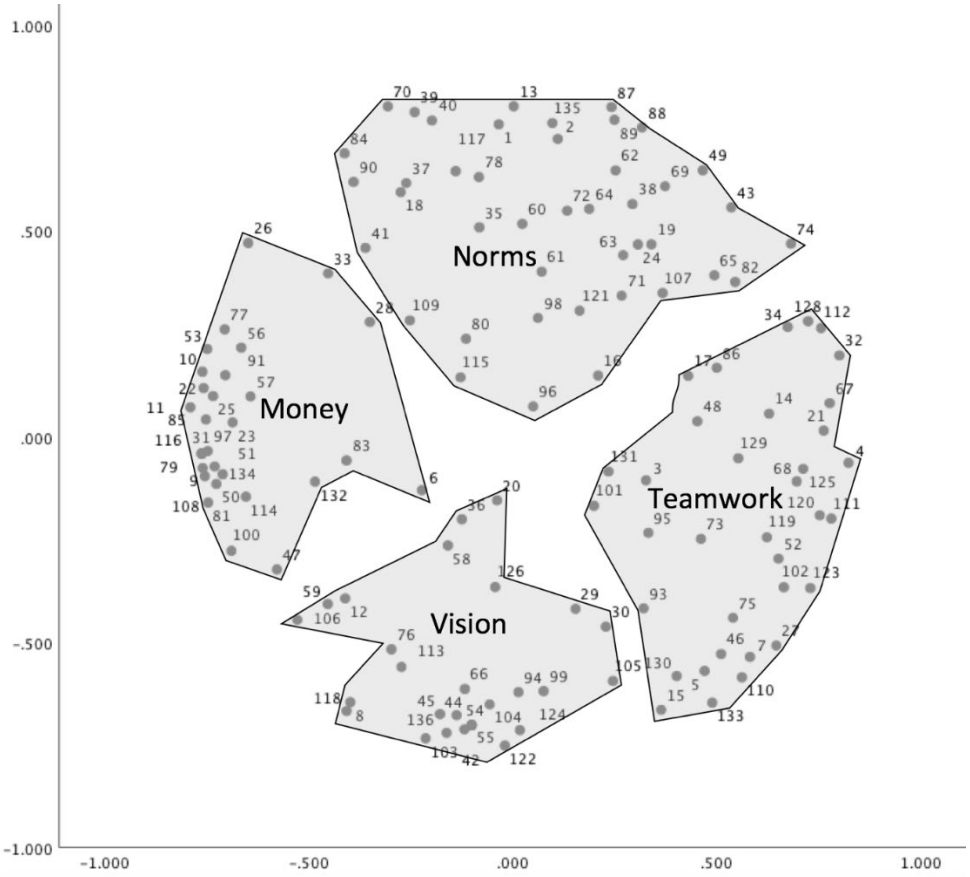
In the next step, we carried out multidimensional scaling analysis using the aggregated proximity matrices composed of all 11 of the individual matrices produced by the classifications of statements by the raters. In this way, we created a two-dimensional map of distances between the statements on conflicts among start-up co-founders.

The auto-clustering algorithm of the two-step cluster analysis with Euclidean distances applied to the statements' coordinates indicated that the statements could be best classified in four clusters as per the smallest BIC (129.84) and the biggest ratio of distance measures (2.07). The average silhouette measure of cohesion and separation was .60. The four clusters of conflict issues statements that emerged were: (a) money, (b) norms, (c) teamwork, and (d) vision. The final map from the concept mapping analysis of the types of conflict issues in start-ups is presented in Figure 1. In the final concept map, each of the 136 statements produced by the participants is represented as a point in space. Each of these points is then included in a cluster. The location of each of the clusters on the map is not relevant; what is meaningful is the relative distance and position between the clusters. The clusters that are closer to each other contain statements that have been classified together in the same piles more often by the sorters. Those clusters that are farther away from each other include statements that were considered less similar to each other than those statements that are closer. Although the form and the magnitude of each cluster may reflect a wide-ranging or narrow concept, it does not allow for drawing meaningful conclusions, for example, the size of the cluster does not reflect the number of statements contained in it (Behfar et al., 2008).

### *Cluster Content*

Representative statements from each cluster are displayed in Table 1. Each cluster includes conceptually similar statements (e.g., the money cluster embraces statements about money-related discussions among start-up co-founders). However, in each category, the ideas range to include several aspects of the main concept. For example, in the money category, the ideas ranged from dealing with economic problems, setting up agreements on money-related start-up strategy, to equity issues and dividing shares. The norms cluster included issues of role division, communication procedures, and individual effort. The teamwork category covered ideas from negative attitudes of the top team members, individual differences in temperament, and not feeling valued or respected by others. Finally, the vision category embraced ideas from sharing the same vision, mission, and values.

**Figure 1.** *Final Cluster Solution with Conflict Issues Among Start-up Co-Founders Statement Points*




*Note*. Similar statements are closer together.

**Table 1.** *Representative Statements from Each Cluster of Conflict Issues Among Start-up Co-founders*

| Cluster name | Representative statements |
|---|---|
| Money | Deciding the division of shares.<br>The fact that one of the co-founders wants to earn more money than the others.<br>Decision on selling the company or on staying for less but in shares.<br>Lack of agreement with respect to the amount of initial investment.<br>Feelings of lack of fairness when comparing received money to the work carried out. |
| Norms | Lack of clearly defined roles among the founders.<br>Perception that one has more work than initially agreed.<br>Limited availability of some of the team members in comparison to all-day availability of the others.<br>Other start-up founders that do not want to commit their lifestyles to the start-up.<br>Lack of agreement on whether co-founders' progress should be informed to other co-founders. |

| | |
|---|---|
| Teamwork | Feeling more used than others.<br>Disrespectful behavior of another co-founder.<br>Not feeling valued by the other founders.<br>Inability to admit one's fault by another co-founder. |
| Vision | Different visions of development of their start-up.<br>Unrealistic, utopic start-up vision of some co-founders.<br>Lack of a common belief in the project.<br>Not sharing the same hands-on work ethic. |

## Study 2. Development of the Conflicts among Co-founders (COCO) scale

The main objectives of Study 2 were (a) to develop and select the appropriate conflictive issues among start-up co-founders that could be included in the COCO scale, and (b) to find the most appropriate factor structure to ensure satisfactory reliability for the COCO scale dimensions. First, we explored the relationships among the 36 items in the item pool. Second, we performed exploratory factor analysis. The items were required to have adequate loadings with their respective dimensions proposed in Study 1. Finally, we employed item-subscale correlations. The cut-off value of Cronbach's α for each dimension was .70 (Nunnally, 1978).

To create the COCO scale, as a starting point, our research team formulated 36 items that best represented the essence of each of the four dimensions: money, norms, teamwork, and vision. We used as input and/or inspiration some statements generated in Study 1. We strived to formulate items that were specific to the context of start-ups, while tapping as much as possible the breadth of each category. As a result, we arrived at an initial list of 8 items for money, 9 items for norms, 11 items for teamwork, and 8 items for vision. The instruction to the participants was to indicate the extent to which they experience or witness the following disagreements in their start-up top team. The response scale ranged from 1 (*Not at all*) to 7 (*A lot*), where higher scores indicate greater levels of conflicts among start-up co-founders.

### Method

#### *Participants and Procedure*

The participants in this study were start-up top-team members from the Flemish region. We approached only current start-ups that were founded a maximum of 5 years ago. Given that the focus of this study is on conflicts among start-up co-founders, we included start-ups only with at least two co-founders or with a clear top team. Participants were informed that taking part in the study was voluntary, that their data will be pseudonymized and confidential, and that the study sticks to the ethics guidelines as it has received approval from the University Ethics Committee.

In total, 116 participants filled out the questionnaires. Descriptive statistics of the sample included in this study can be found in Table 2. The majority were men (70%), with a university degree (master's degree or other post-graduate training) (55%), and the mean age was 29.18 years ($SD$ = 5.99). According to the power analysis for a correlational study using G*Power software, our study has sufficient statistical power (>.87) to demonstrate a small effect size ($r$=.25).

**Table 2.** *Sample Characteristics (Study 2).*

| Characteristics | *M (SD) / n* (%) |
|---|---|
| age | 29.18 (5.99) |
| sex | |
| Female | 35 (30.2) |
| Male | 81 (69.8) |
| Marital status | |
| Single | 27 (23.3) |
| Separated / Divorced | 1 (0.9) |
| Married / Living with partner | 88 (75.9) |
| The highest education reached | |
| Compulsory education (primary or secondary) | 5 (4.3) |
| Occupational training | 6 (5.2) |
| University degree (Graduated) | 34 (29.3) |
| University degree (master's degree or other post-graduate training) | 64 (55.2) |
| Doctoral degree (PhD., MD, etc.) | 4 (3.4) |
| Other | 3 (2.6) |
| Socio-Economic Status | 6.75 (1.08) |

*Note*. $n = 116$.

## Results

### *Item-Item Correlations*

First, we subjected all 36 items from the initial item pool of the COCO scale to a classic item analysis, and we calculated separate interitem correlations for the COCO scale. Because no items were "positively correlated with some and negatively correlated with others in a homogenous set […]" (DeVellis, 2003, p. 106), we retained all the items.

### *Exploratory Factor Analysis*

Second, the intercorrelation matrices among the items were subjected to principal axis factoring analysis using R (version 4.4.2, R Core Team, 2025), in conjunction with RStudio (Version 2024.12.1, RStudio Team, 2024) to reveal the structure of an underlying set of variables and the least number of factors to explain the common variance (Allen & Bennet, 2010). A parallel analysis was performed to determine the appropriate number of factors to retain (Horn, 1965). The results indicated that three factors should be retained. Based on the assumption that conflicts in start-ups are unlikely to emerge in isolation (e.g., a conflict on vision might be related to disagreements about money allocation), as well as on literature suggesting that multiple types of conflict can appear simultaneously (Korsgaard et al., 2008; Rispens, 2012; Speakman & Ryals, 2010), an oblique (oblimin) rotation, which assumes that factors are not entirely independent, was applied to account for the relationships among factors (Fabrigar et al., 1999). This decision was further justified by inspecting the inter-factor correlation matrix that indicated moderate correlations between factors (Factor 1- Factor 2: $r = .53$; Factor 1 – Factor 3: $r = .27$; Factor 2 – Factor 3: $r = .16$). Factorial structures for the COCO scale were determined by retaining items with

significant loadings of ≥ .35 on their corresponding factors (Overall & Klett, 1972). Based on the results of the factor analysis, we identified three categories of conflict issues among start-up co-founders, containing a total of 36 items.

The proposed three-factor solution explained 47.6% of the variance. Factor 1 (Norms, 20 items) accounted for 24.9% of the variance, Factor 2 (Vision, 7 items) accounted for 14.7% of the variance, and Factor 3 (Money, 8 items) accounted for 8.0% of the variance. The average factor loadings for the items in the Norms, Vision, and Money factors were robust (.62, .72, and .48, respectively). There were nine items with slight to moderate cross-loadings (≥.30) and one item that did not reach a significant factor loading (≥.35, according to Overall & Klett, 1972).

Our goal was to create a compact tool with few items per scale to assess conflict issues among start-up co-founders, without compromising the quality of each subscale. Therefore, based on the EFA, we selected the items that had the highest loadings to their corresponding factors, the least cross-loadings to other factors, and that conceptually tapped best the essence of each factor. In this way, we arrived at the final solution of nine items loading on 3 factors. Table 3 shows Exploratory Factor Analysis with item loading for every factor of the initial item pool of the COCO Scale.

**Table 3.** *Exploratory Factor Analysis: Item loading for every factor of the initial item pool of the COCO Scale (36 items, Study 2).*

| Items and name for each factor | Factor Loadings | | |
|---|---|---|---|
| | Factor 1 | Factor 2 | Factor 3 |
| Factor 1. Norms-related conflicts | | | |
| 1…regarding who takes the final decisions. | .705 | -.127 | .159 |
| 2 …regarding delimitation of roles and contributions of the co-founders. | .600 | .042 | .260 |
| 3 …regarding co-founders' task interference. | .736 | -.092 | .166 |
| 4 …regarding perceived relative effort of each of the co-founders. | .602 | -.047 | .316 |
| 5 …when the quantity of work to do differs from that initially agreed. | .637 | .027 | .189 |
| **6 …regarding communication of work progress among the top team.** | **.757** | -.149 | .227 |
| **7 …regarding procedures on how to inform about each other's progress.** | **.809** | -.144 | .215 |
| **8 …when there is failure to fulfill responsibilities.** | **.796** | -.102 | .218 |
| 9 ...regarding differences in commitment to the start-up of top team members. | .494 | .115 | .403 |
| 10. Lack of honesty. | .524 | .106 | -.058 |
| 11. Differences in characters/temperaments in the top team. | .674 | .064 | -.162 |
| 12. Feeling more used than others. | .471 | .249 | .011 |
| 13. Understatements. | .639 | .140 | -.177 |
| 14. Disrespectful behavior of another co-founder. | .580 | .225 | -.283 |
| 15. Not feeling valued enough in the top team. | .615 | .280 | -.177 |
| 16. Lack of trust in the top team. | .749 | .156 | -.261 |
| 17. Not keeping the word. | .692 | .185 | -.269 |
| 18. Not respecting each other's competencies and skills. | .545 | .368 | -.205 |
| 19. Negative attitude of another co-founder. | .516 | .326 | -.145 |

| | | | |
|---|---|---|---|
| 20. Resistance and rigidity of the other top team member when taking decisions. | .733 | .150 | -.115 |
| Factor 2. Vision-related conflicts | | | |
| **1. Failure to share the vision for the start-up by all co-founders (e.g., regarding the product, clients).** | -.071 | **.748** | .065 |
| **2. Unrealistic start-up vision of some co-founders.** | -.010 | **.785** | -.042 |
| 3. The start-up failing to match the ambitions of all co-founders. | .080 | .695 | .023 |
| 4. Lack of a common understanding of the product among the co-founders. | -.134 | .724 | .176 |
| 5. Lack of a common belief in the project in the top team. | -.024 | .719 | .053 |
| **6. Failure to share the same sense of mission by all co-founders.** | .112 | **.747** | .104 |
| 7. Failure to share the same values in the top team. | .240 | .641 | .080 |
| 8. Failure to share the same hands on work ethics in the top team. | .400 | .390 | .027 |
| Factor 3. Money-related conflicts | | | |
| **1.…regarding the division of the shares in the company.** | .114 | .268 | **.429** |
| 2 …regarding funding (e.g. initial investment, raising funds). | .075 | .368 | .498 |
| 3 …when comparing received money to the work carried out. | .188 | .373 | .304 |
| 4 …regarding different attitudes of the cofounders towards making money (e.g., short- vs. long-term orientation). | .183 | .279 | .369 |
| **5 …when cofounders want more equity.** | .119 | .277 | **.628** |
| **6 …when having to share real money.** | .137 | .223 | **.680** |
| 7 …when the start-up has financial problems. | .309 | .357 | .375 |
| 8 …when there is a breach in the initial agreement if it comes to financial investment. | .039 | .385 | .475 |

*Note.* $N = 116$. Factor loadings of items included in the final 9-item version of the COCO scale under each specific factor are marked in bold.

### *Item Subscale Correlations*

Finally, Pearson's product-moment correlation coefficients were computed between each item and the total corrected score of its corresponding COCO subscale. Mean item-subscale correlation was .74. Since all the items correlated with the total score of their respective subscales at a significance level of at least .05, we retained all 9 items. The α coefficients for the final COCO scale in this sample ranged from .82 to .91 ($M = .86$).

## Study 3. Scale Refinement and Evaluation

The COCO scale developed in Study 2 included three dimensions corresponding to different types of conflict sources among start-up co-founders: Money, Norms, and Vision. To

seek additional information on the dimensionality of the COCO scale, we used a new sample to further analyze the selected items and the internal consistency reliability of the subscales. We inspected subscale correlations, and we carried out a confirmatory factor analysis to compare the unidimensional and the three-factor solution for the COCO scale. We also examined possible correlations of the COCO scores with other constructs, and we assessed discriminant validity of the COCO scale dimensions against the traditional conflict dimensions (i.e., task, relationship, and process), as well as analyzed Differential Item Functioning and measurement invariance across sex groups.

## Method

### *Participants and Procedure*

Descriptive statistics of the sample included in this study can be found in Table 4. We chose a sample of Amazon Mechanical Turk (MTurk) employees as a relevant population for our research objectives. In order to reach a sample of entrepreneurs, we have established a qualification requirement "Borrower – Business Loan equal to true" to focus on respondents who have a higher probability of running their own business ventures. Also, in the survey, we used four filter questions: "Do you consider yourself an entrepreneur?", "Do you work in a team?", "Do you consider your company to be a start-up?", and "Do you consider that your company was a start-up at some point in the past?". Inclusion criteria were an affirmative response to the first two questions and an affirmative response to either question 3 or 4. A negative response to any of the first two questions disqualified the person from proceeding with the survey.

**Table 4.** *Sample Characteristics (Study 3).*

| Characteristics | *M (SD) / n (%)* |
|---|---|
| *Age* | 34.08 (8.01) |
| *Sex* | |
| Male | 83 (69.7%) |
| Female | 36 (30.3%) |
| *Marital status* | |
| 1. Single | 35 (29.4%) |
| 2. Married/Living with partner | 75 (63.0%) |
| 4. Separated/Divorced | 9 (7.6%) |
| *Highest education level reached* | |
| 1. Compulsory education (primary or secondary) | 4 (3.4%) |
| 2. Occupational training | 7 (5.9%) |
| 3. University degree (Graduated) | 55 (46.2%) |
| 4. University degree (MA, MSc) | 47 (39.5%) |
| 5. PhD | 4 (3.4%) |
| 6. Other | 2 (1.7%) |
| *Occupational category* | |
| 1. Manager | 67 (56.3%) |
| 2. Highly qualified professional | 26 (21.8%) |
| 3. Technician | 11 (9.2%) |
| 4. Administrative work | 9 (7.6%) |

| | |
|---|---|
| 5. Auxiliary work | 1 (0.8%) |
| 6. Other | 5 (4.2%) |
| Type of workday | |
| 1. Full-time | 114 (95.8%) |
| 2. Part-time | 4 (3.4%) |
| 3. Not applicable | 1 (0.8%) |
| Socio-Economic Status | 6.12 (1.55) |
| Number of subordinates | 12.50 (29.45) |

*Note.* $N$ = 119.

MTurk has been widely used in social science research (see Cheung et al., 2017 for a review). Although data provided by MTurk participants has been found to have satisfactory psychometric properties comparable to characteristics of published studies (Buhrmester et al., 2011), we have used both reactive and proactive approaches (Meade & Craig, 2012) to identify respondents who are likely to have engaged in insufficient effort responding (IER). First, it is "unlikely for participants to respond to survey items faster than the rate of 2s per item" (Huang et al., 2012, p. 106). Therefore, using this tentative cutoff score, we eliminated from our sample 6 participants who responded in less than 5 minutes. Second, we eliminated 5 more participants who had very low Intra-individual Response Variability (<.8) (Dunn et al., 2018), suggesting possible response patterns. Finally, we employed a form of a catch question, in case of which, in an open-ended question, we asked the participants, "Please, describe in 2-3 sentences the company with which you currently work". We eliminated an additional 10 participants whose responses were not relevant to this question.

In total, 159 MTurk employees filled out our questionnaires. After excluding the participants who did not fulfil the inclusion criteria and who were suspected of IER, we obtained a final sample of 119 entrepreneurs who all reported working in a company that is or has been a start-up at some point. According to the power analysis for correlational study using G*Power software, our study has sufficient statistical power (>.87) to demonstrate a small effect size ($r$=.25). Monte Carlo simulation analyses (1,000 replications) indicated high power for factor recovery and model fit, supporting the adequacy of the sample size for confirmatory factor analysis (cf. Brown, 2015; Wolf et al., 2013).

### *Measures*

**COCO scale.** The 9 items used corresponded to the three hypothetical types of conflict issues among start-up co-founders from the final version of the COCO scale, described in Study 2. The response scale ranged from 1 (*Not at all*) to 7 (*A lot*).

**Interpersonal conflict.** Interpersonal conflict was measured using a tool developed by Jehn and colleagues (2008). This scale has three subscales that refer to task, relationship, and process conflicts. *Task conflicts* are "*disagreements among group members, concerning ideas and opinions about the task being performed*" (Jehn et al., 2008, p. 467), and they were measured using 6 items ($\alpha$ = .89). *Relationship conflicts* are "*disagreements and incompatibilities among group members regarding personal issues that are not task-related*" (p. 467). Relationship conflicts were

measured using 4 items (α = .89). *Process conflicts* involve disagreements over logistical and delegation matters, including how tasks should be accomplished within the team, and who is responsible for specific duties (Jehn et al., 2008). Process conflicts were measured using 5 items (α = .91). The response scales were from 1 (*No, I totally disagree*) to 7 (*Yes, I totally agree*).

**Team effectiveness.** Team effectiveness was measured using a scale developed by Pearce and Sims (2002). This scale has 7 subscales: output effectiveness (5 items, α = .86), quality effectiveness (3 items, α = .80), change effectiveness (3 items, α = .80), organizing and planning effectiveness (4 items, α = .79), interpersonal effectiveness (4 items, α = .84), value effectiveness (3 items, α = .80), overall effectiveness (4 items, α = .79). The response scale was 1 (*Definitely not true*) to 5 (*Definitely true*).

**Commitment**. Commitment was measured using a 24-item scale by Allen and Meyer (1990). This scale has three subscales: Affective commitment (8 items, α = .77), continuance commitment (8 items, α = .42), normative commitment (8 items, α = .73). The response scale was 1 (*Strongly disagree*) to 7 (*Strongly agree*). Given the low α for continuance commitment, this dimension was excluded from further analyses.

**Mutual satisfaction in teams.** Mutual satisfaction in teams was measured by a 6-item scale created by Smith and Barclay (1997), adapted to fit teams (instead of dyads). The response scale was 1 (*Strongly disagree*) to 7 (*Strongly agree*). The initial internal consistency of the scale was acceptable (α = .79). However, item analysis indicated that removing Item 1 would improve reliability (α = .89). Consequently, Item 1 was excluded from further analyses.

**Cohesion.** Cohesion was measured using a 4-item scale used by Besieux (2014) with Cohesion was measured using a 4-item scale used by Besieux (2014). The response scale was 1 (*Strongly disagree*) to 7 (*Strongly agree*). The initial internal consistency of the scale was relatively low (α = .59). However, item analysis revealed that removing Item 4 would substantially improve reliability (α = .88). As a result, Item 4 was excluded from subsequent analyses.

**Power struggles.** Power struggles were measured using a 3-item scale by Greer and van Kleef (2010) (α = .93) with a response scale from 1 (*No, I totally disagree*) to 7 (*Yes, I totally agree*).

## Results

### *Item Analysis, Item-Scale Correlation, and Internal Consistency Reliability*

Means and standard deviations for each subscale of the COCO scale are shown in Table 5. Correlations among the 3 items in the Money scale ranged from .72. to .73 (*M* = .72), among the 3 items in the Norms scale correlations ranged from .43 to .70 (*M* = .56), and among the 3 items in the Vision scale correlations ranged from .59 to .74 (*M* = .64).

**Table 5.** *Means, Standard Deviations, Item-subscale Correlations, Standardized Factor loadings, and Standard Errors of the COCO scale (Study 3)*

| Names of Factors and Items | *M* | *SD* | *RCS* | *Est.* | *SE* |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **F1. Norms (α = .80)** | | | | | |
| 6. …regarding communication of work progress among the top team. | 4.03 | 1.90 | 0.75 | 0.88 | - |
| 7. …regarding procedures on how to inform about each other's progress | 3.98 | 1.93 | 0.65 | 0.82 | 0.08 |
| 8. …when there is failure to fulfil responsibilities. | 4.18 | 1.78 | 0.53 | 0.57 | 0.10 |
| **F2. Money (α = .89)** | | | | | |
| 1. …regarding the division of the shares in the company | 3.67 | 1.93 | 0.78 | 0.86 | - |
| 5. …when cofounders want more equity | 3.97 | 1.83 | 0.78 | 0.85 | 0.06 |
| 6. …when having to share real money | 3.92 | 1.95 | 0.77 | 0.85 | 0.07 |
| **F3. Vision (α = .84)** | | | | | |
| 1. Failure to share the vision for the start-up by all co-founders (e.g., regarding the product, clients). | 3.09 | 1.68 | 0.74 | 0.86 | - |
| 2. Unrealistic start-up vision of some co-founders | 3.17 | 1.72 | 0.75 | 0.85 | 0.09 |
| 6. Failure to share the same sense of mission by all co-founders | 3.04 | 1.78 | 0.64 | 0.70 | 0.12 |

*Note.* $N$ = 119. $M$ = Mean; $SD$ = Standard Deviation; *RCS* = Item-subscale Correlations; *Est.* = Standardized Factor Loading (Estimate); *SE* = Standard Error of the loading. *SE*s are only reported for items with estimated parameters; reference indicators (set to 1.00) do not have *SE*s reported.

Furthermore, all item-scale correlations were significant at the $p < .001$ level. The highest item-scale correlation was .78 for the dimension of Money and Item 1 ("…regarding the division of the shares in the company"), the lowest was .53 for the dimension of Norms and Item 8 ("…when there is failure to fulfil responsibilities"). Six items showed an item-scale correlation greater than .70 and three items a correlation greater than .50, which indicates their satisfactory contribution to scale reliability. Cronbach's α coefficients for four COCO subscales are shown in Table 5. Cronbach's α coefficient for the composite COCO score was .89, showing a high degree of internal consistency reliability. In conclusion, the analyses suggest that the COCO items constitute a cohesive scale to measure each of the three types of conflict issues among start-up co-founders.

### *Confirmatory Factor Analysis*

In order to assess whether we can find support for the proposed factor solution in the empirical data, we carried out CFA (Konarski, 2009) using R (version 4.4.2, R Core Team, 2025), in conjunction with RStudio (Version 2024.12.1, RStudio Team, 2024). We tested and compared the fit of two alternative models: 1) a single-factor model and 2) a three-factor model. In the single-factor model, all 9 items loaded on a single factor. In the three-factor model, there were three factors: money, norms, and vision. Each of these three factors had 3 items loading on them. The three-factor model obtained excellent fit[1] ($\chi^2(24) = 22.91$, $\chi^2/df = 1.19$, $p = .53$; robust CFI = 1.000, robust TLI = 1.007, robust RMSEA = .000 (90% CI [.000, .076]), and SRMR = .032), as opposed

[1] For the Maximum Likelihood (ML) method, a cut-off value of .06 for RMSEA (root mean square error of approximation), .95 for CFI (comparative fit index) and TLI (Tucker–Lewis index), and .08 for SRMR (standardized root mean square residual) is needed to conclude that there is an excellent fit between the hypothesized model and the observed data, whereas we considered that an acceptable fit exists when a model fulfils the following criteria: RMSEA ≤ .08, CFI ≥ .90, TLI ≥ .90, SRMR ≤ .10 (Vandenberg & Lance, 2000).

to the single-factor model that did not show a satisfactory fit ($\chi^2(27) = 149.08$, $\chi^2/df=5.52$, $p < .001$, CFI = .797, TLI = .729, RMSEA = .195, 90% CI [.165, .226], SRMR = .095). The compared models were significantly different, $\Delta\chi^2(3) = 46.30$, $p < .001$, and as per differences in the RMSEA, CFI, and TLI values (Chen, 2007). All this makes us consider the three-factor solution adequate for the COCO scale.

***Convergent Validity***

Next, convergent validity of the COCO scale was conducted by relating its subscales to the team effectiveness (Pearce & Sims, 2002), commitment (Allen & Meyer, 1990), mutual satisfaction in teams (Smith & Barclay, 1997), cohesion (Besieux, 2014), and power struggles (Greer & van Kleef, 2010) scales (for descriptives and correlations see Table 6). Conflict has been consistently linked to lower team efficacy (Schoss et al., 2022), performance, reduced team member satisfaction (De Dreu & Weingart, 2003), diminished team cohesion (Bettinelli et al., 2022), and decreased relationship commitment (Knee et al., 2004). Additionally, the COCO scale's "money" and "vision" dimensions reflect resource-based tensions that form the core of power struggles within teams (Greer & Chu, 2020; Greer & van Kleef, 2010). The results indicate significant negative correlations between vision-related conflicts and team effectiveness (i.e., team output, team organizing and planning, team interpersonal, team value, and overall effectiveness), affective commitment, mutual satisfaction, and cohesion, as well as a significant positive correlation with power struggles., the results indicate a significant negative correlation between money-related conflicts and affective commitment, as well as a positive correlation with power struggles. Finally, the results show a significant positive correlation between norms-related conflicts and power struggles, and a significant negative correlation with affective commitment. Interestingly, there is a positive correlation between norms-related conflict and team effectiveness (i.e., team quality effectiveness, team change effectiveness, team organizing and planning). These results and their fundamental implications are addressed in the Discussion section.

***Discriminant Validity***

Finally, we assessed the discriminant validity of the COCO scale dimensions against the traditional conflict dimensions (i.e., task, relationship, and process) (see Table 7). We evaluated discriminant validity using two complementary approaches. First, according to the criterion of Fornell and Larcker (1981), discriminant validity holds if a latent variable accounts for more variance in its associated indicator variables than it shares with other constructs in the same model. To satisfy this requirement, each construct's average variance extracted (AVE) must be higher than its squared correlations with other constructs in the model. The results support the discriminant validity of the Money and Norms dimensions of the COCO subscales against traditional conflict dimensions, since all AVE values are higher than the values of squared correlations. The Vision dimension showed some conceptual overlap, with squared correlations ranging from .64 to .77, exceeding its AVE of .66. Second, we have carried out the multitrait-multimethod analysis that provided further support for the discriminant validity of the COCO scale dimensions against traditional conflict dimensions. HTMT ratios were well below the conservative threshold of .85 for the Money and Norms scales (ranging from .37 to .56), supporting discriminant validity. For the Vision dimension, HTMT values were slightly higher (ranging from .80 to .87) but remained below the more liberal .90 threshold (Henseler et al., 2015), suggesting acceptable

**Table 6.** *Correlations Between the Dimensions of the COCO Scale and the Related Constructs (Study 3).*

| | M | SD | Coco Money | Coco Norms | Coco Vision | Eff. Output | Eff. Quality | Eff. Change | Eff. Org. | Eff. Interp. | Eff. Value | Eff. Overall | Com. Aff. | Com. Cont. | Com. Norm. | Mut. Sat. | Cohes. | Power Strug. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Coco Money | 3.85 | 1.72 | 1 | .69*** | .54*** | -.05 | .10 | .17 | .05 | -.03 | -.13 | -.07 | -.44*** | .13 | -.01 | -.09 | -.11 | .51*** |
| Coco Norms | 4.06 | 1.58 | | 1 | .43*** | .13 | .25** | .29** | .21* | .12 | .01 | .06 | -.26** | .05 | .00 | .04 | -.02 | .44*** |
| Coco Vision | 3.10 | 1.51 | | | 1 | -.20* | -.11 | .01 | -.25** | -.28** | -.32*** | -.29** | -.53*** | -.02 | -.18 | -.28** | -.29** | .51*** |
| Eff. Output | 4.03 | 0.74 | | | | 1 | .80*** | .68*** | .67*** | .52*** | .58*** | .58*** | .45*** | -.04 | .23* | .52*** | .44*** | -.16 |
| Eff. Quality | 4.00 | 0.80 | | | | | 1 | .77*** | .76*** | .64*** | .61*** | .63*** | .42*** | -.01 | .29** | .61*** | .48*** | -.01 |
| Eff. Change | 3.94 | 0.79 | | | | | | 1 | .68*** | .61*** | .47*** | .56*** | .37*** | .07 | .29** | .57*** | .46*** | .00 |
| Eff. Org. | 4.12 | 0.70 | | | | | | | 1 | .76*** | .73*** | .79*** | .39*** | .13 | .37*** | .71*** | .58*** | -.02 |
| Eff. Interp. | 4.11 | 0.70 | | | | | | | | 1 | .69*** | .71*** | .41*** | .18* | .32*** | .62*** | .56*** | -.16 |
| Eff. Value | 4.21 | 0.77 | | | | | | | | | 1 | .71*** | .38*** | .05 | .20* | .62*** | .59*** | -.18* |
| Eff. Overall | 4.26 | 0.64 | | | | | | | | | | 1 | .44*** | .07 | .38*** | .71*** | .64*** | -.11 |
| Com. Aff. | 5.17 | 1.16 | | | | | | | | | | | 1 | .15 | .42*** | .47*** | .48*** | -.41*** |
| Com. Cont. | 4.54 | 0.84 | | | | | | | | | | | | 1 | .36*** | .16 | .17 | .00 |
| Com. Norm. | 4.60 | 1.06 | | | | | | | | | | | | | 1 | .37*** | .36*** | -.10 |

| | M | SD | Coco Money | Coco Norms | Coco Vision | Eff. Output | Eff. Quality | Eff. Change | Eff. Org. | Eff. Interp. | Eff. Value | Eff. Overall | Com. Aff. | Com. Cont. | Com. Norm. | Mut. Sat. | Cohes. | Power Strug. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mut. Sat. | 5.64 | 1.08 | | | | | | | | | | | | | | 1 | .80*** | -.17 |
| Cohes. | 5.85 | 1.13 | | | | | | | | | | | | | | | 1 | -.25** |
| Power Strug. | 3.61 | 1.86 | | | | | | | | | | | | | | | | 1 |

*Note*. $N = 119$. *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$ (2-tailed); The numbers on the diagonal in parentheses are Cronbach's alphas. Coco = Conflicts among Co-founders scale; Eff. Output – output team effectiveness; Eff. Quality - Team quality effectiveness; Eff. Change – Team change effectiveness; Eff. Org. – Team organizing and planning effectiveness; Eff. Interp. – Team interpersonal effectiveness; Eff. Value – Team value effectiveness; Eff. Overall – Team overall effectiveness; Com. Aff. – Affective commitment; Com. Cont. - Continuance commitment; Com. Norm. - Normative commitment; Mut. Sat. - Mutual satisfaction in the team; Cohes. – Cohesion; Power strug. - Power struggles.

discriminant validity. This means that, even though there are significant positive relationships between the dimensions of conflictive issues among start-up co-founders captured by the COCO scale and the existing conflict types, the COCO scale dimensions offer relevant information above and beyond the existing conflict typology.

**Table 7.** *Constructs' Average Variance Extracted, their squared correlations with other constructs, and Heterotrait-Monotrait (HTMT) ratio for each of the scales.*

| | | Squared correlations | | | HTMT ratio | | |
|---|---|---|---|---|---|---|---|
| | AVE | Task con. | Rel. con. | Proc. con. | Task con. | Rel. con. | Proc. con. |
| Money | .72 | .29 | .36 | .20 | .54 | .56 | .44 |
| Norms | .59 | .25 | .18 | .16 | .49 | .37 | .39 |
| Vision | .66 | .75 | .77 | .64 | .87 | .86 | .80 |

*Note*. $N = 119$. HTMT – Heterotrait-Monotrait; AVE – Average Variance Extracted; Task con. – Task conflict; Rel. con. – Relationship conflict; Proc. con. – Process conflict.

### *Differential Item Functioning and Measurement Invariance Across Sex Groups*

A Differential Item Functioning (DIF) analysis was conducted to examine whether the items in the COCO scale functioned differently across sex groups (male vs. female) using the lordif package in R and the Chi-square detection method, with an initial significance threshold of $\alpha = .01$. Results indicated that none of the items were flagged for DIF after the first iteration, suggesting that item responses did not significantly differ across gender groups, $\chi^2(9) = 0$, $p > .01$. Additionally, cross-tabulations of item responses across sex groups showed comparable response distributions, further supporting that the COCO scale does not exhibit sex bias.

To examine the measurement invariance of the COCO scale across sex groups, we conducted a multi-group confirmatory factor analysis (MGCFA) using three nested models: configural invariance (baseline model), metric invariance (equal factor loadings), and scalar invariance (equal factor loadings and intercepts). Model comparisons were assessed using Chi-square difference tests and changes in fit indices ($\Delta$CFI < .010 supplemented by $\Delta$RMSEA < .015 or $\Delta$SRMR < .030 for testing loading invariance, and $\Delta$CFI < .010 supplemented by $\Delta$RMSEA < .015 or $\Delta$SRMR < .010 for testing intercept invariance; Chen 2007, Cheung & Rensvold, 2002). First, the configural invariance model showed an acceptable fit, $\chi^2(48) = 73.32$, $p = .011$, CFI = .961, TLI = .941, RMSEA = .094, and SRMR = .050, suggesting that the same factor structure holds for both sex groups. Second, when metric invariance was imposed, model fit slightly decreased but remained acceptable, $\chi^2(54) = 82.77$, $p = .007$, CFI = .956, TLI = .941, RMSEA = .095, and SRMR = .067. The Chi-square difference test was statistically significant ($\Delta\chi^2(6) = 14.41$, $p = .025$), suggesting some variation in factor loadings between groups. However, the changes in CFI ($\Delta$CFI = -0.008), RMSEA ($\Delta$RMSEA = 0.006) and SRMR ($\Delta$SRMR = 0.017) remained within the recommended cutoff values, supporting metric invariance. Finally, in order to test scalar invariance, we additionally constrained intercepts to be equal across groups. The model fit remained satisfactory, $\chi^2(60) = 84.13$, $p = .022$, CFI = .963, TLI = .955, RMSEA = .082, and SRMR = .067. The Chi-square difference test between the scalar and metric models was not significant ($\Delta\chi^2(6) = 1.32$, $p = .971$), and the changes in CFI ($\Delta$CFI = -0.007), RMSEA ($\Delta$RMSEA = 0.012), and SRMR ($\Delta$SRMR = 0.000) met the invariance criteria. Overall, these results indicate

full measurement invariance of the COCO scale across sex groups. This suggests that the scale is interpreted similarly across gender groups, allowing for meaningful comparisons of latent means.

***Longitudinal Measurement Invariance***

To assess the stability of the COCO scale over a 3-month period, we conducted a longitudinal measurement invariance analysis, using a subsample of 71 participants who responded at both baseline (T1) (a subsample of 116 participants in Study 2) and at the 3-month follow-up (T2)[2]. Using a multi-group confirmatory factor analysis, we tested configural, metric, and scalar invariance models. Model fit indices suggested that measurement invariance was fully supported across time, as changes in comparative fit index (ΔCFI = 0.000) and root mean square error of approximation (ΔRMSEA = 0.000) were well within the recommended thresholds (ΔCFI < 0.01, ΔRMSEA < 0.015). Additionally, latent factor correlations between Time 1 (baseline) and Time 2 (3 months later) were examined to assess test-retest reliability. Results indicated moderate to high stability for COCO Norms (***r* = .73**), COCO Vision **(***r* = .60**)**, and COCO Money **(***r* = .48**)**. These findings suggest measurement stability of the COCO scale.

## General Discussion

The purpose of this study was to expand the existing typology of conflicts by uncovering a classification of conflict issues, especially present among start-up co-founders. Also, we aimed to develop and validate a tool that allows measuring conflict issues among start-up co-founders that is specifically tailored to the context of start-up top teams.

In Study 1, we initially identified four types of conflict issues among start-up co-founders: (a) money, (b) norms, (c) vision, and (d) teamwork. In Studies 2 and 3, through further development and validation, we refined the structure and developed a more compact tool, the COCO scale, that measures three dimensions of conflict issues among start-up co-founders: money, norms, and vision. The three factors of the COCO scale explained 47.6% of the total variance for these conflict issues. The items in the COCO scale are generic enough to be used across a variety of specializations of start-ups. The results of these studies show that, based on its strong psychometric properties, the COCO scale is an important and valuable tool for practice and theory. The three studies in the present article are the first to uncover the typology and to develop and

[2] To assess whether our sample size (N=71) was adequate for confirmatory factor analysis, we conducted a Monte Carlo simulation based on our hypothesized 3-factor model. Across 1,000 replications, average power to detect standardized loadings above 0.60 exceeded 80% for all indicators. Model fit indices were consistently strong (CFI = .97, RMSEA = .034, SRMR = .069), supporting the adequacy of our sample for the specified model structure. Additionally, longitudinal measurement invariance testing can be meaningfully conducted when the model is well-specified and factor loadings are high (Kang et al., 2016), even with smaller samples. As this study involved repeated measures within the same individuals, statistical power was enhanced due to the within-subjects design, which reduces variability and increases precision of estimation. Furthermore, our model included a limited number of factors and items per factor, which reduces model complexity. In this context, our sample size could be considered acceptable for testing configural, metric, and scalar invariance over time.

examine the psychometric properties of the COCO scale aimed at assessing conflict sources among start-up co-founders.

The results show that conflict issues have both positive and negative associations with organizational outcomes, in this way embodying the paradoxical nature of conflicts (de Wit et al., 2012) that are essential for high-performing teams (Amason, 1996). Specifically, on the one hand, the results indicate several adverse outcomes associated with (1) vision-related conflicts in terms of decreased team effectiveness (related to output, organizing and planning, interpersonal, value, and overall team effectiveness), affective commitment, mutual satisfaction, and cohesion, as well as greater power struggles; (2) money-related conflicts in terms of decreased affective commitment and greater power struggles; and (3) norms-related conflicts in terms of decreased affective commitment and increased power struggles. In general, these results align with research that shows that conflicts can have deleterious effects on proximal group outcomes, by impairing cohesion (Bettinelli et al., 2022), team efficacy (Schoss et al., 2022), performance, team member satisfaction (De Dreu & Weingart, 2003), and relationship commitment (Knee et al., 2004). Also, the positive relationship between the COCO scale dimensions and power struggles is consistent with the idea that the COCO scale dimensions capture resource-based tensions that lie at the core of power struggles within teams (Greer & Chu, 2020; Greer & Van Kleef, 2010).

It is noteworthy that only vision-related conflict issues turned out to be associated with impaired team effectiveness. We may interpret this result by considering that vision-related conflicts often involve deeply held values and long-term strategic goals, which are less amenable to compromise than more tangible issues like money, making agreements particularly difficult (Steinel & Harinck, 2020), and potentially undermining team effectiveness. Also, frustration and dissatisfaction of some co-founders regarding the vision implied by the presence of these conflict issues can be indicative of co-founders' perception of compromised trust, team climate, or shared mental models related to the start-up, which are important predictors of team effectiveness and team performance (De Dreu & Beersma, 2005; DeChurch & Mesmer-Magnus, 2010; González-Romá et al., 2009).

On the other hand, the results indicate that norms-related conflict is positively related to quality, change, and team organizing and planning effectiveness, which goes in line with research showing that conflicts are not bad *per se* (Belén García et al., 2015; de Wit et al., 2012) and can, in fact, lead to positive outcomes (de Wit et al., 2012). This positive association between norms-related conflicts and effectiveness may be explained by the fact that disagreements over qualitative issues, such as norms or rules, promote more exploratory and integrative behavior (Odell, 2013) that may lead to beneficial outcomes. Also, norming (i.e., the stage when roles and norms are established in a team) is one of the key stages of small group development (Tuckman & Jensen, 1977) that are widely referred to in popular and practitioner literature available to start-up founders (e.g., Dworkin, 2018; Gehrich, 2012; Kersten, 2018). Therefore, it may be that start-up founders recognize dealing with a conflict issue related to norms as a necessary step to establishing new ways of functioning in their start-up and, therefore, may be prepared to accept dialogue on this topic and deal with it more constructively, with is key to a successful management of change and developing team innovation (West et al., 2004).

Additionally, although the results of the HTMT analysis show acceptable discriminant validity of the three COCO scale dimensions, suggesting that the COCO scale captures unique variance not accounted for by existing measures, we acknowledge that the Vision dimension is conceptually related to traditional conflict types (especially task and relationship conflict). Disagreements about vision often reflect diverging views about strategic decision making and

judgmental differences about how best to achieve the organization's objectives—core aspects of task-related conflict (Amason, 1996; Ensley et al., 2002). However, because vision is often strongly tied to founders' personal identity and values (Crosina et al., 2024; Powell & Baker, 2014), such disagreements can also become personal and threaten the self-concept, reflecting characteristics of relationship conflict (de Wit et al., 2012). Despite this overlap, vision conflict appears conceptually broader and more future-oriented than traditional conflict types. It goes beyond immediate tasks or specific actions to address long-term strategic purpose, priorities, direction, and start-up identity—aspects that are not typically captured by existing measures of task or relationship conflict.

Our results, showing both positive and negative associations between conflict issues and outcomes, are consistent with the contingency theory of conflict management (Rahim, 2002), which posits that conflict outcomes depend on the specific characteristics of the conflict situation, particularly the issue at stake. They also resonate with research showing that the nature of the conflict issue significantly influences negotiation processes and outcomes (Harinck, De Dreu, & Van Vianen, 2000; Harinck & Van Kleef, 2012).

Our findings align with Deutsch's (1973) theoretical framework of conflict, which highlights that the nature of the conflict issue is a core determinant of whether conflict is resolved constructively. The COCO scale captures three key conflict domains—money, norms, and vision—that largely correspond to the core types of conflictive issues identified by Deutsch (1973), such as control over resources, beliefs, and values. This issue-centered approach to conflict offers nuances that traditional conflict typologies (e.g., task vs. relationship conflict) may overlook in entrepreneurial contexts. Moreover, the COCO scale dimensions conceptually align with earlier work by Wakefield and Sebora (2004), who discussed key conflict issues in entrepreneurial settings; however, the COCO scale advances this work by offering a clear conceptual foundation and a theoretically grounded, empirically validated measure of conflict issues among start-up co-founders.

Finally, the strong correlations among certain COCO dimensions (particularly between money and norms, and money and vision) suggest that some cofounder teams may face multiple conflictive issues simultaneously. This supports prior research showing that teams often exhibit distinct conflict profiles, which can affect team outcomes (O'Neill et al., 2018).

All these results resonate with the upper echelon perspective (Finkelstein & Hambrick, 1996) that suggests that top team dynamics are connected to the performance of the whole venture (Amason, 1996; Ensley et al., 2002). Also, they corroborate that nonroutine, ambiguous, and complex types of tasks (Ensley et al., 2002) with which start-up co-founders are confronted and that require intense decision making (Jin et al., 2017) all make the start-up team of co-founders a fertile ground for conflicts.

**Theoretical Contributions**

Developing a deeper understanding of conflict issues among start-up co-founders can inform both scholarly entrepreneurship and organizational behavior literature. By revealing conflictive issues that arise among start-up co-founders, the COCO scale also allows us to advance our understanding of the origins and consequences of organizational conflict (Kolb & Bartunek, 1992). Identifying these specific issues contributes to a more nuanced knowledge on the 'antecedent conditions' (Pondy, 1967), which gets us closer to understanding the catalysts behind the paradoxical outcomes of conflicts, and the everyday interactions of start-up co-founders that

may sustain destructive dynamics leading to start-up failure or that nurture constructive ones that enhance start-up entrepreneurial success. This study addresses the need to focus on the intricate nature of conflict and conflict-inciting topics (Olson & Golish, 2002), especially in start-up teams where tensions often emerge around fundamental decisions (Ensley et al., 2002). By uncovering these issues, the COCO scale equips start-up co-founders with a tool to better manage tensions, contributing to more effective daily functioning and long-term performance.

Second, the COCO scale addresses a critical gap in entrepreneurship research, where the co-founder conflict has remained largely unexplored despite its recognized relevance for start-up team functioning (De Jong et al., 2013; DeMers, 2018; Lance, 2016; Yu et al., 2022). Third, it integrates theoretical insights from negotiation research (e.g., Harinck & Van Kleef, 2012; Odell, 2013; Steinel & Harinck, 2020), contingency theory of conflict management (Rahim, 2002), and the upper echelons perspective (Finkelstein & Hambrick, 1996), offering a framework to understand how specific conflict issues can shape team dynamics and start-up performance. By identifying the content of co-founder disagreements, the COCO scale provides a context-specific tool that enables a more precise understanding of how different types of conflict issues may differentially affect team functioning, decision quality, and ultimately venture success.

Fourth, the scale is specifically designed for the highly uncertain (Chandler et al., 2005; Lazar et al., 2022), volatile, and ambiguous (Chen et al., 2017) environment of start-ups, where lack of formalized norms, equity-sharing dynamics, and strategic divergence are common, making the COCO scale suited to capture the high-stakes nature of interpersonal conflict in entrepreneurial settings. Fifth, since conflict issues can be seen as potential stressors (Kozusznik & Euwema, 2020), the COCO scale also bridges conflict research with growing interest in founder well-being (Stephan et al., 2023), offering a pathway to understand how specific disagreements may contribute to burnout or team flourishing. Finally, by offering a validated, theoretically grounded measure, the COCO scale lays a foundation for future empirical research that can more precisely examine how different conflict issues influence co-founder interactions and venture outcomes.

**Practical Implications**

Focusing on concrete conflict-inciting issues also provides a foundation for developing practical recommendations and designing interventions tailored to the unique challenges of start-up top teams. The new knowledge generated could be useful for coaches, mentors, and other professionals (e.g., in start-up incubators or accelerators) in their interventions in start-up ventures.

On the one hand, identifying the most relevant areas start-up co-founders should handle with care and work on from the early moments of the creation of their start-up allows to support them in turning these into opportunities for team growth and in making space for constructive controversy that can improve team efficiency (see Tjosvold, 2008 for a review) and boost start-up strategic advantage (Chen et al., 2005). The knowledge of concrete heated topics among start-up co-founders can allow to build professional practical recommendations for managing conflict in start-ups they encounter, as well as best practices that can foster acceptance of the paradoxical or contradictory elements of conflict (Cameron & Quinn, 1988; Clegg et al., 2002; Hargrave & Van de Ven, 2017) and encourage open and constructive dialogue on these topics.

On the other hand, identifying conflictive issues allows for improving situational awareness among start-up co-founders that helps to read situations and social context influencing behavior, and to choose effective and constructive strategies (Albrecht, 2007; Rahim et al., 2018). All this can help to address conflict-inducing topics in a safer environment when the tension levels

are still low. Especially, this new knowledge would help to make mild conflict issues evident and foster frequent minor conflicts of interest to gradually adjust the system and prevent a potentially disruptive accumulation of antagonisms among co-founders (Coser, 1956). It will allow for identifying key topics to ensure productive, positive, and challenging conflicts under conditions of positive interdependence (e.g., constructive controversy) and to prevent interpersonal tensions and power battles. Especially useful in this case would be the new tool developed in the present study that would allow to assess the general "conflict potential" (for both constructive and destructive conflicts) among start-up co-founders in order to offer them practical advice on how to stimulate constructive controversy and prevent destructive conflicts in each of the conflict-inciting areas.

**Limitations and Future Research Directions**

The results of this study require cautious interpretation due to some limitations. First, in this research, we have employed self-report cross-sectional data that impedes making inferences about the causality of the relationships. Second, although we initially intended to assess three dimensions of commitment, the continuance commitment subscale showed low internal consistency and was therefore excluded from further analyses. As a result, our findings related to commitment focus only on affective and normative components, and future research would benefit from employing all three measures if commitment, including continuance commitment, to capture its potential role in long-term co-founder dynamics. Third, to measure cohesion, we employed a 4-item scale used by Besieux (2014). The initial internal consistency was relatively low ($\alpha = .59$) but improved significantly ($\alpha = .88$) after excluding one of the items. While these adjustments improved the psychometric properties of the scales, they also suggest that further validation is needed when using these measures in entrepreneurial team settings. Finally, while the sample size used for the exploratory factor analysis ($N = 116$) was modest, a simulation-based evaluation following the SENECA method (Lorenzo-Seva & Ferrando, 2024) demonstrated that this sample was sufficient to detect the underlying factor structure with acceptable accuracy. Although the median required sample size for high-precision recovery was 180, our simulation showed that successful recovery was possible with as few as 110 participants. These results suggest that, despite some limitations in estimation precision, our sample size was adequate for the exploratory aims of the study and yielded a replicable factor solution.

The present study also points to several promising avenues for future research. First, while the focus was on developing and validating the COCO scale for research purposes, future work could enhance its applicability in real-world settings by developing normative interpretation guidelines. Specifically, the creation of cut-off scores normative ranges (e.g., low, moderate, and high levels of conflict) would be particularly useful for start-up founder teams or such applied contexts as start-up incubators, where early identification of "high-risk" teams may inform timely interventions. To that end, we recommend that future studies aim to establish reference norms based on larger and more representative samples and provide clear, evidence-based guidelines for interpreting COCO scale scores.

Second, given the correlations identified among certain COCO dimensions (particularly between money and norms, and money and vision), future research could apply latent profile analysis to identify distinct profiles (cf. O'Neill et al., 2018) within start-up teams, distinguishing founding teams based on different configurations of conflict issues. Using the COCO scale in this way would allow researchers to explore how these conflict patterns influence start-up team

functioning and long-term venture success. Insights from such profiles could also inform tailored support strategies in accelerator and incubation programs.

## Conclusions

To conclude, the new typology of conflict issues among start-up co-founders, along with the development of a corresponding measurement tool, advances knowledge in entrepreneurship and organizational behavior by improving our understanding of conflict and its correlates within the specific context of start-ups. This new knowledge, together with the newly developed COCO scale, can help to make start-up co-founders more aware of the conflict issues they can encounter with other co-founders of their start-up. This can help them to be prepared to manage them constructively to achieve high performance and high-quality team decision making (De Dreu & Beersma, 2005), which is key for effectiveness and innovation (Leaptrott, 2009), and survival of the start-up (de Wit et al., 2012; Dijkstra et al., 2009).

## References

Albrecht, K. (2007). *Social intelligence: The new science of success*. Jossey-Bass.

Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology*, *63*(1), 1–18. https://doi.org/10.1111/j.2044-8325.1990.tb00506.x

Allen, P., & Bennet, K. (2010). *PASW statistics by SPSS. A practical guide. Version 18.0.* Cengage Learning.

Amason, A. C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. *Academy of Management Journal*, *39*(1), 123–148. https://doi.org/10.5465/256633

Amason, A. C., & Sapienza, H. J. (1997). The effects of top management team size and interaction norms on cognitive and affective conflict. *Journal of Management, 23*(4), 495–516.

Amason, A. C., Shrader, R. C., & Tompson, G. H. (2006). Newness and novelty: Relating top management team composition to new venture performance. *Journal of Business Venturing*, *21*(1), 125–148. https://doi.org/10.1016/j.jbusvent.2005.04.008

Babalola, M. T., Stouten, J., Euwema, M. C., & Ovadje, F. (2018). The relation between ethical leadership and workplace conflicts: The mediating role of employee resolution efficacy. *Journal of Management*, *44*(5), 2037–2063. https://doi.org/10.1177/0149206316638163

Barki, H., & Hartwick, J. (2004). Conceptualizing The Construct of Interpersonal Conflict. *International Journal of Conflict Management, 15*(3), 216–244. https://doi.org/10.1108/eb022913

Bazerman, M. H, & Neale, M. A. (1983). Heuristics in negotiation: Limitations to effective dispute resolution. In M. H. Bazerman & R. J. Lewicki (Eds.), *Negotiating in Organizations* (pp. 51 -67). Beverly Hills: Sage.

Belén García, A., Pender, E., Elgoibar, P., Munduate, L., & Euwema, M. C. (2015). The tower of power: Building innovative organizations through social dialogue. In M. Euwema, L. Munduate, P. Elgoibar, E. Pender, & A. Belén García (Eds.), *Promoting Social dialogue in European organizations*. Springer International Publishing. https://doi.org/10.1007/978-3-319-08605-7

Bendersky, C., & Hays, N. A. (2012). Status Conflict in Groups. *Organization Science 23*(2):323-340. https://doi.org/10.1287/orsc.1110.0734

Behfar, K., Peterson, R., Mannix, E., & Trochim, W. M. (2008). The critical role of conflict resolution in teams: A close look at the links between conflict type, conflict management strategies, and team outcomes. *Journal of Applied Psychology 93*(1), 170-88. doi: 10.1037/0021-9010.93.1.170.

Bergen, H. A., Martin, G., Richardson, A. S., Allison, S., & Roeger, L. (2004). Sexual abuse, antisocial behaviour and substance use: Gender differences in young community adolescents. *Australian and New Zealand Journal of Psychiatry*, *38*(1–2), 34–41. https://doi.org/10.1111/j.1440-1614.2004.01295.x

Besieux, T. (2014). *Transformational leadership and key performance indicators in retail banking: The role of team and organizational-level mediators* [KU Leuven]. https://limo.libis.be/primo-explore/fulldisplay?docid=LIRIAS1678035&context=L&vid=Lirias&search_scope=Lirias&tab=default_tab&lang=en_US&fromSitemap=1

Bettinelli, C., Mismetti, M., De Massis, A., & Del Bosco, B. (2022). A review of conflict and cohesion in social relationships in family firms. *Entrepreneurship Theory and Practice*, *46*(3), 539-577. https://doi.org/10.1177/10422587211000339

Brown, T. A. (2015). *Confirmatory Factor Analysis for Applied Research* (2nd ed.). New York, NY: The Guilford Press.

Brownell, K. M., & Embry, E. (2024). Founder personality and harmful social exchanges within new venture teams. *International Journal of Personality Psychology, 10*, 129–136. https://doi.org/10.21827/ijpp.10.41936

Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, *6*(1), 3–5. https://doi.org/10.1177/1745691610393980

Cameron, K. S., & Quinn, R. E. (1988). Organizational paradox and transformation. In *Paradox and transformation: Toward a theory of change in organization and management* (pp. 1–18). Ballinger Publishing Co/Harper & Row Publishers.

Carland, J. C., & Carland, J. W. (2012). A model of shared entrepreneurial leadership. *Academy of Entrepreneurship Journal*, *18*(2), 71–81.

Chandler, G. N., Honig, B., & Wiklund, J. (2005). Antecedents, moderators, and performance consequences of membership change in new venture teams. *Journal of Business Venturing*, *20*(5), 705–725. https://doi.org/10.1016/j.jbusvent.2004.09.001

Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling, 14*(3), 464–504. https://doi.org/10.1080/10705510701301834

Chen, G., Liu, C., & Tjosvold, D. (2005). Conflict management for effective top management teams and innovation in China. *Journal of Management Studies*, *42*(2), 277–300. https://doi.org/10.1111/j.1467-6486.2005.00497.x

Chen, M.-H., Chang, Y.-Y., & Chang, Y.-C. (2017). The trinity of entrepreneurial team dynamics: Cognition, conflicts and cohesion. *International Journal of Entrepreneurial Behavior & Research*, 1-18. https://doi.org/10.1108/IJEBR-07-2016-0213

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling, 9*(2), 233–255. https://doi.org/10.1207/S15328007SEM0902_5

Cheung, J. H., Burns, D. K., Sinclair, R. R., & Sliter, M. (2017). Amazon Mechanical Turk in organizational psychology: An evaluation and practical recommendations. *Journal of Business and Psychology*, *32*(4), 347–361. https://doi.org/10.1007/s10869-016-9458-5

Chiu, T., Fang, D., Chen, J., Wang, Y., & Jeris, C. (2001). A robust and scalable clustering algorithm for mixed type attributes in large database environment. *Proceedings of the Seventh ACM SIGKDD International Conference on Knowledge Discovery and Data Mining - KDD '01*, 263–268. https://doi.org/10.1145/502512.502549

Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment, 7*(3), 309–319. https://doi.org/10.1037/1040-3590.7.3.309

Clegg, S. R., da Cunha, J. V., & e Cunha, M. P. (2002). Management paradoxes: A eelational view. *Human Relations*, *55*(5), 483–503. https://doi.org/10.1177/0018726702555001

Cooney, T. M. (2005). Editorial: What is an entrepreneurial team? *International Small Business Journal: Researching Entrepreneurship*, *23*(3), 226–235. https://doi.org/10.1177/0266242605052131

Coser, L. (1956). *The Functions of Social Conflict*. Free Press.

Covin, J. G., Green, K. M., & Slevin, D. P. (2006). Strategic process effects on the entrepreneurial orientation-sales growth rate relationship. *Entrepreneurship Theory and Practice*, *30*(1), 57–81. https://doi.org/10.1111/j.1540-6520.2006.00110.x

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (Fourth edition). SAGE.

Crosina, E., Pratt, M.G., & Lifshitz, H. (2024). A part of, or apart from, me?: Linking dynamic founder-venture identity relationships to new venture strategy. *Organization Science, 35*(6), 2198-2222. doi:10.1287/orsc.2021.15271

De Dreu, C. K. W., & De Vries, N. K. (1997). Minority dissent in organizations. In C. K. De Dreu & N. K. De Vries (Eds.), *Using conflict in organizations* (pp. 72–86). SAGE Publications Ltd. https://doi.org/10.4135/9781446217016.n6

De Dreu, C. K. W., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology*, *88*(4), 741–749. https://doi.org/10.1037/0021-9010.88.4.741

De Dreu, C. K., & Beersma, B. (2005). Conflict in organizations: Beyond effectiveness and performance. *European Journal of Work and Organizational Psychology*, *14*(2), 105–117. https://doi.org/10.1080/13594320444000227

De Jong, A., Song, M., & Song, L. Z. (2013). How lead founder personality affects new venture performance: The mediating role of team conflict. *Journal of Management, 39*(7), 1825–1854. https://doi.org/10.1177/0149206311407509

de Wit, F. R. C., Greer, L. L., & Jehn, K. A. (2012). The paradox of intragroup conflict: A meta-analysis. *Journal of Applied Psychology*, *97*(2), 360–390. https://doi.org/10.1037/a0024844

DeChurch, L. A., & Mesmer-Magnus, J. R. (2010). Measuring shared team mental models: A meta-analysis. *Group Dynamics: Theory, Research, and Practice*, *14*(1), 1–14. https://doi.org/10.1037/a0017455

DeMers, J. (2018, February 5). A new study reveals the 20 factors that predict start-up failure: Do any apply to you? *Entrepreneur*. https://www.entrepreneur.com/article/308447

Deutsch, M. (1973). *The Resolution of Conflict: Constructive and Destructive Processes*. London: Yale University Press.

DeVellis, R. F. (2003). *Scale Development. Theory and Applications.* Sage.

Dijkstra, M. T. M., De Dreu, C. K. W., Evers, A., & van Dierendonck, D. (2009). Passive responses to interpersonal conflict at work amplify employee strain. *European Journal of Work and Organizational Psychology*, *18*(4), 405–423. https://doi.org/10.1080/13594320802510880

Dunn, A. M., Heggestad, E. D., Shanock, L. R., & Theilgard, N. (2018). Intra-individual response variability as an indicator of insufficient effort responding: Comparison to other indicators and relationships with individual differences. *Journal of Business and Psychology*, *33*(1), 105–121. https://doi.org/10.1007/s10869-016-9479-0

Dworkin, D. (2018, April 23). How to fast-track any team to success. *Forbes*. https://www.forbes.com/sites/johnkotter/2018/04/23/how-to-fast-track-any-team-to-success/#4975dcda3e79

Edelman, L. F., Manolova, T., Shirokova, G., & Tsukanova, T. (2016). The impact of family support on young entrepreneurs' start-up activities. *Journal of Business Venturing*, *31*(4), 428–448. https://doi.org/10.1016/j.jbusvent.2016.04.003

Ensley, M. D., & Pearson, A. W. (2005). An exploratory comparison of the behavioral dynamics of top management teams in family and nonfamily new ventures: Cohesion, conflict, potency, and consensus. *Entrepreneurship Theory and Practice*, *29*(3), 267–284. https://doi.org/10.1111/j.1540-6520.2005.00082.x

Ensley, M. D., Pearson, A. W., & Amason, A. C. (2002). Understanding the dynamics of new venture top management teams: Cohesion, conflict, and new venture performance. *Journal of Business Venturing*, *17*(4), 365–386. https://doi.org/10.1016/S0883-9026(00)00065-3

European Comission. (2008). *The Small Business Act for Europe*.

Evans, D. S., & Jovanovic, B. (1989). An estimated model of entrepreneurial choice under liquidity constraints. *Journal of Political Economy*, *97*(4), 808–827. https://doi.org/10.1086/261629

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods, 4*(3), 272-299.

Finkelstein, S., & Hambrick, D. (1996). *Strategic leadership: Top executives and their effects on organizations*. West.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39–50. https://doi.org/10.1177/002224378101800104

Forster, W., & Jansen, K. (2010). Co-creating new ventures: Attraction, search, and uncertainty in founding partnership formation. *Frontiers of Entrepreneurship Research*, *30*(10), 2.

Gage, D. (2012, September 20). The venture capital secret: 3 out of 4 start-ups fail. *The Wall Street Journal*. https://www.wsj.com/articles/SB10000872396390443720204578004980476429190

Gartner, W. B., Shaver, K. G., Gatewood, E., & Katz, J. A. (1994). Finding the entrepreneur in entrepreneurship. *Entrepreneurship Theory and Practice*, *18*(3), 5–9. https://doi.org/10.1177/104225879401800301

Gehrich, G. (2012). *Build it like a start-up: Lean product innovation*. Greg Gehrich.

González-Romá, V., Fortes-Ferreira, L., & Peiró, J. M. (2009). Team climate, climate strength and team performance. A longitudinal study. *Journal of Occupational and Organizational Psychology*, *82*(3), 511–536. https://doi.org/10.1348/096317908X370025

Greer, L.L., & Chu, C. (2020), Power Struggles: When and Why the Benefits of Power for Individuals Paradoxically Harm Groups, *Current Opinion in Psychology, 33, 162-166*. https://doi.org/10.1016/j.copsyc.2019.07.040

Greer, L. L., & van Kleef, G. A. (2010). Equality versus differentiation: The effects of power dispersion on group interaction. *Journal of Applied Psychology, 95*(6), 1032–1044. https://doi.org/10.1037/a0020373

Haltiwanger, J., Jarmin, R. S., & Miranda, J. (2013). Who creates jobs? Small versus large versus young. *Review of Economics and Statistics*, *95*(2), 347–361.

Hargrave, T. J., & Van de Ven, A. H. (2017). Integrating dialectical and paradox perspectives on managing contradictions in organizations. *Organization Studies*, *38*(3–4), 319–339. https://doi.org/10.1177/0170840616640843

Harinck, F., & Van Kleef, G. A. (2012). Be hard on the interests and soft on the values: Conflict issue moderates the effects of anger in negotiations. *British Journal of Social Psychology, 51*(4), 741–752. https://doi.org/10.1111/j.2044-8309.2011.02089.x

Harinck, F., De Dreu, C. K. W., & Van Vianen, A. E. M. (2000). The impact of conflict issues on fixed-pie perceptions, problem solving, and integrative outcomes in negotiation. *Organizational Behavior and Human Decision Processes, 81*(2), 329–358. https://doi.org/10.1006/obhd.1999.2873

Hasle, P., & Limborg, H. J. (2006). A review of the literature on preventive occupational health and safety activities in small enterprises. *Industrial Health*, *44*(1), 6–12.

Hellmann, T. F., Schure, P. H., Tergiman, C., & Vo, D. H. (2019). Ownership dynamics within founder teams: The role of external financing. *Strategic Entrepreneurship Journal, 13*(3), 256-287. https://doi.org/10.1002/sej.1328

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*(1), 115-135.

Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires [Electronic version]. Retrieved 26 May, from Cornell University, School of Hotel Administration site: http://scholarship.sha.cornell.edu/articles/521

Hitt, M. A., Ireland, R. D., Sirmon, D. G., & Trahms, C. A. (2011). Strategic entrepreneurship: Creating value for individuals, organizations, and society. *Academy of Management Perspectives*, *25*(2), 57–75. https://doi.org/10.5465/amp.25.2.57

Hmieleski, K. M., & Cole, M. S. (2023). The contingent effects of intrateam abusive behavior on team thriving and new venture performance. *Journal of Management, 49*(2), 808–838. https://doi.org/10.1177/01492063211055671

Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika, 32*, 179-185.

Huang, J. L., Curran, P. G., Keeney, J., Poposki, E. M., & DeShon, R. P. (2012). Detecting and deterring insufficient effort responding to surveys. *Journal of Business and Psychology*, *27*(1), 99–114. https://doi.org/10.1007/s10869-011-9231-8

IBM Corp. (2017). *IBM SPSS Statistics for Macintosh, Version 25*. IBM Corp.

Jackson, K. M., & Trochim, W. M. K. (2002). Concept mapping as an alternative approach for the analysis of open-ended survey responses. *Organizational Research Methods*, *5*(4), 307–336. https://doi.org/10.1177/109442802237114

Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly, 40*(2), 256–282.

Jehn, K. A., Greer, L., Levine, S., & Szulanski, G. (2008). The effects of conflict types, dimensions, and emergent states on group outcomes. *Group Decision and Negotiation*, *17*(6), 465–495. https://doi.org/10.1007/s10726-008-9107-0

Jin, L., Madison, K., Kraiczy, N. D., Kellermanns, F. W., Crook, T. R., & Xi, J. (2017). Entrepreneurial team composition characteristics and new venture performance: A meta-analysis. *Entrepreneurship Theory and Practice*, *41*(5), 743–771. https://doi.org/10.1111/etap.12232

Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). *Organizational Stress: Studies in Role Conflict and Ambiguity*. Wiley.

Kang, Y., McNeish, D. M . M., & Hancock, G. R., (2016). The role of measurement quality on practical guidelines for assessing measurement and structural invariance. *Educational and Psychological Measurement, 76(*4), 1–29. doi: 10.1177/0013164415603764

Kaulio, M. A. (2003). Initial conditions or process of development? Critical incidents in the early stages of new ventures. *R&D Management, 33*(2), 165-175.

Keeble, D. (1990). High-technology industry. *Geography*, *75*(4), 361–364. JSTOR.

Kellett, P. M. (1999). Dialogue and dialectics in managing organizational change: The case of a mission-based transformation. *Southern Communication Journal*, *64*(3), 211–231. https://doi.org/10.1080/10417949909373135

Kersten, M. (2018). *Project to product: How to survive and thrive in the age of digital disruption with the flow framework*. IT Revolution.

Kerwin, S., Doherty, A., & Harman, A. (2011). “It's Not Conflict, It's Differences of Opinion": An In-Depth Examination of Conflict in Nonprofit Boards. *Small Group Research, 42*(5), 562-594. doi: 10.1177/1046496411398395

Klotz, A. C., Hmieleski, K. M., Bradley, B. H., & Busenitz, L. W. (2014). New venture teams: A review of the literature and roadmap for future research. *Journal of Management*, *40*(1), 226–255. https://doi.org/10.1177/0149206313493325

Knee, C. R., Patrick, H., Vietor, N. A., & Neighbors, C. (2004). Implicit theories of relationships: Moderators of the link between conflict and commitment. *Personality and Social Psychology Bulletin*, *30*(5), 617-628. doi: https://doi.org/10.1177/0146167203262853

Knight, A., Greer, L. L., & de Jong, B. (2020). Start-up teams: A multidimensional conceptualization, integrative review of past research, and future research agenda.

*The Academy of Management Annals, 14*(1), 231–266. https://doi.org/10.5465/annals.2018.0121

Kolb, D., & Bartunek, J. M. (1992). *Hidden conflict in organizations: Uncovering behind-the-scenes disputes* (Vol. 141). Sage.

Konarski, R. (2009). *Modele równań strukturalnych. Teoria i praktyka [Structural equation models. Theory and practice]*. PWN.

Korsgaard, M. A., Jeong, S. S., Mahony, D. M., & Pitariu, A. H. (2008). A multilevel view of intragroup conflict. *Journal of Management, 34*(6), 1222–1252. https://doi.org/10.1177/0149206308325124

Kozusznik, M. W., & Euwema, M. C. (2020). Start-up conflict and hair cortisol. *Psychoneuroendocrinology, 119*, 104746.

Kruskal, J., & Wish, M. (1978). *Multidimensional Scaling*. Sage.

Lance, V. (2016, March 2). Top 20 reasons why start-ups fail. *Forbes*. http://www.forbes.com/sites/groupthink/2016/03/02/top-20-reasons-why-start-ups-fail-infographic

Lazar, M., Miron-Spektor, E., Agarwal, R., Erez, M., Goldfarb, B., & Chen, G. (2020). Entrepreneurial team formation. *Academy of Management Annals, 14*(1), 29–59. https://doi.org/10.5465/annals.2018.0149

Lazar, M., Miron-Spektor, E., Chen, G., Goldfarb, B., Erez, M., & Agarwal, R. (2022). Forming entrepreneurial teams: Mixing business and friendship to create transactive memory systems for enhanced success. *Academy of Management Journal, 65*(4), 1110–1138. https://doi.org/10.5465/amj.2020.0393

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.

Leaptrott, J. (2009). The effect of work-family role conflict on business start-up decision-making processes. *Journal of Behavioral Studies in Business*, *1*, 1–17.

Leffel, A., Hallam, C., & Darling, J. (2012). Enhancement of entrepreneurial leadership: A case focusing on a model of successful conflict management skills. *Administrative Issues Journal: Education, Practice, and Research*, *2*(2), 13–25.

Li, B., Chen, W., He, C., Xu, Y., & Liu, C. (2025). Opening the black box of entrepreneurial team conflict: How does entrepreneurial team conflict affect entrepreneurial performance? *International Journal of Conflict Management*. Advance online publication. https://doi.org/10.1108/IJCMA-06-2024-0133

Lorenzo-Seva, U., & Ferrando, P. J. (2024). Determining Sample Size Requirements in EFA Solutions: A Simple Empirical Proposal. *Multivariate Behavioral Research*, *59*(5), 899–912. https://doi.org/10.1080/00273171.2024.2342324

Malchow-Møller, N., Schjerning, B., & Sørensen, A. (2011). Entrepreneurship, job creation and wage growth. *Small Business Economics*, *36*(1), 15–32. https://doi.org/10.1007/s11187-009-9173-y

Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods*, *17*(3), 437–455. https://doi.org/10.1037/a0028085

Morris, M. H., Neumeyer, X., Jang, Y., & Kuratko, D. F. (2016). Distinguishing types of entrepreneurial ventures: An identity-based perspective. *Journal of Small Business Management*, *56*(3), 453–474. https://doi.org/10.1111/jsbm.12272

Nelson, T. (2003). The persistence of founder influence: Management, ownership, and performance effects at initial public offering. *Strategic Management Journal*, *24*(8), 707–724. https://doi.org/10.1002/smj.328

Nielsen, S. L., & Lassen, A. H. (2012). Identity in entrepreneurship effectuation theory: A supplementary framework. *International Entrepreneurship and Management Journal*, *8*(3), 373–389. https://doi.org/10.1007/s11365-011-0180-5

Nunnally, J. C. (1978). *Psychometric theory (2nd ed.)*. McGraw-Hill.

O'Brien, T. B., & DeLongis, A. (1997). Coping with chronic stress. In T. B. O'Brien & A. DeLongis (Eds.), *Coping with chronic stress* (pp. 161–190). Springer.

O'Neill, T. A., Allen, N. J., & Hastings, S. E. (2013). Examining the "pros" and "cons" of team conflict: A team-level meta-analysis of task, relationship, and process conflict. *Human Performance, 26*(3), 236–260. https://doi.org/10.1080/08959285.2013.795573

O'Neill, T. A., McLarnon, M. J. W., Hoffart, G. C., Woodley, H. J. R., & Allen, N. J. (2018). The structure and function of team conflict state profiles. *Journal of Management, 44*(2), 811-836. https://doi.org/10.1177/0149206315581662

Odell, J. S. (2013). Negotiation and bargaining. In W. Carlsnaes, T. Risse, & B. A. Simmons (Eds.), *Handbook of international relations* (pp. 379–400). SAGE Publications Ltd. https://doi.org/10.4135/9781446247587.n15

Office of Entrepreneurial Development. (2019). *Mission Statement*. U.S. Small Business Administration. https://www.sba.gov/offices/headquarters/oed

Olson, L. N., & Golish, T. D. (2002). Topics of conflict and patterns of aggression in romantic relationships. *Southern Communication Journal*, *67*(2), 180–200. https://doi.org/10.1080/10417940209373228

Overall, J. (2025, January/February). Couples therapy for co-founders. *Ivey Business Journal*.

Overall, J. E., & Klett, C. J. (1972). *Applied Multivariate Analysis*. McGraw-Hill.

Pearce, C. L., & Sims, H. P., Jr. (2002). Vertical versus shared leadership as predictors of the effectiveness of change management teams: An examination of aversive, directive, transactional, transformational, and empowering leader behaviors. *Group Dynamics: Theory, Research, and Practice*, *6*(2), 172–197. https://doi.org/10.1037//1089-2699.6.2.172

Pondy, L. R. (1967). Organizational conflict: Concepts and models. *Administrative Science Quarterly*, *12*(2), 296–320. https://doi.org/10.2307/2391553

Powell, E. E., & Baker, T. (2014). It's what you make of it: Founder identity and enacting strategic responses to adversity. *Academy of Management Journal, 57*(5), 1406–1433. https://doi.org/10.5465/amj.2012.0454

R Core Team. (2024). *R: A language and environment for statistical computing* (Version 4.4.2) [Computer software]. R Foundation for Statistical Computing. https://www.R-project.org/

RStudio Team. (2024). *RStudio: Integrated development environment for R* (Version 2024.12.1). RStudio, PBC, Boston, MA URL http://www.rstudio.com/.

Rahim, A., Civelek, I., & Liang, F. H. (2018). A process model of social intelligence and problem-solving style for conflict management. *International Journal of Conflict Management*, *29*(4), 487–499. https://doi.org/10.1108/IJCMA-06-2017-0055

Rahim, M. A. (2002). Toward a theory of managing organizational conflict. *International Journal of Conflict Management*, *13*(3), 206–235. https://doi.org/10.1108/eb022874

Rispens, S. (2012), The influence of conflict issue importance on the co-occurrence of task and relationship conflict in teams. *Applied Psychology, 61*(3), 349-367. https://doi.org/10.1111/j.1464-0597.2011.00473.x

Rizzo, J. R., House, R. J., & Lirtzman, S. I. (1970). Role conflict and ambiguity in complex organizations. *Administrative Science Quarterly, 15*(2), 150–163. https://doi.org/10.2307/2391486

Sarfati, G., Martin, T., Abrahao, G. A. (2020). Clashes among founding partners: How entrepreneurs overcome conflicts? *Entrepreneurship and Small Business Journal, 9*(4), 502-527. https://doi.org/10.14211/regepe.v9i4.1895

Schoss, S., Urbig, D., Brettel, M., & et al. (2022). Deep-level diversity in entrepreneurial teams and the mediating role of conflicts on team efficacy and satisfaction. *International Entrepreneurship and Management Journal, 18*, 1173–1203. https://doi.org/10.1007/s11365-020-00654-1

Schweiger, D. M., Sandberg, W. R., & Ragan, J. W. (1986). Group approaches for improving strategic decision making: A comparative analysis of dialectical inquiry, devil's advocacy, and consensus. *Academy of Management Journal*, *29*(1), 51–71. https://doi.org/10.5465/255859

Simons, T. L., & Peterson, R. S. (2000). Task conflict and relationship conflict in top management teams: The pivotal role of intragroup trust. *Journal of Applied Psychology, 85*(1), 102–111.

Sinha, R., Janardhanan, N. S., Greer, L. L., Conlon, D. E., & Edwards, J. R. (2016). Skewed task conflicts in teams: What happens when a few members see more conflict than the rest? *Journal of Applied Psychology*, *101*(7), 1045–1055. https://doi.org/10.1037/apl0000059

Smith, J. B., & Barclay, D. W. (1997). The effects of organizational differences and trust on the effectiveness of selling partner relationships. *Journal of Marketing*, *61*(1), 3–21. https://doi.org/10.1177/002224299706100102

Sohl, J. E. (1999). The early-stage equity market in the USA. *Venture Capital: An International Journal of Entrepreneurial Finance*, *1*(2), 101–120. https://doi.org/10.1080/136910699295929

Speakman, J. and Ryals, L. (2010). A re-evaluation of conflict theory for the management of multiple, simultaneous conflict episodes. *International Journal of Conflict Management, 21*(2), 186–201. doi:10.1108/10444061011037404

Sprague, J., Verona, E., Kalkhoff, W., & Kilmer, A. (2011). Moderators and mediators of the stress-aggression relationship: Executive function and state anger. *Emotion*, *11*(1), 61–73. https://doi.org/10.1037/a0021788

Steinel, W., & Harinck, F. (2020, September 28). Negotiation and bargaining. In *Oxford Research Encyclopedia of Psychology*. Oxford University Press. https://oxfordre.com/psychology/view/10.1093/acrefore/9780190236557.001.0001/acrefore-9780190236557-e-253

Stephan, U., Rauch, A., & Hatak, I. (2023). Happy entrepreneurs? Everywhere? A meta-analysis of entrepreneurship and well-being. *Entrepreneurship Theory and Practice, 47*(2), 553–593. https://doi.org/10.1177/10422587211072799

Thompson, L. (1990). Negotiation behavior and outcomes: Empirical evidence and theoretical issues. *Psychological Bulletin, 108*(3), 515–532. https://doi.org/10.1037/0033-2909.108.3.515

Thompson, L., & Hastie, R. (1990). Social perception in negotiation. *Organizational Behavior and Human Decision Processes, 47*(1), 98–123. https://doi.org/10.1016/0749-5978(90)90048-E

Tidd, S. T., McIntyre, H. H., & Friedman, R. A. (2004). The importance of role ambiguity and trust in conflict perception: Unpacking the task conflict to relationship conflict linkage. *International Journal of Conflict Management, 15*(4), 364–380. https://doi.org/10.1108/eb022917

Tjosvold, D. (2008). Constructive controversy for management education: Developing committed, open-minded researchers. *Academy of Management Learning & Education*, *7*(1), 73–85.

Tjosvold, D., Tang, M. M., & Wan, P. M. (2015). Constructive controversy for innovation in business: Theory, research, and application. In A. Vollmer, M. Dick, & T. Wehner (Eds.), *Konstruktive kontroverse in organisationen* (pp. 89–107). Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-00263-3_5

Tuckman, B. W., & Jensen, M. A. C. (1977). Stages of small-group development revisited. *Group & Organization Studies*, *2*(4), 419–427. https://doi.org/10.1177/105960117700200404

United States Department of Labor. (2016). *Business employment dynamics*. Bureau of Labor Statistics. http://www.bls.gov/bdm/entrepreneurship/entrepreneurship.htm

Vandenberg, R. J., & Lance, C. E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research.

*Organizational Research Methods*, *3*(1), 4–70. https://doi.org/10.1177/109442810031002

Verona, E., & Kilmer, A. (2007). Stress exposure and affective modulation of aggressive behavior in men and women. *Journal of Abnormal Psychology*, *116*(2), 410–421. https://doi.org/10.1037/0021-843X.116.2.410

Wade-Benzoni, K. A., Hoffman, A. J., Thompson, L. L., Moore, D. A., Gillespie, J. J., & Bazerman, M. H. (2002). Barriers to resolution in ideologically based negotiations: The role of values and institutions. *Academy of Management Review, 27*(1), 41–57. https://doi.org/10.2307/4134368

Wakefield, M.W., & Sebora, T.C. (2004). An Examination of Antecedents of Conflict over Money, Management, Vision, and Control in Family Businesses. *Journal of Business and Entrepreneurship, 16*(2), 91-114.

Wall, J. A., & Callister, R. R. (1995). Conflict and its management. *Journal of Management*, *21*(3), 515–558. https://doi.org/10.1177/014920639502100306

Wennberg, K. (2013). *Managing high-growth firms: A literature review* (Background Paper for OECD). OECD Publishing.

West, M. A., Hirst, G., Richter, A., & Shipton, H. (2004). Twelve steps to heaven: Successfully managing change through developing innovative teams. *European Journal of Work and Organizational Psychology*, *13*(2), 269–299. https://doi.org/10.1080/13594320444000092

Wheelan, S. A. (1994). *Group processes: A developmental perspective*. Allyn and Bacon.

Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample size requirements for structural equation models: An evaluation of power, bias, and solution propriety. *Educational and Psychological Measurement, 73*(6), 913–934. https://doi.org/10.1177/0013164413495237

Yu, W., Li, Z. A., Foo, M. D., & Sun, S. (2022). Perceived social undermining keeps entrepreneurs up at night and disengaged the next day: The mediating role of sleep quality and the buffering role of trait resilience. *Journal of Business Venturing, 37*(2), 106186. https://doi.org/10.1016/j.jbusvent.2021.106186

Zahra, S. A., Ireland, R. D., & Hitt, M. A. (2000). International expansion by new venture firms: International diversity, mode of market entry, technological learning, and performance. *Academy of Management Journal*, *43*(5), 925–950. https://doi.org/10.5465/1556420

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# Understanding the cross-level effects of subjective value and negotiation behavior on negotiator satisfaction

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## Abstract

Within buyer-seller negotiation research, it is crucial to identify key antecedents of negotiator satisfaction. This study applies information processing theory to the individual, group, and cross-levels. This study aims to reveal how negotiator satisfaction is influenced by the psychological perceptions of negotiators (subjective value), behaviors of focal negotiators and opponents, and economic profits of both sides. A total of 228 seasoned business professionals engaged in two-stage simulated group-on-group negotiation and were asked to complete a research questionnaire after each negotiation stage. A multi-level model was engaged to test the hypotheses. During the first negotiation stage, negotiator satisfaction centered on the roles of relationship subjective value and instrumental subjective value; further, the seller's self-subjective value is also seen as an important source of satisfaction. In cases where the focal negotiator demonstrates integrating or forcing behavior and the opponent demonstrates compromising behavior, greater focal negotiator satisfaction is witnessed during the second stage. Conversely, yielding behavior by an opponent caused lower focal negotiator satisfaction, which should be used with caution, as concessions could cause a self-defeating outcome. Additionally, while a negotiator's profit strengthens the focal negotiator's satisfaction, the opponent's profit has the opposite effect.

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In society, it is compelling that while economic outcomes may be positive, negotiators remain dissatisfied. Even though a buyer and seller both sign a contract, negotiator satisfaction is vital to ensure that both parties execute the contract and maintain a long-term relationship (Chang et al., 2015). Some researchers focus on the individual differences between negotiators that can predict satisfaction, like the decision frames of the negotiators (Olekalns & Smith, 2023). Contextual factors within negotiations have also been proved, such as power or the number of negotiable issues (Naquin, 2003). Moreover, a negotiator's behavioral strategy has a significant impact on satisfaction (Fells et al., 2015).

Nevertheless, existing insights into the antecedents of negotiator satisfaction remain inadequate, particularly in the context of multi-stage and group negotiations. While past research has explored satisfaction as a static outcome in single-stage, dyadic negotiations (Curhan et al., 2006), real-world negotiations are dynamic processes that evolve across multiple stages and involve team decision-making (Jang et al., 2018). Satisfaction is not merely shaped by individual subjective value but also by shifting team dynamics, shared decision-making, and evolving counterpart behaviors (Adair & Brett, 2005). However, research remains limited in examining how satisfaction develops over time in multi-stage settings (Olekalns et al., 2003) and how group interactions shape individual perceptions (Thompson, 2015). Moreover, intergroup conflict theory provides a theoretical basis for why group-level negotiations often deviate from individual-level processes.

Specifically, groups are more likely to engage in competitive strategies because of in-group bias, depersonalization of the out-group, and heightened identity salience (Wildschut et al., 2003). These all correspond to a heightened tendency towards hostile or assertive negotiation styles like forcing, particularly when representing group interests. Consequently, group satisfaction in negotiations may not solely arise from integrative outcomes but may also stem from perceived dominance, assertiveness, or successful defense of group resources (Halevy et al., 2011; Tiedens & Fragale, 2003b). This emphasizes that group-specific motivation and behavior must be taken into account while theorizing satisfaction in multi-stage negotiations.

Prior studies primarily focus on static individual assessments, overlooking how negotiators adapt across negotiation stages and within group contexts. Addressing these gaps, this study examines how satisfaction evolves across two negotiation stages while considering how both counterpart behavior and team dynamics interact to shape these shifts. We adopt a hierarchical linear modeling (HLM) approach to capture both within-individual and between-group influences on satisfaction, reflecting the nested structure of multi-stage, group-based negotiations.

The prior research is critically limited by a singular focus on a single-tiered analytical orientation, specifically its focus on individual-level dynamics. Most negotiation scenarios used in previous studies are interpersonal processes between two negotiators (Atkin & Rinehart, 2006). For decisions involving substantial transaction amounts, intergroup negotiations are common in the buyer-seller negotiations (Woelfl et al., 2024). Research suggests that in such contexts, satisfaction is not only influenced by economic and psychological factors but also by intra-team coordination, behavioral synchrony, and perceived alignment with teammates (Thompson, 2015). Team decision-making processes play a critical role in shaping overall satisfaction, as how decisions are taken and how teammates coordinate can significantly affect the perception of fairness and the outcomes (Sanchez-Anguix et al., 2013). During such negotiations, the behavior strategy of each negotiating side is determined using collective intelligence. As such, group-level behavior and individual negotiator satisfaction constitute a cross-level issue. Moreover, achieving a positive economic outcome is a key factor in successful transactions. The assessment of negotiation success encompasses the psychological perceptions of negotiators and is not confined to short-term economic profits (Ramirez-Marin et al., 2021). However, there has been a significant lack of (Thompson, 2015) group-level negotiation behavior and economic profits on individual satisfaction.

Consequently, what is lacking at present is a more causal, comprehensive framework for negotiator satisfaction. To integrate the negotiation process, the buyer-seller relationship, and the negotiator's self-perception (Lin & Cheung, 2022), this research will contribute to the literature by illustrating how negotiator satisfaction is influenced by the psychological perceptions of negotiators, behaviors of focal negotiators and opponents, and economic profits of both parties. The psychological perceptions of negotiators can be measured using subjective value (SV). SV encapsulates the social, perceptual, and emotional consequences of one negotiation (Curhan et al., 2010). Guided by a multilevel theoretical perspective, this study examines how subjective value and negotiation behavior at both the individual and group levels interact to influence negotiator satisfaction. By leveraging HLM, we capture the nested structure of multi-stage negotiations, where individuals are embedded within groups, to explore how satisfaction evolves across stages. This approach allows us to analyze the interplay between individual perceptions, group behaviors, and economic outcomes in a more integrated and context-sensitive manner.

Guided by Adair & Brett's (2005) sequencing framework, the authors employed a two-stage negotiation design to isolate relationship-building (Stage 1) and outcome-oriented (Stage 2)

dynamics. This separation allows for clear attribution of first-stage SV effects (e.g., relational capital) on second-stage outcomes while mitigating confounding from overlapping behavioral strategies. Building on this design, the study aims to provide a multi-level analysis of the antecedents of negotiator satisfaction, incorporating both individual-level and group-level perspectives. More specifically, our study explores the following research questions:

***RQ1.*** How does individual subjective value in the first negotiation stage influence negotiator satisfaction across both negotiation stages?

***RQ2.*** How do the focal negotiator's and the counterpart's negotiation behaviors respectively affect individual satisfaction?

***RQ3.*** How do cross-level dynamics between first-stage subjective value and negotiation behavior affect second-stage satisfaction in group negotiations?

# Theoretical Background and Hypotheses

## Subjective Value and Satisfaction

A fundamental distinction in this study lies in the group-based nature of the negotiations. Compared to individuals, groups tend to exhibit stronger competitive orientations due to factors such as group polarization, social identity salience, and collective responsibility. According to the interindividual–intergroup discontinuity effect, groups acting on behalf of their members are more likely to engage in competitive, assertive strategies to protect group interests and signal strength (Wildschut et al., 2003). These behaviors, while potentially detrimental in interpersonal contexts, may enhance satisfaction within groups by reinforcing perceptions of competence, control, and collective efficacy (Tiedens & Fragale, 2003b; Van Kleef et al., 2004). With this distinction in mind, we now turn to how subjective value evolves across negotiation stages.

Existing research predominantly examines single-stage negotiation. In reality, however, substantive negotiation practices often require multiple stages before a final agreement is reached, which are often time-consuming and extended beyond one-shot deals (Cheng et al., 2018). Traditional negotiation studies often treat satisfaction as a static construct, focusing on immediate post-negotiation assessments. Nevertheless, real-world negotiations involve iterative adjustments in expectations, bargaining power, and relational perceptions, which need a multi-stage analytical approach. The sequencing of negotiation behaviors plays a fundamental role in shaping outcomes (Adair & Brett, 2005). As such, a two-stage negotiation model may provide a more realistic format. In multi-stage negotiations, the first phase serves as a relationship-building period where parties assess counterpart intentions and establish trust—a process aligning with Jang et al.'s (2018) identification of rapport development as a precursor to economic outcomes. The second phase shifts toward outcome-oriented bargaining, where accumulated relational capital enables more substantive value claiming. The importance of multi-phase negotiation is supported by Curhan et al. (2006), who highlight how satisfaction is not a fixed construct but evolves as negotiators process information throughout the stages. This notion of satisfaction as a dynamic construct is further emphasized by Brett & Thompson (2016), who assert that information encoding in early stages (e.g., cooperative behaviors) shapes later-stage economic evaluations, which is consistent with the focus of this study on multi-stage satisfaction. Additionally, Thompson (2012) suggests that negotiators continuously update their satisfaction judgments based on new economic and relational cues, making it crucial to study satisfaction across multiple stages rather than as a one-time assessment. Recent works further support the importance of phase transitions and the

cumulative nature of negotiation satisfaction. For instance, Trötschel et al. (2015) emphasize how the progression through different negotiation stages alters satisfaction levels due to evolving relational and distributive factors. Similarly, Majer et al. (2022) highlight the dynamic interplay between negotiation phases and outcome perceptions. Elfenbein (2021) also highlights the role of relational dynamics and psychosocial factors, which evolve across multiple negotiation phases, reinforcing the need to account for both relational and economic components in multi-stage negotiations.

While traditional models have predominantly focused on individual-level satisfaction, a multilevel perspective offers a more comprehensive understanding of how negotiator satisfaction is shaped by individual behaviors as well as by group-level dynamics. In multi-stage group negotiations, individual satisfaction varies as a function of both personal strategy and observed team or counterpart group behaviors. This nested interdependence refers to how individual experience is nested in group contexts and emphasizes the requirement to measure within- and between-group variation in satisfaction development.

Negotiator satisfaction measures the overall affective response of one party to the outcome immediately after the negotiation concludes (Geiger, 2014). In two-stage negotiations, satisfaction recorded after the first stage relates to the temporary outcome seen at the end of that stage. Satisfaction is measured after the second stage and relates to the ultimate negotiation outcome. The information processing theory provides a cognitive-based rationale for why different stages of negotiation correspond with dynamically different levels of satisfaction (Bazerman & Neale, 1993). While static models entertain the notion that satisfaction is formed at the end of negotiations, the IPT views negotiators as continuously encoding, storing, and reprocessing information throughout negotiations as behaviors and economic conditions of the other party fluctuate (Brett & Thompson, 2016). This application of IPT in multi-stage negotiations better explains why first-stage satisfaction may not fully predict second-stage satisfaction, as ongoing interactions add in new social and economic information that changes perception over time.

Although subjective value and economic gains may generally be an indicator of high satisfaction (Curhan et al., 2006), their precise relationship is, as yet, an open question. If satisfaction were purely economic, the negotiator realizing the highest gain would indeed be the best satisfied. Yet, when it comes to absolute profits, satisfaction may decrease due to the perceived relative gain of counterparts, as Galinsky et al. (2002a) state. Regret or distrust arising from excessive counterpart concessions also decreases satisfaction. Furthermore, satisfaction builds through stages—initial impressions are never due to time and new information, reshaping evaluations. Thus, on multi-stage dynamics, whereas economic outcome and SV constitute a basis for the development of satisfaction, they do so within the parameters set by behaviors during the negotiation process, the interaction with the negotiation counterpart, and shifts through time.

The psychosocial outcome perceived by negotiators is crucial as negotiators often lack sufficient information to assess their negotiation position and strategic leverage accurately. Looking beyond economic outcomes, psychosocial outcomes have a greater impact on future relationships between negotiators and reflect negotiators' traits (Curhan et al., 2010). Negotiators' feelings about themselves and their overall subjective value are influenced by multiple factors in the negotiation process, such as fake anger (Hunsaker et al., 2023). When prior experience and objective reference points are unavailable, negotiators can make decisions based on subjective judgments (Schuster et al., 2020). This happens because situations can affect the perceptions and judgment of negotiators. The psychological perceptions of negotiators can be measured using SV, which falls into four categories. Instrumental SV is the negotiator's internal assessment that the

economic settlement is profitable and equitable and respects the principles of legality and tradition. Self SV is the feeling that one is competent and has behaved appropriately without losing face. Process SV is about the negotiator's experience of feeling heard, receiving fair treatment, and perceiving the process as efficient. Relationship SV fosters positive impressions and trust, laying the groundwork for potential future collaboration.

In multi-stage negotiations, SV reflects a negotiator's multifaceted psychological evaluation of the negotiation process, encompassing perceptions of outcome fairness, relational quality, and self-worth (Curhan et al., 2006). Although SV and satisfaction are correlated, they represent distinct constructs: SV focuses on domain-specific evaluations during negotiation, whereas satisfaction captures an overall affective response to the negotiation experience (LePine et al., 2005; Oliver, 1993). Notably, previous-stage SV has been shown to predict future behavioral intentions such as willingness to re-engage with the same counterpart (Curhan et al., 2010) and correlates with relational capital across negotiation rounds (Cheng, 2020). When negotiators perceive that they have achieved relational or procedural quality in earlier stages, this contributes positively to their summary satisfaction at the end of the negotiation (Halpert et al., 2010). Furthermore, evaluations of fairness and process effectiveness serve as key psychological mechanisms linking stage-specific SV to overall satisfaction (Kwon & Weingart, 2004). Thus, rather than treating SV and satisfaction as interchangeable, this study positions changes in SV as an antecedent to final satisfaction outcomes.

***H1a.*** The four dimensions of subjective value (instrumental SV, self SV, process SV, and relationship SV) are positively correlated with satisfaction after the first negotiation stage.

***H1b.*** Satisfaction after the first stage is positively correlated with satisfaction after the second stage.

## The Role of Negotiator and Opponent Behaviors

Negotiation behavior encompasses the strategies and tactics that negotiators employ to manage conflicts and seek resolutions during the negotiation process. Although the primary focus of this study is on satisfaction changes across negotiation stages, group negotiations introduce additional layers of complexity that may influence this process. Prior research suggests that in team-based negotiations, individual perceptions of satisfaction are shaped not only by direct counterpart interactions but also by intra-team coordination, shared strategy development, and behavioral alignment with teammates (Backhaus et al., 2008; Polzer, 1996). While our study does not directly test these intra-team dynamics, acknowledging the group context is essential, as negotiators evaluate their outcomes within a broader team structure rather than in isolation. While some studies have divided negotiation behavior into competitive and cooperative categories (Boyer et al., 2009), the authors adopted a widely accepted classification scheme presented by the Dual Concern Model. It includes integrating, compromising, forcing, yielding, and avoiding behaviors to explain negotiator and opponent behaviors (Butt et al., 2005; De Dreu et al., 2001). According to the Dual Concerns model, negotiators' behaviors reflect the underlying motivations for self-interest and other-concern. For instance, those high in self-concern but low in concern for others are more likely to use forcing behaviors, employing purely distributive tactics such as threats or extreme claims to maximize personal gain. On the contrary, those who prioritize the interests of others over their own usually manifest yielding behaviors, granting value to save face. Moderately balancing the concerns leads to compromising behaviors, accepting suboptimal splits for a quicker resolution. The intersection of high self and other-concern drives integrating behaviors, where

parties collaboratively explore trade-offs through open information exchange. Finally, minimizing both concerns leads to avoiding behaviors and withdrawing from active engagement through silence or topic deflection (Butt et al., 2005).

The differential impact of negotiation behaviors on satisfaction emerges as a critical function of temporal progression within multi-stage interactions. During initial negotiation phases, the absence of prior behavioral interaction data compels negotiators to anchor their satisfaction evaluations predominantly on objective economic outcomes and perceived equity metrics rather than behavioral pattern analyses (Curhan et al., 2006). As negotiations advance longitudinally, the accumulation of behavioral observables enables sophisticated cognitive processing through information encoding mechanisms and episodic memory retrieval (Bazerman & Neale, 1993), facilitating dynamic recalibration of satisfaction metrics. This phased cognitive adaptation elucidates the non-significant behavioral influence on first-stage satisfaction versus its critical predictive power in subsequent stages (Brett & Thompson, 2016). Specifically, first-stage satisfaction manifests as transaction-oriented outcome appraisal, whereas second-stage evaluations incorporate multidimensional assessments of relational capital and strategic alignment - dimensions inherently contingent on behavioral cue integration over time.

For negotiators to adopt an integrating or compromising approach, they should first consider taking a problem-solving stance, as such an approach is conducive to smooth negotiations. Specifically, better information exchanges and solution-finding lead to greater satisfaction (Fells et al., 2015). Forcing negotiators are more likely to share information in multiple ways than their yielding opponents (Wiltermuth et al., 2015). As such, negotiators who take a forcing approach are relatively active in their problem-solving and never retreat from negotiations. Although forcing negotiators to ignore the interests of their opponents, negotiators with tough strategies typically achieve greater profits. As such, these negotiators tend to be more satisfied with the outcome of their negotiations than their yielding opponents (Kong et al., 2014). This tendency may be particularly salient in group negotiations. Drawing on intergroup conflict theory, and consistent with analytic findings, group members are more likely to adopt assertive or competitive strategies to protect group interests and demonstrate loyalty or competence (Wildschut et al., 2003). In such contexts, forcing behaviors may be interpreted as a strategic defense of group outcomes rather than selfishness, potentially increasing perceived satisfaction among group members. An avoidance strategy is often used to circumvent problems that are difficult for both parties to negotiate. This is a passive strategy that negotiators are forced to adopt, and it reduces satisfaction with the outcome. Consequently, this study proposes the following two hypotheses.

***H2a.*** If a negotiator adopts a strategy of high concern for self, such as forcing or integrating behaviors, the negotiator's satisfaction increases.

***H2b.*** If a negotiator adopts a strategy of low concern for self, such as yielding or avoiding behaviors, the negotiator's satisfaction decreases.

Ultimately, both parties seek agreement. Based on social information processing theory, focal negotiator satisfaction is predicted not only by their negotiation behavior but also by the behavior of their opponent. Consequently, dyadic interaction within negotiation cannot be ignored (Mazei et al., 2021). In the buyer-seller negotiation, focal negotiator satisfaction is influenced by the content of the agreement and the relationship established with the opponent. If an opponent uses an integrating or compromising approach, focal negotiators may believe that their opponents are, indeed, solving any negotiation problems to safeguard the interests of both parties. As such, focal negotiators experience greater satisfaction (Alexander et al., 1994). However, if an opponent

avoids a problem and does not pay attention to the interests of the focal negotiator or themselves, this negativity can give focal negotiators the impression that the negotiation has been relatively unsuccessful and cause their satisfaction to drop. Dominance complementarity findings indicate that a display of submission in response to dominant behavior facilitates interpersonal appreciation (Tiedens & Fragale, 2003a). Largely, when opponents are forced to pay more attention to the interests of focal negotiators than they are to their own, focal negotiators consider their opponents to be sincere and credible and become more satisfied with negotiation outcomes. Conversely, if an opponent is uncooperative or shows a forcing stance (Atkin & Rinehart, 2006), these competitive behaviors can trigger a competitive response from the focal negotiator, causing a spiral of negotiation conflict, lowering profit, and increasing deadlock. If an opponent is competitive, the focal negotiator will experience lower satisfaction levels (Saorín-Iborra & Cubillo, 2019). Consequently, this study presents the following two hypotheses.

***H3a.*** If the negotiation opponent adopts a strategy of high concern for the other, such as integrating or yielding behaviors, the focal negotiator's satisfaction increases.

***H3b.*** If the negotiation opponent adopts a strategy of low concern for the other, such as forcing or avoiding behaviors, the focal negotiator's satisfaction decreases.

Although compromising has been excluded from the core predictions based on the dual concern model, it remains one of the most commonly used strategies in negotiation and may exert distinct psychological effects depending on which party enacts it. Prior research suggests that when individuals themselves adopt compromising strategies, they may interpret this as a concession of personal value or control, potentially lowering satisfaction due to perceptions of loss, inefficacy, or reduced agency (Curhan et al., 2010). In contrast, compromising by the counterpart may be interpreted as a prosocial gesture that signals goodwill and a willingness to reach common ground (De Dreu, 2004; Tomlinson et al., 2004). These role-based distinctions suggest that the same behavior—compromising—may lead to divergent psychological outcomes: it may undermine satisfaction when self-enacted, but enhance it when initiated by the counterpart.

***H4a.*** Compromising behavior by the focal negotiator is negatively correlated with satisfaction.

***H4b.*** Compromising behavior by the counterpart is positively correlated with satisfaction.

## Comparing Negotiator's Profit and Opponent's Profit

Negotiation profit is a fundamental indicator of the economic outcome of a negotiation. It refers to the difference between the negotiated prices for each party and their respective reservation points. It is acceptable for sellers when the agreed-upon price is above their reservation point; similarly, buyers are content when the price is below their reservation point (Thompson et al., 2012). Existing research has presented several factors that determine negotiator's profit. For instance, negotiators who engage in assertive or problem-orientated tend to secure better economic outcomes (Chen & Ayoko, 2012), while opponents with forcing behavior and anger have been seen to reduce negotiator's profit (Butt et al., 2005).

A principal antecedent of negotiator satisfaction resides in the economic attainment secured through bargaining processes. According to expectation disconfirmation theory, negotiators engage in comparative evaluations between realized outcomes and pre-negotiation reference points (Galinsky et al., 2002a). Positive disconfirmation—wherein outcomes surpass initial expectations—elicits elevated satisfaction through cognitive reappraisal mechanisms. Empirical evidence further demonstrates that satisfaction appraisals predominantly derive from absolute

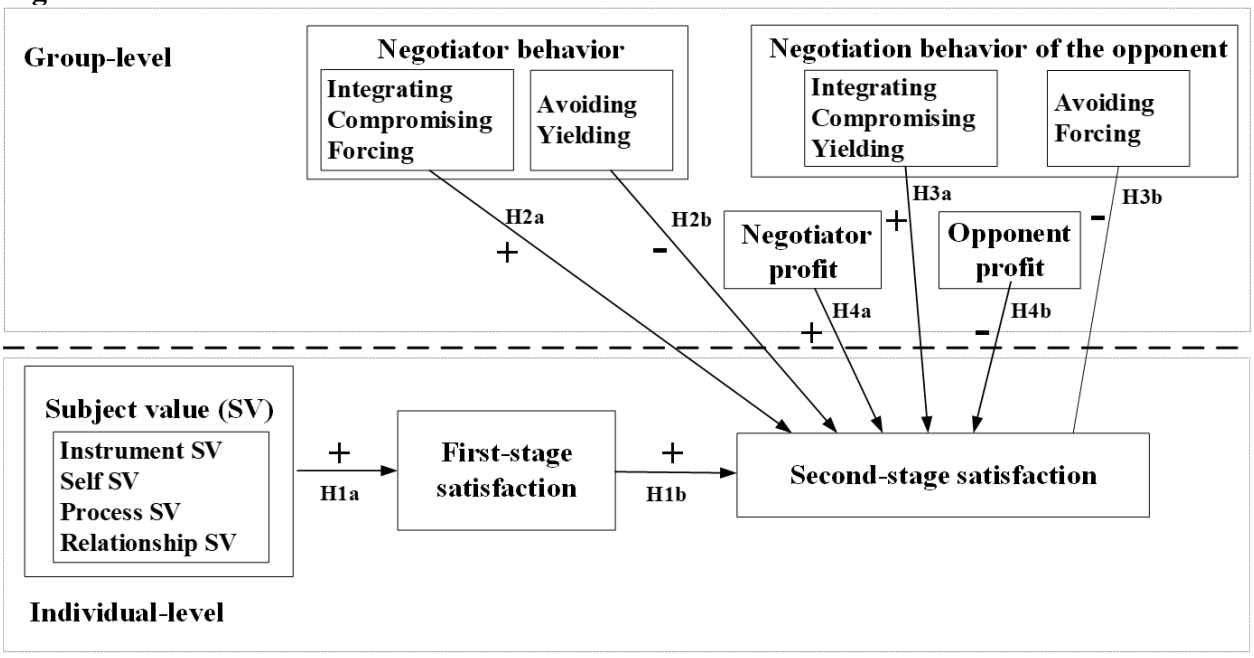
economic attainment rather than relativistic assessments (Curhan et al., 2006). Enhanced profitability reinforces self-perceived negotiation competence, bolsters task-specific self-efficacy, and activates positive affective states, collectively elevating satisfaction levels (Thompson, 2012). Thus, the authors hypothesize:

***H5a.*** Focal negotiator's profit is positively correlated with their second-stage satisfaction.

Notably, while absolute gains dominate satisfaction calculus, negotiators systematically engage in referential outcome evaluations against counterpart performance metrics. Social Comparison Theory (Festinger, 1957) elucidates how self-evaluative judgments emerge through dual referents: personal outcome benchmarks and comparative performance assessments. This phenomenon intensifies in zero-sum negotiation contexts characterized by fixed-pie perceptions, where counterpart gains are construed as personal opportunity costs (Geiger, 2014). Substantial evidence documents the inverse relationship between counterpart profitability and focal negotiator satisfaction. Larrick & Blount's (1997) seminal work revealed diminished satisfaction when counterparts secured disproportionately favorable economic attainment, notwithstanding objectively favorable personal outcomes. Complementary studies demonstrate that negotiators perceiving relative parity or disadvantage—even amidst substantial absolute gains—systematically devalue outcome favorability (Babcock et al., 1996; Blount & Larrick, 2000). This comparative discounting effect originates from status preservation motives, equity violation perceptions, and the inherent adversarial framing of distributive bargaining contexts. Thus, we hypothesize:

***H5b.*** Opponent's profit negatively correlates with the focal negotiator's second-stage satisfaction.

**Figure 1.** Illustration of the research framework



# Method

Scenario analysis is widely used to examine negotiation dynamics by integrating multiple influencing factors (Haggenmüller et al., 2022). This study employs a simulated two-stage negotiation model, which better reflects real-world negotiation processes. The procedures and participant instructions for the simulation are detailed in Appendix A. Intergroup negotiations were chosen to allow negotiators to analyze information collectively, leveraging group decision-making to enhance strategic reasoning (Penttilä, 2020). Given the variability in psychological perceptions within groups, we incorporated both individual- and group-level data to enable a comprehensive cross-level analysis of negotiator satisfaction (Wolter et al., 2021).

## Participants

Over 8 months, we conducted five two-stage negotiation simulations involving a total of 228 Chinese professionals with substantial business experience. The simulated negotiations were conducted by 181 males and 47 females with a mean age of 34.11 years and a standard deviation of 7.37. The negotiations utilized 69, 41, 34, 45, and 39 participants, respectively.

## The Simulated Negotiation Process

The negotiation framework drew from the scenario involving Estate One and Pearl Investments (Malhotra, 2005a, 2005b) and was adapted to fit a two-stage negotiation format. The participants in both negotiation stages were identical, and the goal was the same. The end of the first stage only represented a suspension, and no final agreement was reached at this stage. In the scenario, Pearl Investments is cast as the seller, a company in the real estate investment sector with a plan to sell off a property situated in Hamilton. Estate One, positioned as the buyer, is a builder with an interest in land acquisition to open up the market. As such, the two parties begin to discuss potential cooperation and are involved in a simulated distributive negotiation over a singular issue—price. The information they have access to varies, with a significant difference being the seller's potential alternative transaction with Queens Development Company, unbeknownst to the buyer, as alternatives influence negotiation behavior and outcomes (Kang et al., 2024).

Before simulated negotiations were formally commenced, participants were grouped to remove any gender bias. Participants of the same gender were grouped, and these groups were paired against opponent groups of the same gender. There was a total of 56 groups, namely, 28 pairs. Each group is composed of 4 to 5 people, and the number of people in each pair of groups is consistent. This structure acts as a real-world negotiation environment, where negotiators rarely act alone and conduct group decisions before implementing an agreement.

It ensures that negotiators consider multiple perspectives and engage in strategic discussions before entering into formal binary bargaining, making negotiations more realistic and complex. Upon numbering, the groups with odd numbers were set as the sellers and the even-numbered ones as the buyers, which then led to a pairing for the negotiation process. Each of the pairings was provided with its negotiation room. Each simulated negotiation lasted 110 minutes. This included the distribution of background materials, preparation for negotiations, the first negotiation stage, a brief interlude, the second negotiation stage, and the feedback phase. Before the launch of the simulated negotiations, all participants were gathered together and introduced to the negotiation process and the corresponding precautions. The authors then instructed the buyer groups to enter

their negotiation rooms. Next, background information was distributed to all parties. During the negotiation preparation phase, participants were given 45 minutes to discuss the negotiation within their groups, create a plan, and elect their chief negotiators. During this phase, no inter-group communication was permitted. The preparation period was designed to allow group members to align their strategies, assign roles, and fully process the negotiation scenario before entering discussions. Research on multi-party negotiations suggests that effective pre-negotiation coordination significantly improves team decision-making and negotiation performance (Ertel, 2004). Groups that are not given sufficient time for pre-negotiation discussion often perform poorly due to misalignment or lack of internal consensus. After the negotiation preparation phase, the seller groups entered their respective negotiation rooms and began their first-stage discussions with the buyers. Each of the two negotiation stages lasted 25 minutes. While real-world negotiations often extend beyond laboratory constraints, 25 minutes provided a balance between maintaining engagement and preventing cognitive fatigue, a key consideration in negotiation experiments (Thompson, 2015). After the first negotiation stage, all participants completed a questionnaire about subject values and satisfaction. The completed questionnaires were swiftly gathered, after which the groups were prompted to devise their strategies for the forthcoming second negotiation stage. This break lasted 15 minutes. Once the 15 minutes had passed, the sellers re-entered their negotiation rooms and commenced their second-stage negotiations. After an agreement had been reached, negotiations were terminated. Deadlock was declared in instances where the negotiating parties had failed to reach an agreement within the allocated 25-minute period. Once the second stage was complete, all participants returned to their classrooms and completed a questionnaire about their negotiation behaviors and satisfaction during the second stage. Meanwhile, the authors noted the outcome of the negotiations, any deadlock situations, the focal negotiators' reservation points, and the reservation points of their opponents, as forecasted by focal negotiators. Carrying out the surveys in an orderly sequence facilitated the assembly of data corresponding to each successive stage in the original model.

## Measures

The retrospective questionnaires were based on those used in previous studies and were slightly revised in terms of their expression. The complete set of items used in the study is provided in **Appendix B**. Unless specified otherwise, the survey employed a 7-point Likert scale for participant responses, spanning from *strongly disagree* (1) to *strongly agree* (7).

***Subjective value (SV).*** This study uses the scale of Guo et al. (2022) to measure SV, dividing SV into four dimensions: instrumental SV, self SV, process SV, and relationship SV. The negotiators responded to these particular items after the first negotiation stage, preventing any negotiator behavior from influencing the answers during the second stage.

***Negotiation behavior.*** On the basis of the scale of De Dreu (2001), the items have been adjusted to suit the negotiation scenario of this study. These particular items were delivered to the negotiators after the second negotiation stage. At the same time, participants were repeatedly reminded to answer questions based on their perception of the second negotiation stage.

***Satisfaction.*** Following Naquin (2003), negotiator satisfaction within each negotiation stage was measured using a single item: "I am very satisfied with the outcome of this negotiation stage". This item measured satisfaction after the first and second stages.

***Negotiation profit.*** The negotiator's profit is calculated by measuring "the difference between the negotiated price reached by both sides and the negotiator's reservation point". Opponent's

profit is "the difference between the negotiated price reached by both sides and the opponent's reservation point, as forecasted by the focal negotiator". For sellers, profit represents the negotiated price minus the seller's reservation point (true or forecasted). For buyers, profit represents their reservation point (true or forecasted) minus the negotiated price. Of note, negotiation profit is a group-level variable. This is because, once the negotiation agreement is reached, the buyer group and seller group will reach an agreement price. After all, each group has only one reservation point.

***Control variables.*** Age and gender were selected as control variables as many studies have indicated that these two factors influence negotiation behaviors and outcomes. For instance, it has been proven that the older a negotiator is, the more likely they are to cooperate (Alexander et al., 1994). Existing research has formed specific gender stereotypes, suggesting that women are more likely to compromise and that men are more dominant. However, female negotiators are also sensitive to contextual factors, meaning that the influence of gender could reduce or even reverse these existing stereotypes (Bowles & Flynn, 2010). Nevertheless, these two factors cannot be ignored, and it was important for us to ensure that they did not influence the study.

# Results

## Reliability and Validity

To reduce the possible effect of common method bias, the authors informed participants at the beginning of the study that they should consider the simulated negotiations to be real business negotiations and that they should treat the simulated negotiations as real business dealings and respond honestly to the questions. Furthermore, they were assured that their responses would remain anonymous and be used solely for academic research. This study used Harman's single-factor test to verify common method bias using exploratory factor analysis (EFA). Data suitability was first evaluated using the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity. The KMO value of all items was 0.841, exceeding the threshold requirement of 0.5. Low significance was seen during Bartlett's test (0.000), which suggested that the data was adequate for the performance of EFA. The results also showed that the top factors accounted for 63.01% of the total variance, with the largest factor accounting for 17.48% of the total variance. These results suggested that common method variance was not a significant issue for the study. Cronbach's alpha (α) was used to assess the internal consistency and reliability of the scale. As **Table 1** shows, while the lowest Cronbach's α was 0.649, the values of other multiple-item constructs were above 0.70. This indicated that the multiple-item scale demonstrates ample and satisfactory internal consistency and reliability.

**Table 1** Reliability and Validity Analysis

| Constructs | | Cronbach's α | CR | SFL |
|---|---|---|---|---|
| Subjective value (SV) | Instrumental SV | 0.752 | 0.759 | 0.740 |
| | | | | 0.667 |
| | | | | 0.682 |
| | | | | 0.560 |
| | Self SV | 0.761 | 0.761 | 0.678 |
| | | | | 0.682 |
| | | | | 0.789 |
| | Process SV | 0.807 | 0.808 | 0.712 |
| | | | | 0.723 |
| | | | | 0.715 |
| | | | | 0.714 |
| | Relationship SV | 0.887 | 0.888 | 0.788 |
| | | | | 0.826 |
| | | | | 0.764 |
| | | | | 0.881 |
| Negotiation behavior | Integrating | 0.798 | 0.800 | 0.606 |
| | | | | 0.701 |
| | | | | 0.735 |
| | | | | 0.597 |
| | Compromising | 0.649 | 0.679 | 0.687 |
| | | | | 0.768 |
| | | | | 0.673 |
| | | | | 0.474 |
| | Avoiding | 0.835 | 0.839 | 0.652 |
| | | | | 0.686 |
| | | | | 0.830 |
| | | | | 0.730 |
| | Yielding | 0.825 | 0.826 | 0.668 |
| | | | | 0.649 |
| | | | | 0.664 |
| | | | | 0.713 |
| | | | | 0.669 |
| | | | | 0.610 |
| | Forcing | 0.719 | 0.727 | 0.517 |
| | | | | 0.616 |
| | | | | 0.654 |
| | | | | 0.509 |
| | | | | 0.737 |

Further, the authors conducted confirmatory factor analysis (CFA) to test the validity of the multiple-item scale. **Table 1** shows that while the minimum value of standard factor loading (SFL) was 0.474, the value for all other constructs exceeded the 0.5 cut-off, indicating acceptable convergent validity. The construct reliability (CR) values of all multiple-item constructs were above 0.7, except for one CR value of 0.679. Based on these results, the convergent validity of the scale was found to be acceptable. **Table 2** shows the summary statistics and intercorrelations between the variables. Given the high correlation between process SV and relationship SV, the authors took steps to ensure that no single SV dimension was driving the results of any other. To do so, the authors statistically controlled one form of SV when testing the effects of another. For instance, when examining process SV, they controlled relationship SV, and vice versa.

**Table 2** Means, Standard Deviation, and Pearson Correlation Coefficient Matrix

| | Mean | S.D. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Instrumental SV | 4.08 | 1.39 | | | | | | | | |
| 2. Self SV | 5.24 | 1.22 | 0.377** | | | | | | | |
| 3. Process SV | 4.58 | 1.47 | 0.643** | 0.473** | | | | | | |
| 4. Relationship SV | 4.17 | 1.46 | 0.729** | 0.308** | 0.739** | | | | | |
| 5. Integrating | 5.36 | 0.97 | 0.105 | 0.176** | 0.055 | 0.087 | | | | |
| 6. Compromising | 5.17 | 1.16 | 0.175** | 0.175** | 0.117 | 0.178** | 0.497** | | | |
| 7. Avoiding | 4.68 | 1.37 | 0.123 | -0.044 | 0.159* | 0.158** | 0.251** | 0.296** | | |
| 8. Yielding | 4.18 | 1.06 | 0.059 | -0.046 | 0.059 | 0.094 | 0.239** | 0.326** | 0.463** | |
| 9. Forcing | 5.26 | 0.97 | 0.231** | 0.214** | 0.217** | 0.245** | 0.266** | 0.209** | 0.097 | -0.010 |

*Note: * Significance level: $p < 0.05$ (two-tailed); ** Significance level: $p < 0.01$ (two-tailed).*

## Analysis of the Hypotheses

Before hypothesis testing, the authors examined the descriptive statistics of key outcome variables, as **Table 3** shows. The average negotiator's profit was 435.80 (SD = 503.53), ranging from –1100 to 1850. The average opponent's profit was 434.30 (SD = 505.15), ranging from –1100 to 1850Satisfaction after the first stage had a mean of 4.92 (SD = 1.31), while satisfaction after the second stage averaged 5.59 (SD = 1.18). These values suggest generally positive evaluations and sufficient variability to warrant further analysis.

**Table 3** Descriptive Statistics of Key Outcome Variables

| Variables | N | Mean | S.D. | Min | Max |
|---|---|---|---|---|---|
| Negotiator's profit | 200 | 435.80 | 503.53 | -1100 | 1850 |
| Opponent's profit | 200 | 434.30 | 505.15 | -1100 | 1850 |
| Satisfaction after T1 | 200 | 4.92 | 1.31 | 1.00 | 7.00 |
| Satisfaction after T2 | 200 | 5.59 | 1.18 | 2.00 | 7.00 |

**Table 4** ANOVA between the Seller and Buyer

| Test variables | F-statistic | Significance |
|---|---|---|
| Instrumental SV | 0.679 | 0.411 |
| Self SV | 0.700 | 0.404 |
| Process SV | 4.656 | 0.032* |
| Relationship SV | 0.040 | 0.841 |
| Integrating | 1.615 | 0.205 |
| Compromising | 0.052 | 0.820 |
| Avoiding | 0.896 | 0.345 |
| Yielding | 1.564 | 0.212 |
| Forcing | 1.583 | 0.210 |
| Satisfaction after the first stage | 1.149 | 0.285 |
| Satisfaction after the second stage | 0.001 | 0.981 |

*Note: * Significance level: $p < 0.05$.*

As the simulated negotiations were divided into buyer and seller roles, before performing any data analysis, the authors first checked whether there were any pronounced differences between the buyers and sellers in terms of their perceptions of SV, five kinds of negotiation behavior, or satisfaction after the two negotiation stages. One-way analysis of variance (ANOVA) was used to test whether variables were affected to any statistically significant extent by the role of the negotiator. The results only indicated a significant difference between buyers and sellers in terms

of process SV (F=4.656, P=0.032<0.05), as **Table 4** shows. This indicated that the buyer and seller data needed to be separated whenever process SV was involved.

### *Satisfaction after the First Stage*

SV measures the perception of each negotiator, and negotiators cannot possibly know the psychological perceptions of others. As such, measurement of SV at an individual level provides more accurate data. H1a was verified using hierarchical regression analysis. The variance inflation factor (VIF) values of the independent and control variables were all under 10, ranging between 1.002 and 3.654. The indicators showed no multicollinearity to problematize the analysis results.

Since the buyer and seller had pronounced differences in terms of process SV, the authors first divided the individual data into two parts. The first part represented the buyer and the second the seller. Hierarchical regression analysis was conducted through SPSS 22.0, examining the impact of buyer or seller SV on satisfaction after the first negotiation stage. Two models (Model 1 and Model 2) were constructed, designed to respectively examine the impacts of four SV dimensions on seller and buyer satisfaction. The two models were split into two steps. In Step 1, two control variables were introduced to the models, creating Model 1a and Model 2a. In Step 2, the four dimensions of SV were then added to these two models, creating Model 1b and Model 2b. **Table 5 and Table 6** illustrate the results of these empirical models.

Changes of $R^2$ ($\Delta R^2$) and F were used to assess the model fit when adding new variables. Models 1b and 2b reflected that SV positively affects satisfaction after the first negotiation stage. SV increased the predictive power of Models 1b ($\Delta R^2 = 0.682$, $F = 44.350$, $p = 0.000$) and 2b ($\Delta R^2 = 0.557$, $F = 35.632$, $p = 0.000$). Moreover, irrespective of whether the individual was a seller or buyer, instrumental SV (seller: $\beta = 0.274$, $p < 0.001$; buyer: $\beta = 0.204$, $p < 0.05$) and relationship SV (seller: $\beta = 0.575$, $p < 0.001$; buyer: $\beta = 0.603$, $p < 0.001$) both showed a positive effect on satisfaction after the first stage. Process SV, however, had no significant effect. Furthermore, when sellers self SV ($\beta = 0.151$, $p < 0.01$) was higher, sellers were seen to be more satisfied with the outcome of first-stage negotiations.

**Table 5** Hierarchical Linear Models Predicting Satisfaction After the First Stage

| | 1. Satisfaction after the first stage | | | |
|---|---|---|---|---|
| | Model 1a (Seller) | Model 1b (Seller) | Model 2a (Buyer) | Model 2b (Buyer) |
| **Control variables** | | | | |
| Age | 0.155 | -0.091 | -0.294*** | -0.003 |
| Gender | -0.040 | -0.038 | -0.177* | -0.042 |
| **Independent variables** | | | | |
| Instrumental SV | | 0.274**** | | 0.204** |
| Self SV | | 0.151*** | | -0.026 |
| Process SV | | 0.021 | | 0.066 |
| Relationship SV | | 0.575**** | | 0.603**** |
| $R^2$ | 0.027 | 0.709 | 0.113 | 0.671 |
| Adjusted $R^2$ | 0.010 | 0.693 | 0.097 | 0.652 |
| $\triangle R^2$ | | 0.682**** | | 0.557**** |
| F | 1.573 | 44.350**** | 6.956**** | 35.632**** |

*Note: * Significance level: p < 0.1; ** Significance level: p < 0.05; *** Significance level: p < 0.01; **** Significance level: p < 0.001*

**Table 6** Hierarchical Linear Models Predicting Satisfaction After the Second Stage

| Dependent variable model | 2. Satisfaction after the second stage | | |
|---|---|---|---|
| | Null | Individual | Group |
| Satisfaction after the first stage | | 0.266**** | 0.162*** |
| Group-Integrating (self) | | | 0.323** |
| Group-Compromising (self) | | | -0.020 |
| Group-Avoiding (self) | | | 0.023 |
| Group-Yielding (self) | | | -0.151 |
| Group-Forcing (self) | | | 0.316*** |
| Group-Integrating (opponent) | | | -0.034 |
| Group-Compromising (opponent) | | | 0.252* |
| Group-Avoiding (opponent) | | | -0.000062 |
| Group-Yielding (opponent) | | | -0.257* |
| Group-Forcing (opponent) | | | -0.116 |
| Negotiator's profit | | | 0.000491*** |
| Opponent's profit | | | -0.000444*** |
| Negotiator-level variance ($\sigma^2$) | 1.054 | 0.943 | 0.965 |
| Change in variance ($\Delta\sigma^2$) | | 0.111 | -0.022 |
| Group-level variance ($\tau$) | 0.350 | 0.330 | 0.00299 |
| Change in variance ($\Delta\tau$) | | | 0.32701 |

*Note: * Significance level: $p < 0.1$; ** Significance level: $p < 0.05$; *** Significance level: $p < 0.01$; **** Significance level: $p < 0.001$*

### *Satisfaction after the Second Stage*

Whether researchers analyze multi-level data at the individual level or aggregate data to the collective analysis level, both methods ignore group commonalities or individual variations (Little et al., 2000). Hence, it is preferable to view group-on-group negotiation as a multi-level phenomenon which simultaneously integrates individual and collective processes (Butt et al., 2005). A focal negotiator's behavior, the opponent's negotiation behavior, the focal negotiator's profit, and the perceived opponent's profit are all group-level variables. Satisfaction after the first and second negotiation stages are both individual-level variables. Multi-level modeling techniques provide a suitable analytic strategy for investigating the influence of both low-level and high-level factors on low-level outcome variables (Wang et al., 2011). As such, to test H1b-H5b, the authors chose HLM 6.06 for its flexibility in modeling two-level nested data in multi-level models.

During the empirical data acquisition phase, three negotiation dyads (comprising six groups and 28 participants) exhibited failure to attain mutual agreement, consequently generating incomplete data points for critical team-level profit metrics and perceived opponent profit variables. To maintain analytical rigor in hierarchical linear modeling, these non-convergent cases were systematically excluded from subsequent analysis. The final analytical cohort consequently consisted of 25 completed negotiation dyads (representing 50 discrete groups and 200 participants), thereby ensuring robust measurement of cross-level interactions between individual satisfaction constructs and collective performance indicators.

To test individual-level and group-level processes, the authors implemented a trio of models for each dependent variable, including the null model devoid of predictors, the individual-level model, and the group-level models. The null model apportions the variance into the negotiator and the group. Since group-level equations require the presence of systematic inter-group variation in the outcome, group-level models are tested only when there is a statistically significant group-level variance ($\tau$) (Butt et al., 2005). Table 6 shows the results of the HLM analyses that predicted

negotiator satisfaction after the second stage.

As Table 6 shows, the variance partitioning results of the first set of HLM models suggested that 24.929% (0.350/ [0.350+1.054]) of the total satisfaction variance after the second stage could be attributed to inter-group differences. This variance was seen to be statistically significant ($\tau$=0.350, $\chi 2(49) = 113.913$, $p = 0.000 < 0.001$). Such group-level variation indicates that satisfaction after the second stage should be regarded as a collective phenomenon.

Next, the individual-level predictor (satisfaction after the first stage) was entered. Negotiator satisfaction after the first stage was seen to increase significantly after the second stage ($\beta = 0.266$, $p < 0.001$). This result supports H1b.

In the final stage, group-level predictors were entered. To create the group-level predictors, the authors aggregated behavior variables (five kinds of negotiation behavior and five kinds of opponent negotiation behavior) using the mean of each group. The negotiator's profit and the opponent's profit were both group-level variables. The group-level equation revealed that integrating behavior ($\beta = 0.323$, $p<0.05$) and forcing behavior ($\beta = 0.316$, $p<0.01$) within the negotiating group had a positive influence on negotiator satisfaction after the second stage. This result supports H2a. However, neither opponent integrating ($\beta = –0.034$, n.s.) nor yielding behavior ($\beta = –0.257$, $p < 0.1$) showed a positive effect, indicating that H3a was not supported. The results also did not support H2b and H3b. Regarding H4a and H4b, the results indicate that compromising behavior enacted by the negotiator had no significant effect on satisfaction ($\beta = –0.020$, n.s.), while compromising behavior by the opponent had a marginally significant positive effect ($\beta = 0.252$, $p < 0.1$). These findings partially support H4b but not H4a, suggesting that compromising is more positively received when initiated by the counterpart. Finally, after a two-stage negotiation, the greater the focal negotiator's profit ($\beta = 0.000491$, $p < 0.01$) or the lower the opponent's profit ($\beta = -0.000444$, $p < 0.01$), the greater the focal negotiator's satisfaction was seen to be. This result supports H5a and H5b.

## Discussion

Although buyer-seller negotiations typically take a group-on-group form, once an agreement is reached, the contract is normally executed by an individual. As such, it is more appropriate to focus on satisfaction at the individual level. To date, research on negotiator satisfaction has focused primarily on individual differences between negotiators. Besides, existing research often focuses on the antecedents of different negotiation behaviors, such as bargaining power (Lu et al., 2020), but the effectiveness of negotiation behaviors has not received adequate attention. There is a gap in the research when considering the roles of negotiation behaviors, the negotiator's perceptions, and negotiation profit from a cross-level perspective. Building on recent advances in negotiation research, this study examines two-stage negotiations, using a simulated group negotiation method to study the antecedents that influence satisfaction after two negotiation stages.

Objective economic outcomes in negotiations and subjective psychological outcomes for the negotiators are closely related, and the latter is often affected by the former (Hart & Schweitzer, 2022). Specifically, negotiation profit reflects economic outcomes, and satisfaction reflects psychological outcomes. The greater the negotiator's profit, the more satisfied they will be (Ma et al., 2002). This is consistent with the research indicating that economic and relational benefits (having a satisfied opponent) do not have to be mutually exclusive in distributive negotiations (Schaerer et al., 2020). While negotiators often estimate the reference points of their opponents, they also often evaluate their opponent's profit once an agreement has been reached. Negotiators

compare their profit with that of their opponents. If the opponent's profit is high, the negotiator's satisfaction will be reduced. The findings lend support to information processing theory, which holds that negotiators dynamically update satisfaction judgments in the integration of new information—such as changes in counterparts' behaviors or shifting economic conditions—over multiple stages. Initial satisfaction may serve as an anchor; however, to the extent that negotiators continue interacting with one another, they can reinterpret the outcomes of negotiations based on real-time cues (Brett & Thompson, 2016), which is problematic for static evaluation models. Therefore, there is a need for a multi-stage framework representing how satisfaction evolves as negotiators adapt to contextual changes in support of IPT, which focuses on cognitive updates during dynamic negotiations.

The factors that showed the closest link with satisfaction were final profit, subjective perceptions, and negotiation behaviors. A two-stage negotiation model can better simulate real-world buyer-seller negotiations than a single-stage model. Negotiators indicated that they were satisfied with the outcome of each stage for distinct reasons. The results show that negotiator satisfaction in the first stage predicts satisfaction within the second unless the negotiating parties make significant changes in the second-stage negotiations. Consequently, the antecedents of satisfaction for the first stage should be examined. However, our findings suggest that absolute outcomes do not solely drive satisfaction. Instead, relative comparisons and perceived fairness play a critical role, aligning with prior research showing that negotiators who perceive their counterpart as gaining disproportionately may report lower satisfaction, even when their profit is high (Galinsky et al., 2002b). The results of this study show that instrumental subjective value in the first stage (buyer and seller) and the seller's self-subjective value all increase satisfaction after the first stage. The observed difference in process SV between buyers and sellers can be explained primarily by information asymmetry and expectation disconfirmation theory. Sellers tend to possess better informational control (e.g., knowledge about asset facts, rival bids) that allows them to focus on end economic outcomes rather than procedural fairness (Bazerman & Neale, 1993). In contrast, buyers face higher uncertainty and rely more on process fairness and transparency to decide their satisfaction (Thompson et al., 2012). This corroborates the expectation disconfirmation theory, which suggests that buyers' satisfaction is a result of whether the negotiation process confirms or disconfirms their expectations, whereas sellers, who enjoy higher control in the negotiation, derive satisfaction from the conditions of the final agreement (Galinsky et al., 2002b). These role differences highlight the asymmetrical way that negotiators view subjective value, emphasizing the importance of considering role-specific perceptions in predicting negotiation outcomes. While these findings stress individual perceptions and behaviors, they also recognize the need to explore how these factors operate within the broader context of team-based negotiations. With a multilevel analytical approach, we are able to account for within-individual variation and between-group dynamics that affect satisfaction across stages. This perspective captures the evolving interplay between a negotiator's own strategy and the collective behaviors surrounding them, offering a richer understanding of satisfaction development in multi-stage negotiations.

The most critical factor affecting satisfaction after the first stage is relationship subjective value. This may be because the outcome of the first stage does not represent the final situation. A good first-stage relationship with an opponent could indicate that the second-stage negotiation will generate more personal benefits. This reinforces the idea that satisfaction is dynamic rather than static—if it were fully determined by first-stage outcomes, the authors would expect stability across stages, yet shifts in counterpart behavior and new information often reshape negotiators'

perceptions. These findings highlight the need to study satisfaction as an evolving process rather than a fixed outcome, particularly in multi-stage negotiations where expectations and relational dynamics fluctuate over time.

Negotiation is a buyer-seller game. Most studies focus on one side's behavior and satisfaction. For instance, negotiators' competitive tactics are inversely correlated, and cooperative tactics are positively correlated with the subjective perception of the negotiation (Parlamis et al., 2020). Meanwhile, it is vital to consider the opponent's behavior as well as that of the focal negotiator. Wong and Howard (2018) conclude that the opponents' door-in-the-face tactic (making an initial, extreme, and often unacceptable demand) reduces the degree to which negotiators find their counterparts trustworthy. The findings show that the more integrating and forcing the behavior of a negotiating group, or the more compromising the opponent, the greater focal negotiator satisfaction will be. At odds with the hypothesis, if an opponent concedes, this act will jeopardize focal negotiator satisfaction. A possible explanation for this contradictory result is that the opponent's concession is thus attributed to their incompetence or indifference rather than any strength or strategy on the part of the focal negotiator. Focal negotiators may consider that their opponent's blind concession has prevented them from realizing their full potential, thus causing them dissatisfaction. The potential mechanisms for this theory would need additional research.

Given the combined impact of both sides' behaviors, a forcing focal negotiator can encourage the opponent's concession and prevent arbitrary behaviors from occurring. Such a behavioral pattern, however, may paradoxically reduce the dominant negotiator's own satisfaction. Moreover, integrating negotiators do not necessarily elicit yielding responses from opponents, yet they promote positive relational climates that facilitate mutually beneficial outcomes. These findings underscore that the effectiveness of a given negotiation strategy cannot be evaluated in isolation but must be understood in light of the behavioral responses it elicits. By modeling both focal and opponent behaviors at the group level, the study captures the interaction patterns that shape satisfaction in dynamic, multi-stage negotiations.

# Conclusion and Implications

## Theoretical and Practical Implications

This study contributes to negotiation theory by integrating and expounding several seminal models. Building on sequencing theory (Adair & Brett, 2005) and information processing theory (Bazerman & Neale, 1993), it empirically tests a dynamic, cross-level model of negotiator satisfaction. By differentiating between relational and distributive phases and tracing their independent impacts, the study demonstrates how satisfaction evolves through ongoing encoding and reinterpretation of behavioral and economic cues. Also, it extends social information processing theory beyond intraorganizational settings to the interorganizational setting of buyer-seller negotiations, identifying individual- and group-level information sources that impact satisfaction. The cross-level model links team-level variables (e.g., economic outcomes, group action) to individual-level perceptions, offering an advanced understanding of how intergroup processes affect personal attitudes (Panke et al., 2021). This study shows that satisfaction in multi-stage negotiations is not only driven by individual behavior but is also significantly influenced by the counterpart's actions. By incorporating both focal and opponent behaviors in a multilevel model, the findings demonstrate how certain strategies, such as opponent yielding, can have counterintuitive effects on satisfaction. Interestingly, the study also challenges common sense by

showing that negotiator satisfaction is influenced not only by one's behavior but also by the counterpart's. In particular, the negative effect of opponent yielding behavior shows that excessive concession-granting can have the opposite effect, which highlights the need to rethink excessively accommodating negotiation strategies in negotiation theory.

This study provides guidance for business practitioners engaged in the buyer-seller negotiation, which is a real-life process that almost all commercial activity passes through in society. While the economic outcomes for negotiators are important, negotiators' perceptions should not be ignored. The practical significance of this study is threefold. Firstly, it shows that while numerous factors influence negotiator satisfaction, to satisfy opponents and cultivate long-term cooperation, negotiators should carefully consider their behavior during negotiations. For instance, negotiators cannot simply retreat if their opponent has a forcing strategy. Blind concessions will not always pave the way for opponent satisfaction; in some cases, they could even prevent it. If a focal negotiator adopts an integrating strategy or the opponent displays compromising behavior, the satisfaction of the focal negotiator can increase. Secondly, despite these numerous influential factors, satisfaction has a notably strong correlation with negotiation profit. Not only does a negotiator's profit impact satisfaction, but negotiators also subconsciously compare their profit with that of their opponent. Essentially, if the opponent's profit is comparatively higher, the focal negotiator will be less satisfied. Finally, in two-stage negotiations, each stage has an enduring impact on negotiator satisfaction. As such, negotiators cannot relax their vigilance during any stage of the negotiation. It is wise for negotiators to adapt their strategies according to the situation, to overcome the stereotypes of first-stage perception, and to balance any conflict of interest. Notably, this study highlights that the relationship between the two parties plays a vital role in determining negotiator satisfaction. Further, satisfaction is influenced by the perceived economic gains of the current stage. For sellers, self-realization is also an important source of satisfaction.

## Limitations and Future Research

Firstly, although the data was collected in China, the relationships examined in this research are founded on arguments that transcend cultural constraints, bolstering the belief in the model's cross-cultural viability. It is essential for subsequent research to explore the broader applicability of these findings. To further confirm the insights of this study, similar studies should be conducted in other cultures, thus confirming that the conclusions are internationally applicable. Secondly, simulated negotiations cannot completely replicate true negotiations. Alternative explanations of negotiator satisfaction cannot be ignored, such as information asymmetries and power dynamics. For instance, the negotiators used in the study had no pre-existing cooperative relationships or mutual understanding. In real business transactions, negotiating parties may already have a certain level of understanding or even a long-term relationship. Negotiator satisfaction may be influenced by any previous cooperation between the two parties or future cooperation opportunities. As such, the authors hope that the conclusions of this study can be verified in future research.

## Conclusion

This study verifies the key factors affecting negotiator satisfaction using two-stage simulated negotiations between buyer and seller groups. First, irrespective of the buyer or seller, satisfaction is mainly shaped by relationship subjective value and instrumental subjective value. For sellers, self-subjective value also generates better negotiator satisfaction. Second, the negotiation behavior

of both parties has a notable impact on satisfaction. If the behavior of a focal negotiator is integrating or forcing and that of their opponent is compromising, the focal negotiator's satisfaction will increase. However, yielding opponent behavior will weaken focal negotiator satisfaction. Finally, negotiator satisfaction also depends on the relationship between the negotiator's profit and the opponent's profit. The greater the negotiator's profit or the lower the opponent's profit, the more satisfied the negotiator will be.

## Author Note

The data that support the findings of this study are available from the corresponding author upon reasonable request. We have no known conflicts of interest to disclose. The authors would like to thank the National Natural Science Foundation of China for its financial support (Grant number 72301024) and all participants of the simulated negotiation.

## References

Adair, W. L., & Brett, J. M. (2005). The negotiation dance: Time, culture, and behavioral sequences in negotiation. Organization science, 16(1), 33-51. https://doi.org/10.1287/orsc.1040.0102

Alexander, J. F., Schul, P. L., & McCorkle, D. E. (1994). An assessment of selected relationships in a model of the industrial marketing negotiation process. Journal of Personal Selling & Sales Management, 14(3), 25-41. https://doi.org/10.1080/08853134.1994.10753991

Atkin, T. S., & Rinehart, L. M. (2006). The effect of negotiation practices on the relationship between suppliers and customers. Negotiation Journal, 22(1), 47-65. https://doi.org/10.1111/j.1571-9979.2006.00085.x

Babcock, L., Wang, X., & Loewenstein, G. (1996). Choosing the wrong pond: Social comparisons in negotiations that reflect a self-serving bias. The Quarterly journal of economics, 111(1), 1-19. https://doi.org/10.2307/2946655

Backhaus, K., Van Doorn, J., & Wilken, R. (2008). The impact of team characteristics on the course and outcome of intergroup price negotiations. Journal of Business-to-Business Marketing, 15(4), 365-396. https://doi.org/10.1080/15470620802325773

Bazerman, M. H., & Neale, M. A. (1993). Negotiating rationally. Simon and Schuster. https://doi.org/10.1146/annurev.psych.51.1.279

Blount, S., & Larrick, R. P. (2000). Framing the game: Examining frame choice in bargaining. Organizational behavior and human decision processes, 81(1), 43-71. https://doi.org/10.1006/obhd.1999.2866

Bowles, H. R., & Flynn, F. (2010). Gender and Persistence in Negotiation: A Dyadic Perspective. Academy of Management Journal, 53(4), 769-787. https://doi.org/10.5465/amj.2010.52814595

Boyer, M. A., Urlacher, B., Hudson, N. F., Niv-Solomon, A., Janik, L. L., Butler, M. J., Brown, S. W., & Ioannou, A. (2009). Gender and negotiation: Some experimental findings from an international negotiation simulation. International Studies Quarterly, 53(1), 23-47. https://doi.org/10.1111/j.1468-2478.2008.01522.x

Brett, J., & Thompson, L. (2016). Negotiation. Organizational behavior and human decision processes, 136, 68-79. https://doi.org/10.1016/j.obhdp.2016.06.003

Butt, A. N., Choi, J. N., & Jaeger, A. M. (2005). The effects of self-emotion, counterpart emotion, and counterpart behavior on negotiator behavior: a comparison of individual-level and dyad-level dynamics. Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 26(6), 681-704. https://doi.org/10.1002/job.328

Chang, H. H., Tsai, Y.-C., Chen, S.-H., Huang, G.-H., & Tseng, Y. H. (2015). Building long-term partnerships by certificate implementation: a social exchange theory perspective. Journal of Business & Industrial Marketing, 30(7), 867-879. https://doi.org/10.1108/JBIM-08-2013-0190

Chen, M. J., & Ayoko, O. B. (2012). Conflict and trust: the mediating effects of emotional arousal and self-conscious emotions. International journal of conflict management, 23(1), 19-56. https://doi.org/10.1108/10444061211199313

Cheng, J. (2020). Bidirectional relationship progression in buyer–seller negotiations: evidence from South Korea. Group Decision and Negotiation, 29(2), 293-320. https://doi.org/10.1007/s10726-020-09657-3

Cheng, J. J., Huang, Y. M., & Su, Y. (2018). Culturally varied relationality in buyer-supplier negotiations: a multi-session simulation. International journal of conflict management, 29(1), 47-69. https://doi.org/10.1108/ijcma-03-2017-0018

Curhan, J. R., Elfenbein, H. A., & Eisenkraft, N. (2010). The objective value of subjective value: A multi-round negotiation study. Journal of Applied Social Psychology, 40(3), 690-709. https://doi.org/10.1111/j.1559-1816.2010.00593.x

Curhan, J. R., Elfenbein, H. A., & Xu, H. (2006). What do people value when they negotiate? Mapping the domain of subjective value in negotiation. Journal of personality and social psychology, 91(3), 493. https://doi.org/10.1037/0022-3514.91.3.493

De Dreu, C. K. (2004). Motivation in negotiation: A social psychological analysis. The handbook of negotiation and culture, 114, 135.

De Dreu, C. K., Evers, A., Beersma, B., Kluwer, E. S., & Nauta, A. (2001). A theory-based measure of conflict management strategies in the workplace. Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 22(6), 645-668. https://doi.org/https://doi.org/10.1002/job.107

Elfenbein, H. A. (2021). Individual differences in negotiation: A relational process model. Organizational Psychology Review, 11(1), 73-93. https://doi.org/10.1177/2041386620962551

Ertel, D. (2004). Getting past yes: negotiating as if implementation mattered. Harvard Business Review, 82(11), 60-68, 148. https://doi.org/10.1177/2041386620962551

Fells, R., Rogers, H., Prowse, P., & Ott, U. F. (2015). Unraveling Business Negotiations Using Practitioner Data. Negotiation and Conflict Management Research, 8(2), 119-136. https://doi.org/https://doi.org/10.1111/ncmr.12050

Festinger, L. (1957). Social comparison theory. Selective Exposure Theory, 16(401), 3. https://doi.org/10.4135/9781446249215.n23

Galinsky, A. D., Mussweiler, T., & Medvec, V. H. (2002a). Disconnecting outcomes and evaluations: The role of negotiator focus. Journal of personality and social psychology, 83(5), 1131. https://doi.org/10.1037//0022-3514.83.5.1131

Galinsky, A. D., Seiden, V. L., Kim, P. H., & Medvec, V. H. (2002b). The dissatisfaction of having your first offer accepted: The role of counterfactual thinking in negotiations. Personality and Social Psychology Bulletin, 28(2), 271-283. https://doi.org/10.1177/0146167202282012

Geiger, I. (2014). Media Effects on the Formation of Negotiator Satisfaction: The Example of Face-to-Face and Text Based Electronically Mediated Negotiations. Group Decision and Negotiation, 23(4), 735-763. https://doi.org/10.1007/s10726-012-9317-3

Guo, W., Lu, W., & Gao, X. (2022). Exploring configurations of negotiating behaviors in business negotiations: A qualitative comparative analysis. Journal of Business Research, 147, 435-448. https://doi.org/10.1016/j.jbusres.2022.04.028

Haggenmüller, S., Oehlschläger, P., Herbst, U., & Voeth, M. (2022). Time for change? Scenario analysis on buyer–seller negotiations. Journal of Business & Industrial Marketing, 38(5), 1215-1242. https://doi.org/10.1108/jbim-11-2021-0511

Halevy, N., Y. Chou, E., & D. Galinsky, A. (2011). A functional model of hierarchy: Why, how, and when vertical differentiation enhances group performance. Organizational Psychology Review, 1(1), 32-52. https://doi.org/10.1177/2041386610380991

Halpert, J. A., Stuhlmacher, A. F., Crenshaw, J. L., Litcher, C. D., & Bortel, R. (2010). Paths to negotiation success. Negotiation and Conflict Management Research, 3(2), 91-116. https://doi.org/10.1111/j.1750-4716.2010.00051.x

Hart, E., & Schweitzer, M. E. (2022). When we should care more about relationships than favorable deal terms in negotiation: The economic relevance of relational outcomes (ERRO). Organizational Behavior and Human Decision Processes, 168, 104108. https://doi.org/10.1016/j.obhdp.2021.104108

Hunsaker, D. A., Zhang, T., & Rees, M. (2023). An Angry Face and a Guilty Conscience: The Intrapersonal Effects of Fake Anger in Negotiation. Negotiation and Conflict Management Research, 16(3), 211-229. https://doi.org/10.34891/2022.607

Jang, D., Elfenbein, H. A., & Bottom, W. P. (2018). More than a phase: Form and features of a general theory of negotiation. Academy of Management Annals, 12(1), 318-356. https://doi.org/10.5465/annals.2016.0053

Kang, S. H., Hur, J. D., & Kilduff, G. J. (2024). Beating the Rival but Losing the Game: How the Source of Alternative Offers Alters Behavior and Outcomes in Negotiation. Journal of Applied Psychology, 109(3), 386-401. https://doi.org/10.1037/apl0001154

Kong, D. T., Dirks, K. T., & Ferrin, D. L. (2014). Interpersonal trust within negotiations: Meta-analytic evidence, critical contingencies, and directions for future research. Academy of Management Journal, 57(5), 1235-1255. https://doi.org/10.5465/amj.2012.0461

Kwon, S., & Weingart, L. R. (2004). Unilateral concessions from the other party: concession behavior, attributions, and negotiation judgments. Journal of applied Psychology, 89(2), 263. https://doi.org/10.1037/0021-9010.89.2.263

Larrick, R. P., & Blount, S. (1997). The claiming effect: Why players are more generous in social dilemmas than in ultimatum games. Journal of personality and social psychology, 72(4), 810. https://doi.org/10.1037/0022-3514.72.4.810

LePine, J. A., Podsakoff, N. P., & LePine, M. A. (2005). A meta-analytic test of the challenge stressor–hindrance stressor framework: An explanation for inconsistent relationships among stressors and performance. Academy of Management Journal, 48(5), 764-775. https://doi.org/10.5465/amj.2005.18803921

Lin, S., & Cheung, S. O. (2022). Intention to Settle as an Indispensable Element of Negotiated Construction Dispute Settlement. Journal of construction engineering and management, 148(10). https://doi.org/10.1061/(asce)co.1943-7862.0002383

Little, T. D., Schnabel, K. U., & Baumert, J. (2000). Modeling longitudinal and multilevel data: Practical issues, applied approaches, and specific examples. Lawrence Erlbaum Associates Publishers.

Lu, W., Wei, Y., & Wang, R. (2020). Handling inter-organisational conflict based on bargaining power. International journal of conflict management, 31(5), 781-800. https://doi.org/10.1108/ijcma-06-2019-0092

Ma, Z., Wang, X., Jaeger, A., Anderson, T., Wang, Y., & Saunders, D. (2002). Individual Perception, Bargaining Behavior, and Negotiation Outcomes: A Comparison Across Two Countries. International Journal of Cross Cultural Management, 2(2), 171-184. https://doi.org/10.1177/1470595802002002865

Majer, J. M., Zhang, K., Zhang, H., Höhne, B. P., & Trötschel, R. (2022). Give and take frames in shared-resource negotiations. Journal of Economic Psychology, 90, 102492. https://doi.org/10.1016/j.joep.2022.102492

Malhotra, D. (2005a). Hamilton Real Estate: Confidential Role Information for the CEO of Estate One (BUYER). Harvard Business School Exercise 905-052.

Malhotra, D. (2005b). Hamilton Real Estate: Confidential Role Information for the Executive VP of Pearl Investments (SELLER). Harvard Business School Exercise 905-053.

Mazei, J., Zerres, A., & Hüffmeier, J. (2021). Masculinity at the Negotiation Table: A Theory of Men's Negotiation Behaviors and Outcomes. Academy of Management Review, 46(1), 108-127. https://doi.org/10.5465/amr.2017.0570

Naquin, C. E. (2003). The agony of opportunity in negotiation: Number of negotiable issues, counterfactual thinking, and feelings of satisfaction. Organizational behavior and human decision processes, 91(1), 97-107. https://doi.org/10.1016/S0749-5978(02)00532-0

Olekalns, M., Brett, J. M., & Weingart, L. R. (2003). Phases, transitions and interruptions: Modeling processes in multi-party negotiations. International Journal of Conflict Management, 14(3/4), 191-211. https://doi.org/10.1108/eb022898

Olekalns, M., & Smith, P. L. (2023). Decision frames and the social utility of negotiation outcomes. Current Psychology, 42(11), 9563-9576. https://doi.org/10.1007/s12144-021-02248-8

Oliver, R. L. (1993). Cognitive, affective, and attribute bases of the satisfaction response. Journal of consumer research, 20(3), 418-430.

Panke, D., Polat, G., & Hohlstein, F. (2021). Satisfied or not? Exploring the interplay of individual, country and international organization characteristics for negotiation success. Review of International Organizations, 16(2), 403-429. https://doi.org/10.1007/s11558-020-09386-x

Parlamis, J., Badawy, R., Haber, J., & Brouer, R. (2020). Exploring fear of appearing incompetent, competency pressure, tactics and perceptions in negotiations. International journal of conflict management, 31(4), 607-622. https://doi.org/10.1108/ijcma-06-2019-0094

Penttilä, V. (2020). Aspirational Talk in Strategy Texts: A Longitudinal Case Study of Strategic Episodes in Corporate Social Responsibility Communication. Business & Society, 59(1), 67-97. https://doi.org/10.1177/0007650319825825

Polzer, J. T. (1996). Intergroup negotiations: The effects of negotiating teams. Journal of Conflict Resolution, 40(4), 678-698. https://doi.org/10.1177/0022002796040004008

Ramirez-Marin, J. Y., Diaz, A. B., & Acar-Burkay, S. (2021). Is stress good for negotiation outcomes? The moderating effect of social value orientation. International journal of conflict management, 32(3), 407-421. https://doi.org/10.1108/ijcma-04-2020-0063

Sanchez-Anguix, V., Julián, V., Botti, V., & Garcia-Fornes, A. (2013). Studying the impact of negotiation environments on negotiation teams' performance. Information Sciences, 219, 17-40. https://doi.org/10.1016/j.ins.2012.07.017

Saorín-Iborra, M. C., & Cubillo, G. (2019). Supplier behavior and its impact on customer satisfaction: A new characterization of negotiation behavior. Journal of Purchasing and Supply Management, 25(1), 53-68. https://doi.org/10.1016/j.pursup.2018.03.002

Schaerer, M., Schweinsberg, M., Thornley, N., & Swaab, R. I. (2020). Win-win in distributive negotiations: The economic and relational benefits of strategic offer framing. Journal of Experimental Social Psychology, 87, 103943. https://doi.org/10.1016/j.jesp.2019.103943

Schuster, C., Majer, J. M., & Trötschel, R. (2020). Whatever we negotiate is not what I like: How value-driven conflicts impact negotiation behaviors, outcomes, and subjective evaluations. Journal of Experimental Social Psychology, 90, 103993. https://doi.org/10.1016/j.jesp.2020.103993

Thompson, L. L. (2015). The mind and heart of the negotiator. Pearson.

Thompson, L. L., Wang, J., & Gunia, B. C. (2012). Negotiation. Group processes, 55-84.

Tiedens, L. Z., & Fragale, A. R. (2003a). Power Moves: Complementarity in Dominant and Submissive Nonverbal Behavior. Journal of personality and social psychology, 84, 558-568. https://doi.org/10.1037//0022-3514.84.3.558

Tiedens, L. Z., & Fragale, A. R. (2003b). Power moves: complementarity in dominant and submissive nonverbal behavior. Journal of personality and social psychology, 84(3), 558. https://doi.org/10.1037/0022-3514.84.3.558

Tomlinson, E. C., Dineen, B. R., & Lewicki, R. J. (2004). The road to reconciliation: Antecedents of victim willingness to reconcile following a broken promise. Journal of management, 30(2), 165-187. https://doi.org/10.1016/j.jm.2003.01.003

Trötschel, R., Loschelder, D., Höhne, B., & Majer, J. (2015). Procedural Frames in Negotiations: How Offering My Resources Versus Requesting Yours Impacts Perception, Behavior, and Outcomes. Journal of personality and social psychology, 108. https://doi.org/10.1037/pspi0000009

Van Kleef, G. A., De Dreu, C. K., & Manstead, A. S. (2004). The interpersonal effects of anger and happiness in negotiations. Journal of personality and social psychology, 86(1), 57. https://doi.org/10.1037/0022-3514.86.1.57

Wang, M., Liao, H., Zhan, Y., & Shi, J. (2011). Daily Customer Mistreatment and Employee Sabotage Against Customers: Examining Emotion and Resource Perspectives. Academy of Management Journal, 54(2), 312-334. https://doi.org/10.5465/amj.2011.60263093

Wildschut, T., Pinter, B., Vevea, J. L., Insko, C. A., & Schopler, J. (2003). Beyond the group mind: a quantitative review of the interindividual-intergroup discontinuity effect. Psychological bulletin, 129(5), 698. https://doi.org/10.1037/0033-2909.129.5.698

Wiltermuth, S., Tiedens, L. Z., & Neale, M. (2015). The benefits of dominance complementarity in negotiations. Negotiation and Conflict Management Research, 8(3), 194-209. https://doi.org/10.1111/ncmr.12052

Woelfl, K., Ketchen, D. J., & Kaufmann, L. (2024). A Configurational Perspective on the Quality of Managers' Counterfactual Reflections. Journal of management. https://doi.org/10.1177/01492063241271244

Wolter, J. S., Donavan, D. T., & Giebelhausen, M. (2021). The corporate reputation and consumer-company identification link as a sensemaking process: A cross-level interaction analysis. Journal of Business Research, 132, 289-300. https://doi.org/10.1016/j.jbusres.2021.04.012

Wong, R. S., & Howard, S. (2018). Think twice before using door-in-the-face tactics in repeated negotiation. International journal of conflict management, 29(2), 167-188. https://doi.org/10.1108/IJCMA-05-2017-0043

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# Appendix

## Appendix A: Negotiation Scenario and Participant Instructions

**Business Negotiation Simulation – Instruction Manual**

This simulation was conducted in a classroom setting and followed the procedures and structure outlined below.

**1. Grouping and Role Assignment**
All participants were divided into 14 teams (i.e., 7 negotiation dyads), with each team consisting of 4 to 5 participants. Each team appointed one chief negotiator to represent them during the negotiation. The negotiation took place in buyer–seller pairs, and teams were labeled accordingly. Buyers and sellers were assigned to separate rooms and provided with role-specific briefing materials. Participants were instructed to maintain strict confidentiality throughout the simulation:

No information exchange was permitted between buyers and sellers.
No communication was allowed between teams of the same role.
Mobile phones were to be silenced; calls and messages were strictly prohibited during the simulation.
Participants were advised not to seek or share information, even during breaks or accidental encounters.

**2. Negotiation Format and Timeline**
Teams were given 45 minutes for internal preparation, including strategy development and role clarification. Each dyad engaged in a two-stage negotiation, with a short break in between:

First Stage: 25 minutes
Break: 15 minutes (for internal team adjustments; seller remains in the room, buyer steps out)
Second Stage: 25 minutes

After each negotiation stage, all participants completed a post-stage questionnaire measuring subjective value and satisfaction.

**3. Rules During Negotiation**
Negotiations could result in either an agreement or a deadlock. The following rules were strictly enforced during the process:

No communication was allowed between teams or between participants in the same role group.
All background materials were to be interpreted independently; instructors were not permitted to offer clarification.
Participants were not allowed to enter or leave the negotiation room at will.
Seller teams entered the room only after buyer teams had received instructions and completed their internal preparation.

**4. Post-Negotiation Reflection**
After the negotiation, each participant completed a reflective form with the following items:

What types of preparation were undertaken by your team?
What behavioral or strategic adjustments did you make after the break?

How did you perceive your counterpart's negotiation behavior and strategy?
What aspects of your performance were effective, and what could be improved?
How satisfied are you with the outcome? (Rate from 1= Very Dissatisfied to 7= Very Satisfied)

## Appendix B. Measurement Scales Used in the Study

**Part 1. First-Stage Satisfaction and Subjective Value (17 items + 1 overall rating)**
Participants rated their agreement with the following statements based on their experience in the first round of negotiation, using a 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree).

1. We believe the agreed-upon issues were fair and consistent with established norms and objective standards.
2. We believe there is a high likelihood of reaching an agreement on the unresolved issues in the next round.
3. At the end of this round, the other party's requests were acceptable.
4. At the end of this round, our requests were reasonable.
5. We felt deprived or disadvantaged in this round of negotiation.
6. We felt embarrassed during the negotiation (e.g., our pride was hurt).
7. This negotiation made us feel like competent negotiators.
8. We acted following our principles and values.
9. This negotiation had a positive impact on our self-concept and self-image.
10. We believe the other party listened to our concerns.
11. We believe the negotiation process was fair.
12. We are satisfied with the simplicity or complexity of the agreement process.
13. The other party considered our wishes, opinions, or needs.
14. The other party left a generally positive impression.
15. As a result of this negotiation, we are satisfied with the relationship between both parties.
16. This negotiation increased our trust in the other party.
17. This negotiation laid a solid foundation for future relations between the two parties.

Overall, we are satisfied with the outcome of the first-round negotiation. (1–7)

**Part 2. Second-Stage Negotiation Behaviors (28 items + 1 overall rating)**
Participants rated how well each of the following statements described their behavior in the second round of negotiation, using a 7-point Likert scale (1 = Not at all Descriptive, 7 = Very Descriptive).

1. We collaborated with the other party to find mutually acceptable solutions.
2. We worked with the other party to find solutions that met both parties' expectations.
3. We exchanged accurate information with the other party to solve problems together.
4. We revealed all of our concerns to resolve the dispute effectively.
5. We cooperated with the other party to reach mutually acceptable decisions.
6. We worked closely with the other party to better understand the issues.
7. We tried to integrate both sides' opinions to reach a shared decision.
8. We sought compromises to overcome deadlocks.
9. We frequently proposed middle-ground solutions to resolve impasses.
10. Our negotiations often resulted in compromise.
11. We achieved a compromise through mutual concessions.

12. We avoided arguing with the other party.
13. We refrained from directly discussing disagreements.
14. We avoided confrontations as much as possible.
15. We withheld disagreements to avoid upsetting the other party.
16. We avoided unpleasant exchanges during the negotiation.
17. We tried to meet the needs of the other party.
18. We avoided awkwardness and kept any conflicts to ourselves.
19. We modified our strategy to better align with the other party's expectations.
20. We made concessions according to the other party's expectations.
21. We were willing to concede to the other party.
22. We often agreed with the other party's suggestions.
23. We tried to meet the other party's expectations.
24. We used our influence to make our viewpoints acceptable.
25. We leveraged our power to push for decisions that favored us.
26. We used our expertise to make decisions in our favor.
27. We firmly insisted on our position regarding key issues.
28. We sometimes used our group's power to prevail in competitive situations.

Overall, we are satisfied with the outcome of the second-round negotiation. (1–7).