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TEMPORAL INTERACTION PATTERNS IN NEGOTIATIONS



Elisabeth Jäckel

Temporal Interaction Patterns in Negotiations

Elisabeth Jäckel

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Temporal Interaction Patterns in Negotiations

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Faculteit Economie en Bedrijfskunde

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Introduction

Negotiations constitute one of the most important *social processes* to resolve conflicts of interest (Kramer & Messick, 1995; Thompson & Hastie, 1990) and a fundamental *form of coordination* within and between organizations (De Dreu & Gelfand, 2008; Pruitt, 1981). Negotiation researchers have accumulated a wealth of information about variables that influence economic and subjective negotiation outcomes (Curhan et al., 2006; Tripp & Sondak, 1992), such as cognitive biases, negotiation styles, motivation, personality traits, emotion, relationships, gender, power, and culture (Brett & Thompson, 2016; Thompson et al., 2010).

Despite the definitional emphasis on the negotiation process, the actual negotiation interaction has received less attention in extant research (cf. Weingart et al., 2004). Especially, research on systematic patterns of single behavioral acts (i.e., behavioral interaction patterns) has been scarce (cf. Vetschera, 2013). It requires time-consuming coding efforts and interaction patterns are challenging to analyze (Bakeman & Quera, 2011; Donohue, 2003; Lloyd et al., 2016; Weingart, 2012). However, studying negotiation behavior from an interaction-based perspective is crucial, as behavioral antecedents can be significantly more important in the prediction of subsequent behaviors in an interaction process than interindividual difference and contextual variables (e.g., Taylor & Donald, 2003; Weingart et al., 1999). Moreover, resulting interaction patterns can potentially explain variance in important negotiation outcomes, such as joint gains (Tripp & Sondak, 1992) or subjective value (Curhan et al., 2006). Therefore, studying actual behavior as it unfolds in a negotiation is an objective called for by many researchers (e.g., Brett et al., 1998; Putnam & Jones, 1982b; Turan et al., 2011). This dissertation addresses this call, aiming to unravel and identify temporal interaction patterns in negotiations that have so far been neglected and thus contribute to a more comprehensive understanding of temporal interaction patterns in

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negotiation. When referring to the studies of this dissertation, I will use a plural pronoun to acknowledge the contributions of my co-authors in this research.

1.1 Studying Temporal Interaction Patterns

A critical requirement to study fine-grained temporal dynamics of negotiation processes is a comprehensive and precise coding of observed behavior. This means assigning a code to each behavior to capture the entire interaction accurately (Bakeman & Quera, 2011; Lehmann-Willenbrock & Allen, 2018). Extant research on negotiation behaviors and behavioral patterns used specialized coding schemes that had yet to be integrated into one single coding scheme to obtain comprehensiveness. Besides, behaviors that are typical for many types of interactions but not specific to the negotiation context (e.g., active listening, humor, or small talk; e.g., Gordon, 1975; Lehmann-Willenbrock & Allen, 2014; Yoerger et al., 2018) have so far been largely ignored in extant negotiation coding schemes. To study the potential impact of such behaviors on the negotiation process and its outcomes, they had to be integrated into one comprehensive coding scheme.

A comprehensive coding scheme does not only create opportunities to investigate fine-grained temporal dynamics of negotiation processes by means of lag sequential analysis (cf. Bakeman & Quera, 2011; Lloyd et al., 2016). It also reduces the use of a "miscellaneous" coding category that is frequently applied in extant coding schemes. The use of a "miscellaneous" coding category implies that large conversational chunks and nuances in the negotiation are lost to researchers. Finally, the application of one comprehensive coding scheme contributes to more standardization of the coded verbal contents of negotiations and facilitates research that produces comparable datasets that can easily be merged. The resulting and larger datasets can potentially be used by different researchers for various research endeavors. Also, it paves the way for automated coding by means of Supervised Machine Learning (SML; see Bonito & Keyton, 2018). In Chapter 2 of this dissertation, we therefore

first address this need for comprehensive, yet fine-grained coding and developed a comprehensive coding scheme for negotiation research. With the development of this coding scheme, we could then study temporal interaction patterns that are potentially influential for the subsequent interaction but that have previously not received attention.

1.2 Limitations of Extant Research on Temporal Interaction Patterns

Research on temporal interaction patterns has so far focused on the role of behavioral (non-)reciprocity of negotiation tactics (e.g., Brett et al., 1998; Liu, 2013; Olekalns & Smith, 2003a; Olekalns et al., 2003; Putnam & Jones, 1982a; Smith et al., 2005). For instance, Smith et al. (2005) showed how to analyze strategy sequences (e.g., whether and when negotiators reciprocate each other's strategy) via Markov chain analysis (for a theoretical framework on Markov chain models, see Norris, 1998). Moreover, Brett et al. (1998) considered temporal interaction patterns by examining the reciprocity of communication in negotiations in the context of contentious communication and conflict spirals in negotiations. Their findings suggest that negotiators tend to reciprocate contentious behavior (e.g., threats), which generates conflict spirals. The authors also provide specific advice on how to break these conflict spirals, for instance, by resisting to reciprocate contentious communication and/or by refocusing the negotiation with a cooperative statement.

Another example is a study by Olekalns and Smith (2003a) who examined the relationship between (non-)reciprocated negotiation strategies (e.g., competitive and cooperative strategies), dyad composition (prosocial, proself, mixed), and levels of joint gains (low, moderate, high). Among other findings, they demonstrated that reciprocating cooperative and competitive negotiation strategies promoted joint gains only in prosocial dyads, while the absence of reciprocation was associated with high joint gains in proself dyads (for an overview of studies that focus on interaction patterns in negotiation, see Vetschera, 2013).

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While the study of (non-)reciprocal negotiation behaviors has certainly advanced our understanding of the actual negotiation process, the focus in that research is limited on rather broad classes of substantive negotiation strategies (e.g., cooperative vs. competitive strategies). Thus, a wide range of pervasive behaviors and behavioral patterns are not explored by extant research on temporal interaction patterns. However, these behaviors and behavioral patterns can potentially explain additional variance in the prediction of subsequent behaviors and important negotiation outcomes (e.g., Taylor & Donald, 2003; Vetschera, 2013).

First, the study of patterns involving typical interaction behaviors (e.g., humor, active listening) has so far received little attention. Especially, active listening (i.e., signaling interest or paraphrasing the speaker's statement, e.g., Gordon, 1975) is widely used and recommended in negotiation textbooks (e.g., Fisher & Ury, 1981; Lewicki et al., 2020) but has never been empirically investigated in the negotiation context. Studies in other contexts (e.g., first-time and peer conversations; Jones et al., 2019; Weger et al., 2014) suggest a rapport building effect, which potentially translates to the more competitive context of negotiations (cf. Itzchakov et al., 2018). Studying active listening as a behavioral antecedent of rapport can thus contribute to a better understanding of how subjective value in negotiations develops (Curhan et al., 2006).

Furthermore, active listening might reinforce previous behavior in an interaction (e.g., reinforcing cooperative behavior when used after a cooperative statement; Lieberman, 2012; Schegloff, 1982). Similar to synchronous negotiation behaviors (e.g., reciprocated cooperativeness; cf. Olekalns & Smith, 2003a), active listening, applied at the right time, may be able to shift the subsequent interaction toward a mutually beneficial agreement. Thereby, the study of active listening as a verbal reinforcer can potentially also advance theory on turning points in negotiation (Druckman et al., 1991). Additionally, in accordance with

cognitive models of listening (e.g., Bodie et al., 2008; Imhof, 2001), active listening might facilitate information processing, which is crucial for value creation (Steinel et al., 2007; Thompson & Hastie, 1990). Generally, more research on listening in the business context is called for (Flynn et al., 2008; Yip & Fisher, 2022). We follow this call and address the role of active listening (patterns) in Chapter 3 of this dissertation. We address when active listening occurs and when and how active listening (patterns) affect subjective and objective negotiation outcomes.

Second, we have little understanding about behavioral antecedents and consequences of unethical behaviors, such as dishonesty in negotiation, even though they are pervasive and potentially harming negotiators' relationships (Schweitzer et al., 2006). Most research to date has taken a static perspective on antecedents of dishonest behavior (see Gaspar et al., 2022). Models of unethical behavior (e.g., Kajackaite & Gneezy, 2017; Lewicki, 1983) suggest that the decision to act dishonestly is based on a cost-benefit analysis, with interindividual differences or context variables affecting the decision to act more or less dishonestly. However, interaction theory (e.g., Taylor & Donald, 2003; Weingart et al., 1999) suggests that behaviors within the interaction also affect the other party's subsequent behavior.

Thus, in Chapter 4 of this dissertation, we integrate the extant theoretical perspective (i.e., a cost-benefit analysis of dishonest behavior) into a dynamic perspective based on interaction theory. We propose that perceptions of costs and benefits and thereby the decision to act (dis-)honestly is affected by previous behavior. In addition, the study of explicitly honest behavior in negotiation is scarce but has been called for (cf. Cooper et al., 2023; Miller, 2021). This is especially important as honest information provision is crucial for resolving negotiations and realizing mutually beneficial agreements (e.g., Hüffmeier et al., 2019). We thus address this call in Chapter 4 and explicitly study honest behavior as the honest provision of information and not just the absence of dishonesty (cf. Cramton & Dees,

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1993). Thereby, we aim to identify behavioral antecedents but also consequences of (dis-)honest behavior in negotiation.

Third, procedural communication patterns, such as behavior announcements (e.g., "Let me ask you a question, …" before asking the actual question), are discussed in the field of communication (e.g., Schegloff, 1988) and potentially beneficial when used in negotiations (cf. Rackham & Carlisle, 1978). Following transactional models of communication (Barnlund, 1970; Mortensen, 2008), behavior announcements in their function as structuring elements (Schegloff, 1988) might increase transparency in the interaction and facilitate rapport building between negotiators (Curhan et al., 2006). Thereby, the study of behavior announcement patterns might contribute to theory on the development of subjective value in negotiation (Curhan et al., 2006). Moreover, it is important to understand whether and how behavior announcements influence economic outcome, as this might provide an easily applicable communication technique for negotiators to increase their economic outcome. In Chapter 5, we thus study whether and how behavior announcements affect negotiation outcomes.

1.3 Outline

Overall, this dissertation contributes to a more comprehensive understanding of the interaction process in negotiations. In a first step, we developed a coding scheme to identify and study temporal interaction patterns. We then apply this coding scheme and investigate active listening (patterns), behavioral antecedents and consequences of (dis-)honesty, and the role of behavior announcement patterns in negotiation. In the following, the four empirical chapters are briefly outlined.

1.3.1 Chapter 2: NegotiAct: Introducing a Comprehensive Coding Scheme to Capture Temporal Interaction Patterns in Negotiations

In Chapter 2, we develop NegotiAct, a comprehensive coding scheme for negotiations, comprising 47 mutually exclusive behavioral codes. NegotiAct systematically integrates (i) 89 extant coding schemes for negotiations (e.g., Adair et al., 2001; Weingart et al., 1996), (ii) pertinent findings from negotiation research (e.g., Hüffmeier et al., 2019; Schweitzer & Croson, 1999), and (iii) specific interaction behaviors that were previously not considered in coding schemes for negotiations (e.g., active listening; Gordon, 1975). To facilitate the application of NegotiAct, we provide a coding manual with precise instructions and with definitions and examples for every code. NegotiAct can be customized to address many research questions in experimental settings as well as field research by splitting codes (e.g., humor) into more specific behaviors (e.g., self-defeating or aggressive humor). The differentiated codes can always be traced back to the original codes, preserving comparability across studies, facilitating cumulative research and paving the way for automated coding (e.g., Bonito & Kevton, 2018). In combination with interaction analytical methods (e.g., lag sequential analysis; cf. Bakeman & Quera, 2011; Lloyd et al., 2016). NegotiAct enables scholars to detect and investigate specific communication patterns across the negotiation process. As a first empirical validation of NegotiAct, we demonstrate a substantial interrater reliability for 18 videotaped negotiations ($\kappa = .80$) and conduct an exploratory validation analysis, studying the relation of multi-issue offers, active listening, and joint gains.

1.3.2 Chapter 3: Active Listening in Integrative Negotiation

In Chapter 3, we study naturally occurring active listening in integrative negotiations. Active listening is a recommended communication technique in integrative negotiations (e.g., Fisher & Ury, 1981; Lewicki et al., 2020) but has never been empirically investigated in this context. First evidence suggests that skilled negotiators paraphrase more than average

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negotiators (Rackham & Carlisle, 1978). However, we do not know which role active listening actually plays in negotiations and how and when it potentially affects negotiation interactions. We argue that the generic use of active listening facilitates rapport building but is not necessarily beneficial for economic negotiation outcomes. Instead, building on speech act theory (Lieberman, 2012; Schegloff, 1982), we propose that it reinforces integrative statements and inhibits distributive statements as subsequent speech acts following integrative multi-issue offers (i.e., offers that comprise two or more of several possible issues). These multi-issue offer-active listening patterns, in turn, can facilitate value creation and, ultimately, agreements that maximize all parties' economic outcomes. Moreover, building on cognitive models in listening (e.g., Bodie et al., 2008; Imhof, 2001), we propose that active listening facilitates information processing after implicit information provision (e.g., multi-issue offers).

In this study, we examine the role of naturally occurring active listening in videotaped integrative negotiations, comprehensively coded with NegotiAct (Jäckel et al., 2022). A lag sequential analysis of 48 negotiations with 17,120 thought units showed that active listening follows offers that comprise two or more of several possible issues (i.e., multi-issue offers) above chance level. These multi-issue offer – active listening patterns in turn promote (more) integrative statements (e.g., multi-issue offers) and inhibit distributive statements (e.g., single-issue offers). Moreover, multi-issue offer – active listening patterns (and neither multi-issue offers alone nor active listening alone) positively relate to the achieved joint economic outcomes in the negotiation. Contrary to common expectations, we do not find evidence that active listening promotes understanding of the other party or rapport between negotiators. Based on our findings, we propose a contingent effect model of active listening. Moreover, we refine the advice given in the prescriptive literature (e.g., Fisher & Ury, 1981; Lewicki et al., 2020) on how to use active listening in negotiation.

1.3.3 Chapter 4: (Dis-)honesty in Negotiation: Behavioral Antecedents and Consequences

In Chapter 4, we identify behavioral antecedents and consequences of (dis-)honest behavior in negotiation. Instead of exclusively relying on frequency measures of acts of (dis-)honesty or self-reported (dis-)honesty, we shed light on the temporal dynamics of when acts of (dis-)honesty occur and how they can potentially affect the subsequent communication. Moreover, we introduce the explicit analysis of honest behavior (i.e., honest provision of preference- and priority-related information) in negotiation, which has, so far, mostly been reduced to the absence of deception (e.g., Cramton & Dees, 1993). We also extend our focus to entire negotiation interactions (as compared to short and selected incidents as in prior research e.g., Olekalns & Smith, 2007, 2009), which allows us to study how (dis-)honest behavior unfolds over the natural course of the interaction. Using lag sequential analysis, we analyze 17,120 thought units, nested within 48 videotaped integrative negotiations that were coded with NegotiAct (Jäckel et al., 2022). Results show that priorityand preference-related questions and priority-related information provision promote acts of honesty, but only preference-related information exchange and not priority-related information exchange also promote acts of dishonesty as subsequent behaviors. We further identify behavioral antecedents and consequences of (dis-)honest behavior that were previously mostly neglected in negotiation research. Specifically, active listening (e.g., simple acknowledgements such as "mm hmm") reinforces acts of honesty but also acts of dishonesty, thereby further supporting a contingent effect model of active listening (see Chapter 3). We derive specific practical implications from our findings: Most importantly, we recommend using (more) priority-related information exchange (and avoiding preferencerelated information exchange) to foster subsequent honest and to inhibit subsequent dishonest behavior.

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1.3.4 Chapter 5: Behavior Announcement in Negotiation: A First Study

In Chapter 5, we provide an initial study on the use of behavior announcement patterns, such as "Let me ask you a question...", followed by the announced question, in negotiations. Building on communication theories, we argue that behavior announcements are positively related to rapport between negotiators as they increase transparency in the interaction. Moreover, we propose that behavior announcements facilitate value creation by shifting listeners' attention to the immediately following speech act and providing contextual knowledge and by facilitating a deliberative mindset. We test our hypotheses in a preregistered experiment (N = 282). Results of our study show that behavior announcements positively affect negotiator using behavior announcements. However, behavior announcements do not affect information processing nor value creation. This study provides an initial indication of the effects that behavior announcements can have in negotiation settings and provides suggestions for future research.

1.3.5 Chapter 6: Discussion

In Chapter 6, I discuss the theoretical and practical contributions of this dissertation. Moreover, I identify and discuss limitations of our studies and provide suggestions for future research.

NegotiAct: Introducing a Comprehensive Coding Scheme to Capture Temporal Interaction Patterns in Negotiations¹

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Abstract

In the present research, we developed NegotiAct, a comprehensive coding scheme for negotiations, comprising 47 mutually exclusive behavioral codes. NegotiAct was derived by systematically integrating (i) 89 extant coding schemes for negotiations, (ii) pertinent findings from negotiation research, and (iii) specific interaction behaviors that were previously not considered in coding schemes for negotiations (e.g., active listening). To facilitate the application of NegotiAct, we designed a coding manual with precise instructions and with definitions and examples for every code. NegotiAct can be customized to address many research questions in experimental settings as well as field research by splitting codes into more specific behaviors. Thereby, differentiated codes can always be traced back to the original codes, preserving comparability across studies and facilitating cumulative research. In combination with interaction analytical methods, NegotiAct enables scholars to detect and investigate specific communication patterns across the negotiation process. As a first empirical validation of NegotiAct, we demonstrate a substantial interrater reliability for 18 videotaped negotiations ($\kappa = .80$) and conduct an exploratory validation analysis, studying the relation of multi-issue offers, active listening, and joint gains.

Keywords: negotiation, coding, interaction analysis, negotiation processes, active listening, joint gains

2.1 Introduction

"As telescopes are for astronomy and microscopes for biology, so coding schemes are for observational methods: They bring the phenomena of interest into focus for systematic observation" (Bakeman & Ouera, 2011, p.13).

Negotiation has been studied by psychology and management scholars for over 50 years, both as a prominent case to study conflict and cooperation and because of its direct relevance for organizational practice. Over the decades, our field has collected vast knowledge about antecedents of negotiation outcomes, such as cognitive biases, motivation, emotion, reputation, relationship, gender, power, and culture (Brett & Thompson, 2016; Thompson et al., 2010). However, we still know comparably little about the observable interaction patterns during negotiation, which are often complex and difficult to study (Donohue, 2003; Weingart, 2012). Such phenomena require both new theoretical and methodological approaches to study their dynamic character. Interaction analytical theories and methods, such as lag sequential analysis (e.g., Bakeman & Quera, 2011), pattern analysis (e.g., Magnusson, 2000) or statistical discourse analysis (e.g., Lehmann-Willenbrock et al., 2017) open novel potential for decrypting and modeling these complex interaction systems with a new level of precision. One important prerequisite for this work is a comprehensive (i.e., capturing entire interactions by assigning a code to each behavior) and precise coding of observed behavior (Lehmann-Willenbrock & Allen, 2018).

Over the last decades, many coding schemes have been developed and used to study behavior in negotiations (e.g., Adair et al., 2001; Weingart et al., 1993). Their application resulted in significant insights in negotiation research: The field collected extensive insights into negotiation strategies and tactics, such as creating value by making multi-issue offers (i.e., offers that involve more than one issue) or claiming value by referring to the bottom line (e.g., Weingart et al., 2004). Moreover, deceptive behaviors in negotiations, including lying

by omission and commission (e.g., O'Connor & Carnevale, 1997), or the consequences of communicating emotions (e.g., Van Kleef, 2008) have been detected. To focus on their specific behaviors of interest, researchers mostly developed their own specialized coding scheme. This is a common approach to avoid borrowing an ill-fitted coding scheme, which would potentially feel "like wearing someone else's underwear" (Bakeman & Gottman, 1997, p.15).

However, developing narrow coding schemes for only one research purpose can be problematic (cf. Putnam & Jones, 1982b), especially as it prevents effective cross-study comparisons. In a recent meta-analysis by Yao et al. (2021) for instance, information sharing was included as a control variable and defined as interest- and priority-related information exchange. Yet, some included studies using specific coding schemes measured only part of this, for instance only priority-related information exchange (Liu & Wilson, 2011) or even only the provision, but not the request of priority-related information (Adair & Brett, 2005). Other coding schemes used broader operationalizations and, for instance, also considered requesting to make an offer as a facet of information sharing (Weingart et al., 1990). Thus, when conducting a meta-analysis, researchers are often forced to include results based on different operationalizations. Clearly, it is challenging and may even be problematic to integrate such widely varying measures from different coding schemes-even though they might be labeled identically. Thus, it is unclear whether and to which extent the same underlying theoretical construct is assessed. This clearly hampers a reliable and valid aggregation of potential effects, challenges the interpretation of findings and the accumulation of knowledge (see Block, 1995). Moreover, to study temporal interaction patterns every behavioral unit should be coded, not just behaviors that concern a specific research question (e.g., Lehmann-Willenbrock & Allen, 2018).

Thus, although prior coding schemes clearly served their respective purposes well,

they could, and—as we argue below—should be improved in two important ways. First, the behaviors entailed in specialized coding schemes have yet to be integrated into *one* single coding scheme to obtain comprehensiveness. Second, behaviors that are typical for many types of interactions but not specific to the negotiation context (e.g., active listening, humor, or small talk; e.g., Lehmann-Willenbrock & Allen, 2014; Rogers & Farson, 1987; Yoerger et al., 2018) have so far been largely ignored in extant negotiation coding schemes. The impact of such behaviors on interaction outcomes has been demonstrated across different types of interactions that are structurally similar to negotiation settings, such as team meetings (e.g., Kauffeld & Lehmann-Willenbrock, 2012) or supervisor–subordinate interactions (e.g., Meinecke et al., 2016). To study the potential impact of such behaviors on the negotiation process and its outcomes, it is necessary to integrate them in a comprehensive coding scheme.

Our manuscript offers three main contributions. First, with our development of *NegotiAct*, we introduce a coding scheme that can better account for verbal behavior than any existing coding scheme. Thereby, it allows for a fine-grained coding of the entire interaction in negotiations. In turn, such exhaustive coding drastically reduces the use of a "miscellaneous" coding category that has to be frequently applied in extant coding schemes, which implies that large conversational chunks and nuances in the negotiation are lost to researchers. With NegotiAct, research can focus on these previously blind spots to better understand negotiation interactions and the explanatory mechanisms therein that ultimately explain negotiation outcomes. Second, the newly integrated set of behaviors creates opportunities to investigate fine-grained temporal dynamics of negotiation processes. This methodological advancement will allow testing new theoretical approaches that aim at explaining the dynamic communicative patterns as they unfold over the course of a negotiation. For example, lag sequential analysis (cf. Bakeman & Quera, 2011) will enable negotiation researchers to identify behavioral sequences that have not been studied so far and

will provide them the means to answer questions such as: What are the immediate and lagged behavioral consequences of (detected) deception (cf. Gaspar & Schweitzer, 2013)? Or which statements precede and follow interest-related questions (cf. Hüffmeier et al., 2019; see Table 2 for more exemplary research questions)? To demonstrate the coding scheme's respective utility, we present an exploratory analysis showing that multi-issue offers (e.g., Pruitt & Lewis, 1975; Walton & McKersie, 1965) trigger active listening. Moreover, we identify linkages between multi-issue offers, active listening, and joint gains. Thereby, our coding scheme paves the way to develop new theory that will advance negotiation science. Third, NegotiAct contributes to a convergence in coding negotiation interactions. It can be applied to numerous research questions in experimental settings as well as in field research and across different cultural settings. This leads to more standardization of the coded verbal contents of negotiations, which for instance facilitates meta-analyses that ideally require that constructs are operationalized in identical ways to allow for meaningful interpretations of the results. Furthermore, in light of desirable changes towards more Open Science, NegotiAct facilitates research that produces comparable datasets that can easily be merged. The resulting and larger datasets can potentially be used by different researchers for various research endeavors. Thereby, less time is spent for coding and faster knowledge accumulation is possible.

2.2 Theoretical Background

2.2.1 Coding Schemes in Negotiation Research

Coding schemes are instruments that help to directly examine behaviors that unfold in interactions such as negotiations (Weingart et al., 2004). Their purpose is to focus the researcher's attention on the behaviors of interest and to facilitate a systematic examination of interaction processes (Bakeman & Quera, 2011). Coding schemes consist of standardized rules that define how codes (i.e., labels or categories) can be applied to observed behaviors

(Keyton, 2018). These rules concern the segmentation of interactions into behavioral units and the application of codes to these units (Bakeman & Quera, 2011).

Behaviors can be classified into verbal, nonverbal, and para-verbal behaviors. Verbal behaviors are defined as the spoken language component of a speaker's message (e.g., Ekman, 1957). In contrast, nonverbal behaviors are "all the parts of the message other than the language itself" (Burgoon & Dunbar, 2018; p. 105), including different modalities such as kinesics (e.g., gestures, eye contact) or proxemics (e.g., use of space, seating arrangements; for an overview of coding nonverbal behavior, see Burgoon & Dunbar, 2018). Finally, paraverbal behaviors are defined as vocal nonverbal behaviors (cf. Vinciarelli et al., 2009). They comprise "all spoken cues that surround the verbal message and influence its actual meaning" (Vinciarelli et al., 2009; p. 1747). In the following, we focus on verbal behaviors (e.g., offer-making) and include selected paraverbal behaviors that occur in isolation of verbalized content, namely linguistic (e.g., back channeling) and non-linguistic vocalizations (e.g., laughter; Vinciarelli et al., 2009). Thus, we do not consider nonverbal behaviors in the development of our new coding scheme for analyzing communication during negotiations.

2.2.2 Limitations of Existing Coding Schemes

To identify the limitations of extant negotiation coding schemes that a new coding scheme should address, we begin by reviewing the seven most-cited scientific articles (based on Google Scholar citation frequencies; see Table 1) that used coding schemes to study behaviors in negotiations. From the outset, we would like to emphasize that all coding schemes served their specific research purpose well. Moreover, some coding schemes are already extensive and capture many negotiation behaviors, such as the offer-counteroffer process, information exchange, persuasive behaviors, and procedural comments (e.g., Adair et al., 2001; Pruitt & Lewis, 1975; Putnam & Jones, 1982a). Nonetheless, important streams of negotiation research are underrepresented or missing in these prominent coding schemes.

Table 1

Codes
Behavioral
Respective
and
Schemes
Coding
Prominent
w of
Overvie

Thompsor (1991) Information	h Kimr	mel et al. (1980) A	dair et al. (2001) ¹	Persuasive	Putnam & Jono	es (1982a)	Weingart et al.(1993)
exchange exchange exchange	ange Offer activity exc	exc	change Offer activity	behaviors	exchange Offer	activity behaviors	exchange Offer activity
Persuasive behaviors threats threats	asive Pro	Pro	cedural tements statements		Procedural statements Socio-e state	emotional threats	Persuasive Procedural behaviors statements
Seek Numerical Information information information information about exchange; itol interests; Statements of issi Provide preference between pro- information offers; Directional Re- information; Re- information; Re- angur Number of offers trai- and number of offers trai- interests after mutually No acceptable solution insi- heuristic traia and wi behavior (threats, Sy- heavy commitments, mis- put-downs, re- ered arguments) re- ered arguments) re- ered of the solution insi- pot-downs, re- ered arguments) re- ered arguments) re- ered arguments) re- ered arguments) re- ered arguments) re- ered arguments) re- red arguments re- red arguments re- red arguments re- red argument re- red argument re- ord re- red argument re- red argumen	rerical rerical mation mation mation material material in material issues of members of rence between provide the provident issues in the provident provident issues in the provident prov		eference for a neg portance of issues BATNA; Referen also with or witho oduct or nonnegot nettors, Inform nections, Inform nanction, Noting ferences; tructions; Single thout trade-off; M fing differences; tructions; Single thout trade-off; M fing therences; tructions; Single thous trade-off; M fing therences; tructions; Single thous trade-off; M find trade-	gotiable issue, option, relative s, assertion of interest; Reference net to or preference for multiple utt tradeoffs; Information about tiable issue; Information about ation about own company; al stake of negotiator in common or mutual interests, Other information not in role issue offer; Multiple issue offer fultiple issue offer with trade-off; ion or neutral substantiation; e substantiation; Reference to e price or conditions; Comments es to be used, or in use except rats regarding process of of offer; Negative reaction or of offer; Negative reaction; s about negotiation process or furmation/qualification	Requests infor Provides infor Requests react reaction; Clari Exploratory pr Initiations; Aco Rejections; Aco Reporting arg (statistical, exa causal); Promes, Dem, supporting arg (statistical, exa causal); Proce Attacking argu (statistical, exa causal); Proce Positive affect; Threats affect; Threats	mation; mation; fication; fication; oblem solving; ceptances; commodations; commitments; ands; Self- uments ands; Self- uments uments supporting gy; causal); gy; causal); gy; causal); gy; causal); uments mple, analogy, fural Behavior; thread the supporting strutuents fural Behavior;	Information provision (preference for level within issue, priorities across issues); Understanding of other parties level preferences, priorities, positions; Mutuality of concerns; Questions; Agreement- diasgreement; Offers (single-issue, multi- issue); Substantation of position; Delayed reciprocity suggested; Procedural comments
ons displayed corresponds with the cit.	esponds with the cit.	cit	ation frequenc	cy on Google Scholar (from mo	st cited to leas	st cited, last upo	lated 30.06.2020)

¹ Based on citation frequency, a paper by Adair and Brett (2005) was the second most cited paper. Because the authors used a subset of the coding scheme that was used by Adair et al. (2001), we display the related behavioral codes only once.

First, negotiators regularly deploy unethical behaviors (e.g., O'Connor & Carnevale, 1997; Schweitzer & Croson, 1999). However, these behaviors are either missing in extant negotiation coding schemes (Adair et al., 2001; Thompson, 1991; Weingart et al., 1993) or only partly captured with one code, such as *"threats"* (Kimmel et al., 1980; Putnam & Jones, 1982a) or *"gives false information"* (Pruitt & Lewis, 1975). Unethical behaviors have mostly been studied separately from the negotiation process, for instance by using self-report questionnaire scales (e.g., the SINS scale by Robinson et al., 2000). If unethical behaviors were studied in the negotiation process at all, only selected further negotiation behaviors such as questions were also coded (Schweitzer & Croson, 1999).

Second, socio-emotional statements are either missing in prominent negotiation coding schemes (Kimmel et al., 1980; Thompson, 1991; Weingart et al., 1993) or are only partly captured. For instance, Pruitt and Lewis (1975) introduced one code (*"shows concern"*) that reflects a positive relationship between the parties. Adair et al. (2001) as well as Putnam and Jones (1982a) restricted socio-emotional statements to positive and negative (affective) reactions. Other socio-emotional statements, such as negative relationship remarks or apologies are not captured. However, extant negotiation research on socio-emotional behaviors suggests that these behaviors are key drivers of how negotiations unfold over time (e.g., Van Kleef & De Dreu, 2010).

Third, typical interaction behaviors that are not specific for negotiations are missing completely in prominent coding schemes for negotiations. These behaviors are central to most human interactions and meaningfully impact interaction processes and outcomes. Examples include active listening (e.g., Kauffeld & Lehmann-Willenbrock, 2012), humor (e.g., Lehmann-Willenbrock & Allen, 2014), or small talk (e.g., Morris et al., 2002).

Unethical behaviors, socio-emotional behaviors, and typical interaction behaviors (e.g., active listening) and their respective impacts on negotiation outcomes have mostly been
Chapter 2

studied as discrete research questions and during separate research endeavors. Thus, it is not clear how these behaviors affect each other in a negotiation or how they might be intertwined (i.e., behavioral linkages or patterns). For instance, extant coding schemes cannot be applied to study if priority-related questions (i.e., asking for priorities among issues; cf. Hüffmeier et al., 2019) affect unethical behaviors such as deception during negotiations (cf. Gaspar & Schweitzer, 2013). This and related problems could be solved by developing specialized coding schemes to address these specific research questions. Using different specialized coding schemes for different research questions, however, would result in non-comparable datasets. This would in turn hamper effective cross-study comparisons, an aggregation of potential effects and thereby the accumulation of knowledge (cf. Block, 1995).

Moreover, when analyzing antecedents and consequences of specific behaviors, the options are limited to the coded behaviors of extant coding schemes. For example, if we wanted to study the behaviors that trigger multi-issue offer-making (cf. Brett & Thompson, 2016), our results could only include those behaviors that are captured in extant coding schemes. This prevents broadening our view to notice other relevant behaviors that could be coded and incorporated into our analyses. Importantly, this limitation currently prevents negotiation scholars from understanding how negotiations unfold over the course of the interaction. To illustrate the limitations of prior coding schemes and to point out the need for a comprehensive negotiation coding scheme, we present further exemplary research questions (see Table 2) that currently cannot be addressed with extant coding schemes.

Table 2

Exemplary Research Questions

Questions	Method
Which statements typically precede active listening? Which immediate and lagged consequences do active listening patterns have? Which immediate and lagged consequences do humor patterns have? Which statements typically precede the use of deception in negotiations? Which immediate and lagged consequences does deception have? Which statements can be used by one party to possibly prevent deception from the other party? Which statements typically precede inconsistent communication patterns ¹ ? Which immediate and lagged consequences do inconsistent communication	Lag sequential analysis (e.g., Bakeman & Quera, 2011)
patterns have? Which statements typically precede the sharing of interested-related questions? Which immediate and lagged consequences does the sharing of interest- related questions have?	
Which clusters of temporally connected statements unfold in a negotiation interaction?How complex are the identified temporal interaction patterns?	Pattern analysis (e.g., Magnusson, 2000)
How do negotiators attitudes (i.e., cooperative vs. competitive) affect specific communication patterns that involve socio-emotional statements? How does the distribution of power between negotiators affect communication patterns elicited by unethical behaviors?	Statistical discourse analysis (e.g., Lehmann- Willenbrock et al., 2017)

Note. This table is modelled after the respective work of Lehmann-Willenbrock and Allen (2018).

¹ Inconsistent communication could occur if, for instance, a harsh offer comes with a positive relationship remark or if a generous concession goes with a threat (cf. Vetschera, 2013).

2.2.3 Deriving Requirements for a New Coding Scheme

We derived specific requirements for a new coding scheme from our analysis of prominent coding schemes: (1) The codes in a coding scheme should be exhaustive and mutually exclusive (Bakeman & Quera, 2011; Lehmann-Willenbrock & Allen, 2018) to allow for studying temporal interaction patterns by means of lag sequential analysis (e.g., Bakeman & Quera, 2011), pattern analysis (e.g., Magnusson, 2000) or statistical discourse analysis (e.g., Lehmann-Willenbrock et al., 2017; cf. Table 2). Thus, it should be possible that exactly one code can be assigned to every observed behavior, including currently underrepresented unethical, socio-emotional, and typical interaction behaviors (e.g., active listening), (2) The new coding scheme must provide standardized rules concerning the segmentation of interactions into behavioral units and the application of codes to these units, including precise definitions of the coded behaviors (Keyton, 2018). To gain insight into the fine-grained temporal dynamics in negotiation interactions (cf. Table 2), the new coding scheme should allow to capture shorter utterances (e.g., "alright", "no", "hmm") as well as longer statements to elaborate on a more complex point (e.g., a substantiation). Thus, interactions should be segmented into thought units. A single thought unit captures exactly one statement as the smallest meaningful segment of behavior (cf. Bales, 1950; Kauffeld & Lehmann-Willenbrock, 2012). (3) As the coding scheme is intended to fit different research questions, it should allow for customization while remaining compatible across studies. Thus, if the research question requires a fine-grained analysis of certain behaviors (e.g., different types of humor), it should be possible to further split the codes into fine-grained codes (e.g., selfdefeating, aggressive, affiliating, or self-enhancing humor; see Martin et al., 2003). (4) The new coding scheme must ensure sufficient interrater reliability, as "the level of reliability places an upper bound on a coding scheme's predictive ability" (Weingart et al., 2004, p. 111).

2.2.4 The Present Research

With a new coding scheme, we aim to provide a means for studying temporal interaction patterns in negotiations, to allow for cross-study comparisons, and to contribute to cumulative research on negotiation interactions. To achieve this goal, in Phase 1 we develop the coding scheme NegotiAct, which is designed to accord with requirements 1 through 3 detailed above. We use a deductive approach, by drawing from negotiation theories, integrating existing coding schemes from negotiation research, and using insights from team and leadership research. In Phase 2, we present NegotiAct as the resulting coding scheme with its categories and the respective behavioral codes. In Phase 3, we apply NegotiAct to a sample of videotaped negotiations and analyze whether it yields a satisfactory interrater reliability (requirement 4). Moreover, we provide a direct comparison between NegotiAct and extant coding schemes to illustrate potential advantages. Finally, we study two exemplary research questions in an exploratory manner to demonstrate the applicability and utility of NegotiAct (for a procedural overview, see Figure 1).

Figure 1



Procedural Overview for the Development of the New Coding Scheme

2.3 Phase 1 – Development of NegotiAct

2.3.1 Step 1 – Literature Research

In a first step, we identified existing papers that coded interactions in negotiations. For a systematic literature review, we used the databases Academic Search Premier and Business Source Premier,¹ resulting in 3.225 papers. Manuscripts were excluded when (i) no interactions in negotiations were coded (n = 3,122), (ii) negotiating participants were underage, not healthy, or not human (n = 42), (iii) papers appeared in both databases (duplicates), n = 11, and (iv) studies were published neither in German nor in English (n = 9). Half the papers were evaluated by a second independent researcher, resulting in a high consensus regarding the decision on the papers' inclusion (Cohen's kappa = .93). Discrepancies were discussed until agreement was reached. The systematic literature search resulted in 41 papers that accorded with search terms. Because some papers referred to coding schemes from earlier studies when describing their codes, we added those articles that were so far not included (backward search, n = 35). An unsystematic literature search on all EBSCO-Host databases and Google Scholar using names of negotiation scholars who had conducted interaction analyses (n = 8) completed the search. Finally, four negotiation scholars were asked to add relevant missing articles (n = 4). The literature search resulted in $88 (+1^2)$ papers in total. In summary, the studies in these 89 papers were conducted in 19 different countries and the respective culturally different contexts (e.g., in Japan, Australia, the US, Germany; for an overview, see

https://osf.io/nwrb6/?view_only=228c618358b2416fab69981b185d07ac) and, overall, 56 different negotiation tasks were used in these papers.

¹ We applied the following search string: "In title: bargain* or negotiate* or discuss* or conversat*; AND all text: code or coding; AND all text: bargain* or negotiate* or offer*; NOT in title: child* or infant* or youth; NOT all text: HIV or condom or AIDS or autism or patient or therap*; Search mode: Find all my search terms." We included all studies published by January 21, 2019.

² As suggested by an anonymous reviewer, we added a paper by Gunia et al. (2011), which did not surface in the systematic literature search, although the authors coded interactions in negotiations.

2.3.2 Step 2 – Integration of Codes

In a second step, we extracted all codes that were applied in the included 89 papers from Step 1. Of these 268 different codes, we integrated those that described similar behaviors into one code. For instance, we integrated "*acceptance of offer*" (e.g., Adair et al., 2001), "*accepts concession*" (e.g., Olekalns & Smith, 2003b) and "*proposal other support*" (Donohue et al., 1984) into "*accept offer*". Forty-five codes resulted from this integration. Based on extant negotiation theory (e.g., Lewicki et al., 2014; Walton & McKersie, 1965), we then developed seven categories and assigned the codes to the respective categories (for an overview, see https://osf.io/4qtfy/?view_only=3e086066f7f643b09a0d724b04a50fec).

2.3.3 Step 3 – Complementing Codes from Team and Leadership Research

There are coding schemes outside the negotiation domain that also aim at capturing entire verbal interactions. We used these coding schemes as inspiration for codes that may also be relevant for negotiation research. In doing so, we focused on two coding schemes from team and leadership research: act4teams (Kauffeld, 2006) and act4leadership (Meinecke et al., 2016). In particular, "*active listening*" (i.e., paraphrasing the other party's statement and generic paraverbal responses, such as "mm hmm"; see Kauffeld & Lehmann-Willenbrock, 2012; Rogers & Farson, 1987) are common interaction behaviors that we decided to add to our list of codes. We also added "*lightening the atmosphere*" (e.g., jokes), "*empty talk*", and "*visualizing*" to our coding scheme in this step, resulting in 49 codes.

2.3.4 Step 4 – Review by Negotiation Scholars

In a fourth step, we sent our preliminary coding scheme to 12 negotiation scholars $(M_{[research experience]} = 8.5 \text{ years}, \bigcirc = 41.6 \%)$. They were asked to review the coding scheme and to propose changes, for instance, to provide a better contrast between similar codes such as "*positive affective reaction*" and "*positive relationship remark*". Based on the received feedback, we discussed necessary changes among the authors of this manuscript and

modified the coding scheme accordingly, resulting in 56 codes (for a summary of the negotiation experts' feedback and our implementation, see https://osf.io/u9yvf/?view_only=d81507a177234fddb95b1b46bafae55c). Finally, we aggregated overlapping codes into one code (e.g., "*hurry*" and "*time out*" *into "time management*"), which reduced the final number of codes to 47.

2.4 Phase 2 – The Resulting Coding Scheme

Our coding scheme. NegotiAct, contains the following seven categories of negotiation behaviors that, according to our extensive literature search, comprise the vast majority of verbal behaviors shown in negotiations; (i) acts of providing and asking about negotiationrelated information, (ii) offers, (iii) acts of persuasive communication, (iv) socio-emotional statements, (v) unethical behaviors, (vi) acts of process-related communication, and (vii) a residual category comprising interruptions of the conversation, inaction, and others (see Table 3 for an overview of the categories and respective codes). Moreover, we defined rules concerning the application of codes to these units in our coding manual (see Appendix A). This includes precise and mutually exclusive definitions for, examples of, and exceptions of each category and respective verbal codes. Thus, by allowing the assignment of exactly one respective code to each observed verbal behavior (Bakeman & Quera, 2011), NegotiAct meets our first requirement-exhaustiveness and mutual exclusiveness. We also defined standardized rules concerning the segmentation of interactions into thought units (cf. Bales, 1950; Kauffeld & Lehmann-Willenbrock, 2012). One thought unit accordingly represents the smallest meaningful segment of behavior that can stand alone (Bales, 1950; Hatfield & Weider-Hatfield, 1978). A new thought unit has to be parsed whenever one of the following situations is given: (i) The speaker changes. (ii) The speaker makes a new statement that contains a new thought within a speaking turn (e.g., first making an offer, then substantiating it). (iii) The speaker remains within the same code but expresses two different complete

thoughts (e.g., voicing two different reasons for an offer in a row). Thus, NegotiAct meets our second requirement (i.e., provision of standardized rules). Moreover, NegotiAct can be applied not only to the negotiation exchange itself, but also to the whole conversation that the negotiation is embedded in. As soon as negotiation parties first get in touch, for instance, by exchanging e-mails prior to the negotiation, or when entering the (virtual) room and until they leave it again, the interaction can be coded. This is relevant, for instance, as small talk prior to a negotiation can facilitate the following negotiation exchange (e.g., Morris et al., 2002). In the following, we will introduce the categories more closely. A special focus lies on socio-emotional statements and unethical behaviors as these categories represent central extensions of and differences to extant negotiation coding schemes.

Acts of providing and asking about negotiation- related information	Offers	Acts of persuasive communication	Socio-emotional statements	Unethical behaviors	Acts of process-related communication	Residual category
Providing priority-related information	Single-issue activity	Substantiation	Negative affective reaction	Omission*	Procedural suggestion	Interruption of the conversation
Asking for priority-related information	Multi-issue activity	Asking for substantiation	Positive affective reaction	Threat	Procedural discussion	Inaction
Providing preference- related information	Requesting action	Stressing power	Active listening	Lying*	Time management	Others
Asking for preference- related information	Requesting for offer modification	Rejecting substantiation	Humor	Hostility	Change of mode	
Asking for positional information	Rejecting offer	Interrupting	Positive relationship remark	Use of extreme anchors*		
Providing positional information	Accepting offer	Criticism	Negative relationship remark			
Facts/Additional information		Encouragement	Personal communication			
Extension questions		Positional commitments	Nonpersonal chit-chat			
Additional issues		Avoiding	Future-related communication			
Clarification			Apologizing			

Note. *can only be coded with data from experimental settings where role instructions and information given to the negotiators are disclosed to coders.

Table 3

Overview of Categories and Codes

2.4.1 Acts of Providing and Asking about Negotiation-related Information

Extant coding schemes (e.g., Adair et al., 2001; Putnam & Jones, 1982a), textbooks (e.g., Lewicki et al., 2014), and negotiation theory (e.g., Walton & McKersie, 1965) distinguish between general information exchange and concrete actions in a negotiation (e.g., making offers). We followed this distinction by introducing one discrete category for offers and by dividing information exchange into two separate categories: (i) acts of providing and asking about negotiation-related information, and (ii) acts of persuasive communication.

Acts of providing and asking about negotiation-related information are defined as "negotiators' queries and provision of information to the other party regarding their preferences, reservation point, best alternative to negotiated agreement (BATNA), general needs, desires and goals" (Weingart et al., 1987, p. 286). The category is represented by ten behavioral codes in total: (i) providing priority-related information, (ii) asking for priorityrelated information, (iii) providing preference-related information, (iv) asking for preferencerelated information, (v) providing positional information, and (vi) asking for positional information, (vii) facts/additional information, (viii) extension questions, (ix) additional issues, and (x) clarification.

The distinction between providing and asking for information is essential, as providing and asking are expected to have different effects on the outcome of negotiations and potentially on the process (e.g., Hüffmeier et al., 2019; Thompson, 1991). Hüffmeier et al. (2019), for instance, demonstrated that interest-related questions positively influenced the joint gains in team-on-team and solo-on-solo negotiations. Unilateral information provision, however, was not associated with joint gains. Moreover, the distinction between priorityrelated information (i.e., the different value negotiators assign to different issues) and preference-related information (i.e., the different value negotiators assign to different options within issues) has proven to be essential in negotiations (e.g., Brett & Thompson, 2016;

Weingart et al., 2004). Furthermore, inquiry about or mentioning of potential additional issues in a negotiation has so far rarely been coded (for an exception, see Hüffmeier et al., 2019). However, it represents a substantially different line of thought than any of the abovementioned behaviors. Thus, we integrated it with a separate behavioral code in NegotiAct.

2.4.2 Offers

The offer category is defined by statements that capture the parties' "offercounteroffer process" (Lewicki et al., 2014, p. 236). The category is represented by six behavioral codes in total: (i) single-issue activity, (ii) multi-issue activity, (iii) requesting action, (iv) requesting an offer modification, (v) rejecting offer, and (vi) accepting offer. Furthermore, we recommend additionally coding what an offer actually comprises (i.e., respective issues and values can be noted in a comment function next to the verbal codes). This, for instance, allows observing whether tough offers or large concessions are triggered by certain acts of communication (cf. Vetschera, 2013) or whether negotiators make multiple equivalent simultaneous offers (MESOs; see Leonardelli et al., 2019).

2.4.3 Acts of Persuasive Communication

Acts of persuasive communication entail forcing behaviors and statements "that individuals deploy to bring out desired attitudinal or behavioral change [...] to adjust the other party's positions, perceptions, and opinions" (Lewicki et al., 2014, p. 285). They "aim at convincing the opponent to comply with one's own proposals" (Giebels et al., 2000, p. 262). The category is represented by nine behavioral codes: (i) substantiation (i.e., statements that follow an argumentative structure and that connect information with opinions or recommendations), (ii) asking for substantiation, (iii) stressing power, (iv) rejecting substantiation, (v) interrupting, (vi) criticism, (vii) encouragement, (viii) positional commitments, and (ix) avoiding.

2.4.4 Socio-emotional Statements

Socio-emotional statements capture the relational interaction between parties, such as "lightening the atmosphere, separating opinions from facts, expressing feelings [...] and offering praise" (Kauffeld & Lehmann-Willenbrock, 2012, p. 140). From a negotiation theory perspective, this category reflects *attitudinal structuring*, one of four substantial negotiation subprocesses that Walton and McKersie (1965) defined as "activities that influence the attitudes of the parties toward each other and affect the basic relationship bonds between the social units involved" (p. vii). The category is represented by 10 behavioral codes: (i) negative affective reaction, (ii) positive affective reaction, (iii) active listening, (iv) humor, (v) negative relationship remark, (vi) positive relationship remark, (vii) personal communication, (viii) nonpersonal chit-chat, (ix) future-related communication, and (x) apologizing. Because typical interaction behaviors (i.e., active listening, humor, personal communication, and nonpersonal chit-chat) were not included in extant coding schemes for negotiations at all, we elaborate on these behaviors in the following paragraphs, and we argue why it was important to integrate them in a coding scheme for negotiations.

Active listening influences team meeting processes (by maintaining functional and dysfunctional communication cycles, e.g., Kauffeld, 2006) and outcomes. Kauffeld and Lehmann-Willenbrock (2012), for instance, found a negative relationship between supportive socio-emotional statements (i.e., active listening and providing support) and team meeting success. Regarding the negotiation domain, active listening has long been recommended as a useful tool in negotiations (e.g., Fisher & Ury, 1981), but it has rarely been empirically investigated. Exceptions include crisis negotiations, where active listening was studied as a rapport-building behavior (e.g., Garcia, 2017). The impact of active listening on the negotiation process and the impact of active-listening patterns (e.g., in combination with offer exchanges) on the (economic) outcome of negotiations are promising research topics (see

also our exemplary initial analysis below).

Temporal humor patterns (e.g., jokes followed by laughter) were found to elicit positive socio-emotional communication, procedural structure, and new solutions and to enhance performance in team meetings (Lehmann-Willenbrock & Allen, 2014). From a negotiation perspective, humor has mostly been studied as a separate behavior unconnected to other negotiation behaviors (e.g., Adelswärd & Öberg, 2009; O'Quinn & Aronoff, 1981). So far, humor is conceptualized as a tool to structure the interaction and to strengthen the relationship between negotiators (for an overview, see Gockel, 2017). Thus, to allow studying whether and how humor and laughter in fact play an important role in the negotiation process, it was essential to incorporate them in a coding scheme for negotiations.

Small talk in negotiations is defined as "seemingly trivial communications about unrelated topics, especially at the start of the negotiation" (Shaughnessy et al., 2015, p. 105). In the act4team (Kauffeld, 2006) and act4leadership (Meinecke et al., 2016) coding schemes, this is partly captured as "*empty talk*" (e.g., truisms) and understood as negative, counteractive statements. However, small talk as part of pre-meeting communication was found to positively influence meeting effectiveness (Allen et al., 2014). In negotiations, there is evidence that small talk can serve as a social lubricant that positively influences negotiations, especially by building rapport between negotiators (e.g., Morris et al., 2002). However, small talk is hardly represented in extant coding schemes. It is mostly lumped together with statements that do not fit given categories (e.g., "*junk; uncodable*", Adair et al., 2001; "*et cetera*", Donohue et al., 1984). Thus, it is unclear whether and when small talk has positive and negative effects on the negotiation process. It was therefore important to integrate a behavioral code for small talk. Specifically, Bakeman and Quera (2011) recommended to define codes at a rather finer level than the research question demands because distinctions that were never made in the first place cannot be used when they may be

needed later. Therefore, it seemed even more sensible to split small talk into two separate codes: "nonpersonal chit-chat" and "personal communication."

2.4.5 Unethical Behaviors

Behaviors that are commonly regarded as ethically unacceptable and inappropriate (Fulmer et al., 2009; Robinson et al., 2000) and as exceeding "traditional competitive bargaining" behaviors (Lewicki et al., 2014) are also relevant to capture in a comprehensive coding scheme. The category is represented by five behavioral codes: (i) threats, (ii) hostility, (iii) omissions, (iv) lying, and (v) use of extreme anchors.

Besides threats, hostility in every other form (e.g., insulting the other party or using indecent language) is only part of negotiation schemes developed in the context of conflicts and crisis negotiations (e.g., Sillars et al., 1982; Taylor, 2002). Another common unethical behavior in negotiations is deception (e.g., Boles et al., 2000; Schweitzer & Croson, 1999). Deception, as operationalized by O'Connor and Carnevale (1997), comprises "*misrepresentation by omission*" and "*misrepresentation by commission*". Apart from Pruitt and Lewis (1975), only Donohue et al. (1984), with the code "*information concession*," and Geiger (2007), with the code "*deception, lies*," have captured facets of deception. Deception has mostly been studied exclusively in the context of common-value or indifference issues (i.e., issues where all parties want the same or one party is indifferent towards the different options comprised in one issue, e.g., Olekalns & Smith, 2007, 2009). Additionally, when captured in the process of negotiations at all, only selected other behaviors, such as questions (Schweitzer & Croson, 1999), were coded and studied as potential antecedents for deception. Thereby, the vast majority of negotiation behaviors was neglected.

A special kind of misrepresentation is the use of extreme anchors. It is often seen as ethically more accepted than lies and may thus even be perceived as a traditional distributive bargaining behavior (Robinson et al., 2000; Walton & McKersie, 1965). We believe it was

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important to account for these differences in acceptability. Thus, we captured this behavior with a distinct code. The coding of omission, lying, and the use of extreme anchors is obviously restricted to studies where coders have access to negotiators' (role) instructions and information to confirm the lie (e.g., laboratory studies).

2.4.6 Acts of Process-related Communication

Acts of process-related communication entail "statements that refer to the process or rules of the negotiation itself, or how the negotiation is to proceed, or is not proceeding" (Brett et al., 1998, p. 415). The category is represented by four behavioral codes: (i) procedural suggestion, (ii) procedural discussion, (iii) time management, and (iv) change of mode. It reflects how negotiators manage the process of negotiation and is not related to the negotiation task itself (Weingart et al., 2004). Adair et al. (2001) capture suggestions or questions regarding the process, but also statements that introduce a change of mode (e.g., a time out to calculate). Other examples of a change of mode are the use of visual aids (e.g., a whiteboard; see Kauffeld, 2006) or changing the mode of communication (e.g., moving from e-mail to negotiating live). This can be complemented by statements that address time management in the negotiation (e.g., Weingart et al., 2004).

2.4.7 Customization Feature

Our aim was to develop a coding scheme that is reliable, comprehensive, and applicable to a variety of research questions with different emphases. Moreover, by integrating codes that were applied in 19 different countries, NegotiAct should be applicable to different cultural contexts. To facilitate the coding process, we constructed NegotiAct hierarchically. Each thought unit first can be assigned to one of the seven overall categories. Then, a specific code of the selected category can be assigned (for an example, see Figure 2).

Figure 2

Example Statement and Coding Decision Tree



Even an extensive coding scheme with more than 40 codes may not be fully exhaustive and cannot ensure that it differentiates between all verbal behaviors that may be needed for all specific research questions. If the research question requires a more finegrained analysis of certain behaviors (e.g., different types of humor), the codes can be further split into more fine-grained codes (e.g., self-defeating, aggressive, affiliating, or selfenhancing humor; see Martin et al., 2003). In the NegotiAct coding manual, we give specific customization examples for a number of codes (see Appendix A). This customization feature allows us to focus on selected granular behaviors to gain specificity where it matters while preserving comprehensiveness and comparability across studies. Thereby, NegotiAct meets our third requirement (customization) for the new coding scheme. See Table 4, for an illustrative excerpt of a negotiation interaction coded with NegotiAct and INTERACT software (Mangold, 2020).

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Table 4

Sneaker	Transcript	Code
Speaker	Example 1: Multi issue activity with log re	lling issues
	Example 1. Multi-issue activity with log-re	Julig Issues
Seller	"I can offer you an early date of delivery in exchange for only few inspections."	Multi-issue activity
Buyer	"So, you are fine with an early delivery as long as we keep the inspections to a minimum."	Active listening
Seller	"You see, to me, inspections are more important	Providing priority-related
	than the date of the delivery. "	information
Buyer	"Mm-hmm"	Active listening
Buyer	"Then, how about we take the earliest date of	Multi-issue activity
•	delivery and one inspection only?"	·
Seller	"You mean October 15 th and one inspection."	Active listening
Buyer	"Correct."	Clarification
Seller	"Let me calculate"	Change of mode
	[seller uses calculator while speaking]	e
Seller	"It's fine if we agree on no inspection."	Requesting for offer
		modification
Buyer	"Alright, let's do this."	Accepting offer
	Example 2: Unethical behaviors	5
Seller	"What is more important to you? Payment conditions or maintenance?"	Asking for priority-related information
Buyer	"Both are equally important to me." ¹	Lying
Seller	"Mm-hmm"	Active listening
Seller	"Well to me, maintenance is one of the least	Providing priority-related
	important issues."	information
Buyer	"Can we agree on 4 years of maintenance then? ² "	Use of extreme anchors
Seller	"You're messing with me, right?"	Criticism

Sample Transcripts Using NegotiAct

Note. The transcripts serve an illustrative purpose only. The coders coded directly from the videotapes

(with INTERACT, Mangold, 2020).

2.5 Phase 3 – Application and Test of NegotiAct

To verify that NegotiAct meets the fourth requirement (i.e., reliability), we apply the

new coding scheme and analyze whether NegotiAct yields the necessary level of interrater

¹ Payoff-schedules are disclosed to the coders. In this case, the two issues mentioned are not of equal importance to the buyer. Therefore, the code *Lying* is assigned.

² The payoff-schedule disclosed to the coders reveals a maximum of 24 months of maintenance. The offer exceeds twice as much as the differences between the options (6 months) above the upper limit, thus the code *Use of extreme anchors* is assigned.

reliability. Furthermore, we directly compare NegotiAct and extant coding schemes to illustrate potential advantages of the new coding scheme. Finally, we illustrate the value of NegotiAct by addressing two exemplary research questions on the role of active listening for the process of negotiations and the emergence of economic outcomes.

2.5.1 Interrater Reliability Analysis

Most frequently, Cohen's kappa (Cohen, 1960) is used as a global measure to assess the level of agreement between independent coders (Weingart et al., 2004). Bakeman and Quera (2011) recommend targeting a minimum accuracy³ of 80 percent, preferably more (see also Bakeman et al., 1997; Gardner, 1995). Given the number of behavioral codes that NegotiAct comprises, a minimum accuracy of 80 percent would be reached, if the kappa exceeds .62 (see Bakeman & Quera, 2011, p. 165).

2.5.2 Method

2.5.2.1 Sample

The data used for this study were part of a larger dataset gathered by Hüffmeier et al. (2019). We used 18 videotaped solo-on-solo negotiations from the related laboratory experiment, which employed two different integrative negotiation tasks (task 1 adapted from Thompson et al., 1996, and task 2 from Moran et al., 2008). We coded nine videotaped negotiations for each task to show that our coding scheme can be reliably applied to different settings. The task adapted from Thompson et al. (1996) comprised eight issues. Participants had to engage in logrolling and recognize compatible issues to achieve high joint gains. The task adapted from Moran et al. (2008) was more complex and, in addition to logrolling and the recognition of compatible issues, participants had to craft contingent contracts, add issues to the negotiation, and identify time trade-off options to create value (see Appendix B for

³ Bakeman and Quera (2011) claim that there is no absolute acceptable value for kappa and recommend focusing on the accuracy of observers, which they define as the probability that code X was assigned, given that behavior X emerged.

respective pay-off matrices).

To obtain a representative variability in outcome variables, we split all negotiation videos available in the study by Hüffmeier et al. (2019) based on their measures of joint gains (Thompson, 1990) and feelings about the relationship (Curhan et al., 2006) into terciles (low-, intermediate-, and high-performing dyads). Next, we randomly drew one video from each combination ($3 \times 3 = 9$ combinations; e.g., low joint gains, high relationship outcomes) for each negotiation task. Thus, a total of 18 negotiation dyads (N = 33)⁴ was analyzed as part of our validation efforts. The participating negotiators (24 men, 9 women) were undergraduate students of a major German university and participated as part of their management course work.

2.5.2.2 Coding Procedure

The duration of the videotaped negotiations ranged from 14 to 30 minutes (M = 21.62, SD = 6.5). We coded the negotiation interactions with NegotiAct and INTERACT software (Mangold, 2020). We used INTERACT software as it allowed us to code directly from the video, without transcribing it first (for a discussion of different software options, see Lehmann-Willenbrock & Allen, 2018). This procedure considerably reduces the time investment and coding effort. Moreover, paraverbal behaviors such as laughter or active listening (i.e., "mm hmm") can more easily be recognized and accurately coded as such when coding directly from the video rather than from transcripts. As we coded directly from the video, thought units were identified and marked according to time, rather than words. Of note, this approach makes it almost impossible for two coders to segment and unitize a video at the exact same millisecond and subsequently to calculate interrater reliability for the segmentation process (Guetzkow, 1950). Therefore, we followed the standard procedure for establishing interrater reliability when using software to code videos (cf. Lehmann-

⁴ Three participants were featured in two negotiations (i.e., once in each task).

Willenbrock & Allen, 2018) and defined clear unitizing rules, so that only one trained rater identified the units and inter-rater reliability was established concerning the codes that were assigned to these units. Thus, in a first step the first author segmented all 18 videos into thought units (cf. Bales, 1950; Kauffeld & Lehmann-Willenbrock, 2012), resulting in 5,365 units in total. The third author was trained as an additional coder and given specific instructions (i.e., the NegotiAct coding manual and verbal explanations) for assigning codes to the identified units. In a second step, both coders independently coded the material.

2.5.3 Results

We obtained an interrater reliability of $\kappa = .80$. This demonstrates that our coding scheme is reliable because kappa was higher than the threshold of .62 (cf. Bakeman & Quera, 2011, p. 165). Landis and Koch (1977) categorize values between .61 and .80 as substantial, while Fleiss et al. (2003) regard values above .75 as excellent. As kappa is an average weighted index developed for exhaustive and continuous coding schemes, it cannot be applied to assess code-based kappa values (Bakeman & Quera, 2011). However, we checked the agreement percentages⁵ between observers for each code (see Table 5). Agreement percentages ranged from 66.67% (criticism, providing positional information) to 100% (e.g., additional issues, threats, use of extreme anchors).

⁵ The number of matches of each code divided by the number of occurrences of each code (set by the first coder).

Table 5

Agreement Percentages

	Acts of providing and asking about negotiation-related information ($M = 83.94$)									
Code	Providing priority- related information	Asking for priority- related information	Providing preference- related information	Asking for preference- related information	Providing positional information	Asking for positional information	Facts/ Additional information	Extension questions	Additional issues	Clarifi- cation
%	69.44	85.71	79.59	85.71	66.67	91.67	89.09	90	100	81.55
					Offers (M	(= 82.26)				
Code	Single-issue activity	Multi-issue activity	Requesting action	Requesting for offer modifi- cation	Rejecting offer					
%	75.97	81.53	83.16	79.25	88.1					
	Acts of persuasive communication ($M = 76.66$)									
Code	Substan- tiation	Asking for substan- tiation	Stressing power	Rejecting substan- tiation	Inter- rupting	Criticism	Encourage- ment	Positional commit- ments	Avoiding	
%	78	75	80	83.67	77.78	66.67	87.5	67.09	74.19	
				Socio-e	emotional stat	tements ($M =$	83.64)			
Code	Negative affective reaction	Positive affective reaction	Active listening	Humor	Positive relationship remark	Negative relationship remark	Personal communi- cation	Nonpersonal chit-chat	Future- related communi- cation	Apologiz- ing
%	73.61	73.97	90.84	94.71	74.17	90	80	90.32	100	68.75
	Unethical behaviors ($M = 93.88$)									
Code	Omission	Threat	Lying	Hostility	Use of extreme anchors					
%	87.5	100	81.91	100	100					
	Acts of process-related communication ($M = 80.54$)									
Code	Procedural suggestion	Procedural discussion	Time manage- ment	Change of mode						
%	79.79	74.47	80	87.91						
					Others (M	(=78.80)				
Code	Inaction	Others								
%	80.77	76.83								

Note. The numbers below each code reflect agreement percentages for respective codes; the mean

agreement percentage for each category is displayed in brackets behind each category name.

2.5.4 Direct Comparison

After applying the new coding scheme, we can illustrate the advantages of NegotiAct as compared to extant coding schemes more directly (see Tables 6 and 7 and Figure 3). First, a substantial set of behaviors, especially unethical behaviors and most socio-emotional statements would be neglected with extant coding schemes. Only few extant coding schemes capture single facets of these categories, for instance, lies (Pruitt & Lewis, 1975), threats (Kimmel et al., 1980; Putnam & Jones, 1982a), or positive and negative (affective) reactions (Adair et al., 2001; Putnam & Jones, 1982a). However, the whole breadth of unethical behaviors (i.e., omission, threat, lying, hostility, use of extreme anchors) and socio-emotional statements (i.e., negative affective reaction, positive affective reaction, active listening, humor, negative relationship remark, positive relationship remark, personal communication, nonpersonal chit-chat, future-related communication, apologizing) is not represented in a comprehensive manner by any extant coding scheme. We computed the frequency of unethical behaviors and socio-emotional statements captured with NegotiAct. These codes make up 26.85% of the observed thought units in an interaction, on average (see Table 6; see also Figure 3 for illustration purposes). The frequent occurrence of these codes emphasizes the importance to include them in a comprehensive coding scheme to study their potential role in the interaction process. For instance, it is now possible to study which behaviors promote or are promoted by socio-emotional statements and unethical behaviors (for a first exploratory analysis of behavioral patterns concerning socio-emotional statements and unethical behaviors, see Table C4 in Appendix C).

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Table 6

Average use of so	cio-emotiona	%)	Average use of unethical statements (2.82%)		
Active listening	15.27%	Nonpersonal chit-chat	0.62%	Lying	2.0%
Humor	3.38%	Apologizing	0.23%	Omission	0.68%
Positive relationship remark	2.19%	Negative relationship remark	0.14%	Use of extreme anchors	0.07%
Positive affective reaction	1.15%	Future-related communication	0.09%	Threat	0.02%
Negative affective reaction	0.88%	Personal communication	0.08%	Hostility	0.02%

Percentage of Socio-Emotional and Unethical Statements Captured with NegotiAct

Note. The code "miscellaneous" was assigned to 2.91% of the units of an interaction.

Figure 3

Exemplary Time Line Chart for One Negotiation Interaction Showing Only Socio-emotional Statements and Unethical Behaviors



Note. The whole interaction lasted 29 minutes and 55 seconds. In this interaction no future-related

communication or hostility occurred. Participants negotiated task 1 (adapted from Thompson et al.,

1996).

Second, extant coding schemes would need to assign a "miscellaneous" coding category substantially more often than NegotiAct when segmenting the interaction into thought units (see Table 7). This implies that large conversational chunks and nuances in the negotiation are lost to researchers. More specifically, these occurrences represent blind spots in the interaction, which naturally hamper the understanding of negotiation interactions and the explanatory mechanisms therein that ultimately explain negotiation outcomes.

Table 7

Speaker	NegotiAct	Extant coding schemes
Buyer	Multi-Issue activity	Multi-issue offer/miscellaneous
Seller	Active listening	Miscellaneous
Seller	Positive affective reaction	Positive reaction/miscellaneous
Seller	Multi-Issue activity	Multi-issue offer/miscellaneous
Buyer	Providing positional information	Positional information/miscellaneous
Buyer	Change of mode	Miscellaneous/time out
Buyer	Avoiding	Miscellaneous
Seller	Active listening	Miscellaneous
Seller	Procedural suggestion	Procedural comment/miscellaneous
Buyer	Procedural discussion	Procedural comment/miscellaneous
Buyer	Change of mode	Miscellaneous
Buyer	Humor	Miscellaneous

Comparison of Coding Excerpts of NegotiAct and Extant Coding Schemes

2.5.5 Investigating Two Exemplary Research Questions on Active Listening

To further validate the coding scheme and to demonstrate its value, we address two exemplary research questions in an exploratory manner.⁶ We decided to study the role of active listening for the negotiation process and for the emergence of joint gains because active listening is a central addition of our coding scheme that goes beyond prior coding schemes for negotiations. So far, active listening has merely been studied as a rapport-

⁶ As further information on the validity of NegotiAct, we provide additional correlational analyses between the frequency of all codes, joint gains and individual gains in Appendix C.

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building behavior in crisis negotiations (e.g., Garcia, 2017). However, the effects of active listening on other negotiation behaviors are unclear. It is also unclear how certain active listening patterns may be associated with joint gains.

Active listening has its roots as a therapeutic communication technique (Gordon, 1970). One objective of active listening is to understand the underlying information of the speaker's statements (Rogers & Farson, 1987). Thus, it seems especially helpful to apply when it comes to the exchange of information that needs further processing. Pertinent examples in the negotiation domain are multi-issue offers that can provide indirect information about negotiators' priorities and preferences (Olekalns & Smith, 2003b). Some studies found multi-issue activity to be positively related to joint gains (e.g., Liu & Wilson, 2011; Olekalns & Smith, 2003b); in others, there was no (e.g., Cai et al., 2000) or even a negative association (Weingart et al., 1990). Brett and Thompson (2016) conclude that multiissue offers might have an effect on joint gains, "depending on when and how they are used in the negotiation" (p. 70).

One factor that could influence this relationship is the attentiveness of the negotiation counterpart. Less attentive negotiators might not always understand the underlying information in multi-issue offers (Olekalns & Smith, 2003b). More attentive negotiators, on the contrary, may have a better chance to extract and process this indirect information. This may occur via active listening. Active listening indicates a willingness to consider and systematically process the information provided by the other party (Rogers & Farson, 1987) and may thereby help the discovery of mutually beneficial solutions.

Our argumentation has two implications that we want to address in our first application of NegotiAct: First, it suggests that multi-issue activity and active listening could occur as a temporally dependent sequence in negotiations. Second, we query whether negotiators who more frequently use active listening in response to multi-issue offers may

achieve higher joint gains. We thus pose the following two research questions:

Research Question 1 (RQ 1): Do sequential multi-issue activity \rightarrow active listening patterns develop more often than would be expected by chance within interaction processes in negotiations?

Research Question 2 (RQ 2): Are multi-issue activity \rightarrow active listening patterns positively related to joint gains?

2.5.6 Method

We analyzed the same data that was used to establish interrater reliability. In the following, we describe only the dependent variable and the two relevant codes for our exploratory analyses in more detail.

2.5.6.1 Measures

Joint Gains. To assess the economic outcomes and integrativeness of the agreement, joint gains were calculated as the sum of both negotiators' individual outcomes (i.e., points earned as per the agreement). This is a common outcome measure in negotiation research (Tripp & Sondak, 1992).

Multi-issue Activity. Multi-issue activity was coded when one of the negotiators made an offer that comprised two or more of several possible issues. For additional analyses, we counted the frequency of multi-issue activities per negotiation.

Active listening. Active listening was coded when one of the negotiators paraphrased the other party's statements or when one of the negotiators used generic paraverbal responses, such as "mm hmm". Again, we counted the frequency of active listening instances per negotiation for additional analyses.

2.5.6.2 Statistical Analysis Strategy

We performed a lag sequential analysis to assess whether multi-issue activity \rightarrow active listening patterns develop within negotiation interaction processes. Lag sequential analysis

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evaluates whether certain behavioral sequences happen more often than would be expected by chance and are therefore statistically meaningful (e.g., Bakeman & Quera, 2011; see Lehmann-Willenbrock & Allen, 2014, for an illustrative application of this principle). To answer our research question, we wanted to study if multi-issue activity by one negotiation partner triggers active listening as a *direct* response by the other party (lag1 sequence).

To do so, we first determined how often one behavior was followed by another behavior (i.e., transition frequency) for each possible combination of two behaviors of our coding scheme (i.e., 2209 pairs). For instance, active listening followed multi-issue activity 99 times. Next, we computed transition probabilities for the proposed sequence, indicating the likelihood that active listening is triggered by multi-issue activity (P = .33). Transition probabilities are still confounded with the unconditional probability of the following event. Thus, we computed the expected joint frequency by chance (i.e., if events were independent) for the proposed sequence (expected frequency = 45.35). We then tested whether the expected joint frequency differs significantly from the observed transition frequency, by calculating a z value (the three formulas for these calculations are provided in Appendix C). A z value smaller than -1.96 or larger than 1.96 indicates a sequence occurring above chance level. The statistical power for the study of RO 1 relies on the number of thought units (N = 5365) and should therefore be sufficient (cf. Bakeman & Quera, 2011). For the study of RQ 2, we calculated the overall frequency of multi-issue activity \rightarrow active listening patterns per dyad and tested its relationship with joint gains by means of Spearman's Correlation analysis. Given the number of coded negotiations (N = 18), this data set has at least .80 power to detect an effect as small as $r_s = .47$.

2.5.7 Results

2.5.7.1 Lag Sequential Analysis

Descriptive statistics of multi-issue activity and active listening are presented in Table

8. We identified statistically significant lag1 sequences for multi-issue activity and active listening (z = 8.90; p < .001; see Figure 4). By contrast, our dataset did not reveal statistically significant lag1 sequences for *single*-issue activity and active listening (z = 0.26; p = .79). These findings positively answer RQ 1 in that sequential multi-issue activity \rightarrow active listening patterns developed within negotiation interaction processes more often than would be expected by chance.

Figure 4

Lag Sequential Analyses



Note. N = 5,365 thought units. Z values larger than 1.96 indicate a significant sequential effect of multi-issue activity on active listening.

2.5.7.2 Correlation Analysis

After having established multi-issue activity \rightarrow active listening patterns, we recoded our data set across all negotiations such that multi-issue \rightarrow active listening patterns represented a single behavioral event. Descriptive statistics and intercorrelations of this pattern and joint gains are presented in Table 8. We found a large and statistically significant correlation between multi-issue activity \rightarrow active listening patterns and joint gains ($r_s = .50, p$ = .03). By contrast, the relationship between multi-issue activity alone and joint gains was smaller and statistically not significant ($r_s = .36, p = .14$); nor was the relationship between active listening alone and joint gains ($r_s = .42, p = .08$). These findings positively answer RQ 1: Negotiators who used active listening in response to multi-issue offers achieved higher joint gains.

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Table 8

Variable	Min	Max	М	SD	1	2	3
1. Multi-issue activity	2	49	16.61	11.70			
2. Active listening	18	131	45.06	25.29	.30		
3. Multi-issue activity→ active listening pattern	0	31	5.56	6.96	.66**	.49*	
4. Joint gains							
Task 1	8400	13200	11400	1670.33	36	42	50*
Task 2	4350000	4850000	4610000	205426.39	.50	.42	.50

Minimum, Maximum, Means, Standard deviations, and Intercorrelations

Note: N = 18. Spearman's correlation (two-tailed); all variables at the dyad level. Multi-issue activity and multi-issue activity \rightarrow active listening patterns were calculated as overall frequencies of behaviors per negotiation. Intercorrelations are based on standardized measures of joint gains.

p* < .05, p** < .01

2.6 Discussion

In this manuscript, we developed and introduced NegotiAct, a comprehensive coding scheme for negotiations. NegotiAct captures 47 distinct, mutually exclusive behaviors that can be observed in negotiations. It provides options for a comprehensive overview, a granular view on certain behaviors of interest, and an integrative view on temporal processes within the negotiation. Besides, we integrate into a single coding scheme the vast majority of different behaviors that can be observed in negotiations and that were previously scattered across many disparate coding schemes. Now, a great bandwidth of verbal behaviors can be studied jointly to understand how they affect each other. Thereby, we contribute to an increased accessibility of the rich and diverse negotiation behaviors. Importantly, by doing so we connect different streams of negotiation research paving the way for theoretical

development that will help the negotiation research to progress.

In addition, our detailed coding manual, consisting of standardized rules for the segmentation of interactions into thought units and the allocation of codes to these units. allows for a reliable application of the coding scheme. This is supported by a substantial interrater reliability (Fleiss et al., 2003; Landis & Koch, 1977). In turn, a reliable coding scheme facilitates the replicability of studies using NegotiAct. Furthermore, a customization feature enables researchers to adapt the coding scheme to their specific research question without compromising its internal logic. This circumvents the need to develop new coding schemes for each new research project and may over time contribute to a large body of comparable and compatible datasets of negotiation behavior stemming from a multitude of primary studies. This is desirable for two reasons: First, comparable datasets based on constructs that are operationalized in identical ways facilitate the meaningful interpretation of meta-analyses and thereby the valid aggregation of potential effects. Second, compatible datasets can easily be merged and potentially be used for various research endeavors by different researchers, which is a desirable change towards more Open Science. Besides, referring back to Bakeman and Gottman's (1997) "underwear problem," it also prevents researchers from using ill-fitted coding schemes in the first place. Overall, NegotiAct paves the way to a faster knowledge accumulation and further theoretical and empirical developments in our understanding of negotiation.

An additional core feature of NegotiAct is its capability for identifying crucial communication behaviors thus far hidden in a blind spot in previous research. This grants negotiation scholars the opportunity to understand the role of communication behaviors not yet considered by negotiation research. Furthermore, it allows them to identify communication *patterns* that characterize certain phases or qualities of a negotiation. Studying actual behavior as it unfolds in a negotiation is an objective called for by many

researchers (e.g., Brett et al., 1998; Putnam & Jones, 1982b; Turan et al., 2011). With NegotiAct, we address this call, aiming to unravel and identify temporal interaction patterns in negotiations. We demonstrate the coding scheme's utility by studying two exemplary research questions on active listening in an exploratory manner. With lag sequential analysis, we could show that multi-issue offers, one typical example of indirect information provision in negotiations (e.g., Olekalns & Smith, 2003b), trigger active listening. Furthermore, we found a positive relationship between multi-issue activity \rightarrow active listening patterns and joint gains. Given the limited sample size (N = 18) and respective low power, our correlation analysis is merely indicative of a pattern in support of RQ 2. Still, our findings provide a first exploratory insight into the question of when and how multi-issue activity leads to higher joint gains (cf. Brett & Thompson, 2016).

2.6.1 Limitations and Future Directions

NegotiAct is a comprehensive coding scheme when it comes to verbal behaviors and it captures some paraverbal behaviors (e.g., laughter as part of humor and back channeling as part of active listening). However, we did not include nonverbal behaviors in our coding scheme for the following two reasons: First, we use thought units as segmentation units in order to achieve high granularity in the coding of verbal behaviors in negotiations. However, non-verbal behaviors often require different time windows to observe and analyze. For instance, gaze movements need an even smaller time window than thought units (i.e., very few milliseconds) and, thus, several nonverbal codes would be assigned to one thought unit, which should be avoided when coding interactions (Bakeman & Quera, 2011). In contrast, body postures may change less over the course of a negotiation (cf. Burgoon & Baesler, 1991; Ekman, 1957). Second, by segmenting the interaction into thought units and with 47 behavioral codes, NegotiAct already provides a very fine-grained picture of the negotiation interaction process and there is an upper limit to how many codes can be reliably measured with a coding scheme and human coders (cf. Sim & Wright, 2005).

We designed NegotiAct to be applicable to different negotiation contexts, by integrating 89 papers that in total used 56 different negotiation tasks to develop our coding scheme. Moreover, we coded negotiations in two different settings with different negotiation tasks to demonstrate that NegotiAct can be applied to and is reliable in different settings. Still, we encourage future research to apply NegotiAct to other settings, for instance, salary negotiations. In these negotiations, where power differences can be expected, codes may be differently distributed among the negotiation parties than in buyer-seller negotiations. For instance, high power negotiators could possibly use more unethical behaviors, such as threats, than low power negotiators (cf. Boles et al., 2000). Moreover, both negotiations were studied in laboratory experiments and, thus, occurred in an artificial environment with student samples. However, as we integrated 17 papers that coded negotiations in field settings (see https://osf.io/nwrb6/?view_only=228c618358b2416fab69981b185d07ac) we believe that NegotiAct can also cover entire interactions comprehensively in real-world negotiations. Thus, we encourage negotiation researchers to use and test NegotiAct not only for laboratory studies, but also in field settings.

Although coding with NegotiAct was done manually, automated coding by means of Supervised Machine Learning (SML) is clearly a future perspective. By cumulating and merging comparable datasets—human-coded with NegotiAct—we can build a training set that is large enough to train a machine sufficiently. In turn, the trained machine can be used to code new, uncoded data. Thereby, NegotiAct in combination with SML can contribute to further cumulative research, while substantially saving human resources (for an introduction to machine learning on group interaction data, see Bonito & Keyton, 2018).

2.6.2 Conclusion

With NegotiAct, we developed a coding scheme that captures the entire negotiation interaction in a fine-grained manner. Our customization feature ensures that it will fit many future research questions. We thereby facilitate cross-study comparisons and cumulative research on negotiation interactions. Crucially, we develop an important prerequisite for future work to advance negotiation research that takes a dynamic perspective. We provided exemplary research questions that can be addressed with NegotiAct, showed that it can be used with a high interrater reliability, and we demonstrated the application of NegotiAct with exploratory analyses of active listening patterns. Instead of applying an ill-fitting coding scheme, we encourage future research to use our one-size-fits-all coding scheme, NegotiAct.

2.7 Appendix A: Coding Manual

2.7.1 General Rules

In the following, we describe our general approach to coding videotaped negotiations with our coding scheme. This approach comprises the steps (a) unitizing, (b) coding, and, if appropriate, (c) splitting up codes. NegotiAct can be applied not only to the negotiation exchange itself, but also to the whole conversation that the negotiation is embedded in. As soon as negotiation parties first get in touch, for instance, by exchanging e-mails, or when entering the (virtual) room and until they leave again, the interaction can be coded.

2.7.2 Unitizing

In a first step, everything that is said in a videotaped negotiation must be unitized in thought units (cf. Bales, 1950; Kauffeld & Lehmann-Willenbrock, 2012). One thought unit captures exactly one statement and, thus, represents the smallest meaningful segment of behavior that can stand alone (Bales, 1950). Usually, this is a single sentence that comprises or implies a subject and a predicate (Hatfield & Weider-Hatfield, 1978). However, it can also be one word (e.g., a "No" when rejecting an offer) or even a few sentences (e.g., when substantiating a position; see Table A1 for further examples). Only one statement should be captured with one thought unit, meaning that only one of the 47 codes can be assigned to one thought unit. Thus, a new thought unit must be parsed whenever one of the following situations is given: (i) The speaker changes. (ii) The speaker makes a new statement that contains a new thought within a speaking turn (e.g., first making an offer, then substantiating it). (iii) The speaker remains within the same code but expresses two different complete thoughts (e.g., voicing two different reasons for an offer in a row).

Table A1

Speaker	Transcript
Buyer	"[For us, it's more important to agree on the price than on the contract
	duration.] [What is more important to you?]"
Seller	"[The contract duration is also of less importance to us.]"
Buyer	"[Mm hmm.] [So how about we agree on 400.000€ and 2 years?]"
Seller	"[No,] [becauseuh eh] [The problem is, we need to cover all the
	costs. We need to cover all the expenses.] [And we'd rather have a
	longer contract duration.]"
Buyer	"[So you'd be happier with a contract duration of 10 years.]"
Seller	"[Yes, I]"
Buyer	"[Wait.] [Me too.] [Hahahahaha.]"
Seller	"[Hahahaha.] [So, you also prefer 10 over 2 years?] [Then, let's agree
	on 10 ten years.]"
Buyer	"[Yes, we can agree on that!] [Now, let's talk about the price.]
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Sample Transcript with Thought Unit Segmentation

Note. Words within square brackets indicate one thought unit.

2.7.3 Coding

In a second step, one of the 47 codes is assigned to every thought unit (act-for-actcoding). Additionally, the role of the person speaking is allocated to every thought unit (in solo-on-solo negotiation that would be A for one party and B for the other; in team-on-team negotiations with three negotiators per team, that would mean different persons for party A: A1, A2, A3,...; and also different persons for party B: B1, B2, B3...). If both/all negotiators are speaking at the same time, the role "all" must be assigned. If none of the negotiators are speaking but, for instance, an assistant or researcher, the code "Other noise" should be applied. If none of the codes fit, the code "Others" should be applied. When in doubt, first decide which category the statement falls in and then choose the most appropriate code (see Figure A1).

Figure A1

Example Statement and Coding Decision Tree



2.7.4 Splitting up Codes

If the research question requires a more fine-grained analysis of certain behaviors (e.g., different types of humor), the codes in our coding scheme can be further split into more fine-grained codes (e.g., self-defeating or aggressive humor). A few examples are given in the following overview (e.g., for affective reactions or humor).
Categories and Respective L	Definitions
Acts of providing and asking about negotiation- related information	"Negotiators' queries and provision of information to the other party regarding their preferences, reservation point, best alternative to negotiated agreement (BATNA), general needs, desires and goals" (Weingart et al., 1987, p. 286)
Offers	Statements that capture the parties' "offer- counteroffer process" (Lewicki et al., 2014, p.236)
Acts of persuasive communication	Forcing behaviors and statements "that individuals deploy to bring out desired attitudinal or behavioral change [] to adjust the other party's positions, perceptions, and opinions" (Lewicki et al., 2014, p. 285), and that "aim at convincing the opponent to comply with one's own proposals" (Giebels et al., 2000, p. 262)
Socio-emotional statements	Statements that capture the relational interaction between parties, such as "lightening the atmosphere, separating opinions from facts, expressing feelings [] and offering praise" (Kauffeld & Lehmann-Willenbrock, 2012, p. 140)
Unethical behaviors	Behavior that is commonly regarded as ethically unacceptable and inappropriate (Fulmer et al., 2009; Robinson et al., 2000), exceeding "traditional competitive bargaining" behaviors (Lewicki et al., 2014)
Acts of process-related communication	"Statements that refer to the process or rules of the negotiation itself, or how the negotiation is to proceed, or is not proceeding." (Brett et al., 1998, p. 415)
Residual category	External or internal issues that disrupt the interaction (e.g., someone entering the room, traffic noise, coughing or sneezing); statements that are aborted without being interrupted by the other party and all statements that do not fit into the above categories.

2.7.5 Categories – Overview

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Behavioral Codes and Respective Definitions

Acts of providing and asking about negotiation-related information	Offers	Acts of persuasive communication	Socio-emotional statements	Unethical behaviors	Acts of process-related communication	Residual category
Providing priority-related providing information that reveals the own priorities among issues	Single-issue activity Ming a single-issue offer (proposal that comprises only one of several possible issues)	Substantiation Substantiation argumentative structure and statements that connect information with opinions or recommendations	Negative adfective reaction Negative enclorant reactions to the other party's offer(s), idea(s), and arguments(s) idea(s), and arguments(s) offer but focus rot intuduc rejection of offer but focuses on the emotional response)	<i>Dmission</i> * Withholding information Withholding information by the other party or concealing indifference/compatibility toward options (misrepresentation by omission)	Procedural suggestion Commenting on the mode, approach or process of the negotiation or suggesting an action or a course of action action or a course of action interaction	Interruption of the correspondence texternal or internal issues that disrupt the interaction
Asking for priority-related information Asking for the other party's priorities among issues	Multi-issue activity Making a multi-issue offer (proposal that comprises two or more of several possible issues)	Asking for substantiation Asking for substantiation substantiate or questioning the substantiation	Positive affective reaction to be a subjective reactions to the other party's offer(s), idea(s), and argument(s)	Threat Waming of the costs if other party does not comply with made propositions	Procedural discussion Agreeing, disagreening, clarifying or asking for clarification regarding a procedural suggestion/comment	<i>Inaction</i> Statements that are aborted without being interrupted by the other party
Providing preference-related information revolution information that reveals the own preferences within an issue or time preferences	Requesting action Asking the other party to Asking the other party to the an offer to show a response/reaction to an offer or on an idea or making an open-ended comment that needs a reply	Stressing power Referring to having more wore than the other party, to being superior, to the lack of power, competence or experience of the other party	Active listening Paraphrasing the other party's statements and generic paraverbal responses such as "mm hmm" or "yeah"	Lying * Misrepresenting by commission (e.g., misrepresenting one's preferences)	Time management Time checks, remarks about time that is running-out and suggestion to hurry and come to quick solutions	Others All statements that do not fit within any of the categories
Asking for preference- related information preferences within an issue or time preferences	Requesting for offer modification modification or concession/offer modification without altering the own position/offer (not fostering mutual concession making)	Rejecting substantiation Disagreeing with the other provide the other start, serving their relevance, disagreeing or rejecting the other party's accusations	<i>Humor</i> Use of humor and laughter	Hostility Use of indecent language directed at the other party, tassing and provoking or directly insulting the other party	<i>Change of mode</i> Changing the mode of discussion by using visual aids, by suggesting a break to calculate, think, or consult with the own party or when changing the mode of communication	
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*can only be coded with data from experimental settings where role instructions and information given to the negotiators are disclosed to coders.

Residual category				
Acts of process-related communication				
Unethical behaviors	Use of extreme anchors * Making an offer that is far greater than the other party's reservation point			
Socio-emotional statements	Positive relationship remark Statements that reflect a (positive) relationship between the parties	<i>Negative relationship remark</i> Statements that reflect a negative relationship between the parties	Personal communication Personal information that is personal information that is not related to the regolitation related to the regolitation with personal information not related to the negoliation	Nonpersonal chit-chat Miscellaneous statements unrelated to negotiation (e.g. remarks about the weather)
Acts of persuasive communication	Interrupting Disrupting the other party's speaking tum (when it is clear that the other party is not yet done articulating an idea/statement)	Criticism Criticizing the other party's Criticizing the other party's performing (or nous performing) a particular performing be other party's accusations, not questioning the other party's ability or referring to a lack of power)	Encouragement Encouraging the other party to perform a particular action	Positional commitments Communicating positional commitments to the other party
Offers	Rejecting affer Rejecting the other party's offer or part of it, disagreeing with an agreement proposal	Accepting offer Agreeing with or accepting the other party's offer/concession or part of it		
Acts of providing and asking about negotiation-related information	Asking for positional information Asking the other party for their reservation point, their reservation point, information about competitors (i.e., every question that is aiming for positional information)	<i>Providing positional information information information about the own party's reservation point, party's reservation point, competitors or statements of competitors or statements of an exact value of one party's profits or profit table</i>	Facts/Additional information Any information that is not related to preferences, priorities, positional information and does not follow an argumentative structure but consists of purely providing information.	Extension questions Asking for additional information or clarification (not substantiation), that are not related to preferences, priorities, positional information

*can only be coded with data from experimental settings where role instructions and information given to the negotiators are disclosed to coders.

Acts of providing and asking about negotiation-related information	Offers	Acts of persuasive communication	Socio-emotional statements	Unethical behaviors	Acts of process-related communication	Residual category
Additional issues Menioning or asking for potential additional issues that are not yet part of the agenda		Avoiding Changing subject or shift Changing subject or shift discussion to new issue witho terminating/agreeing on a previous issue, refusing to answer and/or replying vague	Future-related communication Stating expectations about at negotiations in the future, y			
Clarification Paraphrasing the own party's previous statements, asking for clarification of the other's previous statements, summarizing previous agreements			Apologizing Expressing regret and apologizing for a previous action, stating to be wrong			

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Definitions
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2.7.7

Acts of Providing and Asking about Negotiation-related Information

Code	Definition/content	Example	Delimit	Additional information
Providing priority- related information	Providing information that	• "For us, it's more important to agree on the price than on the	Not: "Because the price is very important to us."	If the research focus is on priority-related
	reveals the own priorities among	construction of the cooling system."	(Substanuation) And also not: if the	information provision, this code can be split up
	issues (must reflect a hierarchy between	• "We care about all issues	provided information is false (Lving)	in different kinds of priority-related
	issues)	• "The contract duration is also		information, e.g.,
		of less importance to us."		 Stating priorities
		·		without relating to
				others' priorities
				 Noting similar
				priorities
				 Noting different
				priorities
Asking for priority-	Asking for the other	"Is the distribution of	Also: "How important is a	
related information	party's priorities	rental incomes more important	financial contribution to	
	among issues (asking	to you than the contract	you?"	
	for a hierarchy	duration?"	Not: 'Is the financial	
	between issues)	• "What is the most	contribution important to	
		important issue for you?"	you?" (Asking for	
		• "Is there an issue that	positional information)	
		you care more about than		

Code	Definition/content	Example	Delimit	Additional information
Providing	Providing	• "We'd rather work with our	Not: "We'd like to work	If the research focus is on
prejerence-retated information	reveals the own	• "We'd rather have the money	with out out supplied again." (no hierarchy	pretenence-related information provision,
	preferences within an	sooner than later."	reflected \rightarrow Single-issue	this code can be split up
	issue or time	• "It would be best if we could	activity)	in different kinds of
	preferences (must	work with project leader X."	And also not: if the	preference-related
	reflect a hierarchy		provided information is	information, e.g.,
	between options		false (Lying)	 Stating
	within an issue)			preferences without
				relating to others'
				preferences
				 Noting similar
				preferences
				 Noting different
				preferences
Asking for	Asking for the other	 "So which supplier do you 		
preference-related	party's preferences	prefer?"		
information	within an issue	 "And what is your preference 		
	(asking for a	regarding the project leader?"		
	hierarchy between	"Would you prefer 24 months		
	options within an	or 6 months for the duration of the		
	issue) or time	maintenance agreement?"		
	preferences			

Code	Definition/content	Example	Delimit	Additional information
Providing	Statements that	"So, my lower price limit is	Also: "Your offer is very	
positional	reveal information	\in 50.000 at the moment."	low.''	
information	about the own	 We already have an offer of 	Not: Lies regarding	
	party's reservation	\in 2.5 million for the property."	positional information	
	point, BATNA,	• "We can only pay for	(Lying)	
	minimum terms,	transportation until Genoa."	And also not: "There are	
	competitors or		many companies out there	
	statements of an		that did offer more."	
	exact value of one		(Stressing power)	
	party's profits or		And also not: 'I won't go	
	profit table		any higher, that's it."	
			(Positional Commitment)	
Asking for	Asking the other	• "How much is the other offer	Also: "How much would	
positional	party for their	you've received?"	you have to pay for	
information	reservation point,	"What is your limit regarding	supplier X?"	
	BATNA , minimum	the number of inspections?"	Not: "Would it be better	
	terms or information	 Who is offering you more, 	for you to switch to	
	about competitors	may I ask?"	supplier	
	(i.e., every question	2	McCogan?"(Asking for	
	that is aiming for		preference-related	
	positional		information)	
	information)			

Code	Definition/content	Example	Delimit	Additional information
Facts/Additional	Any information that	"I'm Mrs. X from the Y	Also: "We want to build a	
information	is not related to	group."	thermal cracker in	
	preferences,	"We are currently working on	Oman."	
	priorities, positional	a project together with Russia."	Not: if the provided	
	information and does	 "Our company is located in 	information is false	
	not follow an	Germany."	(Lying)	
	argumentative			
	structure (",			
	because'') but			
	consists of purely			
	providing			
	information			
	e.g. providing			
	information about the			
	own company or			
	strategic plan			
Extension questions	Asking for additional	"Do you have any information		
	information or	about the production?"		
	clarification (not	• "Then the question is, how		
	substantiation), that	long are we allowed to use the		
	are not related to	property?"		
	preferences,	• "Is there a building on the		
	priorities, positional information	property"		
Additional issues	Mentioning or asking	"Do you have anything else	Not: "So, we agreed to	
	for potential	that might be of interest to us?"	exclude the property from	
	additional issues that	 "Yes, we would also be 	our agreement?"	
	are not yet part of the	interested in a property."	(Clarification)	
	agenda	 We might have something 		
		else of interest for you."		

Additional information	eat If the research focus is on	clarification, this code can	ige be split up in different	kinds of clarification, e.g.,	e • Repeating ("As I	said, we can offer you	$100,000 \in $ for the	property")	 Reassuring ("You 	said $100,000$ €, right?")	Explaining ("I	mean, transportation	until Genoa, not	Oman."
Delimit	Also: If negotiators rep	offers or arguments	Not: if negotiators chan	the offer/make a new	offer ("So, 50000 for th	property" when 50000	was not yet offered)							
Example	• "I mean"	 "So, €50,000 for the 	property?"	• "In summary, we agree on"	• "And the property would be	$\epsilon_{100.000}$ if we split it up. in my	calculations."	• "And we agreed on the	contract neriod. right?"	· · · · · · · · · · · · · · · · · · ·				
Definition/content	Paraphrasing the own	party's previous	statements, asking	for clarification of	the other's previous	statements,	summarizing	previous agreements						
Code	Clarification													

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Code	Definition/content	Example	Delimit	Additional information
Single-issue	Making a single-	"We would like to sell for	Also: Compromise	Issues and price details
activity	issue offer (proposal	ϵ 400,000."	agreement offers, e.g.,	that are referred to in the
	that comprises only	"We would like you to fully	''Let's meet halfway"	offer should be noted in
	one of several	pay for the cooling system."	Not: If negotiators only	the comment section that
	possible issues)	• "How about we split the	repeat the same offer	pops up after assigning
	e.g. compromise	delivery costs?"	(Clarification)	this code (when coding
	agreement offer,	 "Would vou pay. let's say. 	And also not: if an offer is	with INTERACT
	range offers	15% to 20% more"?	far greater than the other	software).
			party's reservation point	
			(Use of extreme anchors;	
			i.e., if (a) the offer	
			exceeds twice as much as	
			the differences between	
			the options of a (fixed-	
			steps) payoff schedule	
			above the upper	
			limit/below the lower	
			limit or (b) the offer	
			exceeds twice as much as	
			the space between both	
			parties' reservation points	
			above/below the other	
			party's reservation point)	

Code	Definition/content	Example	Delimit	Additional information
Multi-issue activity	Making a multi-issue offer (proposal that comprises two or more of several possible issues) e.g. conditional offers ("If I agree with you on this issue, you have to accommodate on the next issue."), incorporating requests, ideas, part of the other party's offer into a new offer	 "If I agree with you on this issue, you have to accommodate me on the next issue." "We could pay 25% when it is delivered, then we have to go down on the price though." "Okay, then you pay for the property, we pay for the sending station in half." "I have a different idea, that we connect the last issue with this one, so that you fully pay for the sending station and we pay for the cooling system." 	Not: If negotiators only repeat the same offer (Clarification) And also not: if an offer is far greater than the other party's reservation point (Use of extreme anchors; i.e., if (a) the offer exceeds twice as much as the differences between the options of a (fixed- steps) payoff schedule above the upper limit/below the lower limit/below the lower limit or (b) the offer exceeds twice as much as the space between both parties' reservation points above/below the other party's reservation point) And also not: Using a compatible/indifference issue for a trade-off (Omission)	Issues and price details that are referred to in the offer should be noted in the comment section that pops up after assigning this code (when coding with INTERACT software). This allows to screen for multiple equivalent simultaneous offers (MESOs; see Leonardelli et al., 2019) afterwards.
Requesting action	Asking the other party to make an offer, to show a response/reaction to an offer or on an idea or making an open- needs a renty	 "What can you offer?" "How much would you pay for the tank?" "Then we have to see what to do with the terms of payment" 	Also: "What options do we have?" Not: "that's why it's a bit difficult without a deposit" (Substantiation)	

Code	Definition/content	Example	Delimit	Additional information
Requesting for offer modification	Demanding a concession/offer	• "Now it's your turn to make a concession."	Not: Fostering <u>mutual</u> concession making	Issues and price details that are referred to in the
	modification without altering the own	"You really need to lower the	(Single-issue activity)	request should be noted in the comment section that
	position/offer (not	• "We really need you to agree		pops up after assigning
	fostering mutual concession making)	on our supplier."		this code (when coding with INTERACT
				software).
Rejecting offer	Rejecting the other	• "No" (as a reaction to an	Not: ''That's very high.''	
	party's offer or part	offer)	(Positional information)	
	of it, disagreeing	 "That won't work." 	And also Not: "That's	
	with an agreement	 "I have to reject this offer" 	impossible." (Positional	
	proposal	•	commitment)	
			And also not: "That's	
			bad." (Negative affective	
			reaction)	
Accepting offer	Agreeing with or	• "Yes, let's put that down."	Not: "That would be	
	accepting the other	• "Okay."	awesome." (Positive	
	party's	• "Yes, we can agree on that."	affective reaction)	
	offer/concession or part of it	I		

Code	Definition/content	Example	Delimit	Additional information
Substantiation	Statements that	• "The problem is, we need a	Also: '' <u>You</u> should agree,	If the research focus is on
	follow an	deposit to cover all the costs."	because there's no time to	substantiation, this code
	argumentative	• "with this high quality, we	discuss this further."	can be split up in different
	structure (",	offer"	(Make sure when	kinds of substantiation,
	because"), and	"Because I made concessions	assigning this code that	e.g.,
	statements that	all the way"	the negotiator does not	 Referring to
	connect information	• "Keep in mind, we don't get a	include themselves when	statistics
	with opinions or	subsidy."	pointing out to hurry.)	Referring to
	recommendations	3	Not: "With regards to the	norms
	("You need this")		time, <u>we</u> should better	Positive
	e.g. reasons for		find a quick solution."	substantiation ("This is
	preferences and		(Time management)	good for vou")
	priorities		Not: Referring to having	• Neoative
	ĩ		more power than the other	substantiation ("You
			party, to having	don't nood thin "
			alternatives, to the lack of	
			power, competence or	
			experience of the other	
			party (Stressing power)	
			And also not: if the	
			substantiation reflects	
			false information (Lying)	
Asking for	Requesting the other	• "Why should I agree to this?"	Not: "To be honest, that	
substantiation	party to substantiate	"Why do you prefer to buy	seems a bit strange to	
	("Why should I?",	this only next year?"	me." (Negative affective	
	"Why do you prefer	• "Do you really think the price	reaction)	
	this?") or	will decrease in the next months?"		
	questioning the			
	substantiation ("Do			
	you really think?")			

Acts of Persuasive Communication

Table A6

Code	Definition/content	Example	Delimit	Additional information
Stressing power	Referring to having	 'If you don't want our 	Not: ''We already have an	
	more power than the	property, there are many others out	offer of $\in 2.5$ million for	
	other party, to being	there that would love to take it"	the property." (Positional	
	superior, to the lack	(referring to BATNA)	information)	
	of power,	 "I don't think you understand 		
	competence or	what we are talking about here."	Attention:	
	experience of the	 "Well, unlike you we're 	Stating BATNA (i.e.	
	other party	dealing with this issue on a daily	mentioning a concrete	
		basis "	number) \rightarrow Positional	
		• "We are in charoe reoardino	information	
		this issue so vou shouldn't have a	Vs.	
		sav."	Referring to BATNA	
			(see example) \rightarrow	
			Stressing power	
Rejecting	Disagreeing with the	• "No, that's not what I meant."	Not: "Are you really	
substantiation	other party's	 "We've had different 	sure?" (Asking for	
	arguments, denying	experiences."	substantiation)	
	their relevance,	• "I don't think this is true."	And also not: Substantiate	
	disagreeing or		own arguments, but	
	rejecting the other		simultaneously	
	party's accusations		disagreeing with the other	
			party's arguments or	
			accusations	
			(Substantiation)	

Code	Definition/content	Example	Delimit	Additional information
Interrupting	Disrupting the other party's speaking turn (when it is clear that the other party is not yet done articulating an idea/statement)	 "Wait!" "Stop it!" "Yes, yes, but" 	Not: "No, no, we can't accept that." (Rejecting offer)"	In case one negotiator is interrupting the other party and continues with a statement, assign "Interrupting" to one short unit (~ 5 milliseconds) and the respective code to the following unit
Criticism	Criticizing the other party's behavior or accusing them of performing (or not performing) a particular action (not rejecting the other party's accusations, not questioning the other party's ability or referring to a lack of power)	 "I'm sure, you could reach out a bit more." "I feel like you're not even trying to understand me." "Are you trying to bribe me?" 	Not: "I think you don't understand what we're talking about." (Stressing power) And also not: "You really are a coward." (Hostility)	
Encouragement	Encouraging the other party to perform a particular action	 "Go on" "Please, finish your thought." "Good" or "Okay" (as a signal to proceed) 	Not: "I can only recommend you to go for the highest quality, it's in your own interest."(Substantiation) And also not: "Mm mmh" or "Yeah" as a generic paraverbal response to the other party (Active listening)	

Code	Definition/content	Example	Delimit	Additional information
Positional	Communicating	• "I won't go any higher, that's	Not: "So, my lower price	
commtments	positional	It."	limit is ϵ 50.000 at the	
	commitments to the	• "There is no room for	moment.	
	other party	negotiation anymore."		
		 "This is my last offer." 		
Avoiding	Changing subject or	 "I'd rather not talk about my 	Not: "Let's just talk about	
	shift discussion to	reasons." (when the other party is	something else	
	new issue without	asking for a substantiation)	then."(Procedural	
	terminating/agreeing	• "Yeah, this would be a	suggestion)	
	on a previous issue,	possibility";		
	refusing to answer	 "Hm, I don't know, maybe" 		
	and/or replying	(vague answers in response to		
	vaguely	offers or suggestions)		

Additional information	If the research focus is on emotions, this code can be split up in different negative emotions, e.g.: Anger Disappointment Disgust Shame Fear	If the research focus is on emotions, this code can be split up in different positive emotions, e.g.: • Joy • Satisfaction • Excitement
Delimit	Not: Rejection of offer, but the emotional response towards offers, ideas, and arguments; look out for words that reflect feelings (e.g., annoying, skeptical, angry)	Not: "Good" as a signal to proceed with the negotiation (Encouragement); look out for words that reflect feelings (e.g., happy, satisfied, thankful)
Example	 "Honestly, you can't be serious." "This is really annoying!" "That's really a pity." "I feel a little insecure about this." 	 "This is going really well." "Good, that was quick." "Then, we'd be very satisfied." "Nice, that was fun." "T'm happy to be here."
Definition/content	Negative emotional reactions to the other party's offer(s), idea(s), and arguments(s)	Positive emotional reactions to the other party's offer(s), idea(s), and argument(s)
Code	Negative affective reaction	Positive affective reaction

Table A74 Socio-emotional Statements

Additional information If the research focus is on active listening, this code can be split up in different kinds of active listening, e.g., Paraphrasing and repeating the other party's statements • "Mm hmm" and "yes, yes" • "I understand." and "I thought so."	If the research focus is on humor, this code can be split up in different kinds of humor, e.g., • Self-defeating • Affiliative • Self-enhancing
Delimit Also: Repeating the other's statement Not: "Good" or "Okay" as a signal to proceed (Encouragement) Not: Agreeing with the other party's substantiation, e.g., "Yes, indeed!"(Positive relationship remark)	
 Example "I understand." "Uhu." "Mm hmm." "Yes, yes…" "Hmm, I see." "I see where you're going with this." "I thought so." 	 "Wow, that <i>really</i> makes a difference(!)"(sarcastic) "Well, my final offer is \$1000 and I'll throw in my pet frog." "Hahahaha!" "Maybe that's a magic trick."
Definition/content Paraphrasing the other party's statements and generic paraverbal responses such as "mm hmm" or "yeah"	Use of humor and laughter (e.g. using two opposing semantic scripts in one sentence)
Code Active listening	Humor

Code	Definition/content	Example	Delimit	Additional information
Positive relationship remark	Statements that reflect a (positive) relationship between the parties e.g. complementing the other party, showing support	 "We've worked well together in the past." (e.g., as a compliment in the beginning of a negotiation) "Great to be working together again." "I trust you on this." "I think we will manage to find a solution." "Then, thank you very much." 	Also: If negotiators advocate for the other party (e.g., "If we ask for a higher price, this would of course be worse for you."), agree with their substantiation (e.g., "Yes, indeed, yes, that's correct."), or show empathy "I understand that this is hard for you."	
Negative relationship remark	Statements that reflect a negative relationship between the parties	 "I feel like we're not on the same page." "Well, I can't take your word for it, can 1?" "You don't seem comfortable discussing this with me." 	Not: "I feel like you're lying to me." (Criticism) And also not: "I'd rather not tell you precise numbers." (Avoiding)	
Personal communication	Asking the other party for personal information that is not related to the negotiation or providing the other party with personal information not related to the negotiation	 "So you like playing chess?" "So, do you like strategic games?" "I'm really into cars." 		

Code	Definition/content	Example	Delimit	Additional information
Nonpersonal chit-	Miscellaneous	 "Hello, welcome" 		
chat	statements unrelated	 "It's getting very chilly these 		
	to negotiation	last days."		
	e.g. remarks about	 "The traffic was heavy this 		
	the weather	morning"		
Future-related	Stating expectations	 "I hope you'll think of us in 		
communication	about negotiations in	the future."		
	the future,	"We'll return the favor in our		
	e.g. promises, or	next collaboration."		
	expressing the	 "I hope we'll work together 		
	expectation of	again in the future."		
	reciprocity			
A pologizing	Expressing regret	• "Oh, yes, sorry I made a		
	and apologizing for a	mistake."		
	previous action,	 "Yes, you're right" (after the 		
	stating to be wrong	other party pointed out a mistake)		
		 "Oh, that was a stupid 		
		suggestion, sorry."		

Additional information	*Can only be coded when coders have required information (e.g. instructions, payoff schedule). For further analyses the code that would have been assigned if behavior was not an <i>Omission</i> can be written down (comment section or additional code).	
Delimit	Also: Paltering (using truthful statements to create a false impression), e.g., "You decided fully on the contract duration, so we want to decide who's responsible for the construction of the gateway cooling system" – leaving the impression that the first decision was not in line with the negotiator's preference, even though it was (compatible issue) Not: "I'd rather talk about something else" (Avoiding); And also not: Answering "a lot" or "probably more phan you would have to pay" to the question "How much precisely does the construction of the cooling system cost you?" (Avoiding)	
Example	 "If we agree on the supplier you prefer, you have to accommodate on the price" (using a compatible issue [i.e. the supplier] for a trade-off) Can we agree on purchasing the buffer tank right away if we decide for the longest contract duration?" (using a compatible issue [i.e. contract duration] for a trade-off) 	
Definition/content	Withholding information which was explicitly requested by the other party or concealing indifference/compati bility toward options (misrepresentation by omission)	
Code	Omission *	

Unethical Behaviors

Code	Definition/content	Example	Delimit	Additional information
Threat	Warning of the costs if other party does not comply with made propositions, e.g. giving the other party an ultimatum	 "Well, if you can't go any higher, you won't get the chance to talk about the other issues at all." "If you don't collaborate, it will be much harder for you to get what you want from me." "We can also leave it and you don't get the pump head at all." 	Also: "If you don't agree in the next minutes, you'll leave with nothing." Not: "I don't need you. I have other options" (Stressing power) And also not: "This is my limit, I won't lower the price anymore" (Positional commitment)	
Lying*	Misrepresenting by commission, e.g. misrepresenting one's preferences, pretending to be obliged to consult with a third party	 "This is really important to us." (even though it is not) "I don't know." (even though the negotiator knows the answer to the specific question the other party asked) "We have a much higher offer from a different company." (even though the party does not have a higher alternative offer) 		*Can only be coded when coders have required information (e.g. instructions, payoff schedule). For further analyses (to see what negotiators lie about) the code that would have been assigned if behavior was not <i>Lying</i> can be written down (comment section or additional code).

-		t		ſ	:	
Code	Definition/content	Example		П	Jelimit	Additional information
Hostility	Use of indecent	 This sound: 	s a bit childis	sh."		
	language directed at	• "Why are yo	u so wimpv	"(
	the other party,	• "Bullshit!" (for assigning	this		
	teasing and	code. this utteran	ce must be			
	provoking or directly	directed at the oth	ler partv)			
	insulting the other					
	party					
Use of extreme	Making an offer that	If one of the followin	ng applies:			*Can only be coded when
$anchors^*$	is far greater than the	a) The offer exceeds	twice as muc	ch as		coders have required
	other party's	the differences betwe	en the option	ns of		information (e.g.
	reservation point	a (fixed-steps) payof	f schedule at	avo		instructions, payoff
		the upper limit/belov	v the lower li	mit.		schedule).
		Example:				
		Maintenance agreement	Score A S	Score B		
		24 months	0	3200		
		18 months	200	2400		
		12 months	400	1600		
		6 months	009	800		
		no maintenance included	800	0		
		Darty B officers 37 mg	uthe			
		om ic siallo a fim i	CI III			
		b) The offer exceeds	twice as muc	ch as		
		the space between bo	oth parties'			
		reservation points al	ove/below th	he		
		other party's reserve	ttion point.			
		_	-			
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		RP Darry 4 RP Party R	anchor Part			
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Communication	
Acts of Process-related	

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Lode	Definition/content	Example	Delimit	Additional information
Procedural	Commenting on the	 "Then let's start with 	Also: "So, we're done!"	If the research focus is on
suggestion	mode, approach or	negotiating about the price, shall	And also: 'It's difficult to	procedural suggestions,
	process of the	we?"	find an agreement."	this code can be split up
	negotiation or	• "What I'd suggest is that we	Not: "It's difficult to go	in different kinds of
	suggesting an action	put the financial subsidy on hold	any higher." (Positional	procedural suggestions,
	or a course of action	until the end of the negotiation."	commitments)	e.g.,
	regarding the process	• "There are still a few open		 Suggesting to
	of the interaction	issues on which we have to agree."		discuss one issue at a
)		time
				 Announcing a
				subsequent behavior
				(e.g., ''Let me ask you
				a question", followed
				by the question)
				 Suggesting to do
				package trade-offs
				Positive
				comments on process
				 Negative
				comments on process
Procedural	Agreeing,	 "Right, let's do that." 	Not: "We still have two	
discussion	disagreeing,	"So, you mean discussing	issues to discuss."	
	clarifying, or asking	issue X first?"	(Procedural suggestion)	
	for clarification	"What other issues are there to		
	regarding a	discuss?"		
	procedural	 "We skipped talking about the 		
	suggestion/comment	tank so far, right?"		

Additional information		If the research focus is on change of mode, this code can be split up in different kinds of actions, e.g., • Reading materials • Changing the mode of communication • Using a whiteboard or a piece of paper to illustrate something • Announcing a break for consulting with the own party • Remark about having to contemplate
Delimit	Not: Putting time pressure on the other party as a means of distributive bargaining, e.g., "With regards to the time, <u>vou</u> should better agree to my proposal." (Substantiation)	Also: Negotiator reads out instructions aloud Not: "1'd rather think about this a little more" (Avoiding)
Example	 "With regards to the time, <u>we</u> should better find a quick solution." (make sure when assigning this code that the negotiator includes himself/herself when pointing out to hurry) "Can you watch the time? I'm not wearing a watch." "We still have 10 minutes." 	 "One moment, I have to think about this." Negotiators then read their materials or take notes. Negotiators use a whiteboard or a piece of paper to illustrate something. Negotiators move from e-mail to negotiating live (time in between the last e-mail and first contact in person) Time in between communication via e-mail
Definition/content	Time checks, remarks about time that is running-out and suggestion to hurry and come to quick solutions	Changing the mode of discussion, for instance, by using visual aids (e.g. Whiteboard, pen and paper, Excel-sheet), by suggesting a break to calculate, think, or consult with the own party, or when changing the mode of communication
Code	Time management	Change of mode

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Residual Category

Code	Definition/content	Example	Delimit	Additional information
Interruption of the	External or internal issues that dismust the	One of the negotiators sneezes		
101102 101100		UI COURTS		
	interaction (e.g.,	 Someone enters the room. 		
	traffic noise,			
	coughing, or			
	sneezing)			
Inaction	Statements that are	 "Yes, so we 	Not: ''Ah, hmm'' in	
	aborted without	canahhmm"	response to the other's	
	being interrupted by	 "Or maybe if you…ah…no…" 	statement (Active	
	the other party	 "Yeah, but(nothing 	listening)	
		follows)"		
Others	All statements that	 Humming, while thinking 	Not: Silence because	
	do not fit within any	Silence	negotiators take notes or	
	of the categories	Incomprehensible speech	read the material (Change	
			of mode)	
			And also not: People start	
			a sentence with "Uhhh"	
			but do not finish	
			(Inaction)	

Payoff-Matrices
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Table B1

Summary Chart – Negotiation Task 1

LIICE	Score (Duyer)	(Jallac) alooc	I Tansier of risk and snipping costs	Score (Duyer)	(Teller) arose
7,500,000€	2400	0	CIP Yibal	0	-6000
7,600,000€	1800	600	CIF Mina al-Fahal, Maskar	-1500	-4500
7,700,000€	1200	1200	CFR Mina al-Fahal, Maskar	-3000	-3000
7,800,000€	600	1800	FOB Genua	-4500	-1500
7,900,000€	0	2400	EXW	-6000	0
Payment conditions	Score	Score	Included inspections	Score	Score
0% at time of contract conclusion / 0% on delivery / 100% after acceptance	800	0	4 inspections included	1600	0
0% / 20% / 20%	009	800	3 inspections included	1200	1000
10% / 30% / 60%	400	1600	2 inspections included	800	2000
10% / 40% / 50%	200	2400	1 inspection included	400	3000
30% / 30% / 40%	0	3200	no inspections included	0	4000
Date of delivery	Score	Score	Maintenance agreement	Score	Score
October 15	4000	0	24 months	0	3200
October 29	3000	400	18 months	200	2400
November 12	2000	800	12 months	400	1600
November 26	1000	1200	6 months	600	800
December 10	0	1600	no maintenance included	800	0
Portion of companies from Oman participating in the installation of the pumps	Score	Score	Supplier of connection pipes	Score	Score
100%	0	0	Tuyanterie Francois Marchand SA (France)	-2400	-2400
75%	300	300	Smithson Pipe Systems Inc. (USA)	-1800	-1800
50%	600	600	Tubos Rocco Roletti SA (Italy)	-1200	-1200
25%	006	900	Rohrsysteme Vulkan GmbH (Germany)	-600	-600
0%0	1200	1200	MacCogan Pipes PLC (UK)	0	0

Note: The negotiation task was adapted from Thompson et al. (1996). For more information, see the supplementary file by Hüffmeier et al. (2019).

Table B2

Summary Chart – Negotiation Task 2

Score (Buyer)	$0 \in$	-250,000€	-500,000€	
Score (Seller)	Э O €	250,000E	500,000E	
Financial contribution	No contribution	Small contribution	Big contribution	

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Construction of the gateway cooling system	Score	Score
Buyer constructs cooling system	96	-200,000€
Buyer and Seller construct cooling system together	-50,000€	-100,000€
Seller constructs cooling system	-100,000E	0 €

Purchase of the buffer tank	Score (Seller)	Score (Buyer)
Expectation	Price decreases	Price increases
Costs now	-400,000€	-400,000€
Expected costs later	-350,000E	-450,000€

Parcel of land in Rotterdam	Seller	Buyer
Situation	Wants to buy such a	Sells the property
	property	
Alternative if not included in the negotiation	Buys the other	Sells to other buyer
	(similar) property for 3,000,000€	for 2,600,000€
M	A Comment of a local	

Construction of pig launcher	Score (Seller)	Score (Buyer)
Buyer constructs pig launcher	96	-100,000€
Buyer and Seller construct pig launcher together	-100,000€	-50,000€
Seller constructs pig launcher	-200,000€	90

Contract duration	acore	SCOLE
8 years	96	96
9 years	50,000E	50,000E
10 years	100,000€	100,000€

Distribution of rental incomes	Seller	Buyer
Rent to be distributed per year (over 3 years)	2,000	,000£
Tax rate year 1	%0	%0E
Tax rate year 2	30%	%0E
Tax rate year 3	30%	30%

Note. The negotiation task was adapted from Moran et al. (2008). For more information, see the supplementary file by Hüffmeier et al. (2019).

2.9 Appendix C: Additional Analyses – Correlation Matrices and Lag Sequential

Analyses

Table C1

Correlations Between the Frequency of Codes, Joint Gains, Individual Gains

Variable	Joint gains	Individual gain – Seller	Individual gain – Buyer	Joint gains	Individual gain – Seller	Individual gain – Buyer
		Negotiation tas	ik 1		Negotiation task	2
Providing priority-related information	.40	.16	.21	.48	.41	41
Asking for priority-related information	.49	02	.30	.28	.27	27
Providing preference-related information	16	36	.24	.78*	.55	55
Asking for preference-related information	.38	44	.72*	18	34	.26
Asking for positional information	12	47	.67*	.24	23	.29
Providing positional information	36	17	.10	.22	.04	.01
Facts/Additional information	13	.23	32	.47	.41	37
Extension questions	.38	.53	29	.33	.56	46
Additional issues	/	/	/	.15	13	.13
Clarification	.07	.07	.32	.66	.18	12
Single-issue activity	22	.26	05	52	79*	.74*
Multi-issue activity	.35	35	.64	.45	.77*	87*
Requesting action	.14	.28	.09	.38	.52	53
Requesting for offer modification	15	31	.02	.05	.42	46
Rejecting offer	.10	.12	.08	23	05	08
Accepting offer	29	46	.19	50	48	.55
Substantiation	.14	14	.35	16	.00	04
Asking for substantiation	28	41	.27	.30	.40	33
Stressing power	/	/	/	04	01	01
Rejecting substantiation	.21	30	.66	32	11	.06
Interrupting	41	55	.41	27	14	.17
Criticism	.32	28	.55	06	39	.49
Encouragement	13	.37	67*	77*	77*	.74*
Positional commitments	.10	38	.68*	.03	.00	03
Avoiding	.19	15	.36	.65	.62	73*

Table C1 (continued)

Variable	Joint gains	Individual gain – Seller	Individual gain – Buyer	Joint gains	Individual gain – Seller	Individual gain – Buyer
		Negotiation tas	sk 1	1	Vegotiation task	2
Negative affective reaction	05	.18	11	03	24	.32
Positive affective reaction	07	42	.15	69*	53	.42
Active listening	.21	.13	02	.54	.55	63
Humor	54	13	19	36	.04	11
Positive relationship remark	08	45	.30	.12	13	.28
Negative relationship remark	06	.00	.15	.47	.52	52
Personal communication	.13	14	.27	.48	.41	41
Nonpersonal chit-chat	46	34	.07	26	.01	.03
Future-related communication	/	/	/	18	37	.48
Apologizing	66	30	35	.31	.25	33
Omission	.00	77	.91**	.08	06	.11
Threat	10	62	.73*	/	/	/
Lying	.27	30	.61	.10	15	.29
Hostility	/	/	/	14	27	.41
Use of extreme anchors	05	60	.73*	.28	.27	27
Procedural suggestion	29	.09	29	.59	.52	58
Procedural discussion	18	.12	39	.09	05	07
Time management	07	33	.20	05	.21	31
Change of mode	.11	.46	15	.28	.66	76*
Interruption of the conversation	.28	.14	.09	.32	.09	09
Inaction	.38	22	.48	.27	.08	05

Note: Spearman's correlation (two-tailed); frequency of codes and joint gains at the dyad level. *N* = 9 for negotiation task 1;

N = 9 for negotiation task 2.

p* < .05, p** < .01

Table C2

Variable	Joint gains	Individual gain – Seller	Individual gain – Buyer	Joint gain	s Individual gain – Seller	Individual gain – Buyer
Seller		Negotiation tas	sk 1		Negotiation task	2
Providing priority-related information	.37	19	.42	/	/	/
Asking for priority-related information	.73*	.24	.11	.28	.27	27
Providing preference-related information	26	43	.21	.78*	.55	55
Asking for preference-related information	.11	64	.77*	.28	.27	27
Asking for positional information	57	36	.25	.29	03	.07
Providing positional information	06	09	.24	.40	.16	.02
Facts/Additional information	.32	.59	15	.46	.10	10
Extension questions	/	/	/	.00	.00	.14
Additional issues	/	/	/	04	.00	.15
Clarification	.03	.30	.08	.69*	.22	13
Single-issue activity	.12	.35	.04	35	60	.63
Multi-issue activity	.24	37	.66	.67*	.83*	83*
Requesting action	.16	.12	.32	.39	.55	67*
Requesting for offer modification	09	.30	32	01	.33	39
Rejecting offer	.15	.27	14	33	12	04
Accepting offer	05	61	.45	77*	59	.59
Substantiation	.15	08	.20	07	.26	34
Asking for substantiation	28	41	.27	.32	.09	09
Stressing power	/	/	/	/	/	/
Rejecting substantiation	.00	29	.50	22	14	.09
Interrupting	41	55	.41	.00	.21	10
Criticism	.16	10	.21	.05	27	.37
Encouragement	18	.56	82**	23	07	.12
Positional commitments	.05	36	.66	.55	.50	50
Avoiding	04	04	01	.00	.27	37

Variable	Joint gains	Individual gain – Seller	Individual gain – Buyer		Joint gains	Individual gain – Seller	Individual gain – Buyer
Seller		Negotiation tas	sk 1	-	1	Negotiation task	2
Negative affective reaction	33	06	12	-	15	44	.55
Positive affective reaction	.26	08	.13		30	21	.25
Active listening	.20	09	.23		.34	.30	35
Humor	30	11	.05		24	.28	33
Positive relationship remark	.32	11	.27		.04	12	.17
Negative relationship remark	06	.00	.15		.14	.55	55
Personal communication	.48	.28	.00		.48	.41	41
Nonpersonal chit-chat	16	.06	04		57	31	.31
Future-related communication	/	/	/		21	41	.52
Apologizing	.10	.33	30		.58	.53	53
Omission	.59	13	.48		.31	07	.16
Threat	/	/	/		/	/	/
Lying	.28	11	.38		.12	.14	14
Hostility	/	/	/		14	27	.41
Use of extreme anchors	05	60	.73*		/	/	/
Procedural suggestion	.13	.62	61		.37	.62	74*
Procedural discussion	18	.11	33		.51	.19	22
Time management	.04	.14	37		55	14	.00
Change of mode	.41	.51	14		.42	.52	52
Inaction	09	.14	27		.45	.15	10

Table C2 (continued)

Note: Spearman's correlation (two-tailed); frequency of codes and individual gains at the individual level. *N* = 9 for

negotiation task 1; N = 9 for negotiation task 2.

p* < .05, p** < .01

Table C3

Correlations	Retween the	Frequency	of Runpers'	Codes Joint	Gains	Individual	Gains
Correlations	Derween ine	rrequency	J Duyers	Coues, Joini	Oums,	maiviauai	Guins

Variable	Joint gains	Individual gain – Seller	Individual gain – Buyer		Joint gains	Individual gain – Seller	Individual gain – Buyer
Buyer		Negotiation tas	k 1	_	Ν	legotiation task	2
Providing priority-related information	.36	.25	.11		.48	.41	41
Asking for priority-related information	.36	10	.34		.28	.28	28
Providing preference-related information	.20	24	.45		.57	.52	52
Asking for preference-related information	.43	06	.32		52	73*	.62
Asking for positional information	.10	48	.68*		.31	14	.25
Providing positional information	65	28	03		.12	.10	17
Facts/Additional information	50	26	15		.21	.41	36
Extension questions	.38	.53	29		.44	.73*	73*
Additional issues	/	/	/		.36	14	.22
Clarification	.27	.11	.33		.36	14	.22
Single-issue activity	47	22	09		42	61	.49
Multi-issue activity	.27	31	.46		.37	.72*	82**
Requesting action	09	.21	18		.20	.21	18
Requesting for offer modification	01	23	.02		.30	.54	46
Rejecting offer	09	02	.12		19	17	.12
Accepting offer	07	.39	33		.03	15	.22
Substantiation	13	41	.39		26	13	.10
Asking for substantiation	/	/	/		.02	.27	18
Stressing power	/	/	/		04	01	01
Rejecting substantiation	.25	38	.68*		15	.12	17
Interrupting	/	/	/		42	52	.52
Criticism	.28	28	.55		31	62	.73*
Encouragement	16	51	.09		74*	71*	.58
Positional commitments	13	53	.69*		34	34	.32
Avoiding	.28	37	.64		.58	.47	54

Variable	Joint gains	Individual gain – Seller	Individual gain – Buyer		Joint gains	Individual gain – Seller	Individual gain – Buyer	
Buyer		Negotiation task 1			Negotiation task 2			
Negative affective reaction	.11	.07	.13	-	.09	.02	.05	
Positive affective reaction	18	30	10		84**	75*	.62	
Active listening	.44	.37	10		.43	.68*	78*	
Humor	36	30	.03		.34	03	.12	
Positive relationship remark	36	71*	.36		03	29	.40	
Negative relationship remark	.48	.28	.00		.48	.14	14	
Personal communication	.13	14	.27		.48	.41	41	
Nonpersonal chit-chat	47	77*	.40		06	.17	15	
Future-related communication	/	/	/		.00	.00	.14	
Apologizing	84**	67*	04		41	41	.27	
Omission	18	78*	.84**		27	14	.17	
Threat	10	62	.73*		/	/	/	
Lying	.06	55	.72*		.17	03	.16	
Hostility	/	/	/		/	/	/	
Use of extreme anchors	10	62	.73*		.28	.27	27	
Procedural suggestion	.38	32	.54		.46	14	.19	
Procedural discussion	20	.15	50		33	19	.03	
Time management	10	50	.44		.48	.41	41	
Change of mode	08	.24	.03		.55	.76*	81**	
Inaction	.52	45	.85**		24	.05	05	

Table C3 (continued)

Note: Spearman's correlation (two-tailed); frequency of codes and individual gains at the individual level. *N* = 9 for

negotiation task 1; N = 9 for negotiation task 2.

p* < .05, p** < .01

2.9.1 Lag Sequential Analysis

Results of a first exploratory analysis of behavioral patterns concerning socioemotional statements and unethical behaviors are presented in Table C4. To illustrate the inner workings of lag sequential analysis you will find the respective formulas below that allow following the single steps for each calculation mathematically (see Bakeman & Gottman, 1997).

(1) The estimate of transition probabilities (t_{GT}) is calculated as follows (Bakeman & Gottman, 1997; p. 98):

$$t_{GT} = \frac{x_{GT}}{x_{G+}} \tag{1}$$

Note. x_{GT} = observed frequency value (i.e., how often behavior T followed behavior

G); x_{G^+} = frequency of behavior G in total

(2) The estimate of expected frequencies (*m*_{GT}; i.e., chance joint frequency) is calculated as follows (Bakeman & Gottman, 1997, p. 108):

$$m_{GT} = \frac{x_{G+} * x_{+T}}{x_{++}} \tag{2}$$

Note. x_{G^+} = frequency of behavior G in total; x_{+T} = frequency of behavior T in total;

 x_{++} = total number of thought units – number of interactions

(3) Z-values are calculated as follows (Bakeman & Gottman, 1997, p. 109):

$$z_{GT} = \frac{x_{GT} - m_{GT}}{\sqrt{m_{GT} * (1 - p_{G+}) * (1 - p_{+T})}}$$
(3)

Note. x_{GT} = observed frequency value (i.e., how often behavior T followed behavior G); m_{GT} = estimate of expected frequencies; p_{G^+} = frequency of behavior G in total/total number of thought units – number of interactions; p_{T^+} = frequency of behavior T in total/total number of thought units – number of interactions

Table C4

Exploratory Lag Sequential Analyses Concerning Socio-emotional Statements and Unethical

Behaviors

Behavior	Is promoted by	Promotes
Negative	• Criticism $(z = 3.25)$	• Asking for positional information ($z = 2.97$)
affective reaction	• Negative affective reactions (z = 4.73)	• Extension questions $(z = 2.68)$
	• Negative relationship remarks (z = 3.03)	• Humor (<i>z</i> = 3.05)
	• Providing preference-related information $(z = 2.02)$	• Negative affective reactions (z = 4.73)
	• Threats (<i>z</i> = 6.93)	
Positive affective	• Accepting offer (z = 2.98)	• Positive affective reactions (<i>z</i> = 14.92)
reaction	• Positive affective reactions (z = 14.92)	• Positive relationship remarks (z = 3.37)
	• Positive relationship remarks (z = 2.47)	• Nonpersonal chit-chat (z = 2.79)
Active listening	• Additional issues ($z = 6.29$)	• Additional issues (z = 3.41)
	• Facts $(z = 9.79)$	• Facts (z = 5.96)
	• Hostility (<i>z</i> = 2.37)	• Lying $(z = 5.19)$
	• Lying (<i>z</i> = 6.44)	• Multi-issue activity (z = 7.74)
	• Multi-issue activity (z = 8.90)	• Negative relationship remarks (z = 3.38)
	• Positional commitments (z = 3.10)	• Omissions $(z = 2.53)$
	 Positive relationship remarks (z = 3.25) 	• Positive relationship remarks (z = 2.45)
	• Procedural suggestions (z = 3.41)	• Procedural suggestions ($z = 2.91$)
	• Providing positional information ($z = 2.53$)	• Providing preference-related information ($z = 2.29$)
	• Providing preference-related information ($z = 2.29$)	• Requesting action $(z = 2.42)$
	• Providing priority-related information $(z = 2.39)$	• Stressing power ($z = 3.07$)
	• Stressing power ($z = 3.07$)	• Substantiations ($z = 6.39$)
	• Substantiations $(z = 9.87)$	
	• Use of extreme anchors $(z = 3.52)$	
Humor	• Apologizing (z = 2.48)	• Asking for priority-related information $(z = 2.19)$
	• Humor $(z = 6.61)$	• Change of mode $(z = 2.73)$
	• Negative affective reactions (z = 3.05)	• Encourage $(z = 4.02)$
	 Positional commitments (z = 2.56) 	• Hostility (<i>z</i> = 5.24)
	 Positive relationship remarks (z = 2.13) 	• Humor $(z = 6.61)$
	• Providing positional information $(z = 2.41)$	• Positive relationship remarks $(z = 2.13)$
	• Rejecting offers $(z = 2.21)$	• • •
	• Rejecting substantiation $(z = 3.50)$	
	• Nonpersonal chit-chat ($z = 5.78$)	
Positive	• Active listening $(z = 2.45)$	• Active listening (<i>z</i> = 3.25)
relationship	• Humor $(z = 2.13)$	• Asking for substantiation $(z = 4.92)$
remark	• Positional commitments ($z = 3.37$)	• Humor $(z = 2.13)$
	• Positive affective reactions $(z = 7.20)$	• Positive affective reactions $(z = 2.47)$
	• Providing preference-related information $(z = 2.81)$	• Positive relationship remarks $(z = 7.20)$
	• Substantiations ($z = 2.07$)	

Note. N = 5,365 thought units. All *z*-values indicate significant patterns (z > 1.96).
Table C4 (continued)

Behavior	Is promoted by	Promotes
Negative	• Active listening (z = 3.38)	• Avoiding (<i>z</i> = 3.96)
relationship	• Rejecting offer $(z = 2.97)$	• Negative affective reaction (z = 3.03)
remark	• Requesting for offer modification ($z = 2.71$)	• Providing preference-related information $(z = 3.07)$
Personal	• Encourage (<i>z</i> = 3.18)	• Change of mode $(z = 3.25)$
communication	 Personal communication (z = 36.52) 	• Personal communication (z = 36.52)
	 Providing positional information (z = 1.99) 	
Nonpersonal	• Positive affective reaction (z = 2.79)	• Encourage (<i>z</i> = 3.93)
chit-chat	 Nonpersonal chit-chat (z = 30.42) 	• Humor (<i>z</i> = 5.78)
		 Nonpersonal chit-chat (z = 30.42)
Future-related	• Encourage (<i>z</i> = 4.70)	• Procedural discussion (z = 3.17)
communication	 Procedural discussion (z = 3.17) 	
Apologizing	• Inaction (<i>z</i> = 2.35)	• Facts (<i>z</i> = 2.25)
	• Rejecting substantiation (z = 2.40)	• Humor (<i>z</i> = 2.48)
		• Time management $(z = 4.65)$
Omission	• Active listening $(z = 2.53)$	• Accepting offer (z = 5.25)
	• Asking for preference-related information (z =	• Additional issue $(z = 2.62)$
	5.39)	• Lying (<i>z</i> = 2.09)
	• Inaction ($z = 2.26$)	
	• Lying $(z = 4.15)$	
Threat	• Positional commitments (z = 5.65)	• Lying (<i>z</i> = 4.42)
	 Providing positional information (z = 3.94) 	• Negative affective reaction (z = 6.93)
Lying	• Active listening $(z = 5.19)$	• Active listening (z = 6.44)
	• Asking for positional information $(z = 6.10)$	• Asking for positional information (<i>z</i> = 3.77)
	• Asking for substantiation (z = 4.55)	• Asking for preference-related information (z = 2.66)
	• Extension questions (z = 3.45)	• Omission $(z = 4.15)$
	• Omission (<i>z</i> = 2.09)	• Rejecting substantiation $(z = 2.23)$
	• Threat $(z = 4.42)$	
Hostility	• Humor (<i>z</i> = 5.24)	• Active listening (z = 2.37)
Use of extreme	• Facts $(z = 3.46)$	• Active listening (z = 3.52)
anchors	• Inaction $(z = 3.58)$	• Positional commitments (z = 3.06)
	• Requesting action (z = 2.84)	

Active Listening in Integrative Negotiation¹

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Abstract

Active listening is a promising communication technique in integrative negotiation but has never been empirically investigated in this context. In the present research, we studied the role of naturally occurring active listening in videotaped and coded integrative negotiations. A lag sequential analysis of 48 negotiations with 17,120 thought units shows that active listening follows offers that comprise two or more of several possible issues (i.e., multi-issue offers) above chance level. These multi-issue offer – active listening patterns in turn promoted (more) integrative statements (e.g., multi-issue offers) and inhibited distributive statements (e.g., single-issue offers). Moreover, multi-issue offer – active listening patterns (and neither multi-issue offers alone nor active listening alone) positively related to the achieved joint economic outcomes in the negotiation. Contrary to common expectations, we did not find evidence that active listening promotes understanding of the other party or rapport between negotiators.

Keywords: active listening, negotiation, interaction patterns, multi-issue offer, joint economic outcomes

3.1 Introduction

Popular negotiation textbooks (e.g., Lewicki et al., 2020) and negotiation self-help literature (e.g., Bordone, 2007; Fisher & Ury, 1981) promote active listening (i.e., signaling interest or paraphrasing the speaker's statement, e.g., Gordon, 1975; Rogers & Farson, 1987) as a vital communication technique in negotiations. Indeed, skilled negotiators paraphrase more than average negotiators (Rackham & Carlisle, 1978) and first evidence indicates that more agreements are reached in mediated negotiations when the mediator uses active listening (Fischer-Lokou et al., 2016). However, we do not know which role (active) listening actually plays in unmediated negotiations and how and when it potentially affects negotiation interactions and business communications in a broader sense (cf. Flynn et al., 2008; Itzchakov et al., 2018). In this research, we thus extend the extant body of research and specifically study if, when, and how active listening influences the negotiation process and the economic and subjective outcomes in integrative negotiations.

We hypothesize that, only under certain conditions active listening is beneficial for the negotiation process and especially for value creation (i.e., finding mutual beneficial solutions, Lax & Sebenius, 1986): In this research, we focus on the effect of active listening following a multi-issue offer (i.e., an offer that comprises two or more of several possible issues) on subsequent communication patterns, judgement accuracy (Steinel et al., 2007; Thompson & Hastie, 1990), and joint gains (i.e., the sum of both negotiators' individual outcomes). To contrast these analyses, we also study if active listening that does not follow multi-issue offers relates to joint gains and if multi-issue offers that are not followed by active listening relate to joint gains. We focus on multi-issue offer – active listening patterns (MIO-AL patterns) because it might not only explain if, when, and how active listening is beneficial, but also when and how multi-issue offers facilitate value creation, a currently open question (cf. Brett & Thompson, 2016; Yao et al., 2021).

Furthermore, we go beyond economic outcomes and study the effect of active listening on the rapport among negotiators (Curhan et al., 2006). The use of active listening to build rapport in negotiations is widely assumed but so far solely relies on findings in other contexts, such as salesperson and customer interactions (e.g., Drollinger & Comer, 2013; Ramsey & Sohi, 1997), first-time and peer conversations (e.g., Jones et al., 2019; Weger et al., 2014), or health care interactions (Fassaert et al., 2007; Haley et al., 2017). Contrasting effects were observed in team meetings where the use of active listening was negatively related to team meeting satisfaction (Kauffeld & Lehmann-Willenbrock, 2012). Thus, we study whether active listening affects the rapport among parties in negotiations. This is especially important as perceived rapport seems to positively affect the economic outcomes in subsequent negotiations (Curhan et al., 2010).

This research offers the following contributions. First, the use of active listening in the context of integrative negotiations has so far barely been empirically investigated and is, thus, hardly understood. This research is a first attempt to analyze the factual value of active listening in integrative negotiations. Thereby, we follow several calls for more research on listening in the business context and especially in complex interactions, such as negotiations (Flynn et al., 2008; Itzchakov et al., 2018; Yip & Fisher, 2022). We focus on negotiation in particular as it provides both a context for the beneficial effects and the limits of active listening: The potential beneficial effects of active listening, such as building rapport, reinforcing integrative behaviors, or gaining insight into the other party's interest are considered as vital in resolving negotiations and realizing mutually beneficial agreements (e.g., Curhan et al., 2010; Kong et al., 2014; Thompson & Hastie, 1990). But as negotiations are complex high-stakes interactions that often incentivize competition, distrust, and social influence intentions, these potentially beneficial effects of active listening might not unfold (cf. Itzchakov et al., 2018; Maddux et al., 2008).

Second, our study contributes to a better understanding of the relationship between multi-issue offers and joint gains (cf. Brett & Thompson, 2016). Extant research has mostly discussed in how far multi-issue offers provide insight about underlying interests and therefore facilitate value creation (e.g., Olekalns & Smith, 2003b; Pruitt, 1981; Yao et al., 2021). We contribute to and extend prior research and ask whether multi-issue offers are more beneficial for value creation when they are followed by active listening—either by facilitating the processing of indirect information provided in multi-issue offers and/or by sustaining an integrative communication pattern.

Third, instead of relying exclusively on active listening frequencies or self-reported active listening, we follow calls to observe how actual behavior unfolds in social interactions (e.g., Baumeister et al., 2007; Lehmann-Willenbrock & Allen, 2018). For instance, we not only test *if* active listening is an effective communication technique in negotiations but we shed light on *when* active listening patterns occur and *how* they can potentially affect the subsequent communication by means of lag sequential analysis (Bakeman & Quera, 2011). Based on our findings, we aim at refining the advice given in the prescriptive literature (e.g., Fisher & Ury, 1981; Lewicki et al., 2020). Rather than solely recommending or discouraging the use of active listening in general, we will provide first precise instructions at which point in time and for what purpose (e.g., to increase joint gains) this communication technique is best used in negotiations.

3.2 Theoretical Background

Active listening is a non-directive communication technique to show understanding (Rogers & Farson, 1987) via verbal and nonverbal responses (Bodie et al., 2012). It has its roots as therapeutic communication technique in clinical settings (Gordon, 1975; Rogers, 1951). Today, it is a widely used and recommended skill in different areas such as counselling (e.g., Hutchby, 2005), parent-teacher communication (e.g., McNaughton &

Vostal, 2010), nurse-patient interactions (e.g., Haley et al., 2017), conflict resolution (e.g., Noesner & Webster, 1997), and negotiation (e.g., Fisher & Ury, 1981; Lewicki et al., 2020). Active listening differs, for instance, from perspective taking, which is an often-studied construct especially in negotiation research and defined as "the cognitive capacity to consider the world from another individual's viewpoint" (Galinsky et al., 2008, p. 378). In contrast, active listening is a communication technique, with an emphasis on observable behavior rather than a cognitive ability (Bodie et al., 2012).

With small deviations within the literature, the two most common operationalizations of active listening that we adapt for our research are back-channeling and paraphrasing (e.g., Kauffeld & Lehmann-Willenbrock, 2012; Noesner & Webster, 1997; Weger et al., 2014). Back-channeling describes generic paraverbal responses such as "mm hmm" or "yeah" that signal attention and interest (Duncan, 1974; Schegloff, 1982). Paraphrasing is a way of reflecting the factual component of the speaker's statements, in the listener's own words, or by repeating the speaker's statement, phrased as a sentence or a confirmation question (e.g., "did I understood correctly that...?", Garland, 1981; Gordon, 1975). In line with an existing consensus in negotiation research, we consider other types of questions (e.g., preference- or priority-related questions) as information exchange and not as active listening behaviors (e.g., Hüffmeier et al., 2019; Thompson, 1991). Information exchange and especially questions that seek information about the other party's interests have already been identified as crucial for value creation in negotiation (e.g., Hüffmeier et al., 2019; Thompson, 1991). In the present study, we clearly delimit information exchange from active listening behaviors to examine whether active listening has an independent and distinct beneficial effect on negotiation interaction and outcomes. Moreover, we will exclusively focus on the (para-)verbal aspects of active listening (i.e. back-channeling and paraphrasing) and disregard nonverbal elements (i.e. head nods and smiles). These nonverbal elements often accompany back-channeling

behavior (Duncan & Fiske, 1977). However, head nods and smiles that occur in isolation (i.e., not accompanying back-channeling) can also signal agreement or positive affection and are not sufficiently distinct to exclusively classify them as active listening behavior (Stenström, 1994).

3.2.1 Systematic Conversation Patterns Involving Active Listening

To our knowledge, no previous research has investigated when (i.e., at which points in time) active listening is typically used in organizational settings, let alone in negotiations. We propose that one critical moment when active listening is effectively used in negotiations. is after multi-issue offers. Multi-issue offers are offers that comprise two or more of several possible issues and are typical examples of indirect information provision in negotiations: They contain indirect information about the relative importance of different issues that are included in the offer (i.e., priority-related information) and about preferences among options within these issues (cf. Olekalns & Smith, 2003b; Pruitt, 1981). Inferring indirect information is considered as cognitively more effortful than gaining information in a direct way (e.g., when information about priorities are directly provided; Pruitt, 1981; Pruitt & Lewis, 1975). Thus, substantial systematic information processing is required to understand priorities and preferences that are entailed in multi-issue offers. According to active listening models (Gordon, 1975; Rogers, 1951), active listening is used to understand underlying messages or indirect information provided in the speaker's statement and to encourage the speaker to elaborate on their thoughts to better understand the speaker's message. Moreover, as per cognitive models in listening research (e.g., Bodie et al., 2008; Imhof, 2001), engaging in (active) listening is seen as a reliable indicator that information processing takes place in the listener (e.g., Bodie et al., 2008, 2012; Imhof, 2001). Thus, following this theoretical notion of active listening as a technique to process indirect information, active listening might especially be used after multi-issue offers, which need substantial processing to infer indirect

information (Pruitt, 1981; Pruitt & Lewis, 1975). Taken together, we theorize that systematic multi-issue offer – active listening patterns develop within negotiations. We predict:

Hypothesis 1: Active listening directly follows multi-issue offers more often than would be expected by chance.

3.2.2 Intrapersonal Effects

Active listening comprises two essential steps. First, trying to understand the speaker's message, and second, confirming this understanding to the speaker (e.g., Gordon, 1975; Kagan, 2007). Thus, we conceptualize two pathways as potentially influential for the negotiation process and outcomes: the effect of active listening on the active-listener (intrapersonal) and on the speaker (e.g., the person that is actively listened to; interpersonal).

The effect of active listening on the active-listener has, to our knowledge, largely been ignored (cf. Yip & Fisher, 2022; for a prominent exception outside the negotiation domain, see, however, Itzchakov, 2020). We propose that active listening might facilitate the information processing of indirect information that is provided in multi-issue offers (cf. Olekalns & Smith, 2003b; Pruitt, 1981), resulting in higher insight into the other party's interests. In turn, insight into the other party's interest can help identifying mutually beneficial trade-offs (Steinel et al., 2007; Thompson & Hastie, 1990). We draw on cognitive models in listening research (e.g., Bodie et al., 2008; Imhof, 2001) that conceptualize the listening process as selection, organization, and integration of information. Active listening behavior (i.e., paraphrasing, back-channeling) indicates that listening takes place (Bodie et al., 2012). Thus, according to this theoretical notion, information that is entailed in multiissue offers should be systematically processed.

Moreover, paraphrasing a speaker's message (i.e., active listening) implies the use of elaborate strategies in listening, such as summarizing, rephrasing, or mental highlighting of relevant information. These strategies have been found to facilitate information processing (Imhof, 2001). In turn, further processing of priority- and preference-related information that is facilitated by active listening should result in a more accurate insight into the other party's payoff interests (i.e., judgement accuracy, cf. Steinel et al., 2007; Thompson & Hastie, 1990; Yao et al., 2021). Thus, we propose:

Hypothesis 2: Negotiators that engage more in active listening as a direct response to multi-issue offers acquire a higher judgement accuracy concerning the other party's interests.¹

3.2.3 Subsequent Communication Patterns: Interpersonal Effects

Interpersonal effects of active listening have already been studied in the context of crisis negotiations where they are used to build rapport and to gain time (e.g., Garcia, 2017; Royce, 2005), but mostly outside of the negotiation domain (e.g., Itzchakov et al., 2018; Weger et al., 2014). However, previous research mostly focused on the speaker's perception after the interaction rather than the immediate effects of active listening on the very interaction (for prominent exceptions studying team meetings, see Kauffeld & Lehmann-Willenbrock, 2012; Kauffeld & Meyers, 2009). By contrast, we are especially interested in the immediate effects of active listening and ensuing speech acts.

According to Lewicki et al. (2020), active listening "encourages others to speak more fully about their feelings, priorities, frames of references, and by extension, the positions they are taking" (p. 253). This interesting proposition has to our knowledge not been empirically tested. More specifically, communication research indicates that reflecting understanding of the speaker's previous message "encourages the continuation of this theme and the

¹ We will not test the relationship between judgement accuracy and joint gains because it has already been tested in an earlier study that gathered and analyzed the data we use for the current study (cf. Hüffmeier et al., 2019). The authors did not find a relationship between judgement accuracy and joint gains.

exploration of it in greater depth" (Hargie, 2017, p. 162). This notion was empirically supported as especially back-channeling (e.g., "mm hmm") was found to serve as a verbal reinforcer for any specific behavior that it followed (Greenspoon, 1955; Lieberman, 2012). These utterances are therefore also termed *continuers* (e.g., Schegloff, 1982).

According to negotiation theory, integrative and distributive statements represent two substantial sets of negotiation behaviors (Walton & McKersie, 1965). Following the classifications by Olekalns and Smith (2003a) and Weingart et al. (2004), integrative acts include the exchange of priority-related information and multi-issue offers, distributive acts comprise contention (e.g., substantiations, rejecting substantiations, threats), the exchange of positional information, the provision of additional information, single-issue offers, and negative affective reactions. Following the theoretical notion of active listening as a verbal reinforcement, we expect that multi-issue offer making, as an integrative behavior, followed by active listening can promote further integrative statements, such as the provision of priority-related information. In turn, as active listening might serve as a continuer of integrative statements, opposing behaviors (i.e., distributive behaviors such as single-issue offers or substantiations), should less likely follow MIO-AL patterns, and, thus, be inhibited. Accordingly, we predict:

Hypothesis 3a: Within a negotiation interaction, MIO-AL patterns promote integrative statements as subsequent behaviors.

Hypothesis 3b: Within a negotiation interaction, MIO-AL patterns inhibit distributive statements as subsequent behaviors.

3.2.4 Effect on Economic Outcomes

The changes specified in Hypotheses 3a and 3b in turn should impact the economic outcomes of the negotiation. According to negotiation theory, integrative behaviors are supposed to "identify, enlarge, and act upon the common interests of the parties" (Walton &

McKersie, 1965; p. vii). Thereby, they should facilitate value creation and increase joint gains (Lax & Sebenius, 1986). Distributive behaviors on the other hand are "competitive behaviors that are intended to influence the division of limited resources" (Walton & McKersie, 1965; p. vii). Thereby, they should facilitate value claiming and hinder value creation, thus decrease joint gains (Lax & Sebenius, 1986). Meta-analytical results support the proposed positive effect of integrative behaviors and the proposed negative effect of distributive behaviors on joint gains (Kong et al., 2014). Thus, building on our expectation that MIO-AL patterns promote integrative acts and inhibit distributive acts (cf. Hypotheses 3a and 3b), we further hypothesize these patterns should be positively related to joint gains. Thus, we propose:

Hypothesis 4a: The frequency of MIO-AL patterns within a negotiation interaction positively relates to the joint gains of the negotiation.

By contrast, we expect that active listening alone (i.e., all utterances of active listening that do not follow multi-issue offers) is not generally beneficial for joint gains. Thereby, we challenge the current advice to generally use active listening in negotiation (cf. Bordone, 2007; Fisher & Ury, 1981; Lewicki et al., 2020). Building on the theoretical notion of active listening as a verbal reinforcer (see Hypothesis 3a), its assumed positive effect depends on the statement that it follows and therefore promotes. Although we expect that active listening systematically follows multi-issue offers (see Hypothesis 1), it potentially also follows and thereby further promotes distributive behaviors, such as single-issue offers, that are detrimental for value creation (Kong et al., 2014). In team meetings, for instance, active listening was negatively related to team meeting success. This was explained with the higher frequency of dysfunctional (vs. functional) communication cycles that active listening supported (Kauffeld & Lehmann-Willenbrock, 2012). Thus, we predict: *Hypothesis 4b*: The use of active listening that does not follow multi-issue offers within a negotiation interaction does not positively relate to joint gains of the negotiation.²

The effect of multi-issue offers alone (i.e., all utterances of multi-issue offers that are not followed by active listening) on joint gains is less clear. On the one hand, it is an integrative behavior (e.g., Olekalns & Smith, 2003a; Weingart et al., 2004), which should potentially positively affect value creation and joint gains (Lax & Sebenius, 1986). On the other hand, it has been argued that multi-issue offer making is only beneficial in terms of joint gains if underlying indirect information about priorities and preferences are processed and understood (Yao et al., 2021). Following the theoretical notion that active listening facilitates and indicates information processing (Bodie et al., 2008, 2012; Imhof, 2001), it is unclear if this indirect information is processed when multi-issue offers are not followed by active listening. Although meta-analytical results demonstrate a small positive relationship (Yao et al., 2021), this relationship is inconsistent (e.g., not significant in Cai et al., 2000, and even negative in Weingart et al., 1990). We will thus test the relationship between multi-issue offers and joint gains in an exploratory manner and pose the following research question:

Research Question 1: Are multi-issue offers that are not directly followed by active listening within a negotiation related to joint gains?

3.2.5 Active Listening and Rapport

Thus far, this study focuses on the emergence and effects of one specific active listening pattern (i.e., MIO-AL patterns). We also consider the effect of general active listening on the rapport between negotiators (Curhan et al., 2006). We propose that active listening increases rapport among negotiators by satisfying the fundamental need to belong

² To adequately test this hypothesis, we performed an equivalence test using the TOSTER package in R (Lakens et al., 2018; for details, see the method section).

and to feel socially connected (Baumeister & Leary, 1995). Theoretically, active listening should communicate understanding and concern for the speaker (e.g., Gordon, 1975; Rogers, 1951). In turn, feeling understood activates neural regions that are associated with reward (cf. Lieberman & Eisenberger, 2008) and increases perceived interpersonal closeness (Morelli et al., 2014). Thus, feeling understood might satisfy the need to belong and "act as a social reward, reinforcing and strengthening the social relationship" (Morelli et al., 2014, p. 1896). The theoretical model of perceived understanding by Reis et al. (2017) further supports our proposed pathway. It suggests that signals of understanding by one party, promote the perceived understanding of the other party, which in turn leads to positive relational outcomes. Indeed, a positive relationship between feeling understood and social connectedness has been reported repeatedly (e.g., Cahn, 1990; Hecht & Marston, 1987; Reis et al., 2017). Thus, based on the theoretical arguments presented above (Morelli et al., 2014; Reis et al., 2017) and on the extant empirical evidence, we assume a positive effect of active listening on negotiators' rapport (Curhan et al., 2006).

Hypothesis 5: The use of active listening positively relates to the rapport among the negotiators.

3.3 Method

We preregistered all our hypotheses and the respective methodological and dataanalytical approach (see

https://osf.io/r2xh8/?view_only=3728024b93564c2d81fc96cd6ca8280f).

3.3.1 Sample

The data used for this study were part of a larger dataset gathered by Hüffmeier et al. (2019; see Appendix A for a data transparency table). We used all 51 solo-on-solo negotiations of the first round from the related experiment, which employed an integrative negotiation task (adapted from Thompson et al., 1996). We excluded three of these negotiations from our analyses, resulting in 48 negotiations, because the recordings were damaged (e.g., the video sound was not working), thus behavioral coding was not possible. The task comprised eight issues and participants were randomly assigned to the role of either buyer or seller in same-sex dyads.³ They had to engage in logrolling (for two pairs of issues) and recognize two compatible issues to achieve high joint gains (see Appendix B for more details). The 96 participating negotiators (65 men, 31 women) were undergraduate students of a major German university. They participated as part of their management coursework, and they were informed that their performance would influence their course grade.

3.3.2 Coding

Negotiation interactions were coded with a state-of-the art coding scheme (NegotiAct; Jäckel et al., 2022) and the INTERACT software (Mangold, 2020). The first author first parsed the entire interaction into thought units (N = 17,120) and then assigned codes to these thought units (see Jäckel et al., 2022). Multi-issue offers were coded when offers were made that comprised two or more possible issues. Active listening was coded when one party was paraphrasing or repeating the other party's statements and when one party was signalizing interest or attentiveness, with short utterances, such as "mm-hmm" or "Ah". For more details on the unitizing and coding process and a definition of all 47 behavioral codes, see the NegotiAct coding manual (Jäckel et al., 2022;

<u>https://osf.io/xnqfs/?view_only=f153cdf8c8a14c0d9962ef3efd340480</u>). Twenty negotiations were coded by a second independent coder to establish interrater reliability, resulting in almost perfect agreement (κ = .87; Cohen, 1960; Landis & Koch, 1977).

 $^{^3}$ Due to uneven numbers, there was one mixed dyad. When controlling for gender, we excluded this dyad from our analyses.

3.3.3 Measures

Joint Gains. To assess the joint economic outcomes of the agreement, joint gains were calculated by summing up both negotiators' individual outcomes (Tripp & Sondak, 1992).

Judgement Accuracy. To assess judgement accuracy, Hüffmeier et al. (2019) adapted the measurements by Thompson and Hastie (1990) and Steinel et al. (2007) to their study's purposes. Participants received a blank payoff matrix after the negotiation and filled in estimated pay-off scores for the other party. To compute the judgement accuracy score, we summed up absolute differences between the estimates and actual scores across all five options for each issue and for both negotiators. Thus, a higher score translates into a lower judgement accuracy.

Rapport. Rapport was measured with two subscales (6 items)⁴ of the Subjective Value Inventory–feelings about the relationship and feelings about the process (Curhan et al., 2006). We combined the individual response measures to form a group-level composite dependent variable (Cronbach's $\alpha = .86$)

3.4 Results

Descriptive statistics of multi-issue offers and active listening are presented in Table 1. Relative to the number of thought units in each negotiation (M = 356.67; SD = 102.85), active listening (M = 60.71, SD = 29.31) captured, on average, 17.02% of the negotiation interaction. We performed a lag sequential analysis to assess whether active listening follows multi-issue offers as a direct subsequent behavior (lag1) within negotiations (Hypothesis 1). Lag sequential analysis evaluates whether certain sequences of behaviors happen more often than would be expected by chance and are therefore statistically meaningful (e.g., Bakeman

⁴ Only the following two (out of four) items of the feelings about the process subscale were used: "Did your counterpart consider your wishes, opinion or needs?" and "Would you characterize the negotiation process as fair?".

& Quera, 2011). We identified statistically significant lag1 sequences for multi-issue offers (M = 15.29, SD = 9.48) and active listening (z = 10.60, p < .001). This finding supports Hypothesis 1 predicting that sequential MIO-AL patterns develop within negotiations.

Table 1

Means, Standard Deviations, and Intercorrelations

Va	riable	M	SD	1	2	3	4	5	6	7		
1.	Multi-issue offer	15.29	9.48									
2.	Active listening	60.71	29.31	.21								
3.	MIO-AL pattern	4.85	5.20	.74**	.41**							
4.	Integrative statement	14.85	10.05	.74**	.03	.31*						
5.	Distributive statement	84.94	42.22	.04	.48**	13	.11					
6.	Joint gains	11275	1443.18	.40**	.04	.41**	.46**	32*				
7.	Judgement accuracy	71258.97	24217.26	.11	.12	.19	.04	.01	.09			
8.	Rapport	5.2	0.8	39**	13	20	24	36*	05	.02		
9.	Gender	0.66	0.48	.36*	.12	.30*	.37*	02	.43**	.43**	.06	
10	Duration	23.43	6.11	.44**	.57**	.26	.40**	.61**	.14	.25	47**	.28

N = 39 for judgement accuracy; N = 47 for rapport and gender. Pearson's correlations (twotailed); all variables at the dyad level. Multi-issue offer, active listening, MIO-AL patterns, integrative and distributive statements were calculated as overall frequencies of behaviors per negotiation. Gender: 0 = female dyads, 1 = male dyads. Duration was measured in minutes. $p^* < .05$, $p^{**} < .01$. After having established MIO-AL patterns, we recoded our data set across all negotiations such that MIO-AL patterns represented a single behavioral event. To test if negotiators that engage more in active listening as a direct response to multi-issue offers acquire higher judgement accuracy concerning the other party's interests (Hypothesis 2), we used the Actor Partner Interdependence Model (APIM; Kashy & Kenny, 2000; Stas et al., 2018), controlling for gender and duration (see Figure 1). We assessed expected actor effects of active listening in response to multi-issue offers as predictors of individual judgement accuracy scores through structural equation modeling. This procedure allowed us to calculate an overall (average) actor effect to test our hypothesis and to control for potential differences of this effect between roles (cf. Kenny et al., 2006; Stas et al., 2018). The actor effect was not significant, neither for buyers ($\beta = -.08$, p = .57, 95% CI [-0.10, 0.06]), nor for sellers ($\beta = -.07$, p = .63, 95% CI [-0.15, 0.09]), thus Hypothesis 2 was not supported.

Figure 1



Actor and Partner Effects of Active Listening on Judgement Accuracy

Note. N = 48. Only in 39 dyads both negotiators filled in the estimated pay-off matrices, thus we used full information maximum likelihood to increase the power. The overall actor effect (and separate actor effects) were not significant either, when using listwise deletion. Seller active listening and buyer active listening are measured as the frequencies of active listening as a direct response to a multi-issue offer by the other party.

To assess how subsequent communication processes are affected by MIO-AL patterns (Hypothesis 3), we first recoded priority-related information exchange (i.e., asking for and providing priority-related information) and multi-issue offers as integrative statements. The exchange of positional information (i.e., asking for positional information, providing positional information), the provision of additional information, acts of substantiation (i.e., substantiation, rejecting substantiation), negative affective reactions, single-issue activity, and threats were recoded as distributive statements (cf. Olekalns & Smith, 2003a; Weingart et al., 2004). We performed a lag sequential analysis to identify whether integrative behaviors are promoted by MIO-AL patterns (Hypothesis 3a) and whether distributive behaviors are inhibited (Hypothesis 3b) as subsequent behaviors. We focused our analysis on next (lag1) and next-but-one (lag2) behaviors. In line with Hypothesis 3, MIO-AL patterns (M = 4.85,

SD = 5.20) promoted integrative behaviors (M = 14.85, SD = 10.05) at lag1 (z = 16.42, p < .001) and lag2 (z = 4.29, p < .001) and inhibited distributive behaviors (M = 84.94, SD = 42.22) at lag1 (z = -5.61, p < .001) and lag2 (z = -2.44, p = .01; see Figure 2). As MIO-AL patterns were used as the independent variable, we could not recode those multi-issue offers that were followed by active listening as an integrative statement. Therefore, we ran separate additional lag sequential analyses: MIO-AL patterns promoted MIO-AL patterns at lag1 (z = 24.16, p < .001) and at lag2 (z = 10.02, p < .001), therefore also supporting Hypothesis 3a.

Figure 2





Note. N = 17,120 thought units. Z values larger than 1.96 or smaller than -1.96 indicate a significant sequential effect.

To test Hypothesis 4a, we performed a linear regression analysis, predicting joint gains (M = 11275, SD = 1443.18) based on MIO-AL patterns, while controlling for gender and duration of the negotiation, F(3,43) = 5.42, p = .003; $R^2 = .27$. MIO-AL patterns were positively related to joint gains, $\beta = .32$, t(43) = 2.28, p = .03 (see Table 2). MIO-AL patterns were also positively related to joint gains without controlling for gender and duration; $\beta = .41$, t(46) = 3.09, p = .003, thus supporting Hypothesis 4a.

Table 2

Linear Regression Analysis Predicting Joint Gains

Variable	В	SE	Beta (β)	t	р
Gender	1002.53	418.99	.33	2.39	.02
Duration	-1.07	32.47	01	03	.86
MIO-AL pattern	86.69	38.03	.32	2.28	.03
Note: $N = 47$. $F(3, 43) = 5.42$	$R_{\rm e} p = .003, R^2 = .27.$	Gender: 0	= female dy	ads. 1 =	male dvade

Duration was measured in minutes.

To test Hypothesis 4b predicting that the use of active listening alone (i.e., active listening that does not follow multi-issue offers, M = 55.85, SD = 27.59) does not positively relate to joint gains, we performed an Equivalence test using the TOSTER package in R (Lakens et al., 2018). We set the smallest effect size of interest (SESOI) to |r| = .39 (i.e., ΔL = -.39 and $\Delta U = .39$) as this was the smallest effect size that we had sufficient power to detect ($1-\beta = .80$). With an actual correlation of r = -.04, the equivalence test was significant, p =.006. Thus, we could reject that the true effect is larger than r = .39 or smaller than r = -.39, supporting Hypothesis 4b.

To answer Research Question 1, namely whether multi-issue activity that is not followed by active listening (M = 10.44, SD = 6.64) relates to joint gains, we performed a linear regression analysis, controlling for gender and duration of the negotiation, F(3, 44) = $3.80, p < .05; R^2 = .21$. Multi-issue offers were not related to joint gains; $\beta = .17, t(43) =$ 1.13, p = .26. They were also not significantly related to joint gains without controlling for gender and duration; $\beta = .24, t(46) = 1.67, p = .10$. We performed a linear regression analysis, controlling for gender and duration of the negotiation, to test if active listening was related to rapport⁵ among negotiators (Hypothesis 5); F(3, 42) = 5.18, p = .004; $R^2 = .27$ (see Table 3). Unexpectedly, active listening was not significantly related to rapport (M = 5.2, SD = 0.8); $\beta = .15$, t(43) = 0.94, p = .35, thus Hypothesis 5 was not supported, also not when not controlling for gender and duration; $\beta = .13$, t(45) = -.86, p = .39.⁶

Table 3

Linear Regression Anal	'vsis I	Predicting	Rapport
------------------------	---------	------------	---------

Variable	В	SE	Beta (β)	t	р
Gender	0.27	0.18	.21	1.50	.14
Duration	-0.06	0.02	61	-3.64	.001
Active listening	.003	.003	.15	0.94	.35

Note: N = 46. F(3, 42) = 5.18, p < .01, $R^2 = .27$. Gender: 0 = female dyads, 1 = male dyads.

Duration was measured in minutes.

3.5 Discussion

Most importantly, our results suggest that active listening is beneficial for value creation in negotiation if applied after multi-issue offers because it reinforces integrative behaviors and inhibits distributive behaviors. In contrast, neither multi-issue offers nor active listening alone improved joint gains. In line with our (preregistered) theory, these novel insights help to further develop our understanding of the dynamics between different integrative (and other) behaviors in negotiation. These insights provide negotiation research

⁵ One dyad did not fill in the SVI scale (questionnaire), which was therefore excluded from the respective analysis.

⁶ As stage models of negotiation suggest that rapport is predominantly built in the first stage of a negotiation (e.g., Adair & Brett, 2005), we additionally studied (not preregistered) the relationship of active listening in the first five minutes, using a thin slice approach (cf. Curhan & Pentland, 2007). Active listening in the first five minutes (M = 15.49, SD = 7.00) was not significantly related to rapport; $\beta = -.04$, t(45) = -0.25, p = .80, also not when controlling for gender and duration; $\beta = .04$, t(42) = 0.26, p = .79.

with a level of resolution on intra-negotiation dynamics that not only advances negotiation theory, but also has the capacity to provide decisive and detailed practical advice.

3.5.1 Theoretical Contributions

Generally, our study demonstrated that active listening is a frequent and naturally occurring communication technique in business negotiation—on average, active listening captured more than 17% of the negotiation interaction. Given this pervasiveness, it is astonishing that prior negotiation research has mostly neglected active listening when studying negotiation interactions. Our study provides novel theoretical insights into the effects of active listening in dyadic business negotiation that we will elaborate on in the following.

First, contrary to prominent recommendations (e.g., Bordone, 2007; Fisher & Ury, 1981; Lewicki et al., 2020), the generic use of active listening does not seem to be beneficial for value creation in business negotiation. Instead, active listening seems to facilitate value creation only at certain times in the negotiation interaction. We find first support that active listening is beneficial following multi-issue offers. By demonstrating facilitating and inhibiting effects of these patterns on the subsequent interaction, our findings support and extend a reinforcement perspective regarding the effect of active listening in business negotiation (Greenspoon, 1955; Lieberman, 2012; Schegloff, 1982). The effect of active listening on joint gains seems to be dependent on the behavior that it follows and thereby reinforces. Our findings, thus, provide a relevant extension of negotiation theory because they can be integrated with research on turning points and in particular with the current understanding of how negotiators purposefully initiate turning points. Turning points are "events or processes that mark passage of a negotiation from one stage to the next, signaling progress from earlier to later phases" (Druckman et al., 1991, p. 56). Similar to synchronous negotiation behaviors (e.g., reciprocated cooperativeness; cf. Druckman & Olekalns, 2013;

Olekalns & Smith, 2003a), active listening, applied at the right time, might facilitate such turning points. By reinforcing the previous behavior, it can shift the subsequent interaction toward a mutually beneficial agreement. Future research is clearly desirable that looks into other occurrences of active listening and their effect on the subsequent interaction and negotiation outcomes. For instance, it would be interesting to study whether active listening after distributive statements (e.g., provision of positional information or substantiation) has a similar reinforcing effect and whether these patterns in turn are detrimental for value creation and, thereby, prevent such important turning points.

Second, based on our findings we can start building a theoretical model of contingent effects of active listening in negotiation. As outlined above, our findings indicate that the effect of active listening on value creation is dependent on the behavior that it follows. Potentially further supporting the contingent effects of active listening, the generic use of active listening (i.e., all occurrences of active listening) was not associated with rapport (Hypothesis 5; Baumeister & Leary, 1995). This could be due to the limited statistical power (further discussed in the limitation section), but we also entertain the idea that the effect of active listening on rapport is also contingent on the behavior that it follows. Specifically, the effects of active listening on rapport might be stronger when used after affective statements to reflect the other party's feelings in the listener's own words (Gordon, 1975; Hargie, 2017; Rogers, 1951). In fact, negotiation scholars recommend reflecting strong affective reactions (e.g., anger or fear) that are expressed by the other party to build rapport and to avoid or deescalate a conflict (Adler et al., 1998; Gray, 2003; Van Hasselt et al., 2008). So far, these recommendations were hardly empirically studied in the negotiation context. However, training studies in counselling and social care indicate that reflecting emotions increases perceptions of empathy, which facilitate rapport building, decrease resistance, and promote information disclosure (Berg & Stone, 1980; Forrester et al., 2007; Stone & Stein, 1978).

Thus, future research could investigate the effects of active listening after affective statements on subsequent behaviors (e.g., information provision) and on socio-emotional measures (such as rapport, cf. Curhan et al., 2006). As such, our study is a starting point towards a comprehensive understanding of the role of active listening in negotiation. Future research should delineate further after which statements active listening is beneficial (or detrimental) for economic and socio-emotional outcomes and test our proposed model of contingent effects of active listening in negotiation.

Third, we offer a new answer to the question when and how multi-issue offers positively affect joint gains (cf. Brett & Thompson, 2016). Our findings suggest that multiissue offers positively affect value creation when they are followed by active listening. Then, active listening potentially acts as a continuer for integrative statements and thereby also inhibits distributive statements as subsequent speech acts. Previous studies have predominately discussed the mediating role of judgement accuracy and related moderators to explain the relationship between multi-issue offers and joint gains (e.g., Pruitt, 1981; Brett & Thompson, 2016; Yao et al., 2021). To do so, prior studies identified moderators, such as negotiators' social value orientation (individualistic vs. cooperative; Liu & Wilson, 2011; Olekalns & Smith, 2003b) or their mindset (holistic vs. analytic; Yao et al., 2021). We contribute to and extend these studies by showing that active listening as a communication technique can also strengthen the relationship between multi-issue offers and value creation. This is relevant because—other than social value orientation and a person's mindset—active listening is under conscious control of the negotiator and can be employed spontaneously in situations when it helps to achieve desired outcomes.

3.5.2 Limitations and Future Research

Our study provides first insights into the effects of active listening in dyadic business negotiations. Still, our study has some limitations that may restrict the generalizability of our

results. First, our study did not find support for an information processing perspective (Hypothesis 2; Bodie et al., 2008; Imhof, 2001) regarding the effect of active listening in negotiation. We could also not find support for the association of active listening and rapport (Hypothesis 5: Baumeister & Leary, 1995). This could be due to limited statistical power for the respective statistical tests as the sample size for the study of Hypothesis 2 and Hypothesis 5 consists of only 48 negotiation dyads. In contrast, the statistical power for the study of Hypotheses 1 and 3 relies on the number of thought units (N = 17.120) and should therefore be sufficient (cf. Bakeman & Ouera, 2011). The insignificant finding regarding Hypothesis 2 can also indicate that there is no true effect of active listening following a multi-issue offer on judgement accuracy. In fact, even though prior definitions of active listening emphasize an intrapersonal (i.e., information processing) and an interpersonal element (showing understanding; e.g., Gordon, 1975; Kagan, 2007), the interpersonal element might be more influential in negotiation (cf. Gearhart & Bodie, 2011). Moreover, the effect of active listening on rapport might be contingent on when (i.e., after which statements) active listening is used. Further clarifying these relationships would be an interesting endeavor for future research.

Second, we cannot generalize our findings to all cultural settings. In our study, we used a German-speaking sample. However, we do not know if the effects of back-channeling and paraphrasing might be different in other cultural contexts. For instance, back-channeling is understood as a sign of attentiveness in Nordic cultures (e.g., Swedish) but it can also be interpreted as a sign of agreement in Hispanic cultures (e.g., Spanish; Fant, 1989). Therefore, it is, for instance, not clear whether we can find a reinforcing effect of active listening in all cultural settings. Future research is needed to explore and compare contingent effects of active listening in negotiation in different cultural settings.

3.5.3 Practical Implications

Our study has two specific practical implications on the use of active listening in integrative negotiations: First, practitioners should use active listening after the other party made a multi-issue offer to reinforce cooperativeness and to facilitate value creation. Second, they should avoid using active listening generically (i.e., at any time in the negotiation). Especially and based on our proposed model of contingent effects of active listening, practitioners should *not* use active listening after distributive statements to prevent reinforced distributive communication that potentially decreases value creation and may even make agreements less likely.

3.5.4 Conclusion

Active listening is a widely recommended communication technique in integrative negotiations. However, our study suggests that the generic use of active listening is not necessarily beneficial for negotiation outcomes. Instead, active listening likely reinforces integrative statements and inhibits distributive statements as subsequent speech acts following multi-issue offers. These MIO-AL patterns, in turn, can facilitate value creation and, ultimately, agreements that maximize all parties' economic outcomes.

3.6 Appendix A: Data Transparency

Table A1

Data Transparency Table

Variables used in this study	Published paper #1	Published paper #2
Multi-issue offer	Х	(X) ¹
Active listening		$(X)^{1}$
MIO-AL pattern		$(\mathbf{X})^1$
Asking for priority-related information	Х	
Providing priority-related information	Х	
Asking for preference-related information	Х	
Providing preference-related information	Х	
Asking for positional information		
Providing positional information		
Providing additional information		
Substantiation		
Rejecting substantiation		
Negative affective reaction		
Single-issue offer		
Threat		
Integrative statement		
Distributive statement		
Joint gains	Х	Х
Judgement accuracy	Х	
Rapport	Х	
Duration	Х	Х
Gender	Х	Х

Note. For published paper #1 only information exchange and offers were coded. For

published paper #2 only nine videotaped negotiations of the dataset were coded. In our

present study, we coded the entire interactions of the 48 videotaped negotiations again with a

comprehensive coding scheme, comprising 47 behavioral codes.

¹ For published paper #2 multi-issue offers, active listening and MIO-AL patterns were coded in only nine videotaped negotiations of the used dataset.

3.7 Appendix B: Negotiation Task

The data used for this study were part of a larger dataset gathered by Hüffmeier et al. (2019). We used all 48 fully functioning videotaped solo-on-solo negotiations of the first round from the related experiment, which employed an integrative negotiation task (adapted from Thompson et al., 1996, see the payoff-matrix below). The task comprised eight issues and participants were randomly assigned to the role of either buyer or seller in same-sex dyads. They negotiated about the procurement of pumps (including production, delivery, and setup of the pumps) for building a thermal cracker in Oman. Negotiators had to engage in logrolling (for two pairs of issues) and recognize two compatible issues to achieve high joint gains (see the payoff-matrix below). Participants could negotiate for 30 minutes to find an agreement. The 96 participating negotiators (65 men, 31 women) were undergraduate students of a major German university. They participated as part of their management course work and they were informed that their performance would influence their course grade.

	Score	Score		Score	Score
	Buyer	Seller		Buyer	Seller
Price 7.500.000€	2400	0	Transfer of risk and shipping costs CIP Yibal	0	-6000
7,600,000€	1800	600	CIF Mina al-Fahal, Maskar	-1500	-4500
7,700,000€	1200	1200	CFR Mina al-Fahal, Maskar	-3000	-3000
7,800,000€	600	1800	FOB Genua	-4500	-1500
7,900,000E	0	2400	EXW	-6000	0
Payment conditions					
0% at time of contract conclusion / 0% on delivery / 100% after acceptance	800	0	Included Inspections 4 inspections included	1600	0
0% / 50% / 50%	600	800	3 inspections included	1200	1000
10% / 30% / 60%	400	1600	2 inspections included	800	2000
10% / 40% / 50%	200	2400	1 inspection included	400	3000
30%0/ 30%0/ 40%0	0	3200	no inspections included	0	4000
Date of delivery	0001	¢	Maintenance agreement	¢	0000
October 15	4000 2000	007	24 months		3200
Uctober 29	3000	400	18 months	007	2400
November 12	0001	800	1 / months 6 months	004	1000
	0001	1200	U IIIUIIIIS se mointenene included	000	000
	D	1000		000	þ
Portion of companies from Oman participating					
in the installation of the pumps			Supplier of connection pipes		
100%	0	0	Tuyanterie Francois Marchand SA (France)	-2400	-2400
75%	300	300	Smithson Pipe Systems Inc. (USA)	-1800	-1800
50%	600	600	Tubos Rocco Roletti SA (Italy)	-1200	-1200
25%	006	006	Rohrsysteme Vulkan GmbH (Germany)	-600	-600
0%0	1200	1200	MacCogan Pipes PLC (UK)	0	0
Moto The secretistics tools more adapted from T	o nonnord	+ -1 /1006)	For more information and the much mantan f	J- hor U aff	moion of ol

Note. The negotiation task was adapted from Thompson et al. (1996). For more information see the supplementary file by Hüffmeier et al.

(2019).

Table B1

Payoff-matrix

(Dis-)honesty in Negotiation: Behavioral Antecedents

and Consequences¹

¹ This chapter is to be submitted for publication as: Jäckel, E., Zerres, A., Den Hartog, D. N., & Hüffmeier, J. (Dis-)honesty in negotiation: Behavioral antecedents and consequences.

A previous version of this paper was presented at the 35th Annual Meeting of the International Association for Conflict Management (IACM), Ottawa, Canada, July 2022 and won best oral presentation award at the 21st European Association of Work and Organizational Psychology Congress (EAWOP), Katowice, Poland, May, 2023.

Abstract

In the present research, we contribute to a better understanding of the behavioral antecedents and consequences of (dis-)honest behavior in negotiation. We introduce the explicit analysis of honest behavior (i.e., honest provision of preference- and priority-related information) in negotiation, which has, so far, mostly been reduced to the absence of deception. We extended our focus to entire negotiation interactions (as compared to short and selected incidents as in prior research), which allowed us to study how (dis-)honest behavior unfolds over the natural course of the interaction. Using lag sequential analysis, we analyzed 17.120 thought units. nested within 48 videotaped integrative negotiations. Results show that priority- and preference-related questions and priority-related information provision promoted acts of honesty, but only preference-related information exchange and not priority-related information exchange, also promoted acts of dishonesty as subsequent behaviors. We further identified behavioral antecedents and consequences of (dis-)honest behavior that were previously mostly neglected in negotiation research. Specifically, active listening (e.g., simple acknowledgements such as "mm hmm") reinforced acts of honesty but also acts of dishonesty, thereby further contributing to a contingent effect model of active listening. We derive specific practical implications from our findings: Most importantly, we recommend using (more) priority-related information exchange (and avoiding preference-related information exchange) to foster subsequent honest and to inhibit subsequent dishonest behavior.

Keywords: dishonesty, honesty, negotiation, sequential analysis, interaction patterns

4.1 Introduction

Negotiations are a fundamental form of coordination (De Dreu & Gelfand, 2008), but are also "breeding grounds for unethical behavior" (Tenbrunsel, 1998, p. 330) and dishonest behavior is consequently highly prevalent in negotiation (Aquino & Becker, 2005; Schweitzer & Croson, 1999). While deceivers' economic outcomes might be positively influenced by their dishonest behavior, detected dishonesty decreases trust and the desire to negotiate again in the future (e.g., Rogers et al., 2017; Schweitzer et al., 2006). In turn, these socio-emotional outcomes affect the economic outcomes of subsequent negotiations (Curhan et al., 2010). Also, dishonesty can suppress the consideration of moral rules in future interactions and foster further deviant behavior (Shu & Gino, 2012). In contrast, (honest) information exchange has been argued and empirically shown to be key for resolving negotiations and realizing mutually beneficial agreements (e.g., Hüffmeier et al., 2019; Zerres et al., 2013). Given the importance of honest information exchange and the pervasiveness and impact of dishonest behavior on negotiation interactions and outcomes, it is crucial to better understand how (dis-)honest behaviors unfold in negotiation and how these behaviors affect the subsequent interaction.

So far a number of interindividual difference (e.g., benevolence, trustworthiness, integrity, see Olekalns & Smith, 2007) and contextual variables (e.g., ethical vs. non-ethical climate, Aquino & Becker, 2005) have been associated with (dis-)honesty in negotiation (for a recent overview, see Gaspar et al., 2022). However, the study of *behavioral* antecedents and consequences of (dis-)honest behavior has rather been neglected (noteworthy exceptions evolve around the role of questions, e.g., Bitterly & Schweitzer, 2020; Minson et al., 2018; Schweitzer & Croson, 1999; VanEpps & Hart, 2022). Thus, it is not clear which behaviors negotiators should display to elicit subsequent honest behavior and which behaviors they

should avoid that potentially promote subsequent dishonest behavior in their negotiation partner.

In the present research, we seek to contribute in different ways to a better and more comprehensive understanding of direct behavioral antecedents and consequences of (dis-)honesty in negotiations. First, instead of exclusively relying on frequency measures of acts of (dis-)honesty or self-reported (dis-)honesty, we follow calls to observe how actual behavior unfolds in social interactions (e.g., Baumeister et al., 2007; Lehmann-Willenbrock & Allen, 2018). Specifically, we shed light on the temporal dynamics of when acts of (dis-)honesty occur and how they can potentially affect the subsequent communication by means of lag sequential analysis. Through this analysis we identify which behaviors systematically precede and follow acts of honesty and dishonesty more (i.e., promoters) or less often (i.e., inhibitors) than expected by chance (Bakeman & Quera, 2011; Yoder et al., 2018). Studying (dis-)honest behavior from an interaction-based perspective is crucial, as behavioral antecedents can be significantly more important in the prediction of subsequent behaviors in an interaction process than interindividual difference and contextual variables (e.g., Taylor & Donald, 2003; Weingart et al., 1999). Based on our findings, we provide specific and readily applicable advice for negotiators to promote honest and to inhibit dishonest behavior among their negotiation partners.

Second, we illuminate the role of explicitly honest behavior in negotiation, and we define this behavior as honest provision of relevant interest-related information (e.g., priority-related and preference-related information, cf. Hüffmeier et al., 2019; Thompson, 1991). So far, honesty has mostly been reduced to the "the absence of deception" (Cramton & Dees, 1993, p. 362), which differs from honestly providing information. We focus on the latter and analyze antecedents and consequences of honest behavior. This is important as acts of honesty (and not just the absence of dishonesty) are vital to create mutually beneficial

agreements (e.g., Thompson, 1991; Zerres et al., 2013). However, provided information can also be exploited and promote subsequent dishonest behavior (cf. Hüffmeier et al., 2019; Murnighan et al., 1999). By analyzing whether and when honest information provision is beneficial in negotiations, we contribute to theoretical advancement in the field (cf. Cooper et al., 2023; Miller, 2021).

Third, we extend our focus to entire negotiation interactions, which allows us to study how (dis-)honest behavior unfolds over the course of the interaction. Prior research mostly studied (dis-)honest behavior by focusing on compatible issues in the negotiation interaction (i.e., issues where one party is indifferent towards different options comprised in one issue or where all parties want the same, e.g., Olekalns & Smith, 2007, 2009), thereby restricting the ecological validity of findings. Going beyond this, we also study interaction patterns concerning other issues, such as logrolling issues (i.e., issues that allow for a trade-off because negotiators have different priorities for those issues), as well as procedural discussions. Thus, our findings can be applied to a much wider range of negotiation interactions than results of prior research. Finally, the theoretical and practical implications of our research may also apply to similar social interactions, such as team meetings, mediation, and leader-follower or conflict interactions.

4.2 Theoretical Background

4.2.1 Honest and Dishonest Behavior in Negotiation

We define acts of honesty as the honest provision of relevant information, which thus entails more than the mere absence of dishonesty (cf. Cramton & Dees, 1993; Cooper et al., 2023). In our study, we focus on truthful preference- and priority-related information provision (cf. Hüffmeier et al., 2019; Thompson, 1991). Preference-related information concerns negotiators' preferences for options within an issue (e.g., a preference for a lower rather than a higher price). It can serve two purposes. First, when negotiators have opposing
preferences, the provision of preference-related information is often meant and interpreted as a distributive behavior (e.g., Weingart et al., 1996). It highlights the opposing interests of the negotiation parties rather than value-creation opportunities (i.e., opportunities to consider all parties' interests and for going beyond mere compromise). Second, preference-related information provision about compatible issues (i.e., one party is indifferent toward the options, or the preferences of the parties are aligned) can help to identify such issues and facilitate value creation.

By contrast, priority-related information provision has a less Janus-faced character. This type of information contains insights about negotiators' priorities between issues (i.e., the relative importance of issues from the perspective of one party, for instance the higher importance of the warranty compared to date of delivery). Thus, the truthful provision of priority-related information across issues can help to detect value creating trade-offs via logrolling (i.e., the mutual exchange of concessions on low- versus high-value issues; see Pruitt & Lewis, 1975). As priority-related information provision is hard to construe as distributive behavior, it is more strongly related to mutually beneficial agreements than preference-related information provision.

In contrast to acts of honesty and following prior definitions, we define acts of dishonesty as the intentional active or passive misrepresentation of the truth (Lewicki, 1983; O'Connor & Carnevale, 1997). We focus on the two most common operationalizations of dishonest acts—lies of commission and lies of omission (O'Connor & Carnevale, 1997; Spranca et al., 1991). Lies of commission are active misrepresentations of the truth (e.g., misrepresenting preferences, pretending to be obliged to consult with a third party). Negotiators commit lies of omission when they withhold information that was explicitly requested by the other party, or when they conceal compatibility (e.g., using alleged own concessions related to a compatible issue to leverage concessions from the other party regarding another issue).

4.2.2 Behavioral Antecedents and Consequences of (Dis-)honest Behavior

We seek to identify behavioral antecedents and consequences of honest and dishonest behavior in negotiation from an interaction-based perspective (e.g., Taylor & Donald, 2003; Weingart et al., 1999). Building on Social Exchange Theory (Blau, 1964; Molm & Wiggins, 1978), we propose that negotiators choose actions that potentially maximize their outcomes. Specifically, we argue that the decisions to act both honestly and dishonestly depend on a subjective cost-benefit analysis (Kajackaite & Gneezy, 2017; Olekalns & Smith, 2007, 2009). Thus, negotiators will only provide honest information if they believe that the benefits of providing honest information outweigh the costs. Similarly, the negotiator will only choose to act dishonestly if the benefits of dishonest behavior outweigh its costs. We propose that the subjective assessment of costs and benefits of honest and dishonest behavior is dynamic and constantly changing during a negotiation interaction (cf. Olekalns & Smith, 2007) and these changes are affected by previous behaviors in the interaction (cf. Taylor & Donald, 2003; Weingart et al., 1999). Based on this broad theoretical notion, we suggest that questions and the provision of information by one party affect the assessment of costs and benefits of (dis-)honest behavior by the other party and thereby their subsequent use.

According to basic conversational norms (e.g., Freed, 1994; Kearsley, 1976), questions seeking information (e.g., preference- and priority-related questions) require the other party to provide information. Put differently, the benefits of following the norm to reply by providing information (and/or the costs of the norm violation of not providing information, such as feeling guilt, cf. Morris et al., 1995) should become particularly salient. Preference- and priority-related questions by one party should therefore promote honest preference- and priority-related information provision by the other as subsequent speech acts.

Thus, we argue that preference- and priority-related questions precede acts of honesty more often than expected by chance.

Hypothesis 1a: Preference-related questions by one party promote acts of honesty as subsequent speech acts by the other party.

Hypothesis 1b: Priority-related questions by one party promote acts of honesty as subsequent speech acts by the other party.

However, we argue that preference-related questions by one party (but *not* priorityrelated questions) also systematically precede subsequent dishonest behavior by the other party. Especially when negotiators are unsure whether preference-related questions concern compatible issues, their counterparts may perceive that the benefits of dishonesty outweigh the costs. Thus, as a response to a preference-related question, counterparts can withhold the requested information (a lie of omission) or actively misrepresent the own preferences as opposite from the other party's preferences (a lie of commission). In turn, acting dishonestly allows them to use presumed compatible issues for a trade-off, which can increase their individual gain (i.e., a perceived benefit; O'Connor & Carnevale, 1997). Moreover, as the information-seeking party discloses their respective lack of knowledge by asking a question, the perceived likelihood of detection will potentially decrease, lowering the perceived cost. Research shows that negotiators are more likely to be deceived when they seem uniformed (Boles et al., 2000). We thus propose:

Hypothesis 2: Preference-related questions by one party promote acts of dishonesty as subsequent speech acts by the other party.

Thus, we suggest that acts of honesty but also acts of dishonesty are more likely to follow preference-related questions than other behaviors that occur during a negotiation interaction. However, we do *not* expect priority-related questions by one party to promote acts of dishonesty by the other party as subsequent behavior. Theoretically, priority-related questions are more integrative than preference-related questions (e.g., Brett & Thompson, 2016; Weingart et al., 1996) as they typically do not serve both distributive and integrative purposes, but often help to realize mutually beneficial agreements. Negotiators often intuitively recognize that answering priority-related questions of their counterpart can pave the way towards such agreements and help them to also increase their own outcomes. In fact, even rather rare occurrences of such questions have been found to be predictive of high joint outcomes (Hüffmeier et al., 2019; Thompson, 1991). In contrast, misrepresenting or concealing own priorities as a reaction to such questions would hamper the detection of value creation sources. Thus, there is no clear benefit in acting dishonestly after priority-related questions. However, the costs of acting dishonestly become particularly salient after a priority-related question. In addition to emotional costs of a norm violation (cf. Morris et al., 1995), dishonest behavior could potentially also hamper value creation and thereby decrease both parties' individual gains.

Furthermore, we propose that the provision of information by one party, in line with the basic principle of reciprocation embedded in Social Exchange Theory (Gouldner, 1960; Molm & Wiggins, 1978), promotes the truthful provision of information by the other party. As argued above, the benefits of following the norm to reciprocate the provision of information (and/or the costs of norm violation through not doing so) should become more salient when the other party provides information. Preference- and priority-related information provision by one party should therefore promote honest preference- and priorityrelated information provision by the other. This also aligns with previous studies on negotiation processes that demonstrated that negotiation behaviors (e.g., integrative and distributive behaviors or procedural comments) are likely to be reciprocated (e.g., Brett et al., 1998; Putnam & Jones, 1982a).

Hypothesis 3a: The provision of preference-related information by one party promote acts of honesty as subsequent speech acts by the other party.

Hypothesis 3b: The provision of priority-related information by one party promote acts of honesty as subsequent speech acts by the other party.

However, we argue that the provision of preference-related information (but *not* priority-related information) by a party also promotes acts of dishonesty by the other party. Especially when negotiators believe that the provided information concerns a compatible issue, the perceived benefits may outweigh the perceived costs of dishonest behavior. Negotiators can withhold requested information or actively misrepresent their preferences. In turn, acting dishonestly allows them to use a compatible issue to leverage a trade-off on another issue, thus increasing their individual gain. Therefore, we propose that preference-related information provision by one party promotes acts of dishonesty by the other party as subsequent behavior.

Hypothesis 4: The provision of preference-related information by one party promotes acts of dishonesty as subsequent speech acts by the other party.

Importantly as argued above, we do not expect that priority-related information provision by one party promotes acts of dishonesty by the other. Priority-related information provision is a mainly integrative behavior, helping to detect value creation sources. Therefore, there is no clear advantage to misrepresenting one's own priorities after the other party provided their priority information. But, being dishonest can come with significant costs and prevent the creation of value, reducing individual gains for all.

Finally, it is an open question which other behaviors might promote or inhibit acts of honesty and/or dishonesty and which behavioral consequences acts of honesty and dishonesty have. To explore this, we pose the following questions:

Research Question 1: Which behaviors by one party promote or inhibit acts of *honesty* and of *dishonesty* by the other party as subsequent speech acts? Research Question 2: Which behaviors by one party do acts of *honesty* and *dishonesty* by the other party promote or inhibit as subsequent speech acts?

4.3 Method

4.3.1 Transparency and Openness

We preregistered our hypotheses and research questions and the methodological and data analytical approach at

<u>https://osf.io/5b46r/?view_only=456cff9744c348a09e7a66673d950125</u>. We describe our sample, all data exclusions, all measures and the statistical analysis strategy in the study. The coding scheme, the dataset with behavioral codes, transition frequencies and the analysis code are available at https://osf.io/nghdc/?view_only=731757f4a8aa4cb692c2a3ab380feff0.

4.3.2 Sample

The data used for this study were part of a larger dataset (see Appendix A for a data transparency table). We used all 51 one-on-one videotaped negotiations from the first negotiation episode in this study, using an integrative negotiation task (adapted from Thompson et al., 1996). The task comprised eight issues: four logrolling (i.e., issues that allow for a trade-off because negotiators have different priorities for those issues), two distributive (i.e., one party's gain is the other party's loss), and two compatible issues (i.e., in both issues preferences were aligned). Participants were randomly assigned to the role of buyer or seller in same-sex dyads (due to uneven participant numbers, there was one mixed dyad). We excluded three observations (resulting in 48 negotiations) because the recordings were damaged (e.g., the video or sound did not work), thus behavioral coding was not possible. The 96 participating negotiators (65 men, 31women) were undergraduate students of a major German university and participated as part of their management course work.

4.3.3 Coding

The entire negotiation interactions were segmented into thought units (N = 17.120) and coded with a comprehensive coding scheme, comprising 47 behaviors (NegotiAct; Jäckel et al., 2022) and the INTERACT software (Mangold, 2020). We assigned the code *lies of commission* when one party was actively misrepresenting information (for example, giving wrong positional information concerning their reservation price). We assigned the code *lies of omission* when one party withheld information, which had been explicitly requested by the other party or when a party was concealing compatible interests regarding an issue (i.e., using a compatible issue to allegedly make a concession and then demanding a concession from the other party on another issue). We assigned the code providing priority-related information when a party provided information that revealed their own priorities among issues, here the statement must reflect a hierarchy between issues. We assigned the code providing preference-related information when a party provided information that revealed their own preferences within an issue or time preferences, here the statement must reflect a hierarchy between options within an issue. For a definition of all other behavioral codes, see the NegotiAct coding manual (Jäckel et al., 2022). Twenty negotiation videos were coded twice by independent coders, resulting in high agreement ($\kappa = .87$; Cohen, 1960).

4.3.4 Statistical Analysis Strategy

To test the Hypotheses and answer the Research Questions we performed lag sequential analyses (Bakeman & Quera, 2011), using INTERACT software (Mangold, 2020). We tested if certain sequences of behaviors (e.g., a priority-related question followed by priority-related information provision) happened more often than expected by chance. To do so, we first calculated how often one behavior by one party was directly followed by another behavior of the other party (lag1 transition frequencies) and by a next-but-one behavior of the other party (lag2 transition frequencies) for each pair of behaviors. Then we compared these transition frequencies with the joint frequency occurring by chance (i.e., if events were independent). To test whether these two types of frequencies differed significantly, we calculated a *z* value for lag1 and lag2. *Z* values larger than 1.96 (i.e., promotion) or smaller than -1.96 (i.e., inhibition) indicate significant sequential sequences. To answer our research question on further antecedents and inhibitors of (dis-)honest behavior, we ran multiple exploratory lag sequential analyses. To control for type 1 errors for these exploratory analyses, we adjusted the critical z value to |3|, following guidelines by Bakeman and Quera (2012).

Requirements to run lag sequential analyses concern a comprehensive and mutually exclusive coding of interactions (i.e., all units should be assigned exactly one code). Moreover, behaviors of interest should have a minimum frequency of 30 and a joint frequency of chance (M_{GT}) of at least five to obtain reliable estimates (Bakeman & Quera, 2011; Yoder et al., 2018). To obtain sufficient frequency values, we pooled sequential analysis across all 48 negotiations, which is a common procedure when studying temporal interaction patterns (cf. Lehmann-Willenbrock & Allen, 2014; Yoder et al., 2018). When testing our hypothesis, the minimum expected frequency of five was not met for some sequences of interest (i.e., to test Hypotheses 1a, 1b, 2, 3b) because the base frequency of behaviors of interest was rather low (see Results section). In these cases, we did not only run lag sequential analysis, but additionally ran sequential analyses with the event lag with pauses method (Lloyd et al., 2016; Yoder et al., 2018) and a modified version of the Multi-Option Observation System for Experimental Studies software (MOOSES; Tapp et al., 1995).¹ Using this additional method, all behaviors that were not of interest for the specific hypothesis test were stripped out of the data and "pause" units were inserted that represent chunks of the

¹ We did not preregister these additional analyses as we only learned after coding and initial analyses that not all requirements for lag sequential analysis were always met.

interaction where no behavior of interest could be observed. We specified the duration of the pause to ensure that the expected frequency of 5 was assured (i.e., a larger duration of pauses decreases the number of total units and thereby increases the relative frequency of behaviors of interest and the expected frequency of sequential patterns). The specified time of pauses also set the boundaries of temporal contiguity at which the sequence of interest was defined (for example, if the pause duration is 20 seconds, we assessed whether acts of honesty occurred within 20 seconds after the other party asked a priority-related question). In a recent simulation study the sequential analysis with the event lag with pauses method has been identified as producing the most accurate and interpretable estimates as compared to other sequential analysis methods and should therefore be suitable to supplement and critically test our initial findings (Lloyd et al., 2016; Yoder et al., 2018).

4.4 Results

Descriptive statistics and intercorrelations of acts of honesty and dishonesty are presented in Table 1. To test Hypotheses 1-4, we performed lag sequential analyses at lag1 and lag2 (for a graphical illustration, see Figure 1). First, we assessed whether acts of honesty by one party were promoted by preference-related questions (Hypothesis 1a) and priorityrelated questions (Hypothesis 1b) by the other party. We identified statistically significant sequences for preference-related questions (M = 1.33, SD = 1.40) and acts of honesty (M =10.23, SD = 6.79) at lag1 (z = 26.20, p < .001) and at lag2 (z = 5.18, p < .001). We also identified statistically significant sequences for priority-related questions (M = 1.13, SD =1.71) and acts of honesty at lag1 (z = 15.14, p < .001) and at lag2 (z = 4.39, p < .001). Because expected frequencies were smaller than 5 for Hypothesis 1a (lag1 $M_{GT} = 1.49$, lag2 $M_{GT} = 0.71$) and Hypothesis 1b (lag1 $M_{GT} = 1.26$, lag2 $M_{GT} = 0.37$), we additionally ran sequential analyses with the event lag with pauses method and MOOSES software (Tapp et al., 1995; Yoder et al., 2018). Setting the pause duration to 20 seconds, we again identified

statistically significant sequences for preference-related questions and acts of honesty (z =

10.04, p < .001) and for priority-related questions and acts of honesty (z = 6.66, p < .001).

Thus, Hypothesis 1a and 1b were supported.

Table 1

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Variable		М	SD	1	2	3	4	5
1.	Lies of commission	7.88	9.33					
2.	Lies of omission	2.92	3.68	.21				
3.	Priority-related information provision	3.29	4.74	20	.08			
4.	Preference-related information provision	6.94	4.42	08	.08	.10		
5.	Asking for priority- related information	1.13	1.71	16	.02	.67**	06	
6.	Asking for preference- related information	1.33	1.40	04	.42**	.38**	.26	.36*

Note. N = 48. Pearson's correlations (two-tailed); all variables were calculated as overall

frequencies of behaviors at the dyad level.

p* < .05, p** < .01

Figure 1



Lag Sequential Analyses to Test Hypotheses 1-4

Note. N = 17,120 thought units. Z values larger than 1.96 indicate significant sequential effects.

In a second step, we assessed whether preference-related questions by one party also promoted acts of dishonesty by the other (Hypothesis 2). We identified a statistically significant lag1 sequence for preference-related questions and acts of dishonesty (M = 10.79, SD = 10.72; z = 2.08, p = .04). Lag2 sequences were not significant (z = 0.34, p = .37). In line with our reasoning, priority-related questions did not promote acts of dishonesty (lag1: z =0.66, p = .51, lag2: z = 1.04, p = .30). Because expected frequencies were smaller than 5 for Hypothesis 2 (lag1 $M_{GT} = 1.50$, lag2 $M_{GT} = 0.72$), we additionally ran sequential analysis with the event lag with pauses method. Setting the pause duration to 13 seconds, we did not find support for a statistically significant sequence for preference-related questions and acts of dishonesty (z = -0.88, p = .38). As results differed from the initial lag sequential analysis at lag1 and we wanted to understand this inconsistency, we explored differences in the role of the speaker (i.e., seller reacting to buyer, buyer reacting to seller). We found that only when sellers asked preference-related questions, buyers' acts of dishonesty were significantly promoted within the next 13 seconds (z = 2.14, p = .03). In contrast, sellers did not act dishonestly after buyers asked preference-related questions within the next 13 seconds (z = -1.28, p = .20). Thus, Hypothesis 2 was partly supported, depending on the role of the party in the negotiation.

In a third step, we assessed whether acts of honesty by one party were promoted by the provision of preference- and priority-related information by the other party (Hypothesis 3a and 3b). We did not find a statistically significant sequence for preference-related information provision followed by acts of honesty at lag1 (z = -0.23, p = .82), nor at lag2 (z =1.44, p = .15). Thus, Hypothesis 3a was not supported. However, we identified a statistically significant sequence for priority-related information provision followed by acts of honesty at lag1 (z = 4.37, p < .001) and at lag 2 (z = 4.55, p < .001). Because expected frequencies were smaller than five for Hypothesis 3b (lag1 $M_{GT} = 2.80$, lag2 $M_{GT} = 1.89$), we additionally ran sequential analysis with the event lag with pauses method. Setting the pause duration to 10 seconds, we identified statistically significant sequences for priority-related information provision and acts of honesty (z = 3.54, p < .001). Thus, Hypothesis 3b was supported.

In our fourth step, we assessed, whether preference-related information provision by one party promoted acts of dishonesty by the other party (Hypothesis 4). Neither the lag1 sequence (z = -1.11, p = .27), nor the lag2 sequence (z = -0.10, p = .92) were significant. In line with our reasoning, priority-related information provision also did not promote acts of dishonesty, neither at lag1 (z = -1.71, p = .09), nor at lag2 (z = 0.07, p = .94).

As argued in the theory section, we especially expected sequential effects for preference-related information provision and acts of dishonesty for compatible issues. Thus, we additionally ran a sequential analysis including only preference-related information

provision related to compatible issues (M = 2.52, SD = 1.94) and acts of dishonesty related to compatible issues (M = 4.56, SD = 5.33). As we restricted the focus on compatible issues within the negotiation, base frequencies were low. Consequently, we directly used the event lag with pauses method. Setting the pause duration to 30 seconds, we identified statistically significant sequences for preference-related information provision by one party and acts of dishonesty by the other (z = 2.01, p = .04). Thus, Hypothesis 4 was partly supported: While preference-related information provision in general did not promote acts of dishonesty, preference-related information provision about compatible issues by one party promoted acts of dishonesty by the other party as subsequent behaviors.

4.4.1 Exploratory Analyses

To assess which behaviors by a party further promoted or inhibited acts of (dis-)honesty by the other party and which behaviors by one party were promoted or inhibited by acts of (dis-)honesty by the other (Research Question 1-2), we ran exploratory lag sequential analyses. Behaviors that promoted and inhibited acts of (dis-)honesty as subsequent behaviors are displayed in Figure 2, behaviors that were promoted or inhibited by acts of (dis-)honesty as subsequent behaviors are displayed in Figure 2, behaviors that were promoted or inhibited by acts of (dis-)honesty as subsequent behaviors are displayed in Figure 3. We illustrate selected findings from these analyses. Beyond preference- and priority-related questions, asking for positional information (e.g., asking for the other party's minimum terms) promoted acts of honesty of the other party (z = 5.51, p < .001) at lag1. Also, extension questions (i.e., asking for additional information unrelated to preferences, priorities, or positional information; z = 3.55; p < .001) and asking for substantiation (i.e., requesting the other party to substantiate or questioning the substantiation; z = 4.48; p < .001) promoted acts of dishonesty by the other party at lag1.

We also found sequential effects for active listening (i.e., generic paraverbal responses or paraphrasing the speaker's statement, e.g., Gordon, 1975). Active listening by one party promoted acts of honesty (z = 7.43, p < .001), but also acts of dishonesty (z = 9.61, p < .001) by the other party at lag1. Also, active listening by a party was promoted by acts of honesty (z = 15.94, p < .001) and dishonesty (z = 10.73, p < .001) by the other party at lag1.

Figure 2

Exploratory Lag Sequential Analyses – Antecedents of Acts of (Dis-)honesty



Note. N = 17,120 thought units. Z values larger than three (i.e., a promoting effect) or smaller than -3 (i.e., an inhibiting effect) indicate significant sequential effects.

Figure 3





Note. N = 17,120 thought units. Z values larger than three (i.e., a promoting effect) or smaller than -3 (i.e., an inhibiting effect) indicate significant sequential effects.

4.5 Discussion

Here, we studied behavioral antecedents and consequences of dishonest and honest behavior in entire negotiation interactions. These findings contribute to a better understanding of the dynamics of acts of (dis-)honesty in negotiation.

4.5.1 Theoretical Contributions

We found support for the theoretical notion that behaviors by one party are affected by the counterpart's preceding behaviors. Building on and extending theoretical notions from Social Exchange Theory in negotiation (e.g., Kajackaite & Gneezy, 2017), we assumed that the perceptions of costs and benefits of (dis-)honest behavior are dynamic rather than static. We assumed that the perceptions of costs and benefits of subsequent (dis-)honest behavior by one party might change, depending on the preceding behavior of the other party. In line with this, we identified specific behaviors that promoted (e.g., priority-related questions) or inhibited (e.g., substantiation) subsequent acts of honesty. We also identified behaviors that promoted (e.g., questions for substantiation) or inhibited (e.g., procedural suggestion) subsequent acts of dishonesty. In previous work, the likelihood of displaying (dis-)honest behavior was treated as static throughout a negotiation, predetermined by traits or context (e.g., benevolence or the dyad composition, e.g., Gaspar et al., 2022; Olekalns & Smith 2007, 2009). In contrast, our findings suggest that the decision to act (dis-)honestly is dynamic as it is affected by preceding behaviors in the interaction. This supports an interaction-based perspective of (dis-)honest behavior in negotiation (cf. Taylor & Donald, 2003; Weingart et al., 1999).

Second, our findings add to and refine previous theory on information exchange in negotiation by further showing the unique and positive role of priority-related information exchange (e.g., Brett & Thompson, 2016; Hüffmeier et al., 2019). This role is noteworthy as acts of priority-related information exchange are rather rare. For instance, priority-related questions are barely used in negotiations (in our study M = 1.13, see also for instance, Hyder et al., 2000 [M = 0.74] and Weingart et al., 1996 [M = 1.80]). This is remarkable as logrolling, for which the identification of different priorities is essential to create value, constitute the largest share of the integrative potential (i.e., the maximum additional value that can be

created beyond a compromise) in prominent negotiation tasks. In the *Landers Market* task (Weingart et al., 1996), for instance, the integrative potential is entirely captured by logrolling issues. In the task used here, logrolling issues account for 57.14% of the integrative potential (compatible issues capture the rest). So far, research on priority-related information exchange has been limited, despite it being key to value creation (e.g., Hüffmeier et al., 2019; Weingart et al., 1996). We add to this work by demonstrating that priority-related information exchange promoted subsequent honest, but *not* dishonest behavior. In contrast, preference-related information provision by one party was *not* reciprocated by honest information provision of the other party. When looking at only compatible issues, preference-related information provision by one party even promoted acts of dishonesty by the other party. Also, sellers' preference-related, substantiation-related, and extension questions promoted subsequent dishonest behavior by the other party.

Building on Social Exchange Theory (Blau, 1964; Molm & Wiggins, 1978), we provide a possible explanation for the distinct and exclusively positive effect of priorityrelated information exchange. Only priority-related questions and information provision seem to make benefits of subsequent honest (but not dishonest) behavior salient (e.g., finding mutually beneficial agreements), while keeping perceived costs of honest (but not dishonest) behavior low (e.g., the risk of exploitation). In turn, this unique pattern (priority-related questions and information provision, followed by acts of honesty) might explain why only priority-related information exchange is positively related to value creation (cf. Hüffmeier et al., 2019).

Finally, we identified additional behavioral antecedents and consequences of (dis-)honest behavior. Specifically, active listening promoted and was promoted by acts of dishonesty and acts of honesty. Thus, active listening seemed to reinforce the behaviors that it followed. This is in line with the role of active listening in communication research showing

back-channeling (e.g., "mm hmm") serves as a verbal reinforcer for behavior that it followed (Lieberman, 2012).

4.5.2 Limitations and Future Research

Our study provides novel insights into the dynamics of (dis-)honest behavior in negotiations. Still, it has some limitations. First, we focused on the two most common operationalizations of dishonest behavior-lies of omission and commission (O'Connor & Carnevale, 1997). There are other types of dishonest behaviors that we did not include here (e.g., dodging, Rogers & Norton, 2011; deflecting, Bitterly & Schweitzer, 2020; paltering, Rogers et al., 2017). We decided not to include any other types of dishonesty for two reasons: First, when studying entire interactions as we did, these other types of dishonest behaviors are more difficult to identify with sufficient certainty. For instance, as we did not know about negotiators' real intentions, it would have been difficult to tell whether and when negotiators tried to create a false impression with truthful statements (i.e., paltering). In comparison, we could tell with a higher certainty (albeit still not with absolute certainty) when lies of commission and omission were committed as we could check if negotiators' statements deviated from the given information and pay-off schedule. Second, dodging and deflecting per definition directly follow questions, thus studying behavioral antecedents for these types of dishonest behaviors is of lesser value. However, future research could study behavioral consequences of these dishonest acts as well.

Second, we focused on behavioral interaction patterns within entire negotiation interactions using lag sequential analysis and sequential analysis with the event lag with pauses method. Thus, we did not consider how interindividual or context differences affect behavioral patterns concerning acts of (dis-)honesty. We decided to focus on behavioral antecedents and consequences within interactions as interindividual and context differences often explain considerably less variance than preceding behaviors in the prediction of

subsequent behaviors (e.g., Taylor & Donald, 2003). Still, it could be interesting to study how, for instance, certain traits (e.g., Machiavellianism) or the distribution of power affect negotiation patterns.

4.5.3 Practical Implications

Based on our findings on behavioral antecedents of (dis-)honest behavior, we provide three specific practical implications: First, practitioners should ask priority-related questions and provide priority-related information to foster subsequent honest information exchange in negotiation and to minimize ensuing dishonest acts. Although preference-related questions also promoted subsequent honest behavior in our study, we recommend using them and preference-related information provision much more carefully as it potentially also promotes subsequent dishonest behavior by the other party. Second, practitioners should avoid asking for substantiation or additional facts to decrease subsequent dishonest behavior by the other party. Third and finally, practitioners should be aware of the reinforcing effect of active listening on the other party's (dis-)honest behavior. Rather than using active listening generically at all times during the negotiation, they should use it more strategically, for instance after the provision of information that is almost certainly true.

4.6 Appendix A: Data Transparency

Table A1

Data Transparency Table

Variables in the Complete Dataset	Published paper #1	Published paper #2	Current paper
Act of honesty ¹			Х
Act of dishonesty			Х
Providing priority-related information	Х		Х
Asking for priority-related information	Х		Х
Providing preference-related information	Х		Х
Asking for preference-related information	Х		Х
Asking for positional information			Х
Providing positional information			Х
Facts/Additional information			Х
Extension questions			Х
Additional issues			Х
Clarification			Х
Single-issue activity		Х	Х
Multi-issue activity	Х	Х	Х
Requesting action			Х
Requesting for offer modification			Х
Rejecting offer			Х
Accepting offer			Х
Substantiation			Х
Asking for substantiation			Х
Stressing power			Х
Rejecting substantiation			Х
Interrupting			Х
Criticism			Х

¹ In this study, acts of honesty are defined as the *honest* provision of priority- and preference-related information. In published paper #1 priority- and preference-related information provision were also coded but not checked for their truthfulness.

Table A1 (continued)

Data Transparency Table

Variables used in this study	Published paper #1	Published paper #2	Current paper
Encouragement			Х
Positional commitment			Х
Avoiding			Х
Negative affective reaction			Х
Positive affective reaction			Х
Active listening		Х	Х
Humor			Х
Positive relationship remark			Х
Negative relationship remark			Х
Personal communication			Х
Nonpersonal chit-chat			Х
Future-related communication			Х
Apologizing			Х
Lie of omission			Х
Lie of commission			Х
Threat			Х
Hostility			Х
Use of extreme anchors			Х
Procedural suggestion			Х
Procedural discussion			Х
Time management			Х
Change of mode			Х
Interruption of the conversation			Х
Inaction			Х
Others			Х

Note. For published paper #1 only information exchange and offers were coded. In our

present study, we coded the entire interactions of the 48 videotaped negotiations again with a comprehensive coding scheme, comprising 47 behavioral codes. For published paper #2 only nine comprehensively coded videotaped negotiations were used for analysis.

Behavior Announcement in Negotiation: A First Study¹

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Abstract

In the present research, we explore the effects of announcing behaviors, such as "Let me ask you a question...", followed by the announced behavior, in negotiations. Building on communication theories, we argue that behavior announcements are positively related to rapport between negotiators as they increase transparency in the interaction. Thereby, we aim to contribute to theory development explaining the emergence of subjective value in negotiation. Moreover, we propose that behavior announcements facilitate value creation by shifting listeners' attention to the immediately following speech act and providing contextual knowledge and by facilitating a deliberative mindset. Results of our preregistered study (N = 282) show that behavior announcements positively affect negotiator rapport, which is explained by the higher perceived transparency of the negotiator using behavior announcements. However, behavior announcements did not affect information processing, a deliberative mindset, nor economic outcomes. We discuss our preliminary findings and provide suggestions for future research.

Keywords: behavior announcement, negotiation, interaction patterns, subjective value

5.1 Introduction

Communication research has long discussed the utility of announcing a behavior (e.g., "Let me ask you a question, ..." before asking the actual question). Such behavior announcements might serve as structuring (conversation) elements and prepare the listener for the next (speech) action (e.g., Reed, 2017; Sacks, 2004; Schegloff, 2007). So far, research on behavior announcements has focused on natural talk and therapeutic interactions (e.g., Reed, 2017: Weatherall & Gibson, 2015). For instance, therapists use behavior announcements to encourage their patients' voice in the process and to foster rapport (Foley & Gentile, 2010: MacMartin, 2008: Weatherall & Gibson, 2015). In the context of negotiations, behavior announcements might similarly facilitate rapport between negotiation partners (i.e., satisfaction with the process and the relationship: Curhan et al., 2006). Understanding the emergence of rapport in negotiations is critical as rapport determines negotiation outcomes in future interactions and facilitates long-lasting and profitable relationships between negotiation partners (Curhan et al., 2009, 2010; Tenbrunsel et al., 1999). A first positive indication of the effect of behavior announcements is reported by Rackham and Carlisle (1978), who observed that compared to average negotiators, skilled ones (i.e., evaluated as more effective, proven by a successful track record and low rate of implementation failures) used more behavior announcements. However, there is no evidence yet whether behavior announcements have a causal effect on rapport in negotiations. Moreover, it is important to understand whether and how behavior announcements influence economic outcomes, as this might provide an easily applicable communication technique for negotiators to increase their economic outcomes. In this research, we thus investigate the specific impact of behavior announcements on rapport and economic outcomes in integrative negotiations.

Extending communication theories (Mortensen, 2008; Schegloff, 1988), we hypothesize that behavior announcements affirm the other party's voice in the negotiation process and clarify intentions about the subsequent behavior. This should result in a higher satisfaction with the negotiation process and the relationship between negotiators (Curhan et al., 2006), similarly to findings in therapeutic settings (MacMartin, 2008; Weatherall & Gibson, 2015). Furthermore, we go beyond subjective value and study the effect of behavior announcements on economic outcomes. We examine whether clearer communication due to behavior announcements also improves information processing (cf. Bransford & Johnson, 1972: Thompson & Hastie, 1990) and fosters a deliberative mindset (cf. Curhan et al., 2021) and, thereby, joint economic outcomes. By additionally studying the effect on individual gains in an exploratory manner, we aim at gaining a more comprehensive understanding of behavior announcements in negotiation. Going beyond prior research (Rackham & Carlisle, 1978), we study behavior announcements with an experimental design to identify potential causality. We thereby follow calls to focus on actual behaviors rather than on self-report measures or hypothetical (vignette) studies when studying (negotiation) interactions (e.g., Baumeister et al., 2007; Lehmann-Willenbrock & Allen, 2018; Putnam & Jones, 1982b). Moreover, our approach allows us to observe how easily the use of behavior announcements can be trained and transferred to negotiations in a short period of time, which can be of great practical value to the field of negotiation.

This research offers the following contributions. First, the study of behavior announcements contributes to theory on the development of subjective value. Research clearly acknowledges subjective value as an important outcome measure in itself (Curhan et al., 2006; Lax & Sebenius, 1986; Thompson, 1990), but also as a determinant for subjective value and economic outcomes in future negotiations (Curhan et al., 2009, 2010; Tenbrunsel et al., 1999). However, little is known about (behavioral) predictors of subjective value (cf.

Curhan & Brown, 2012). We argue that behavior announcements might be one behavioral antecedent of subjective value, specifically rapport (i.e., satisfaction with the negotiation process and the relationship between negotiators; Curhan et al., 2006). To our knowledge, there is only one descriptive study capturing the use of behavior announcements in negotiations (comparing the use of behavior announcements between skilled and average negotiators), but disregarding potential effects on subjective value (Rackham & Carlisle, 1978). Thus, this communication technique and its role in the development of subjective value are hardly understood. However, communication theories (Mortensen, 2008; Schegloff, 1988) and research in other contexts (e.g., therapy, natural talk) suggest a positive rapport building effect (MacMartin, 2008; Weatherall & Gibson, 2015). This research is therefore a first attempt to study the factual value of behavior announcements as a potential antecedent of subjective value.

Second, by studying behavior announcements in the context of negotiations, we also extend communication theory (e.g., Barnlund, 1970; Littlejohn & Foss, 2009; Mortensen, 2008; Schegloff, 1988). This is especially important and, as we argue, necessary because communication is an integral part of negotiations (Lewicki et al., 2020). Still, many communication techniques are theoretically intensely discussed in the field of communication but rarely empirically studied, especially not in applied settings, such as negotiations (next to behavior announcements, for instance, active listening; Bodie et al., 2008; Imhof, 2001). Both, speech act theory (e.g., Littlejohn & Foss, 2009; Schegloff, 1988) and transactional communication models (Barnlund, 1970; Mortensen, 2008) propose a positive effect of behavior announcements in interactions on rapport. However, these potentially beneficial effects of behavior announcements might not unfold in negotiations as they are complex interactions that incentivize competition and social influence intentions (cf. Maddux et al., 2008). Thus, studying behavior announcements in negotiations potentially advances

communication theory by either empirically supporting well-grounded theory and/or by identifying potential limitations and boundary conditions to its theoretical propositions.

Third, by studying a specific communication technique, such as behavior announcements, we can potentially also derive two specific pieces of practical advice for negotiators in the field. By studying behavior announcements in an experimental setting, we can test whether behavior announcements can easily be trained. Based on our observations, we can then build on and refine respective training approaches. In addition, based on our findings, we can derive specific advice, for which concrete purpose(s) behavior announcements should be used. In contrast to findings on personality traits and context variables (for an overview, see Brett & Thompson, 2016) that are practically more relevant in the preparation of the negotiation, findings of our study are targeting the negotiation interaction itself. With our study, we thereby contribute to the formation of a behavioral toolbox for practitioners that may improve their negotiation interactions and outcomes.

5.2 Theoretical Background

5.2.1 Behavior Announcements

Behavior announcements are defined as the act of announcing the own subsequent speech act (also termed presequence or meta-talk, cf. Reed, 2017; Schegloff, 1988). Behavior announcements are the first part of a sequence (hence the term *pre*-sequence). To be considered as an effective behavior announcement, the subsequent speech act (i.e., the second part of the sequence) must follow the behavior announcement. For instance, "Let me make you an offer" (behavior announcement) must be followed by a statement, such as "We will pay \$12,000" (subsequent speech act). Preceding a subsequent speech act, they can be, for instance, pre-invitations, pre-offers, or pre-requests. Henceforward, we will use the term behavior announcement. We furthermore refer to the party using behavior announcements as speaker and to the other party listening to these behavior announcements as listener.

5.2.2 Effect on Rapport

Rapport refers to the development of a positive experience for both negotiators. According to theory on subjective value in negotiation (Curhan et al., 2006), rapport is a more encompassing construct comprised of the two facets a) feelings about the relationship and b) feelings about the process (see also Thompson, 1990). One characteristic of rapport is the dyadic or group aspect, as rapport is not only situated within one individual (Bronstein et al., 2012; Granitz et al., 2009). Rapport is thus created by the interaction of both negotiators finding common ground. However, how rapport is created is not fully understood yet. Previous evidence suggests that within the context of negotiations, verbal behavior, such as expressing positivity or flexibility, plays a role in the perception and interpretation of interpersonal information, which ultimately leads to rapport (Bronstein et al., 2012). Adding to that, our study therefore aims to investigate behavior announcements as possible antecedents of rapport to better understand predictors of subjective value in negotiations.

Building on speech act theory (e.g., Austin, 1975; Littlejohn & Foss, 2009; Schegloff, 2007), we argue that behavior announcements promote negotiators' rapport (i.e., satisfaction with the process and the relationship; Curhan et al., 2006). Speech act theory proposes that each utterance within an interaction serves a function (e.g., a promise, a request, an announcement; Austin, 1975; Littlejohn & Foss, 2009). Behavior announcements like "Let me ask you a question." or "Can I ask you a question?" serve as structuring elements and affirm the listener's voice in an interaction (Schegloff, 1988; Terasaki, 2004). Thus, they invite the listener to *grant permission* to execute the announced behavior. For instance, if the announcement of "Let me ask you a question." goes uninterrupted by the listener, the speaker has permission to follow through with their proposed direction. Similarly, it allows the listener to abort the interaction sequence (for instance) to prevent conflict or disagreement (e.g., Goodwin & Heritage, 1990). By acknowledging and encouraging the listener's voice in

the interaction process, the listener feels more valued as a negotiation partner and more satisfied with the process. Thus, behavior announcements can foster rapport between interaction partners (cf. Foley & Gentile, 2010; MacMartin, 2008; Weatherall & Gibson, 2015). We thus propose:

Hypothesis 1: Behavior announcements are positively related to rapport between negotiators.

Moreover, we propose the listener's perceived transparency of the speaker as a potential mediator between the effect of behavior announcements on negotiators' rapport. Building on transactional models of communication (Barnlund, 1970; Mortensen, 2008). behavior announcements in their function as structuring elements (Schegloff, 1988; Terasaki, 2004) can reduce potential communication noise (i.e., any interference in the communication process) that can distort the actual meaning and intention of the subsequent message. For instance, announcing the provision of preference-related information (e.g., "Let me tell you about my preferences regarding the start date"; see Brett & Thompson, 2016), reduces the risk that the listener might misinterpret the following behavior (e.g., "I prefer to start in November.") as an offer or a bottom line. The speaker thereby underlines that the proposed start date is merely a preference, which may change the way, in which this information is received. Thus, behavior announcements should prevent ambiguity and misunderstandings about the speaker's intentions regarding their subsequent actions and the listener should perceive the speaker as behaving more transparently (cf. Dapko, 2012; Rackham & Carlisle, 1978). Building on uncertainty-reduction theory (Berger & Calabrese, 1975), appearing transparent in interactions reduces the other party's uncertainty about the speaker's subsequent behavior and should, thereby, promote process and relationship satisfaction (Berger & Calabrese, 1975; Neuliep & Grohskopf, 2000). Thus, we propose:

Hypothesis 2: The positive effect of behavior announcements on rapport between negotiators is mediated via a higher perceived transparency of the speaker by the listener.

5.2.3 Effect on Economic Outcomes

Our main focus in this study lies on the potential role of behavior announcements as a predictor of subjective value (i.e., rapport; Curhan et al., 2006). Still, to gain a comprehensive understanding of the role of behavior announcements in negotiation, we also consider potential effects of behavior announcements on economic outcomes. We consider two potential mechanisms that may explain how behavior announcements might affect joint gains (i.e., the sum of both parties' individual gains): First, building on transactional communication models (Barnlund, 1970; Mortensen, 2008), behavior announcements potentially reduce communication noise (i.e., any interference in the communication process) that can distort the actual meaning of the subsequent message (see above).

Second and building on information processing theories (e.g., Bransford & Johnson, 1972; Dooling & Lachman, 1971; Mortensen, 2008), behavior announcements can provide contextual knowledge (i.e., what type of behavior will follow), which facilitates the accurate comprehension and integration of information provided in the subsequent interaction. This should result in a better insight into the other party's perspective, including their preferences within issues and priorities between issues (Steinel et al., 2007; Thompson & Hastie, 1990). In turn, improved information processing can help identifying trade-off opportunities and compatible issues, which is crucial for value creation (Pruitt & Lewis, 1975; Steinel et al., 2007; Thompson & Hastie, 1990). Thus, we propose:

Hypothesis 3: Behavior announcements are positively related to joint gains.

Hypothesis 4: The positive effect of behavior announcements on value creation is partly mediated via more accurate information processing of the listener.¹

Second, we propose a deliberative mindset (i.e., a problem-solving mode of thinking, Curhan et al., 2021) as another potential mediator of the effect of behavior announcements on joint gains. Building on dual-process models of cognition, behavior announcements as structuring elements (Schegloff, 1988; Terasaki, 2004), might promote reflective and deliberative thinking as opposed to automatic, heuristic thinking (Kahneman, 2003; Strack & Deutsch, 2004;). Specifically, behavior announcements help the speaker to reflect on his next steps, but also invite the other party to reflect on how to proceed, allowing for a deliberative mindset. In turn, a deliberative mindset potentially reduces fixed-pie perceptions, which are often prevalent in negotiations and instead promotes value creation (i.e. joint gains, Curhan et al., 2021; De Dreu et al., 2000; Walton & McKersie, 1965).

Hypothesis 5: The positive effect of behavior announcements on joint gains is also partly mediated via a deliberative mindset of both negotiators.²

Moreover, we want to investigate whether behavior announcements affect individual gains in an exploratory manner. We presume that behavior announcements facilitate the initiation of a subsequent announced action (e.g., Reed, 2017; Sacks, 2004), and thus may help the speaker to gain control over how the interaction is proceeding and increase the speaker's (perceived) power (e.g., Schegloff, 2007). A higher perceived power, in turn, might facilitate value claiming (i.e., individual gains, Schaerer et al., 2020; Wiltermuth et al., 2018).

Research Question 1: Are behavior announcements positively related to the speaker's individual gain?

¹ In our preregistration we also considered a mediation effect via the perceived ease of processing information (Graf et al., 2018). In further developing the theory, we decided to exclusively focus on insight as a measure of objective information processing as it is theoretically stronger linked to joint gains (Steinel et al., 2007; Thompson & Hastie, 1990).

² We propose a parallel mediation model of behavior announcements on joint gains via information processing and a deliberative mindset.

Research Question 2: Is the positive effect of behavior announcements on the speaker's individual gain mediated via a higher perceived power of the speaker?

5.3 Method

We preregistered all hypotheses and research questions and the experimental design (see https://osf.io/aw4s3?view_only=f153cdf8c8a14c0d9962ef3efd340480).

5.3.1 Sample and Procedure

A sample of 282 students (45.55% female; $M_{age} = 20.48$, $SD_{age} = 1.54$) participated as part of their course work at a Dutch university. The entire study (i.e., negotiation and survey) was conducted in English. Participants were screened for a proficient level of English prior to the study. Upon arrival at the laboratory, participants were randomly assigned to the buyer or seller negotiation roles (client or contractor) and had 15 minutes to prepare the case. The case consisted of a five-issue negotiation between a client and a contractor regarding an office renovation project (adapted from Thompson et al., 1996). It included two distributive issues, two logrolling issues, and one compatible issue (see Table 1).

Table 6

Pay-off Matrix

Issue	Options	Score (Buyer)	Score (Seller)	Type of Issue	
	Nov 1	1,000	-1,000		
	Nov 15	500	- 500		
Start Date	Dec 1	0	0	Distributive	
	Dec 10	- 500	500		
	Jan 5	-1,000	1,000		
	100%	3,200	0		
	70%	2,400	300		
Materials included	50%	1,600	600	Logrolling	
	30%	800	900		
	0%	0	1,200		
	€20.000	0	4,000		
	€18.000	1,000	3,000		
Price	€12.000	2,000	2,000	Distributive	
	€10.000	3,000	1,000		
	€8.000	4,000	0		
	Peter Mol	1,600	1,600		
	Alex Kuis	1,200	1,200		
Electrician	Fred Brecht	800	800	Compatible	
	Tom Boersma	400	400		
	Henk Jansen	0	0		
	Bright Coats	0	3,200		
	Shine TBS	300	2,400		
Paint used	Latex Plus	600	1,600	Logrolling	
	Top Brush	900	800		
	Amex-10	1,200	0		

After five minutes of preparation, participants in the contractor role (i.e., sellers) were either assigned to the behavior announcement condition or the control condition. Participants in the role of the client (i.e., buyers) were always in the control condition. We thus conducted a unilateral manipulation (cf. Zerres et al., 2013). Participants in the behavior announcement condition were instructed to announce their subsequent behavior during the upcoming negotiation (see Appendix A). They were given three examples, demonstrating how behavior announcements are used. Moreover, participants were asked to write down three examples of what they wanted to say, using behavior announcements, to make them actively think about how to integrate behavior announcements in the upcoming negotiation. Participants in the control condition were instructed to focus on the confidential instructions for the upcoming negotiation (see Appendix A), and to write down three examples of what they wanted to say in the upcoming negotiation. After 15 minutes of preparation participants had 25 minutes to negotiate in dyads. Negotiation interactions were videotaped with two GoPro cameras. As soon as participants reached an agreement, or after the 25 minutes were up, the agreement/non-agreement was recorded. Finally, participants filled in a survey (the demographic questions and self-report measures are described below).

5.3.2 Measures

Behavior Announcements. To check whether negotiators in the experimental group used more behavior announcements than negotiators in the control condition, the first two authors and one independent coder, who is not among the authors and was blind to the experimental conditions, watched the videotaped negotiations and coded the frequency of behavior announcements. Moreover, they coded which type of behavior announcement was used (e.g., announcing a preference-related question) and if the subsequent behavior was in line with the announcement (asking a preference-related question) by using the NegotiAct coding scheme (Jäckel et al., 2022).

Rapport. We measured rapport with two subscales (eight items) of the Subjective Value Inventory–feelings about the relationship and feelings about the process (SVI; Curhan et al., 2006). We also combined the individual response measures to form a dyad-level composite dependent variable of rapport. An example item is "Do you feel your counterpart(s) listened to your concerns?" (1 = "not at all" to 7 = "a great deal"; Cronbach's α = .88).

Transparency. We measured transparency with a 7-item scale (adapted from Dapko, 2012). An example item is: "My counterpart enables me to know what s/he is doing" (1 = "strongly disagree" to 7 = "strongly agree"; Cronbach's α = .87)

Economic Outcomes. To assess individual gains, we summed up negotiators' individual scores per negotiation issue. Joint gains are the sum of both parties' individual gains (Tripp & Sondak, 1992).

Information Processing. To assess the accuracy of information processing of the listener we used an objective measure of information processing (i.e., the accuracy of estimating the other party's interests, e.g., pay-off schedule; Steinel et al., 2007; Thompson & Hastie, 1990). We adapted the measurements by Thompson and Hastie (1990) and Steinel et al. (2007) to our study's purposes. Participants received a blank payoff matrix after the negotiation and filled in estimated pay-off scores for the other party. To compute the judgement accuracy score, we summed up absolute differences between the estimates and actual scores across all five options for each issue and for both negotiators. Thus, a higher score translates into a lower judgement accuracy.

Deliberative Mindset. We measured the extent to which participants had a deliberative mindset with a 3-item scale (adapted from Magee, 2009). One example item is: "I considered my options and alternatives in the negotiation" (1 = "not at all" to 7 = "a great deal"; Cronbach's α = .71).

Power. We measured perceived power with a 4-item scale (Schaerer et al., 2015). One example item is: "In the negotiation I felt in control" (1 = "not at all" to 7 = "a great deal"; Cronbach's $\alpha = .87$).

5.4 Results

5.4.1 Manipulation Check

An independent-samples *t*-test was run to determine whether there were differences in the frequencies of using behavior announcements between the experimental and the control group. Sellers in the experimental group indeed announced their behavior more often (M =3.14, SD = 4.07) than sellers in the control group (M = 0.03, SD = 0.17), t(139) = -6.34, p <.001. Interestingly, also buyers in dyads with sellers in the experimental group used significantly more behavior announcements (M = 0.19, SD = 0.52) than buyers in dyads with sellers in the control group (M = 0.04, SD = 0.21), t(139) = -2.25, p = .03, which suggests that buyers in the experimental group imitated the sellers' behaviors. None of the behavior announcements were interrupted by the other party, thus speakers could always follow through with the announced behavior. Most behavior announcements were related to offermaking (f = 85), while for instance priority-related questions were rarely announced (f = 12); see Table 2 for a full descriptive overview of the different types of behavior announcements used in the negotiation.

Table 2

Frequency, Means and Standard Deviations of Different Types of Behavior Announcements Made

Ty	Type of behavior announcement Example		f	М	SD
1.	Offer-making	"Let me make an offer."	85	1.44	1.68
2.	Clarification	"Let me summarize what we agreed on."	35	0.59	1.59
3.	Substantiation	"Let me explain to you why I need a higher price."	31	0.53	1.33
4.	Preference-related information provision	"Let me tell you about my preferences for the date."	22	0.37	0.72
5.	Preference-related question	"Let me ask you a question about your preferences."	19	0.32	0.54
6.	Priority-related information provision	"Let me tell you about which issues are most important to me."	15	0.25	0.54
7.	Priority-related question	"Let me ask you a question about your priorities."	12	0.20	0.48

Note: N = 59 (only considering those dyads where at least one behavior was announced).

5.4.2 Hypotheses Testing

To test our prediction that behavior announcements positively affect negotiators'

rapport (Hypothesis 1), we conducted an independent-samples, one-tailed t-test. As predicted,
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rapport was significantly higher in those dyads where sellers were instructed to use behavior announcements ($M_{EG} = 5.46$, $SD_{EG} = 0.59$) than in control group dyads ($M_{CG} = 5.26$, $SD_{CG} = 0.80$), t(138) = -1.69, p = .047 (see Figure 1). Thus, Hypothesis 1 was supported.

As rapport was measured on the dyad level and consisting of two sub-constructs – satisfaction with the process and with the relationship – we further separated the effect for speaker and listener and both sub-constructs. We additionally ran these analyses as our theoretical rationale indicates a positive effect especially on the listener's perception. When separating these effects, we only found a significant difference in the predicted direction for the speaker's perceived process satisfaction between both groups ($M_{EG} = 5.57$, $SD_{EG} = 0.80$, $M_{CG} = 5.24$, $SD_{CG} = 1.22$), t(139) = -1.96, p = .03. We did not find a significant difference for the speaker's perceived relationship satisfaction, nor for the listener's perceived process and relationship satisfaction between experimental and control group (see Figure 1).

Figure 1

Mean Dyad Rapport Satisfaction, Mean Process Satisfaction and Mean Relationship Satisfaction Separated for Speaker and Listener for Dyads in the Experimental Condition and Dyads in the Control Condition



Note: This figure displays the mean rapport, process, and relationship satisfaction for the experimental condition (i.e., sellers were instructed to use behavior announcements) and the control condition (error bars show standard deviations). * p < .05.

To test Hypothesis 2, we ran mediation analysis with the PROCESS macro v.4.0 in SPSS v.28.0 (Hayes, 2017). In contrast to our prediction, the speaker's use of behavior announcements did not predict the listener's perception of the speaker's transparency, a = -.13, p = .45, 95% CI [-.48,.22]. The effect of the listener's perceived transparency of the speaker on negotiator rapport, in turn, was only marginally significant, b = .11, p = .06, 95% CI [-.004, .22]. Thus, the listener's perceived transparency of the speaker (M = 4.84, SD =

1.04) did not mediate the positive effect of behavior announcement on rapport (ab = -.01, 95% CI [-0.08, 0.02]) and Hypothesis 2 was not supported. However, the effect was fully mediated by the speaker's perceived transparency of the listener (M = 4.93, SD = 1.01); ab = 0.09, 95% CI [0.004, 0.19]), see Figure 2. Again, when separating effects on rapport for the speaker and the listener and for satisfaction with the relationship and the process, we only found a significant mediation effect on the speaker's perceived process satisfaction (ab = 0.17, 95% CI [0.02, 0.36]), not on the speaker's perceived relationship satisfaction, nor for the listener's perceived process and relationship satisfaction.

Figure 2

Speaker's Perceived Transparency of the Listener as a Mediator of the Effect of Behavior Announcements on Dyad Rapport



Indirect effect: B = .09*

To test Hypothesis 3, we conducted an independent-samples, one-tailed *t*-test. There were no significant differences in joint gains between both groups (M_{EG} = 12000.00, SD_{EG} = 935.83; M_{CG} = 11826.09, SD_{CG} = 2249.23), t(139) = -0.60, p = .27. As we did not find a main effect, we consequently did not find a mediating effect for information processing, nor for a deliberative mindset. Thus, Hypotheses 3, 4, and 5 were not supported.

^{*} *p* < .05, ** *p* < .001

5.4.3 Exploratory Analyses

To answer Research Question 1, namely whether behavior announcements relate to the speaker's individual gain, we performed an independent sample, two-tailed *t*-test. There were no significant differences of the speakers' individual gains between the experimental group (M = 5898.61, SD = 1288.57) and the control group (M = 5965.22, SD = 1758.91); *t* (139) = 0.26, p = 80. As we did not find a main effect, we consequently also did not find a mediation effect of the speaker's perceived power (Research Question 2).

To check if different types of behavior announcements (see Table 2) affected negotiators' rapport (i.e., satisfaction with the process and the relationship) differently, we additionally ran linear regression analyses. Sellers' announcements of a subsequent substantiation (i.e., statements that follow an argumentative structure connecting information with opinions; Jäckel et al., 2022) were negatively related to buyers' satisfaction with the process, $\beta = -.27$, t(132) = -2.49, p = .01, and with the relationship, $\beta = -.27$, t(132) = -2.50, p = .01. Sellers' announcements of a subsequent offer were marginally positively related to the buyers' satisfaction with the relationship, $\beta = .20$, t(132) = 1.82, p = .07. The frequency of other types of behavior announcements were not related to the buyers' satisfaction with the process and the relationship. Moreover, none of the frequencies of the different types of behavior announcements were related to the sellers' satisfaction with the process and the relationship.

5.5 Discussion

In the present study, we found first empirical evidence for the factual value of behavior announcements as an antecedent of subjective value in negotiations. We found a positive effect of behavior announcements on the speaker's satisfaction with the process, fully mediated by the speaker's perceived transparency of the listener. However, we did not find support for a potential positive effect of behavior announcements on economic

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outcomes. If replicated, these insights advance theory on the development of subjective value in negotiation (Curhan et al., 2006) and test communication theory (Barnlund, 1970; Schegloff, 1988) in the context of negotiation. Moreover, they provide us with directions for future research that we elaborate on in the following.

First, our results show support for a rapport building effect of behavior announcements in negotiation and thereby potentially contribute to theory on behavioral predictors of subjective value (cf. Curhan et al., 2006; Curhan & Brown, 2012). Contrasting our (preregistered) assumptions, behavior announcements in general (disregarding which behavior was announced) affected the speaker's perceptions rather than the listener's perception of rapport. However, we find first evidence that the effect of behavior announcements on the listener (but not on the speaker) might be depending on what type of behavior is announced and subsequently executed. Thereby, our findings potentially advance communication theories that did so far not propose a conditional effect of behavior announcements on the listener (e.g., Littlejohn & Foss, 2009; Mortensen, 2008; Schegloff, 1988).

In our exploratory analyses, the announcements of substantiations were negatively related to the listener's process and relationship satisfaction, while offer announcements were positively related to the listener's relationship satisfaction. The announcements of a substantiation (e.g., "Let me explain my reasons to you... ") might portray a condescending character of an argument (cf. Hyder et al., 2000), undermining the listener's capability to interpret previous arguments. In contrast, offer announcements might make the listener feel more actively engaged in the offer process and thus make the subsequent offer feel *less* like a competitive act. In fact, they might inhibit a competitive communication cycle consisting of reciprocal offer-making (cf. Brett et al., 1998; Olekalns & Smith, 2003a) that are potentially detrimental for negotiators' relationship satisfaction (Curhan et al., 2006; Hüffmeier et al.,

2014). Thus, we encourage future research to further study and specify which kind of behavior announcement should be used. One experimental group could, for instance, only be instructed to announce their subsequent substantiation (Hyder et al., 2000). Another group could be instructed to announce their subsequent offer-making (cf. Brett et al., 1998; Olekalns & Smith, 2003a). Thereby, it would be possible to compare different types of behavior announcements regarding their effect on negotiation outcomes.

Second, to further increase the effect on the listener and in line with our theorizing (cf. Schegloff, 1988; Terasaki, 2004), we advise future research to instruct negotiators to give the listener a moment after making the announcement to process it fully so they can actively grant permission (or decline proposed behavior). Only after the listener granted permission (either by nodding or saying "yes") should the negotiator show the announced behavior. Thereby, the listener will feel more aware and affected by the use of behavior announcements.

Third, we followed a unilateral manipulation, where only the sellers' behavior was manipulated. To further strengthen the manipulation, we advise to include the role of the negotiator as an additional factor (e.g., buyer and seller). Thereby, it would be possible to study if effects are stronger when both parties employ behavior announcements, whether the effects are role-dependent, and to determine actor and partner effects (Kashy & Kenny, 2000; Kenny et al., 2006). In fact, previous research investigating rapport across different types of relationships has established the complex speaker dynamics of (nonverbal) communication (Buck, 1990; DePaulo & Bell, 1990), which speaks to the importance of different roles in the interaction. For instance, in therapeutic interactions, behavior announcements are a tool for therapists to structure the interaction with their clients (Foley & Gentile, 2010). A similar effect may arise in negotiation settings, where one of the two parties (i.e., the seller) is taking it upon themselves to own and steer the conversation.

5.5.1 Conclusion

Results of this initial study show that behavior announcements positively affect negotiator rapport, which can be partly explained by a higher perceived transparency of the negotiator using behavior announcements. This is in line with findings in other settings, such as therapeutic interactions, where relationship building is essential and the effect on clients' subjective feeling is already established (MacMartin, 2008; Weatherall & Gibson, 2015). In contrast, we did not find evidence for an effect of behavior announcements on information processing, a deliberative mindset, and joint economic outcomes. However, improved rapport can potentially also facilitate value creation in subsequent negotiations (with the same negotiation partner; Curhan et al., 2010). As the manipulation of behavior announcements in this study was not targeting specific behaviors, future research should study more specific behavior announcements to test whether their effect on rapport is even stronger and to explore further which behavior announcements might have negative effects.

5.6 Appendix A: Instructions

5.6.1 Instruction (EG)

Prior research shows that some negotiation strategies will improve negotiated outcomes. Announcing the type of behavior that you want to show is one such strategy. In the upcoming negotiation, every time before you a) ask a question, b) make an offer or c) provide information, announce it first by saying 'Let me....'.

For example, instead of asking "Which option do you prefer for issue x?", try saying: "Let me ask you a question about your preferences. Which option do you prefer for issue x"? Or instead of saying "Let's take x as the start date", try saying: "Let me make an offer. Let's take x as the start date."

Or instead of saying "For me issue y is the most important", try saying: "Let me tell you about my priorities. For me issue y is the most important."

Please think about the negotiation case and the confidential instructions now and write down three specific examples of what you want to say in the upcoming negotiation and appropriate behavior announcements that you can use:

Example 1	Let me

Example 2	Let me
Example 3	Let me

Please remember to announce your behavior every time before you a) ask a question, b) make an offer or c) provide information in the upcoming negotiation.

5.6.2 Instruction (CG):

Prior research shows that some negotiation strategies will improve negotiated outcomes. Focusing on the information in your confidential instructions is one such strategy. **In the**

upcoming negotiation, always keep this information in the back of your mind.

Please think about the negotiation case and the confidential instructions now and write down three specific examples of what you want to say in the upcoming negotiation.

Example 1		
Example 2		
Example 3		

Please remember to focus on the confidential instructions in the upcoming negotiation.

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Discussion

6.1 Theoretical Contributions

This dissertation contributes to a more comprehensive understanding of temporal interaction patterns in negotiation. Studying negotiation interactions in a comprehensive, yet fine-grained manner, is crucial as so far unexplored behaviors and behavioral patterns can potentially explain additional variance in the prediction of subsequent behaviors and important negotiation outcomes (e.g., Taylor & Donald, 2003; Vetschera, 2013). We unraveled temporal interaction patterns in negotiations that have so far been neglected, such as active listening patterns, behavioral antecedents of (dis-)honest behavior, and effects of behavior announcement patterns on negotiation outcomes. Thereby, this dissertation provides novel theoretical insights into the interaction process in dyadic business negotiation that we will elaborate on in the following.

First, we contribute to a better understanding of negotiation behaviors and behavioral patterns by studying negotiations from an interaction theory perspective (cf. Donohue, 2003; Taylor & Donald, 2003; Weingart et al., 1999). In previous work, the likelihood of displaying negotiation behaviors was often treated as static throughout a negotiation, predetermined by, for instance, personality traits, relationships, gender, power, and culture (Brett & Thompson, 2016; Thompson et al., 2010). Findings of our studies suggest that the decision to show a certain behavior (e.g., active listening, dishonest behavior) is dynamic as it is also affected by preceding behaviors (e.g., multi-issue offers, preference-related questions) *within* the interaction.

This is in line with previous studies suggesting that behavioral antecedents explain more variance in the prediction of subsequent behaviors in an interaction process than interindividual difference and contextual variables (e.g., Taylor & Donald, 2003; Weingart et al., 1999). However, we want to emphasize that the interaction theory perspective we take in our studies is not competing with but rather complementing extant research that studied

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effects of interindividual differences (e.g., traits, motivation) or context (e.g., dvad composition, culture) on negotiation interaction. Specifically, we argue that potential effects of interindividual differences or context on the interaction are mitigated or promoted by communicative acts during the negotiation. Thus, even though interindividual differences, such as cooperative or competitive motives affect the interaction (cf. Olekalns & Smith. 2003b), "language functions as a system to allow for, or constrain the generation of a cooperative or competitive context" (Donohue, 2003; p. 172). Adding to a small stream of research that has already taken this stance (e.g., Brett et al., 1998; Liu, 2013; Olekalns & Smith, 2003a; Olekalns et al., 2003; Putnam & Jones, 1982a), we shed light on previously neglected behaviors (i.e., active listening, [dis-]honest behavior, behavior announcements), and demonstrate their impact on the subsequent interaction as well as negotiation outcomes. Thereby, we further emphasize the need to study actual behavior as it unfolds in a finegrained and comprehensive manner, instead of merely relying on frequency measures of selected behaviors, self-report measures, or vignette studies when studying social interactions, such as negotiations (e.g., Baumeister et al., 2007; Brett et al., 1998; Lehmann-Willenbrock & Allen, 2018; Putnam & Jones, 1982b; Turan et al., 2011).

Second, we extend negotiation theory in several ways. Based on our findings of active listening and its reinforcing effect after multi-issue offers on the subsequent interaction, we specifically contribute to theory on turning points in negotiation (Druckman & Olekalns, 2013; Druckman et al., 1991). Similar to synchronous negotiation behaviors (e.g., reciprocated cooperativeness; Olekalns & Smith, 2003a), active listening, applied after integrative statements (e.g., a multi-issue offer), may facilitate such turning points that indicate the transition of a negotiation from one phase to another. By reinforcing the previous integrative behavior, it can shift the subsequent interaction toward a mutually beneficial agreement.

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Also, our findings add to and refine previous theory on information exchange in negotiation by further showing the unique and positive role of priority-related information exchange (e.g., Brett & Thompson, 2016; Hüffmeier et al., 2019). Building on Social Exchange Theory (Blau, 1964; Molm & Wiggins, 1978), we assume that only priority-related information exchange seems to make salient the benefits of subsequent acts of honesty (but not dishonesty) while keeping their perceived costs low. In turn, this unique pattern (priorityrelated questions and information provision, followed by acts of honesty) might explain why only priority-related information exchange is positively related to value creation (cf. Hüffmeier et al., 2019; Weingart et al., 1996).

Finally, our initial study on behavior announcements potentially contributes to theory on (behavioral) antecedents of subjective value in negotiation (Curhan et al., 2006; Curhan & Brown, 2012). We demonstrated that behavior announcements positively affect the satisfaction with the negotiation process for the party that uses the announcements. They might help to structure the conversation and lead to more favorable perceptions of the other party who *granted permission* to proceed with the announced behavior (Barnlund, 1970; Mortensen, 2008; Schegloff, 1988).

Third, by studying negotiation interactions comprehensively and in a fine-grained manner, we connected different streams of negotiation research and generated novel theory. Our insights on active listening resulted in a contingent effect model of active listening, proposing that active listening not only has a reinforcing effect after multi-issue offers but related to every behavior that it follows. This theoretical notion would also explain why the generic use of active listening (i.e., all occurrences of active listening) was not associated with rapport in the same study. We argue that the effect of active listening on rapport is also contingent on the behavior that it follows. Specifically, the effects of active listening on rapport might be stronger when used after affective statements to reflect the other party's

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feelings in the listener's own words (Gordon, 1975). We found further support for this model when looking for behavioral antecedents and consequences of (dis-)honest behavior: active listening promoted and was promoted by acts of dishonesty and acts of honesty. The effect of active listening, thus, seems contingent on the behavior that it follows and promotes. Future research should delineate further after which statements active listening is beneficial (or detrimental) for economic and socio-emotional outcomes and test our proposed model of contingent effects of active listening in negotiation.

6.2 Limitations and Future Research

This dissertation contributes to a better understanding of temporal interaction patters in negotiation. Still, we acknowledge that our studies have some limitations. In the following, I will discuss some limitations and potential implications for future research.

First, we focused on behavioral interaction patterns within entire negotiation interactions using lag sequential analysis (for Chapter 2-4; Bakeman & Quera, 2011) and sequential analysis with the event lag with pauses method (for Chapter 4; Lloyd et al., 2016). Thus, we did not consider how interindividual or context differences affect behavioral patterns concerning active listening, acts of (dis-)honesty, and negotiation outcomes. We decided to focus on behavioral antecedents and consequences within interactions as preceding behaviors are powerful predictors of subsequent behaviors (e.g., Taylor & Donald, 2003). Still, it could be interesting to study how, for instance, negotiators' attitudes (i.e., cooperative vs. competitive) affect active listening patterns and their effect on joint gains and rapport. Similarly, studying how certain personality traits (e.g., Machiavellianism) or the distribution of power between negotiators affect communication patterns elicited by (dis-)honest behaviors could extend our understanding of (dis-)honesty in negotiation. Future research could study these questions, for instance, through statistical discourse analysis,

which allows for the combined study of such factors and behaviors (e.g., Lehmann-Willenbrock et al., 2017).

Second, in Chapter 2-4, we studied natural occurring negotiation interactions, which led to relevant findings regarding the frequency and timing of active listening patterns and (dis)-honest behavior. However, even though our studies demonstrated which behaviors precede and follow active listening (patterns) and acts of (dis-)honesty, we cannot draw causal inferences. Future research should study these relationships in an experimental setting, to test whether the manipulation of behaviors (e.g., encouraging the use of active listening after multi-issue offers) would yield similar results.

The main research questions in this dissertation focused on temporal interaction patterns, and could thus be studied with lag sequential analysis. The statistical power for this analysis relied on the number of thought units (N = 5,365 in Chapter 2; N = 17,120 in Chapter 3 and Chapter 4) and should therefore be sufficient (cf. Bakeman & Quera, 2011). However, when studying the relationship between behaviors (e.g., active listening) or behavioral patterns (e.g., active listening-multi-issue offer patterns) and negotiation outcomes (e.g., rapport, joint gains) as we did in Chapter 2 and Chapter 3, the statistical power for analyses relied on the number of interactions. In the respective studies we coded and analyzed 18 (Chapter 2) and 48 (Chapter 3) videotaped interactions comprehensively. Thus, given the number of coded negotiations, the statistical power for finding small to medium effects was limited. However, manually coding interactions comprehensively is time-consuming and costly (cf. Lehmann-Willenbrock & Allen, 2018).

Coding software like INTERACT (Mangold, 2020) make the time investment and coding effort more manageable as coders can directly code from the video (without transcribing it first). Still, coders need to be specifically trained in the application of the coding scheme. When sufficiently trained, coders need on average five hours for segmenting

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an interaction into thought units and assigning codes to these units (see Kauffeld & Lehmann-Willenbrock, 2012). One potential solution to obtain a sufficient sample size while still comprehensively coding interactions in a fine-grained manner, is automated coding (further discussed in the last paragraph of this section).

Even though we studied interactions comprehensively when it comes to verbal behavior, we did not code and examine the role of nonverbal behaviors, such as kinesics (e.g., gestures, eye contact), proxemics (e.g., use of space, seating arrangements), or vocalics (e.g., pitch, pace; for an overview of coding nonverbal behavior, see Burgoon & Dunbar, 2018). We did not include nonverbal behaviors in our studies as non-verbal behaviors require different time windows for observation and analysis than thought units. Moreover, with 47 behavioral codes, we already provide a detailed view of the negotiation process and there is a limit to the number of codes that can be reliably measured with a coding scheme and human coders (cf. Sim & Wright, 2005). However, we are aware that a multitude of other nonverbal behaviors cannot be captured with NegotiAct but are worth studying (cf. Adair & Semnani-Azad, 2011; Curhan & Pentland, 2007). For instance, Curhan and Pentland (2007) demonstrated that conversational dynamics (e.g., speaking time, prosodic emphasis) that emerged within the first five minutes of negotiations explained 30% of the variance in individual gains.

A potential solution to tackle a) the limited power due to a small sample size as discussed above and b) the limited comprehensiveness by excluding nonverbal behaviors lies in automated coding. Even though we coded interactions manually in our studies, there is potential for automated coding using Supervised Machine Learning (SML) in the future. By combining similar datasets that were manually coded with NegotiAct, we could create a sufficiently large training set to adequately train a machine. Once the machine is trained, it can be used to code new data that has not been coded yet. Additionally, also nonverbal behaviors, such as facial expressions (e.g., smile, neutral face) can automatically be coded

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from videotaped negotiations, using for instance, the Computer Expression Recognition Toolbox (CERT; Littlewort et al., 2011; Yu et al., 2013; for an application in the negotiation setting, see Li et al., 2015). The coded datasets (verbal and nonverbal) could then be aggregated to study, which nonverbal behaviors precede which verbal behaviors and vice versa. For instance, we could study the direct and lagged verbal consequences of nonverbal behaviors that are associated with dominance, such as a relaxed posture, use of space, or display of negative emotions (cf. Adair & Semnani-Azad, 2011). Generally, automated coding can lead to more cumulative research and save human resources. To learn more about machine learning for group interaction data, see for instance, Bonito and Keyton (2018).

6.3 Practical Implications

In contrast to findings on personality traits and context variables (for an overview, see Brett & Thompson, 2016) that are practically more relevant in the preparation of the negotiation, this dissertation is targeting the negotiation interaction itself. Based on the findings of our studies, we provide a behavioral toolbox for practitioners that should improve their negotiation interactions and outcomes. First, practitioners should avoid using active listening generically (i.e., at any time in the negotiation). Especially and based on our proposed model of contingent effects of active listening, practitioners should use active listening after integrative statements (e.g., multi-issue offers, priority-related information provision). In contrast, they should not use active listening after distributive statements to prevent reinforced distributive communication that potentially decreases value creation and may even make agreements less likely.

Second, practitioners should ask priority-related questions and provide priority-related information to foster subsequent honest information exchange in negotiation and to minimize ensuing dishonest acts. Moreover, they should avoid asking for substantiation or additional facts to decrease subsequent dishonest behavior by the other party. Generally, we advise

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focusing more on communication techniques and behaviors in negotiation training. They can easily be applied and positively impact the interaction and ultimately negotiation outcomes (e.g., Taylor & Donald, 2003; Weingart et al., 1999).

6.4 Conclusion

This dissertation contributes to a more comprehensive understanding of temporal interaction patterns in negotiation. We shed light on temporal interaction patterns in negotiations that have so far been neglected, such as active listening (patterns) and their effect on negotiation outcomes, behavioral antecedents and consequences of (dis-)honest behavior, and effects of behavior announcement patterns on negotiation outcomes. Thereby, this dissertation provides novel theoretical insights into the interaction process that contribute to interaction theory, theory on turning points, information exchange theory, and theory on subjective value. Moreover, the comprehensive yet fine-grained study of negotiation interactions generated new theoretical insights related to a contingent effect model of active listening. This dissertation also identifies several avenues for future research, such as the consideration of interindividual or context differences when studying temporal interaction patterns, or the potential for automated coding. Finally, findings of this dissertation are also of high practical value. We provide concrete and readily applicable advice on the use of active listening, on the use and promotion of honest behavior and the inhibition of dishonest behavior that have the potential to improve practitioners' negotiation interactions and outcomes.

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English Summary

Temporal Interaction Patterns in Negotiations

This dissertation focuses on temporal interaction patterns in negotiations that have previously been neglected and examines their impact on the subsequent interaction and on the negotiated outcome. Although negotiations are defined as *social interaction*, there is still relatively little understanding of the observable interaction patterns that actually develop in negotiations. It requires time-consuming coding efforts and interaction patterns are challenging to analyze. However, studying negotiation behavior from an interaction-based perspective is crucial, as behavioral antecedents can be significantly more important in the prediction of subsequent behaviors in an interaction process than interindividual difference and contextual variables. Therefore, the studies presented in this dissertation contribute to a more comprehensive understanding of temporal interaction patterns in negotiation. Specifically, we study the occurrence of active listening (patterns) and their effect on negotiation outcomes, behavioral antecedents and consequences of (dis-)honest behavior, and effects of behavior announcement patterns on negotiation outcomes.

Chapter 2 describes the development of a comprehensive coding scheme for negotiations, comprising 47 mutually exclusive behavioral codes. It can be customized to address many research questions in experimental settings as well as field research. Thereby, it facilitates cumulative research and paves the way for automated coding. In combination with interaction analytical methods (e.g., lag sequential analysis) it enables scholars to detect and investigate specific communication patterns across the negotiation process.

In Chapter 3, we study naturally occurring active listening (e.g., simple acknowledgements such as "mm hmm") in integrative negotiations. Results indicate that, contrary to common expectations, the generic use of active listening in negotiations is not beneficial. However, when active listening follows multi-issue offers (i.e., offers that comprise two or more of several possible issues) it promotes (more) integrative statements (e.g., multi-issue offers) and inhibits distributive statements (e.g., single-issue offers). Moreover, multi-issue offer – active listening patterns positively relate to the achieved joint economic outcomes in the negotiation. Based on our findings, we propose a contingent effect model of active listening. Moreover, we refine the advice given in the prescriptive literature on how to use active listening in negotiation.

The results of Chapter 4 indicate that priority- and preference-related questions and priority-related information provision promote acts of honesty as subsequent behaviors. However, only preference-related information exchange and not priority-related information exchange, also promotes acts of dishonesty as subsequent behaviors. We further identify behavioral antecedents and consequences of (dis-)honest behavior that were previously mostly neglected in negotiation research. Specifically, active listening reinforces acts of honesty but also acts of dishonesty, thereby further contributing to a contingent effect model of active listening. We derive specific practical implications from our findings: Most importantly, we recommend using (more) priority-related information exchange (and avoiding preference-related information exchange) to foster subsequent honest and to inhibit subsequent dishonest behavior.

Chapter 5 describes an initial study on behavior announcement patterns (e.g., "Let me ask you a question...", followed by the announced question). Results of our study show that behavior announcements positively affect negotiator rapport which is partially explained by the higher perceived transparency of the negotiator using behavior announcements. Thereby, our study potentially contributes to theory on the development of subjective value.

Overall, these studies emphasize the importance to study temporal interaction patterns in a comprehensive, yet fine-grained manner. Findings contribute to negotiation theory but are also of high practical value. We provide concrete and readily applicable advice on the use

English Summary

of active listening, on the use and promotion of honest behavior and the inhibition of

dishonest behavior that should improve practitioners' negotiation interactions and outcomes.

Nederlandse Samenvatting

Temporele Interactiepatronen in Onderhandelingen

Dit proefschrift focust op het identificeren van temporele interactiepatronen in onderhandelingen die nog niet eerder zijn onderzocht en bekijkt hun impact op de daaropvolgende interactie en op de uitkomst van de onderhandeling. Hoewel onderhandelingen worden gedefinieerd als sociale interactie, is er nog relatief weinig bekend over de waarneembare interactiepatronen die ontstaan in onderhandelingen. Het vereist tijdrovend codeerwerk en het is een enorme uitdaging om interactiepatronen te analyseren. Toch is het bestuderen van onderhandelingsgedrag vanuit een op interactie-gebaseerd perspectief is cruciaal, aangezien gedragsantecedenten aanzienlijk belangrijker kunnen zijn bij de voorspelling van later gedrag in een interactieproces dan interindividuele verschillen en contextuele variabelen. De studies die in dit proefschrift worden gepresenteerd dragen daarom bij aan een beter begrip van temporele interactiepatronen bij onderhandelingen. Wij bestuderen specifiek het optreden van (patronen van) actief luisteren en het effect daarvan op onderhandelingsresultaten, gedragsmatige antecedenten en gevolgen van (on)eerlijk gedrag, en effecten van gedragsaankondigingspatronen op de uitkomsten van onderhandelingen.

Hoofdstuk 2 beschrijft de ontwikkeling van een alomvattend codeerschema voor onderhandelingen, bestaande uit 47 unieke gedragscodes. Het schema kan worden aangepast om veel onderzoeksvragen in experimentele omgevingen en veldonderzoek te kunnen beantwoorden. Daardoor vergemakkelijkt het cumulatief onderzoek en maakt het de weg vrij voor geautomatiseerde codering. In combinatie met interactie-analysemethoden (bijv. lag sequential analysis) stelt het onderzoekers in staat om specifieke communicatiepatronen tijdens het onderhandelingsproces te detecteren en te onderzoeken.

In hoofdstuk 3 bestuderen we natuurlijk voorkomend actief luisteren (bijv. simpele erkenningen zoals "mm hmm") in integratieve onderhandelingen. Uit de resultaten blijkt dat,

Nederlandse Samenvatting

in tegenstelling tot wat vaak wordt gedacht, het algemene gebruik van actief luisteren bij onderhandelingen niet gunstig is. Wanneer actief luisteren echter volgt op multi-issue aanbiedingen (d.w.z. aanbiedingen die twee of meer van meerdere mogelijke issues bevatten), bevordert dit (meer) integratieve uitspraken (bijv. multi-issue aanbiedingen) en remt distributieve uitspraken (bijv. single-issue aanbiedingen). Bovendien is de combinatie van multi-issue aanbiedingen en actief luisteren positief gerelateerd aan de bereikte gezamenlijke economische resultaten in de onderhandeling. Op basis van onze bevindingen stellen we een contingent-effectmodel van actief luisteren voor. Bovendien verfijnen we het advies dat in de normatieve literatuur wordt gegeven over het gebruik van actief luisteren bij onderhandelingen.

De resultaten van hoofdstuk 4 geven aan dat vragen met betrekking tot prioriteit en voorkeur en prioriteitsgerelateerde informatievoorziening eerlijk gedrag bevorderen. Wat betreft informatie-uitwisseling bevordert voorkeursgerelateerde informatie-uitwisseling oneerlijk gedrag, prioriteitsgerelateerde informatie-uitwisseling doet dit niet. We identificeren gedragsmatige antecedenten en gevolgen van (on)eerlijk gedrag die in eerder onderzoek naar onderhandelingen niet werden onderzocht. In het bijzonder versterkt actief luisteren eerlijk gedrag, maar ook oneerlijk gedrag, en draagt zo verder bij aan een contingent-effectmodel van actief luisteren. Uit onze bevindingen leiden we de volgende specifieke praktische implicaties af: Het belangrijkste is dat we aanbevelen om (meer) prioriteitsgerelateerde informatie-uitwisseling te gebruiken (en voorkeursgerelateerde informatie-uitwisseling te voorkomen.

Hoofdstuk 5 beschrijft een eerste onderzoek naar gedragsaankondigingspatronen (bijv. "Laat me je een vraag stellen...", gevolgd door de aangekondigde vraag). De resultaten van ons onderzoek tonen aan dat gedragsaankondigingen een positieve invloed hebben op de band met de onderhandelaar, wat gedeeltelijk wordt verklaard door de grotere waargenomen

transparantie van de onderhandelaar die gedragsaankondigingen gebruikt. Daarmee draagt ons onderzoek bij aan de theorie over de ontwikkeling van subjectieve waarde.

Samengenomen benadrukken deze studies het belang om temporele interactiepatronen op een alomvattende, maar fijnmazige manier te bestuderen. Onze bevindingen dragen bij aan de onderhandelingstheorieën, maar zijn ook van grote praktische waarde. We geven concreet en direct toepasbaar advies over het gebruik van actief luisteren, over het gebruik en de bevordering van eerlijk gedrag, het remmen van oneerlijk gedrag en het gebruik van gedragsaankondigingen die de onderhandelingsinteracties en -resultaten van beoefenaars zouden moeten verbeteren.

List of Authors

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