Supplementary Materials

Note 1: Negotiation Cases and Audio Processing Methods

We collected data from two negotiation cases as part of MBA courses in several European Business Schools: The Pacific Sentinel case (N = 185) and the McConsult case (N = 54). In addition, some data was collected using a single audio file processing method (N = 121) and other data was collected using a separate audio files processing method (N = 118). The distribution of participants across negotiation cases and audio processing methods is shown in Table S1.

Table S1: Distribution of participants across negotiation cases and audio processing methods.

Audio processing	Negotiation Case	
	Pacific Sentinel	McConsult
Single audio	N = 121	N = 0
Separate audio	N = 64	N = 54

Only a small percentage of participants negotiated both cases. If they did so, their counterpart was systematically different for the second case. So, if Alice and Ben negotiated Pacific Sentinel together, then Alice and Ben would not be paired again for McConsult. Note that the same case was never negotiated more than once by any of the participants (see Table S2).

Table S2: Distribution of participants who engaged in one or two negotiations.

Audio processing	Negotiation Case		
	Pacific Sentinel Only	McConsult Only	Participated in both cases
Single audio	225 (59%)	0 (0%)	17* (5%)
Separate audio	47 (12%)	10 (3%)	81 (21%)

*All single audio files are from the Pacific case; the McConsult case used separate audio.

Note 2: Methods for data processing

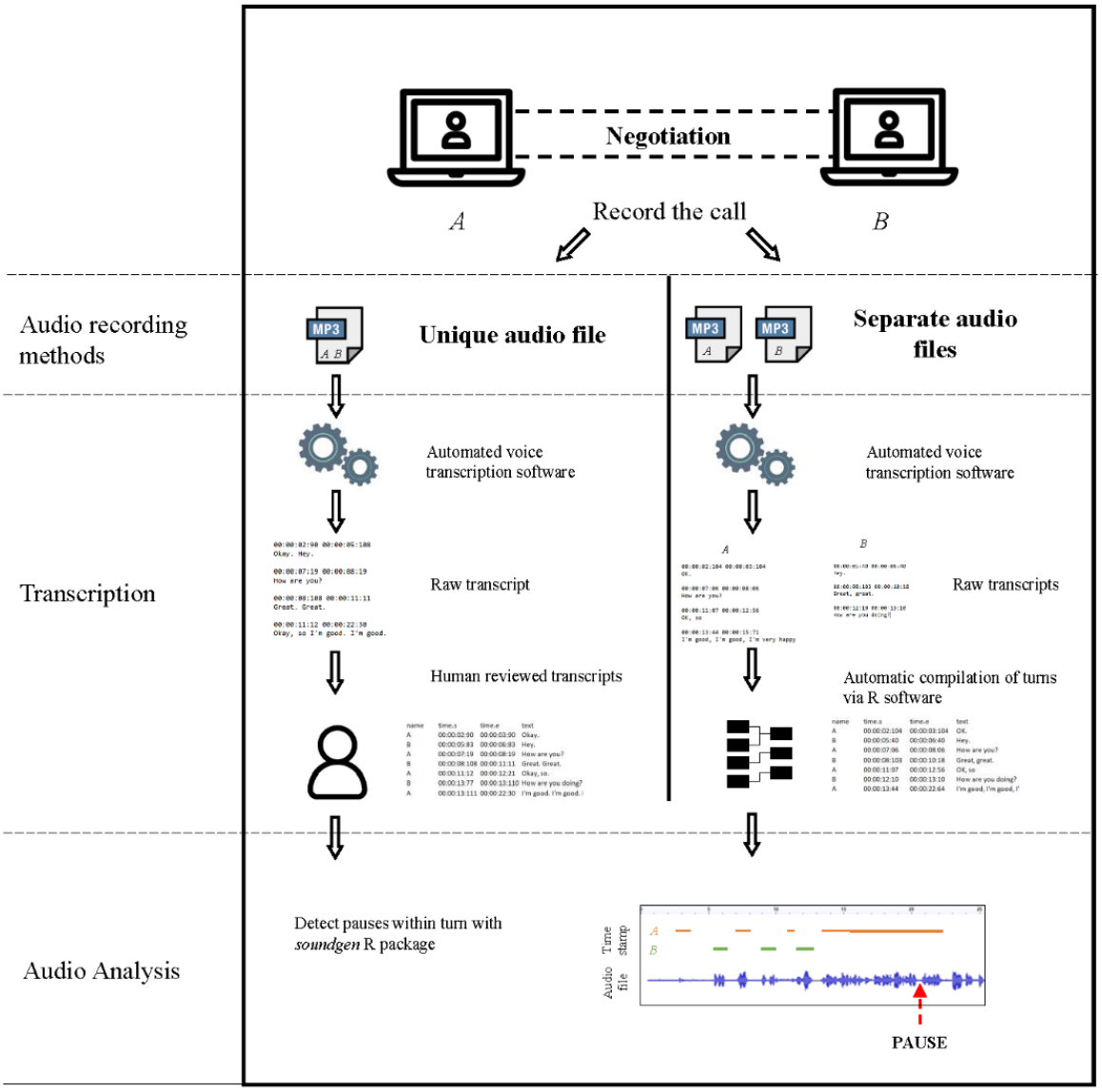
Speech turns. The primary unit of analysis is "speech turn" which we define in the following ways. A turn is a succession of words a speaker said before their partner began talking. In a dyadic conversation, speakers alternate speech turns. Speech turns may contain pauses (silences between utterances ≥ 180ms). In between speakers' turn may have no silence (end time of turn ≥ start time of following turn) or some silence (end time of turn < start time of following turn).

Our data includes 121 negotiation audio recordings featuring a *single audio file* for both speakers. We transcribed these negotiations using a hybrid method of automated speech recognition software and trained humans (Yeomans et al., 2021). First, the software created a draft time-stamped transcription. Then, coders went over each transcript while listening to the recording and manually checked, corrected, and annotated (e.g., tagging interruption) each speech turn. Our data also includes 118 negotiation audio recordings featuring *separate audio files* for each speaker (using Zoom's option to record participants' audio streams as separate files). We transcribed these negotiations using automated speech recognition and then reconstructed the turn-by-turn structure of the dyadic conversation using R, concatenating text until change of speaker (Figure S1). Our custom R function to reconstruct turn-by-turn conversations from individual transcripts is available at https://osf.io/as8nu/?view_only=b6dd2e6b5b514bab9d1ea0db3ad167b1.

Pauses. To identify speakers' propensity to pause, we performed an acoustic analysis for each speech turn (excluding backchannels) using the function `analyze` from R's *soundgen* package (v.2.3.0). Specifically, we broke down each speech turn into a series of successive 25ms sound segments and analyzed their spectrum using Fast Fourier Transform (Anikin, 2019). Following, seminal guidelines by Hedlund and Eñdner (2010), we counted a

within-turn pause every time no voice activity was detected over a series of segments lasting longer than 180ms.

Figure S1. *Summary of data processing*.



Data Structure. As illustrated in the table below our transcripts included for each turn: (i) a progress variable (Progress), (ii) the speaker identifier (Id), (iii) a start timestamp, (iv) an end timestamp, (v) within turn pauses, and (vi) word count.

Table S3: Structure of the transcript datafile

Progress	Id	Time Start[1]	Time End[1]	Number Pauses	Word Count
1	55	00:00:03:48	00:00:04:48	NA[2]	1
2	32	00:00:04:61	00:00:05:61	NA	2
3	55	00:00:05:114	00:00:09:89	0	8
4	32	00:00:10:07	00:00:12:99	1	4
5	55	00:00:14:52	00:00:15:91	0	3
6	32	00:00:16:95	00:00:20:77	1	7
7	55	00:00:21:29	00:00:25:17	1	9
8	32	00:00:25:106	00:00:42:85	4	34
9	55	00:00:44:73	00:00:48:28	0	7
10	32	00:00:49:62	00:00:50:62	NA	1
11	55	00:00:52:13	00:00:56:65	1	6

Note 3: Comparing measures derived from single vs. separate audio files

We examined 8 negotiations for which we had both (A) a single audio file featuring the voices of the two negotiators and (B) separate audio files for each speaker. We then derived our conversation metrics for A and B using the two methods outlined in Note 1 and 2 (human reviewed transcripts and fully automated conversation reconstruction, respectively). As shown in the table below, the correlation between the two methods was very high for

[1] The unit of measure is hh:mm:ss:fps. fps: 120 frames per second.
[2] 1 ≤ second turns were considered backchannels. For this reason pauses within turn do not apply.

almost all variables. Note that these analyses do not include backchannels and interruptions, as these variables require decisions on thresholds that we address separately in details in Notes 5 & 6.

Table S4: Pearson correlations between measures derived from the two audio processing methods.

Variable	***r***
Speaking Time	1
Turn Length (median)	.98
Turn Length (variance)	1
Turn Length (adaptability)	.97
Turn Length (predictability)	.85
Speech Rate (median)	.97
Speech Rate (variance)	.68
Speech Rate (adaptability)	.87
Speech Rate (predictability)	.93
Response Time (median)	.86
Response Time (variance)	.69
Response Time (adaptability)	.48
Response Time (predictability)	.88
Pauses	.98
Mean	.87
Median	.91

Note: decimals were increased by 1 if next digit ≥ 5.

Note 4: Mc Consult Case Payoffs

	Candidate	Recruiter
GAINS (points)	Points Earned - BATNA (260)	BATNA (500) - Points Spent
Salary	No way you can get by with less than 50,000 euros a year, regardless of how attractive other elements of the offer are to you. Every 1000 euros beyond your 50K limit would bring you 2 points of happiness.	The largest starting offer you ever made was 150,000 euros a year. There is no way you would ever go beyond that. Obviously, the lower you can keep the salary costs, the better. You estimate that every 1000 euros per year cost you 2 points.
Sign-up Bonus	Every 1000 euros of sign-up bonus would bring you 1.2 points	You are authorized to offer as high as 50,000 euros in immediate cash to help seal the deal with top candidates. You estimate that every 1000 euros of sign-up bonus cost you 2 points.
Location	• The Next Town B Office (90 min commute) is worth 0 point • The Next Town A Office (70 min commute) is worth 30 points • The Borough B Office (50 min commute) is worth 60 points • The Borough A Office (30 min commute) is worth 90 points • The Downtown Office (10 min commute) is worth 120 points	• The Next Town B Office (90 min commute) would cost McConsult 0 points • The Next Town A Office (70 min commute) would cost McConsult 45 points • The Borough B Office (50 min commute) would cost McConsult 90 points • The Borough A Office (30 min commute) would cost McConsult 135 points • The Downtown Office (10 min commute) would cost McConsult 180 points
Assignment	• Level-1 assignments are worth 0 point • Level-2 assignments are worth 45 points • Level-3 assignments are worth 90 points • Level-4 assignments are worth 135 points • Level-5 assignments are worth 180 points	• Level-1 assignments would cost 0 points • Level-2 assignments would cost 30 points • Level-3 assignments would cost 60 points • Level-4 assignments would cost 90 points • Level-5 assignments would cost 120 points
Division	• Division A is worth 0 point • Division B is worth 25 points • Division C is worth 50 points • Division D is worth 75 points • Division E is worth 100 points	• Division A would cost McConsult 0 point • Division B would cost McConsult 15 points • Division C would cost McConsult 30 points • Division D would cost McConsult 45 points • Division E would cost McConsult 60 points

Note 5: Operationalization of Interruptions

In conversation research, interruptions are often operationalized in qualitative ways (Covelli & Murray, 1980; Farley, 2008; Goldberg, 1990; Li et al., 2004; Murray, 1985). This might be partly because, as Murray (1985) pointed out, overlapping speech is not a sufficient condition to determine interruptions. Overlaps can be cooperative and reflect attempts to show engagement (Dong et al., 2012; Hilton, 2018; Lai & Murray, 2018). They can also result from fast turn transitions (Heldner & Edlund, 2010) or coordination problems such as simultaneous turn startups (Clark, 1994; Gervits & Scheutz, 2018). While these overlaps tend to be shorter than "interruption" overlaps—where a person tries to take over the conversation floor (Covelli & Murray, 1980; Murray, 1985)—there are no clear guidelines in the literature for what should be the minimum length of an interruption or when it should occur in a turn, for example.

To solve these issues, we took a data-driven approach and examined the set of 120 negotiations that had been manually coded by our research assistants. Out these, 76 negotiation recordings were flagged with at least one instance of interruptions. We defined interruptions as conversational instances where the right to make a point in a speech turn was not satisfied (Goldberg, 1990; Murray, 1985). We used this data to train a machine learning model predicting whether instances of overlapping speech in the remaining non-human coded recordings should be considered as interruptions. Specifically, we ran a non-parametric multivariate imputation by the chained random forest (Mayer, 2019) that used all turn level measures as predictors (i.e., turn length, turn speech rate, response time, backchannels). These variables have already been related to interruptions in previous research (Farley, 2008; Heldner & Edlund, 2010; Li et al., 2004; Murray, 1985). In addition to turn level measures, we added the interruptee's previous turn metrics as a predictor. As Murray (1985) pointed out, interruptions also depend on what happened on the interruptee's previous. Results from

this model replicate the structure of the coded dataset. Namely each turn was assigned with a dichotomous variable: 1 (interruption turn) and 0 otherwise. We note that the negative relationship between interruptions and relational outcomes we report remains significant when focusing only on the subset of manually coded interruptions (r = -.18, p = .03).

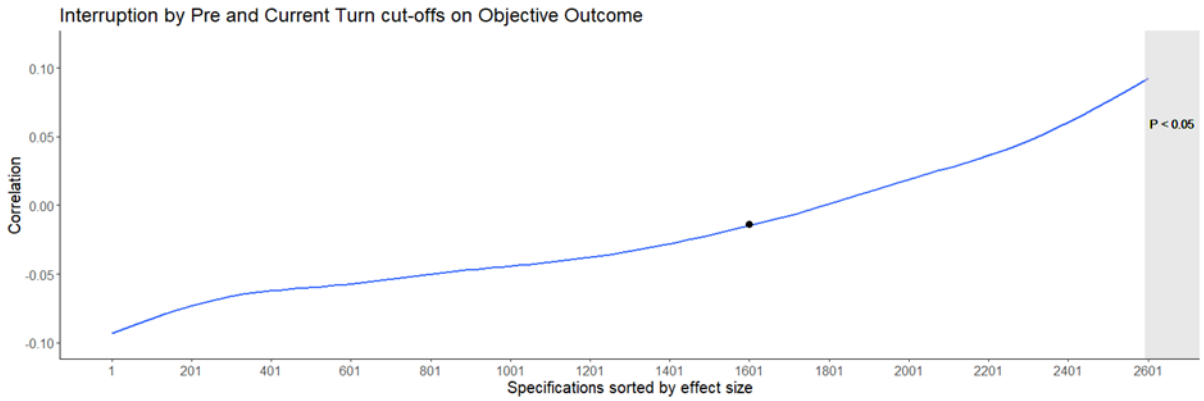
While we favor the more comprehensive machine-learning approach, an alternative is to determine interruption instances based on predetermined rules and cut-offs. For example, to determine if Alice interrupts Ben, Alice needs to talk over Ben for more than 1 second (overlapping speech > 1 sec) to avoid mistakenly interpreting Alice's backchannels as an interruption; ref). Likewise, Ben needs to have been talking, not backchallenging (interrupted turn > 1 sec). In addition, brief interactions may more likely signal engagement (Dong et al., 2012; Lai & Murray, 2018) or coordination problems (Clark, 1994) than the intention to take over the conversation floor. In contrast, if Alice talks over Ben for a relatively long time and then continues talking for a while once Ben has stopped, it is likely to represent an instance of interruption (Covelli & Murray, 1980). Therefore, as Murray (1985) pointed out, interruptions depend on both on what happens during the interrupter's turn and the interruptes's previous turns; mere overlapping is not a sufficient condition.

Because of lack previous literature does not provide consistent thresholds for what constitute sufficiently long turns (both for the interrupter and the interruptee), we considered the following cutoffs: Interuptee's previous turn >1s and interupter's takeover turn >6s. These values represent the most parsimonious approach in our data with over 90% of manually coded interruptions taking place when the interruptee's previous turn was > 1s and over 54% when the interrupter's turn takeover turn was > 6s). Results using this rule-based approach are very similar to the ones we report in the main text (machine learning approach):

Rule-based interruptions are negatively and significantly related to relational outcomes (b = -.10, p = .03).

We recognized that other researchers might have made different decisions regarding the ideal thresholds for this rule-based approach. Therefore, we report a specification curve (see Simonsohn, Simmons & Nelson, 2020) examining the relationship between interruptions and negotiation outcomes (correlation coefficient) for every sensible combination of thresholds for both interruptee's previous turn and interrupter's current takeover turn from 1 to 11 seconds in 0.2 seconds increments (80% interruption turns lasted maximum 11 seconds).

a.



b.

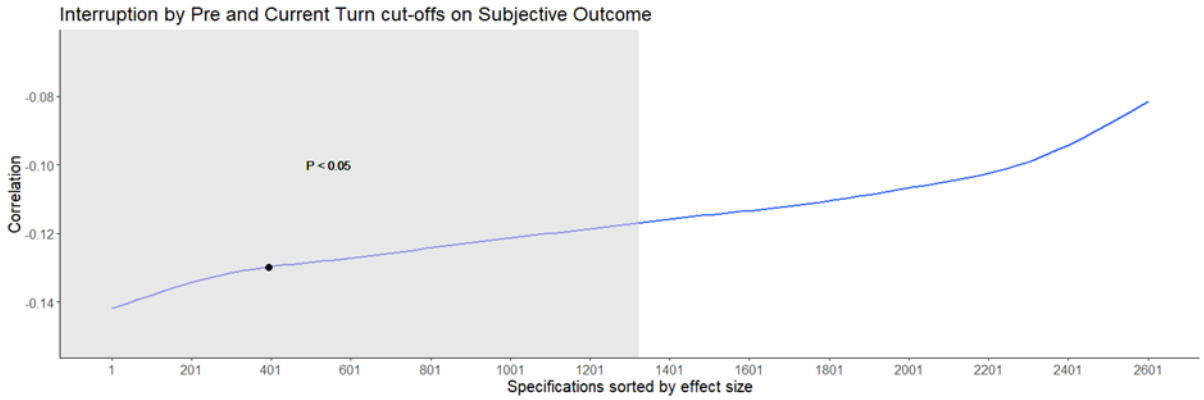
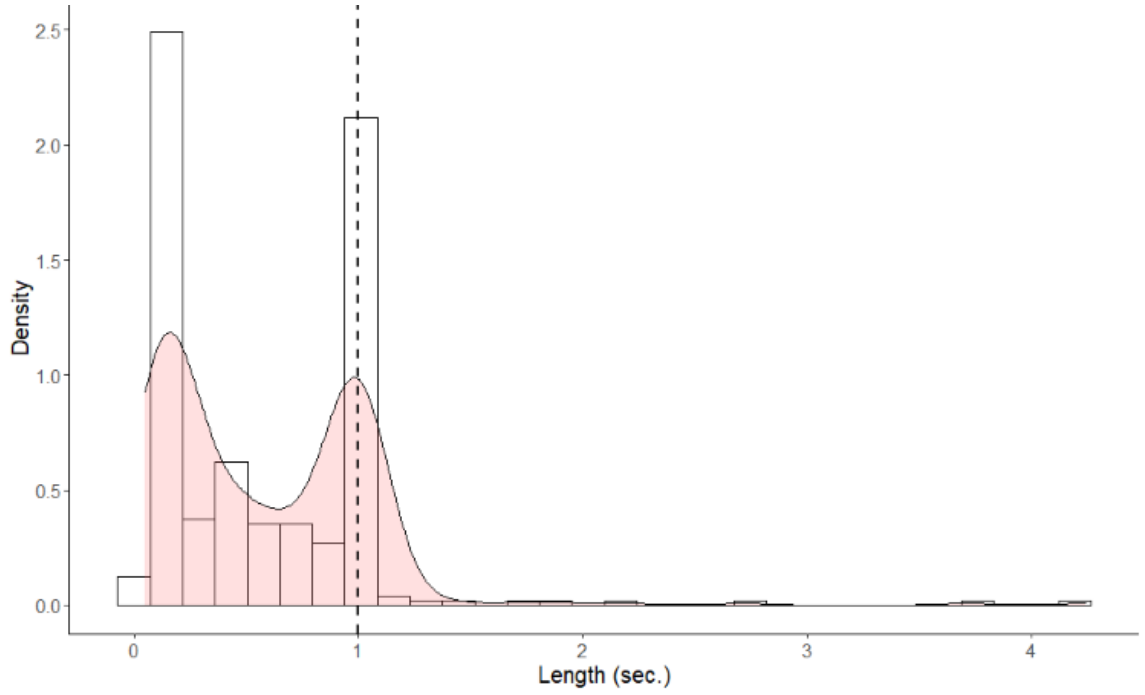


Figure S2a&b. Specification curves for Interruptions and Outcomes. There are 1601 combinations of specifications for non-coded negotiations. Each combination represents the thresholds to detect instances of interruptions. The effect size represents how the frequency of interruption with the specific thresholds relate to objective (a) and relational (b) outcomes. The gray square indicates specifications for which interruptions significantly relate to negotiation outcomes ($p < 0.05$). The black dot represents the specification we mention in the the main text of this document.

Note 6: Operationalization of Backchannels

Backchannels are typically defined as the intermittent vocal noises (e.g., uh-huh, oh, right, okay) made by the listener while in conversation with another person (Peters & Wong, 2015). Backchannels are short events and a 1-second cutoff has often been used to identify backchannels in an automated way and distinguish them from other instances of overlapping speech such as interruptions. To make sure that using this cutoff was sensible in our data, we asked independent research assistants to code 19 negotiations for backchannels. In line with previous research, over 95% of the human coded backchannels lasted no more than 1 second.



Note 7: **Descriptive Statistics**

Table S5. Descriptives of conversation dynamics measures

	vars	n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
Speaking Time	1	478	45.58	9.29	44.91	45.49	9.47	18.49	75.49	57.00	0.11	-0.13	0.43
Turn Length (median)	2	478	15.83	10.37	12.83	14.36	7.37	1.91	89.85	87.94	2.17	8.29	0.47
Turn Length (variability)	3	478	1.07	0.23	1.05	1.06	0.21	0.52	2.27	1.75	0.65	1.26	0.01
Turn Length (adaptability)	4	478	0.18	0.22	0.17	0.18	0.21	-1.00	1.00	2.00	-0.21	1.65	0.01
Turn Length (predictability)	5	478	0.00	0.20	0.00	0.01	0.18	-1.00	0.62	1.62	-0.62	2.49	0.01
Pause	6	478	28.23	6.34	28.18	28.18	6.30	8.28	47.49	39.20	0.08	-0.02	0.29
Speech Rate (median)	7	478	191.78	25.83	190.38	191.49	23.72	118.04	281.22	163.17	0.16	0.59	1.18
Speech Rate (variability)	8	478	0.29	0.15	0.26	0.27	0.07	0.07	1.67	1.61	4.47	30.01	0.01
Speech Rate (adaptability)	9	478	0.03	0.19	0.03	0.03	0.17	-1.00	0.60	1.60	-0.36	1.79	0.01
Speech Rate (predictability)	10	478	-0.01	0.21	0.00	0.00	0.20	-1.00	0.47	1.47	-0.65	1.72	0.01
Interruptions (% turns)	11	478	3.15	5.48	1.18	1.82	1.74	0.00	41.72	41.72	2.89	10.07	0.25
Backchannel (% turns)	12	478	26.08	11.09	24.61	25.33	10.44	0.00	65.22	65.22	0.65	0.42	0.51
Response Time (median)	13	478	1.41	0.55	1.33	1.37	0.56	0.36	3.89	3.53	0.77	1.07	0.03
Response Time (variability)	14	478	1.07	1.02	0.85	0.92	0.38	0.00	14.90	14.90	7.43	81.30	0.05
Response Time (adaptability)	15	478	0.01	0.16	0.01	0.01	0.14	-0.70	0.56	1.26	-0.04	1.27	0.01
Response Time (predictability)	16	478	0.00	0.15	0.00	0.00	0.12	-1.00	1.00	2.00	-0.41	8.71	0.01

Table S6.

a. Correlation between the different conversation dynamics measures

	Speaking Time	Turn Length (median)	Turn Length (variability)	Turn Length (adaptability)	Turn Length (predictability)	Pause	Speech Rate (median)	Speech Rate (variability)	Speech Rate (adaptability)	Speech Rate (predictability)	Interruptions (% turns)	Backchannel (% turns)	Response Time (median)	Response Time (variability)	Response Time (adaptability)	Response Time (predictability)
Speaking Time																
Turn Length (median)	0,32***															
Turn Length (variability)	-0,02	-0,51***														
Turn Length (adaptability)	-0,01	0,12*	-0,19***													
Turn Length (predictability)	-0,06	-0,17***	0,04	0,22***												
Pause	0,05	0,08+	0,03	0,07	0,01											
Speech Rate (median)	0,00	0,06	-0,06	0,08+	0,01	0,16***										
Speech Rate (variability)	-0,06	-0,11*	0,11*	-0,08+	0,00	0,01	0,04									
Speech Rate (adaptability)	-0,02	-0,10*	-0,03	0,14**	0,06	-0,03	-0,07	0,01								
Speech Rate (predictability)	0,02	-0,18*	0,08+	0,06	0,22***	-0,09*	-0,01	0,02	0,07							
Interruptions (% turns)	-0,03	0,10	0,00	0,07	0,09+	-0,07	0,29***	0,25***	0,04	-0,03						
Backchannel (% turns)	-0,19***	-0,21***	0,16***	0,00	0,03	0,11*	-0,16***	0,04	0,01	-0,07	-0,05					
Response Time (median)	-0,11*	0,11	-0,08+	-0,05	0,07	0,11*	-0,03	0,12**	0,04	-0,01	0,01	-0,11*				
Response Time (variability)	-0,03	0,02	0,08+	0,00	-0,08+	0,04	0,05	0,01	-0,01	0,12*	0,03	-0,07	-0,10*			
Response Time (adaptability)	-0,12*	0,10*	-0,05	0,00	0,06	0,03	0,06	0,07	-0,01	0,06	0,09*	-0,19***	0,13**	0,09*		
Response Time (predictability)	0,10*	0,06	0,09+	-0,18***	0,03	-0,06	-0,04	-0,04	-0,07	0,04	0,03	-0,07	0,02	0,05	0,15**	

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '+' 0.1

b. Partial correlation between the different conversation dynamics measures

	Speaking Time	Turn Length (median)	Turn Length (variability)	Turn Length (adaptability)	Turn Length (predictability)	Pause	Speech Rate (median)	Speech Rate (variability)	Speech Rate (adaptability)	Speech Rate (predictability)	Interruptions (% turns)	Backchannel (% turns)	Response Time (median)	Response Time (variability)	Response Time (adaptability)
Speaking Time															
Turn Length (median)	0,37***														
Turn Length (variability)	0,18***	-0,51***													
Turn Length (adaptability)	-0,03	0,11*	-0,11*												
Turn Length (predictability)	0,01	-0,17***	-0,02	0,24***											
Pause	0,08	0,09	0,09*	0,07	0,04										
Speech Rate (median)	-0,03	-0,05	-0,06	0,05	-0,03	0,22***									
Speech Rate (variability)	0,02	-0,10*	0,03	-0,07	-0,05	0,02	-0,02								
Speech Rate (adaptability)	0,05	-0,14**	-0,08	0,14**	-0,01	-0,01	-0,09	-0,01							
Speech Rate (predictability)	0,09	-0,16***	-0,01	0,05	0,19***	-0,09*	0,01	0,02	0,04						
Interruptions (% turns)	-0,06	0,17***	0,10*	0,04	0,12*	-0,15**	0,31***	0,26***	0,07	-0,06					
Backchannel (% turns)	-0,20***	-0,06	0,08	0,02	0,02	0,17***	-0,18***	0,05	0,00	-0,06	0,02				
Response Time (median)	-0,18***	0,14**	-0,01	-0,09	0,09	0,14**	-0,07	0,13**	0,06	0,02	-0,03	-0,14**			
Response Time (variability)	-0,08	0,08	0,11*	0,02	-0,10*	0,06	0,01	0,01	0,01	0,14**	0,02	-0,07	-0,13**		
Response Time (adaptability)	-0,19***	0,11*	0,02	0,00	0,05	0,05	0,00	0,07	0,00	0,06	0,04	-0,18***	0,06	0,06	
Response Time (predictability)	0,09	0,08	0,10*	-0,17***	0,07	-0,06	-0,03	-0,06	-0,04	0,03	0,03	-0,01	0,02	0,04	0,14**

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '+' 0.1

Table S7. Correlation between the different conversation dynamics measures at dyadic level.

	Negotiator 2															
Negotiator 1	Speaking Time	Turn Length (median)	Turn Length (variability)	Turn Length (adaptability)	Turn Length (predictability)	Pause	Speech Rate (median)	Speech Rate (variability)	Speech Rate (adaptability)	Speech Rate (predictability)	Interruptions (% turns)	Backchannel (% turns)	Response Time (median)	Response Time (variability)	Response Time (adaptability)	Response Time (predictability)
Speaking Time	**-0,80*** **	-0,35***	0,11+	0,08	0,22***	-0,03	-0,03	0,01	0,04	0,07	0,03	0,21***	-0,03	-0,09	0,03	-0,09
Turn Length (median)	-0,30***	**0,55*** **	-0,32***	0,15*	-0,05	0,09	0,00	-0,07	-0,10	-0,21***	0,10	0,07	0,15*	-0,06	0,10	0,07
Turn Length (variability)	0,00	-0,27***	**0,40*** **	-0,17**	0,05	0,13*	-0,05	-0,04	0,07	0,08	0,07	0,14*	-0,11+	0,03	-0,11+	0,00
Turn Length (adaptability)	0,05	0,27***	-0,15+	**0,00**	0,09	-0,10	0,01	-0,12+	-0,08	-0,21***	0,07	-0,17**	-0,06	-0,11+	0,07	0,21***
Turn Length (predictability)	0,00	-0,16*	0,05	0,26***	**0,22*** **	0,03	0,07	0,00	0,29***	0,02	0,15*	-0,03	0,09	0,04	0,03	-0,11+
Pause	-0,09	0,09	0,00	0,07	0,01	**0,17** **	0,07	-0,08	-0,08	0,04	-0,13*	0,10	0,07	-0,03	-0,04	0,05
Speech Rate (median)	-0,13*	0,05	-0,02	0,01	-0,06	-0,01	**0,29*** **	0,13*	-0,07	-0,23***	0,31***	0,12+	-0,03	-0,08	0,01	0,04
Speech Rate (variability)	-0,06	-0,02	0,03	-0,08	-0,02	-0,04	0,13*	**0,34*** **	0,04	0,17**	0,22***	-0,14*	0,23***	0,03	0,00	0,03
Speech Rate (adaptability)	0,05	0,01	0,06	-0,04	-0,11+	0,01	0,11+	0,05	**-0,06**	0,10	0,00	-0,15*	-0,01	0,04	0,17**	0,16*
Speech Rate (predictability)	-0,02	-0,25***	0,10	0,25***	0,19***	0,10	0,02	0,06	0,24***	**0,08**	0,05	0,09	0,02	0,08	-0,04	-0,18**
Interruptions (% turns)	-0,14**	0,10	-0,03	0,09	0,12+	-0,05	0,26***	0,23***	0,05	0,04	**0,71*** **	-0,06	-0,01	0,08	0,11	0,00
Backchannel (% turns)	0,26***	-0,07	0,11+	-0,10	-0,01	0,00	-0,05	-0,08	0,09	0,05	-0,17**	**-0,13** *	-0,16*	0,06	-0,15*	-0,02
Response Time (median)	-0,19***	0,08	-0,05	-0,03	0,04	0,15*	-0,04	0,02	0,09	-0,04	0,03	-0,07	**1,00*** **	-0,12+	0,05	-0,03
Response Time (variability)	-0,06	0,02	0,03	-0,04	0,00	0,08	0,06	0,04	-0,13*	0,04	0,01	0,06	-0,10	**-0,05**	0,00	-0,08
Response Time (adaptability)	-0,07	0,12+	-0,13+	0,13*	-0,05	0,03	0,05	-0,04	0,11+	0,01	0,09	-0,04	0,22***	0,02	**0,04**	0,00
Response Time (predictability)	-0,08	-0,21***	0,19***	0,06	0,10	0,09	-0,03	0,07	0,21***	0,10	0,11+	0,04	0,07	0,02	0,08	**-0,09**

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '+' 0.1

Note 8: Robustness checks

All models are hierarchical linear models that include random intercepts for negotiator, case, role, and dyad.

Model I. We control for gender, negotiation length, type of negotiation and role (drawing from Curhan & Pentland, 2007; Curhan et al., 2022).

Model II. We use the mean instead of the median as a centrality measure for the Turn Length, Speech Rate, and Response Time.

Model III. We add controls for the counterpart's measures. In other words, we control for the same 16 measures of the dyadic partner. In this way we rule out the alternative explanation that individual gains depend on the counterpart's measures or that the outcome is determined at dyadic level.

Model IV. We regress the conversation dynamics measures (same model displayed in Table 2 of main manuscript) on the counterpart's individual gains (Note for interpretation: coefficients have opposite signs). This model was performed to rule out the possibility of within-person confounding (Yeomans et al., 2021).

Model V. We Winsorized (replacing top 5% and bottom 5% data points with 5th percentile and 95th percentile) all the variables to eliminate outliers. We do this to check that our results are not driven by outliers. The downside of this approach is that the estimates may be biased.

Model I to V for objective outcomes can be found in Table S8. Results are consistent across different models with a few of exceptions. Speaking Time in model III loses significance. This may be explained by the nature of the variable and how it is computed. Speaking time measures how the conversation is split between the two speakers. This variable is highly correlated to counterpart's speaking time (r = 0.8). Hence, the variable loses significance because it cannot vary holding counterpart's variable constant. The

interpretability of that coefficient is more about the silences (response time) than the negotiators' speaking time. Speech Rate (median) in model IV loses significance. In this case, the speech rate of the counterpart does not relate to negotiation gain.

Model I, II, III, & V for relational outcomes can be found in Table S9. Results are consistent across models. Interestingly, interruption becomes significant at $p < .10$ when controlling for the duration of the negotiation. The duration of negotiations is highly negatively related to relational outcomes ($r = -.24$, $p < .001$), suggesting that people do not enjoy long negotiations. On average longer negotiations had more frequent interruptions ($r = .30$, $p < .001$). Finally, we observe a significant interaction between negotiation duration and interruption in predicting relational outcomes ($b = -.08$, $p = .03$). Taken together, the results suggest that interruptions take place mostly in long negotiations and that they negatively relate to relational outcomes mostly in longer conversations.

Table S8. Conversation dynamics measures and objective outcomes.

	(I)		(II)		(III)		(IV)		(V)	
	(all variables)	LASSO	(all variables)	LASSO	(all variables)	LASSO	(all variables)	LASSO	(all variables)	LASSO
Speaking Time	.13*	.14**	.13*	0.15**	.06	.09	-.12*	-.11*	.14**	.15**
Turn Length (median)	.12^{+}	.08	.04		.15^{+}		-.18**	-.18**	.07	.04
Turn Length (variance)	.07		.00		.10		-.10^{+}	-.11*	.04	
Turn Length (adaptability)	-.08	-.08	-.08	-.07	-.05	-.05	.08	.07	-.08	-.08
Turn Length (predictability)	.08	.08	.06	.06	.09	.09	-.11*	-.11*	.06	.06
Pauses	-.12*	-.11*	-.13**	-.13**	-.12*	-.14**	.10*	.10*	-.15**	-.14**
Speech Rate (median)	.13**	.12*	.10*	.10*	.12*	.10*	-.07	-.06	.10*	.10*
Speech Rate (variance)	-.01		-.01		-.02		.05	.05	-.06	-.05
Speech Rate (adaptability)	.05		.04		.06		-.12*	-.12**	.02	
Speech Rate (predictability)	.10*	.10*	.08^{+}	.07	.08^{+}	.10*	-.10*	-.10*	.09^{+}	.09
Interruptions (% turns)	.00		-.00		.05		.06	.06	-.00	.06
Backchannel (% turns)	-.02	-.02	-.03	-.03	-.01	-.02	-.02		.01	
Response Time (median)	.05		-.00		.03		.01		.06	.06
Response Time (variance)	.03		.03	.04	.03		-.02		.04	.04
Response Time (adaptability)	-.04		-.03		-.03		.03	.03	-.01	
Response Time (predictability)	.06	.06	.04	.04	.05	.06	-.03	-.03	.08	.08
Observations	478	478	478	478	478	478	478	478	478	478
Marginal R2	0.10	0.9	0.08	0.08	0.15	0.13	0.10	0.10	0.09	0.09

Table S9. Conversation dynamics measures and relational outcomes.

	(I)		(II)		(III)		(V)	
	(all variables)	LASSO	(all variables)	LASSO	(all variables)	LASSO	(all variables)	LASSO
Speaking Time	-.02		.00		-.04		.01	
Turn Length (mean)	.03		-.01		-.03		-.04	
Turn Length (variance)	.01	-.01	-.03	-.03	-.04		-.05	
Turn Length (adaptability)	.04		.03		.03		.05	
Turn Length (predictability)	-.08*	-.08*	-.09*	-.08*	-.09*	-.09*	-.11**	-.11**
Pauses	-.03		-.02		.00		-.00	
Speech Rate (mean)	.01		.04		.01		.00	
Speech Rate (variance)	.04		.04		.03		.02	
Speech Rate (adaptability)	-.00		-.01		.00		-.01	
Speech Rate (predictability)	-.01	-.01	-.03	-.03	-.05		-.02	
Interruptions (% turns)	-.08^{+}	-.06	-.11**	-.10*	-.11*	-.09*	-.09*	-.09*
Backchannel (% turns)	.06	.06	.07	.07	.08^{+}	.07^{+}	.05	.06
Response Time (mean)	-.01	-.01	-.06	-.06	-.04		-.03	
Response Time (variance)	.06	.06	.06	.06	.05		.00	
Response Time (adaptability)	-.01	-.00	.00		-.02		.00	
Response Time (predictability)	-.05	-.06	-.06	-.07	-.05	-.06	-.05	-.07^{+}
Observations	424	424	424	424	424	424	424	424
Marginal R2	0.11	0.10	0.09	0.09	0.12	0.09	0.08	0.07

Table S10: Conversation dynamics measures and objective and relational outcomes using only the first negotiation performed by participants.

	Objective		Relational	
	(all variables)	LASSO	(all variables)	LASSO
Speaking Time	.20**	.20***	-.00	
Turn Length (median)	.03	.03	-.02	
Turn Length (variability)	.02		-.04	-.03
Turn Length (adaptability)	-.07	-.09	.08	
Turn Length (predictability)	.12	.11*	-.08^{+}	-.06
Pauses	-.13*	-.12*	-.03	
Speech Rate (median)	.12*	.11*	.05	
Speech Rate (variability)	.00		.05	
Speech Rate (adaptability)	-.03		-.02	
Speech Rate (predictability)	.06	.06	-.06	-.05
Interruptions (% turns)	-.01		-.14**	-.11**
Backchannel (% turns)	-.06		.07	.08+
Response Time (median)	.06		-.02	
Response Time (variability)	.04		.09*	.09*
Response Time (adaptability)	-.03		.01	.01
Response Time (predictability)	.06		-.12**	-.13**
Observations (*N*)	370	370	328	328
Adjusted R^2	0.07	0.08	0.06	0.07

Table S11: Conversation dynamics measures and objective and relational outcomes using clustered standard errors at the individual level.

	Objective		Relational	
	(all variables)	LASSO	(all variables)	LASSO
Speaking Time	.11*	.12*	.01	
Turn Length (median)	.11^{+}	.09^{+}	-.04	
Turn Length (variability)	.04		-.06	-.04
Turn Length (adaptability)	-.08	-.08	.02	
Turn Length (predictability)	.09^{+}	.08^{+}	-.08^{+}	-.06^{+}
Pauses	-.15**	-.14**	.00	
Speech Rate (median)	.14**	.13**	.01	
Speech Rate (variability)	-.01		.02	
Speech Rate (adaptability)	.04		-.02	
Speech Rate (predictability)	.08^{+}	.09^{+}	-.04	-.04
Interruptions (% turns)	.01		-.11*	-.10*
Backchannel (% turns)	-.04	-.04	.08^{+}	.08*
Response Time (median)	.07		-.01	.01
Response Time (variability)	.04		.06*	.06*
Response Time (adaptability)	-.03		-.02	-.01
Response Time (predictability)	.05	.05	-.06^{+}	-.06*
Observations (*N*)	478	478	424	424
Adjusted R^2	0.05	0.05	0.03	0.04

Note 9: Method and Case Interaction

All models are hierarchical linear models that include random intercepts for individual and dyad. All models are hierarchical linear models that include random intercepts for individual and dyad. Because we used different data processing methods and cases, we performed additional analyses to explore context-specific influences. By including interaction terms in our regression analyses, we examined the potential interaction of negotiation types with our central variables. For parsimony, we report below the models where we interact method and case with significant variables for the objective and relational outcomes.

These analyses reveal that our main conclusions remain robust across negotiation cases and processing methods (Table S12a/b), with only one of the 10 moderation analyses being statistically significant. None of the significant conversation dynamics predictors of negotiation outcomes significantly differ across audio processing methods (all ps > .12). Moreover, with the exception of speaking time, which is more strongly related to objective outcomes in the Pacific Sentinel case than in the McConsult case (interaction term: b = .23, p = .02), none of the predictors differed by negotiation case (all other ps > .37). Some of the main interaction predictors may lose significance in the direct effect. These models use more degrees of freedom. This results in higher standard errors in coefficient estimates. However, the effect size is virtually identical apart from the model where speaking time is interacted with case.

Table S12-a: Conversation dynamics measures interacted by method and case for objective outcome. The variable on top of the column indicates the interaction variable.

	Method			Case		
	Speaking Time	Pause	Speech Rate	Speaking Time	Pause	Speech Rate
Speaking Time	.14^{+}	.11*	.12*	-.04	.13*	.13*
Turn Length (median)	.11	.11^{+}	.10	.07	.09	.09
Turn Length (variability)	.04	.04	.04	.03	.04	.04
Turn Length (adaptability)	-.08^{+}	-.08	-.08	-.08	-.08	-.08
Turn Length (predictability)	.09^{+}	.09^{+}	.09	.09	.08	.08
Pauses	-.15**	-.12^{+}	-.15**	-.14**	-.15+	-.14**
Speech Rate (median)	.14**	.14**	.06	.12*	.13**	.12
Speech Rate (variability)	-.01	-.01	-.01	-.01	-.02	-.02
Speech Rate (adaptability)	.04	.04	.04	.04	.04	.04
Speech Rate (predictability)	.08	.08	.07	.07	.08	.08
Interruptions (% turns)	.01	.01	.03	-.01	-.01	-.01
Backchannel (% turns)	-.04	-.04	-.04	-.03	-.03	-.03
Response Time (median)	.07	.07	.07	.05	.05	.05
Response Time (variability)	.04	.04	.04	.05	.04	.04
Response Time (adaptability)	-.03	-.03	-.03	-.04	-.04	-.04
Response Time (predictability)	.05	.05	.05	.05	.04	.04
Interaction	-.05	-.05	.15	.23*	.02	.01
Observations (*N*)	478	478	478	478	478	478
Marginal R^2	.09	.09	.09	.09	.08	.08

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '+' 0.1.

Table S12-b: Conversation dynamics measures interacted by method and case for relational outcomes. The variable on top of the column indicates the interaction variable.

	Method		Case	
	Interruption	Turn Length (predictability)	Interruption	Turn Length (predictability)
Speaking Time	.01	.001	.004	.006
Turn Length (median)	-.02	-.02	-.01	-.012
Turn Length (variability)	-.03	-.03	-.03	-.04
Turn Length (adaptability)	.03	.04	.03	.03
Turn Length (predictability)	-.09*	-.10^{+}	-.09*	-.08
Pauses	-.01	-.013	-.01	-.01
Speech Rate (median)	.03	.03	.03	.03
Speech Rate (variability)	.03	.03	.03	.03
Speech Rate (adaptability)	-.01	-.01	-.01	-.01
Speech Rate (predictability)	-.03	-.03	-.03	-.03
Interruptions (% turns)	-.12**	-.11*	.13**	-.11**
Backchannel (% turns)	.06	.07	.07	.07^{+}
Response Time (median)	-.02	-.02	-.02	-.02
Response Time (variability)	.0	.05	.05	.05
Response Time (adaptability)	.003	.002	.002	.001
Response Time (predictability)	-.06	-.06	-.06	-.06^{+}
Interaction	.21	.03	-.25	-.011
Observations (*N*)	424	424	424	424
Marginal R^2	.06	.06	.06	.06

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '+' 0.1.

Note 10: Result from Pacific Sentinel / single audio sample

We performed additional analyses to control for context-specific influences. For this reason, we report the results using data only from the Pacific Sentinel / single audio sample negotiations (N = 121) holding the context as constant as possible. We report below the full and LASSO models.

These analyses reveal that our main conclusions remain consistent (Table S13), with all significant variables in the main analysis having the same direction. The effect size is virtually identical apart from Speech Rate (median) in predicting objective outcomes. Speaking Time is significant at p = .002 in the LASSO model. Pause has a p = .08 in the full model and Speech Rate (median) lost significance. Interruption is significant both in the full (p = .007) and in the LASSO model (p = .02). Turn Length (predictability) is significant in the full (p = .04).

Table S13: Conversation dynamics measured using data only from the Pacific Sentinel / single audio subsample for objective and relational outcomes.

	Objective		Relational	
	(all variables)	LASSO	(all variables)	LASSO
Speaking Time	.16^{+}	.19**	.00	
Turn Length (median)	.09		-.01	
Turn Length (variability)	.05		-.04	-.01
Turn Length (adaptability)	-.06		.10	.09
Turn Length (predictability)	.14*	.12^{+}	-.11*	-.10^{+}
Pauses	-.12^{+}		-.04	
Speech Rate (median)	.05		.07	
Speech Rate (variability)	.02		.05	
Speech Rate (adaptability)	-.05		-.02	
Speech Rate (predictability)	-.03		-.01	
Interruptions (% turns)	.03		-.17**	-.13*
Backchannel (% turns)	-.04		.06	
Response Time (median)	.09		-.05	
Response Time (variability)	.06		.08	.08
Response Time (adaptability)	.07		.02	
Response Time (predictability)	.08	.11	-.08	-.08
Observations (*N*)	242	242	214	214
Marginal R^2	0.09	0.06	0.13	0.11

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '+' 0.1.

References

Anikin, A. (2019). Soundgen: An open-source tool for synthesizing nonverbal vocalizations. *Behavior Research Methods*, *51*, 778-792.

Clark, H. H. (1994). Managing problems in speaking. *Speech Communication, 15*(3-4), 243–250.

Covelli, L. H., & Murray, S. O. (1980). Accomplishing topic change. *Anthropological Linguistics*, *22*(9), 382-389.

Curhan, J. R., Overbeck, J. R., Cho, Y., Zhang, T., & Yang, Y. (2022). Silence is golden: Extended silence, deliberative mindset, and value creation in negotiation. *Journal of Applied Psychology, 107*(1), 78–94.

Curhan, J. R., & Pentland, A. (2007). Thin slices of negotiation: Predicting outcomes from conversational dynamics within the first 5 minutes. *Journal of Applied Psychology, 92*(3), 802–811.

Dong, W., Lepri, B., Pianesi, F., & Pentland, A. (2012). Modeling functional roles dynamics in small group interactions. *IEEE transactions on multimedia*, *15*(1), 83-95.

Farley, S. D. (2008). Attaining status at the expense of likeability: Pilfering power through conversational interruption. *Journal of Nonverbal Behavior, 32*(4), 241–260.

Gervits, F., & Scheutz, M. (2018). Pardon the interruption: Managing turn-taking through overlap resolution in embodied artificial agents. In *Proceedings of the 19th Annual SIGdial Meeting on Discourse and Dialogue*, 99-109.

Goldberg, J. A. (1990). Interrupting the discourse on interruptions: An analysis in terms of relationally neutral, power- and rapport-oriented acts. *Journal of Pragmatics, 14*(6), 883–903.

Heldner, M., & Edlund, J. (2010). Pauses, gaps and overlaps in conversations. *Journal of Phonetics, 38*, 555–568.

Hilton, K. (2018). *What does an interruption sound like?* Stanford University.

Lai, C., & Murray, G. (2018, October). Predicting group satisfaction in meeting discussions. In *Proceedings of the Workshop on Modeling Cognitive Processes from Multimodal Data* (pp. 1-8).

Li, H. Z., Krysko, M., Desroches, N. G., & Deagle, G. (2004). Reconceptualizing interruptions in physician-patient interviews: cooperative and intrusive. *Communication and Medicine*, *1*(2), 145–157.

Mayer, M. (2019). Package 'missRanger'. *R Package*.

Murray, S. O. (1985). Toward a model of members' methods for recognizing interruptions. *Language in Society*, *14*(1), 31-40.

Peters, P., & Wong, D. (2014). Turn management and backchannels. In *Corpus pragmatics: A handbook* (pp. 408-429). Cambridge University Press.

Simonsohn, U., Simmons, J. P., & Nelson, L. D. (2020). Specification curve analysis. *Nature Human Behaviour, 4*(11), 1208–1214.

Yeomans, M., Boland, K., Collins, H., Abi-Esber, N., Brooks, A. W., (2021). A User's Guide for Conversation Research.