1   Supplementary Materials: Early language experience in a Tseltal Mayan village

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Supplementary Materials: Early language experience in a Tseltal Mayan village

Full model outputs

In the main text we only report *significant* effects on the five speech environment variables: TCDS min/hr, ODS min/hr, TC–O transitions/min, O–TC transitions/min, and sequence duration. Here in the Supplementary Materials we give the full model outputs for each analysis, including re-leveled versions of each model to show all three of the two-way tests between the three-level time-of-day factor. We also show, for each of the five measures, a figure showing how the variable is distributed across clips and a figure showing the distribution of model residuals. We also include full model output and residuals for a pair of comparably constructed gaussian mixed-effects regressions using a logged dependent measure. A gaussian model with logged measures is a more common solution to analyzing non-normal distributions in current psycholinguistics, but is not suitable for the current data given how our five speech environment measures are distributed, particularly in the randomly sampled clips (see, e.g., Figures 1, 7, 10, 13, 19). Overall, however, the gaussian models show a qualitatively similar pattern of results.

In what follows, the same information is shown for each of the five speech environment measures. All models were run with the glmm-TMB library in R (Brooks et al., 2017a, 2017b). Note that in all negative binomial regressions, the dependent variables have been rounded to the nearest integer (e.g., 3.2 minutes of TCDS per hour becomes 3 minutes per hour in the model).

The predictors in the models are abbreviated as follows: tchiyr.std = centered, standardized target child age in months; stthr.tri = the start time of the clip as either morning, midday, or afternoon; hsz.std = centered, standardized household size of the target child; nsk.std = centered, standardized number of speakers present in the clip, aclew_child_it = the unique identifier for each child. The predictors are sometimes combined in two-way interactions, as shown below with a ":" separator between predictor names (e.g., tchiyr.std:nsk.std = a two-way interaction of target child age and number of

³⁴ speakers present). In each model output table, the "component" shows what kind of model

³⁵ the estimate derives from (e.g., the zero-inflated models include both a conditional "cond"

³⁶ set of predictors, random effects, and zero-inflation "zi" predictors). The "term" is the

³⁷ estimated predictor. The "statistic" is the estimated z-statistic for each predictor's effect.

³⁸ The other labels are self-explanatory.

³⁹ As more data are added to this corpus, the analyses will also be updated, as will this

⁴⁰ supplementary model information, all of which will be available at:

⁴¹ https://middycasillas.shinyapps.io/Tseltal_Child_Language_Environment/.

⁴² **Target-child-directed speech (TCDS)**

⁴³ **Random clips.** TCDS rate in the random clips demonstrated a skewed distribution

⁴⁴ with extra cases of zero. We therefore modeled it using a zero-inflated negative binomial

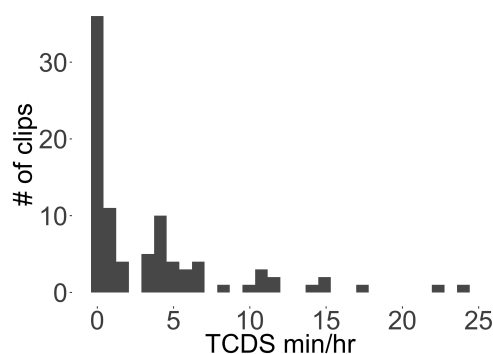⁴⁵ mixed-effects regression.

Figure 1. The distribution of TCDS rates found across the 90 random clips.

Table 1

Full output of the zero-inflated negative binomial mixed-effects regression of TCDS min/hr for the random sample.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	0.82	0.39	2.12	0.03
cond	tchiyr.std	0.44	0.42	1.05	0.29
cond	stthr.trimorning	0.82	0.40	2.06	0.04
cond	stthr.triafternoon	0.49	0.37	1.31	0.19
cond	hsz.std	-0.09	0.26	-0.33	0.74
cond	nsk.std	-0.13	0.16	-0.79	0.43
cond	tchiyr.std:stthr.trimorning	-0.24	0.39	-0.60	0.55
cond	tchiyr.std:stthr.triafternoon	-0.81	0.38	-2.15	0.03
cond	tchiyr.std:hsz.std	-0.21	0.32	-0.66	0.51
cond	tchiyr.std:nsk.std	0.61	0.20	3.06	0.00
zi	(Intercept)	-56.90	14,003.31	0.00	1.00
zi	nsk.std	-55.17	14,243.76	0.00	1.00
random_effect	aclew_child_id	0.30	NA	NA	NA

Table 2

Model output of the zero-inflated negative binomial mixed-effects regression of TCDS min/hr for the random sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	1.36	0.23	5.88	0.00
cond	tchiyr.std	-0.31	0.25	-1.22	0.22
cond	stthr.tri.amidday	-0.49	0.38	-1.29	0.20
cond	stthr.tri.amorning	0.30	0.29	1.06	0.29
cond	hsz.std	-0.09	0.22	-0.40	0.69
cond	nsk.std	-0.11	0.18	-0.60	0.55
cond	tchiyr.std:stthr.tri.amidday	0.73	0.36	2.04	0.04
cond	tchiyr.std:stthr.tri.amorning	0.46	0.28	1.65	0.10
cond	tchiyr.std:hsz.std	-0.20	0.26	-0.76	0.45
cond	tchiyr.std:nsk.std	0.57	0.20	2.83	0.00
zi	(Intercept)	-58.40	13,710.05	0.00	1.00
zi	nsk.std	-56.19	13,945.46	0.00	1.00
random_effect	aclew_child_id	0.00	NA	NA	NA
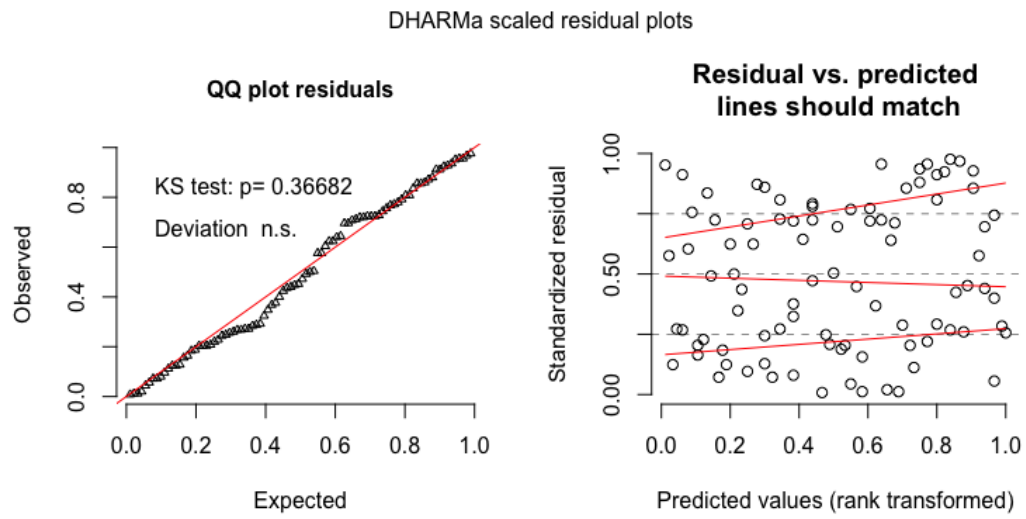
Figure 2. The model residuals from the zero-inflated negative binomial mixed-effects regression of TCDS min/hr for the random sample.

Table 3

Full output of the gaussian mixed-effects regression of TCDS min/hr for the random sample, with midday as the reference level for time of day.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	0.78	0.22	3.44	0.00
cond	tchiyr.std	0.49	0.26	1.90	0.06
cond	stthr.trimorning	0.51	0.25	2.03	0.04
cond	stthr.triafternoon	0.29	0.22	1.32	0.18
cond	hsz.std	-0.20	0.20	-1.00	0.32
cond	nsk.std	0.23	0.12	1.96	0.05
cond	tchiyr.std:stthr.trimorning	-0.16	0.27	-0.59	0.55
cond	tchiyr.std:stthr.triafternoon	-0.68	0.24	-2.85	0.00
cond	tchiyr.std:hsz.std	-0.08	0.24	-0.36	0.72
cond	tchiyr.std:nsk.std	0.25	0.15	1.68	0.09
random_effect	aclew_child_id	0.20	NA	NA	NA
random_effect	Residual	0.84	NA	NA	NA

Table 4

Model output of the gaussian mixed-effects regression of TCDS min/hr for the random sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	1.07	0.19	5.75	0.00
cond	tchiyr.std	-0.19	0.22	-0.86	0.39
cond	stthr.tri.amidday	-0.29	0.22	-1.32	0.18
cond	stthr.tri.amorning	0.22	0.22	0.98	0.33
cond	hsz.std	-0.20	0.20	-1.00	0.32
cond	nsk.std	0.23	0.12	1.96	0.05
cond	tchiyr.std:stthr.tri.amidday	0.68	0.24	2.85	0.00
cond	tchiyr.std:stthr.tri.amorning	0.52	0.23	2.24	0.02
cond	tchiyr.std:hsz.std	-0.08	0.24	-0.36	0.72
cond	tchiyr.std:nsk.std	0.25	0.15	1.68	0.09
random_effect	aclew_child_id	0.20	NA	NA	NA
random_effect	Residual	0.84	NA	NA	NA

DHARMa scaled residual plots
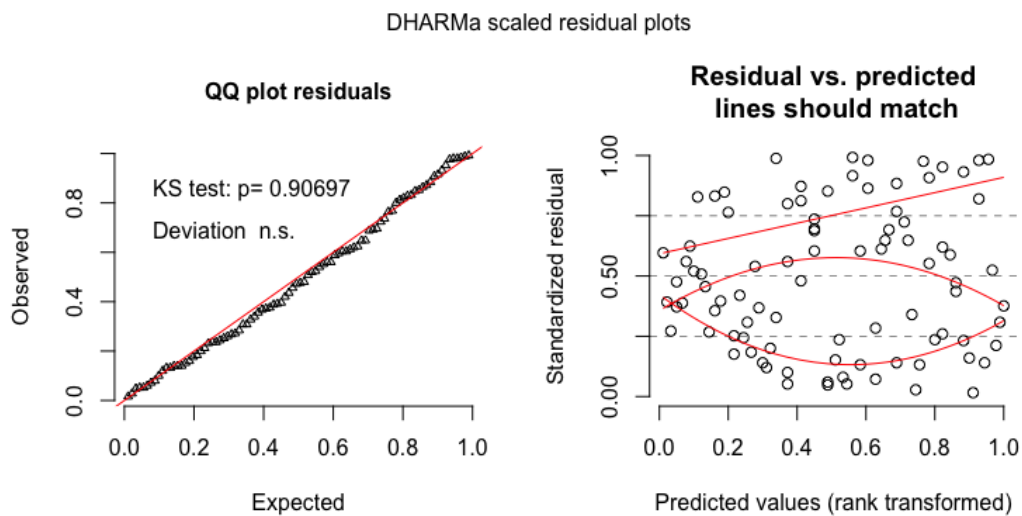
Figure 3. The model residuals from the gaussian mixed-effects regression of TCDS min/hr for the random sample.

⁴⁶ **Turn-taking clips.** TCDS rate in the turn-taking clips demonstrated a fairly

⁴⁷ normal distribution. We therefore modeled it using a plain (i.e., non-zero-inflated) negative

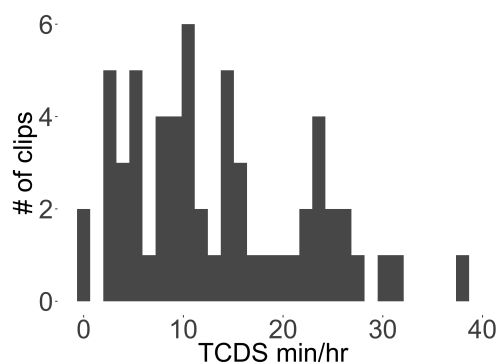⁴⁸ binomial mixed-effects regression.

Figure 4. The distribution of TCDS rates found across the 90 turn-taking clips.

Table 5

Full output of the negative binomial mixed-effects regression of TCDS min/hr for the turn-taking sample.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.22	0.23	9.85	0.00
cond	tchiyr.std	-0.16	0.21	-0.77	0.44
cond	stthr.trimorning	0.33	0.25	1.32	0.19
cond	stthr.triafternoon	0.06	0.23	0.28	0.78
cond	hsz.std	-0.16	0.16	-1.01	0.31
cond	nsk.std	-0.10	0.10	-0.96	0.33
cond	tchiyr.std:stthr.trimorning	-0.27	0.25	-1.10	0.27
cond	tchiyr.std:stthr.triafternoon	-0.03	0.21	-0.16	0.88
cond	tchiyr.std:hsz.std	-0.49	0.20	-2.42	0.02
cond	tchiyr.std:nsk.std	0.14	0.12	1.15	0.25
random_effect	aclew_child_id	0.00	NA	NA	NA

Table 6

Model output of the negative binomial mixed-effects regression of TCDS min/hr for the turn-taking sample, with afternoon as the reference level for time of day.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.29	0.20	11.32	0.00
cond	tchiyr.std	-0.19	0.20	-0.95	0.34
cond	stthr.tri.amidday	-0.06	0.23	-0.28	0.78
cond	stthr.tri.amorning	0.27	0.22	1.24	0.22
cond	hsz.std	-0.16	0.16	-1.01	0.31
cond	nsk.std	-0.10	0.10	-0.96	0.33
cond	tchiyr.std:stthr.tri.amidday	0.03	0.21	0.16	0.88
cond	tchiyr.std:stthr.tri.amorning	-0.24	0.22	-1.10	0.27
cond	tchiyr.std:hsz.std	-0.49	0.20	-2.42	0.02
cond	tchiyr.std:nsk.std	0.14	0.12	1.15	0.25
random_effect	aclew_child_id	0.00	NA	NA	NA

DHARMa scaled residual plots

QQ plot residuals

KS test: p= 0.37799

Deviation n.s.

Observed

Expected

Residual vs. predicted
lines should match

Standardized residual

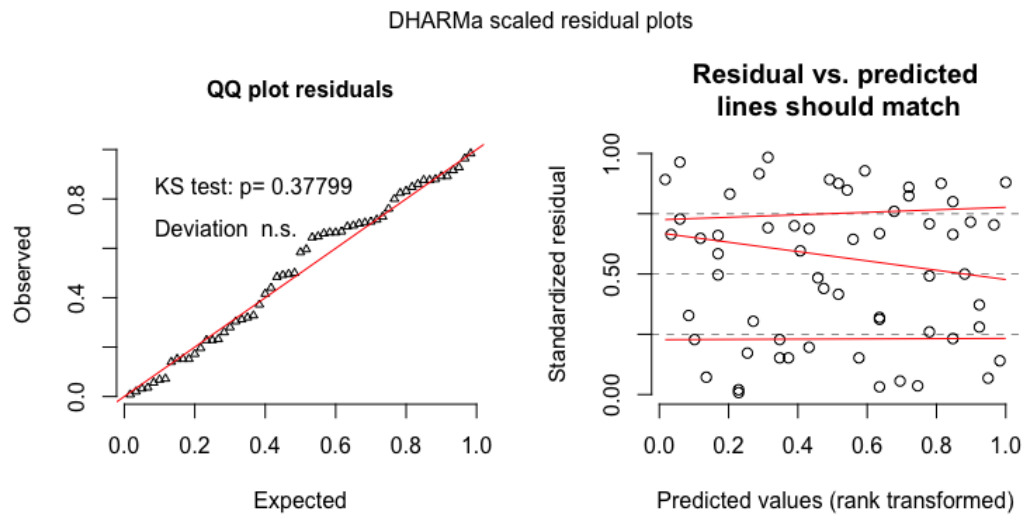Predicted values (rank transformed)

Figure 5. The model residuals from the zero-inflated negative binomial mixed-effects regression of TCDS min/hr for the turn-taking sample.

Table 7

Full output of the gaussian mixed-effects regression of TCDS min/hr for the turn-taking sample, with midday as the reference level for time of day.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.08	0.24	8.55	0.00
cond	tchiyr.std	-0.13	0.23	-0.55	0.58
cond	stthr.trimorning	0.38	0.30	1.28	0.20
cond	stthr.triafternoon	0.11	0.27	0.40	0.69
cond	hsz.std	-0.15	0.17	-0.85	0.39
cond	nsk.std	-0.08	0.12	-0.67	0.50
cond	tchiyr.std:stthr.trimorning	-0.34	0.30	-1.16	0.24
cond	tchiyr.std:stthr.triafternoon	0.00	0.26	-0.02	0.99
cond	tchiyr.std:hsz.std	-0.49	0.22	-2.24	0.02
cond	tchiyr.std:nsk.std	0.17	0.15	1.13	0.26
random_effect	aclew_child_id	0.00	NA	NA	NA
random_effect	Residual	0.71	NA	NA	NA

Table 8

Model output of the gaussian mixed-effects regression of TCDS min/hr for the turn-taking sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.19	0.21	10.47	0.00
cond	tchiyr.std	-0.13	0.23	-0.58	0.56
cond	stthr.tri.amidday	-0.11	0.27	-0.40	0.69
cond	stthr.tri.amorning	0.28	0.26	1.04	0.30
cond	hsz.std	-0.15	0.17	-0.85	0.39
cond	nsk.std	-0.08	0.12	-0.67	0.50
cond	tchiyr.std:stthr.tri.amidday	0.00	0.26	0.02	0.99
cond	tchiyr.std:stthr.tri.amorning	-0.34	0.28	-1.23	0.22
cond	tchiyr.std:hsz.std	-0.49	0.22	-2.24	0.02
cond	tchiyr.std:nsk.std	0.17	0.15	1.13	0.26
random_effect	aclew_child_id	0.00	NA	NA	NA
random_effect	Residual	0.71	NA	NA	NA
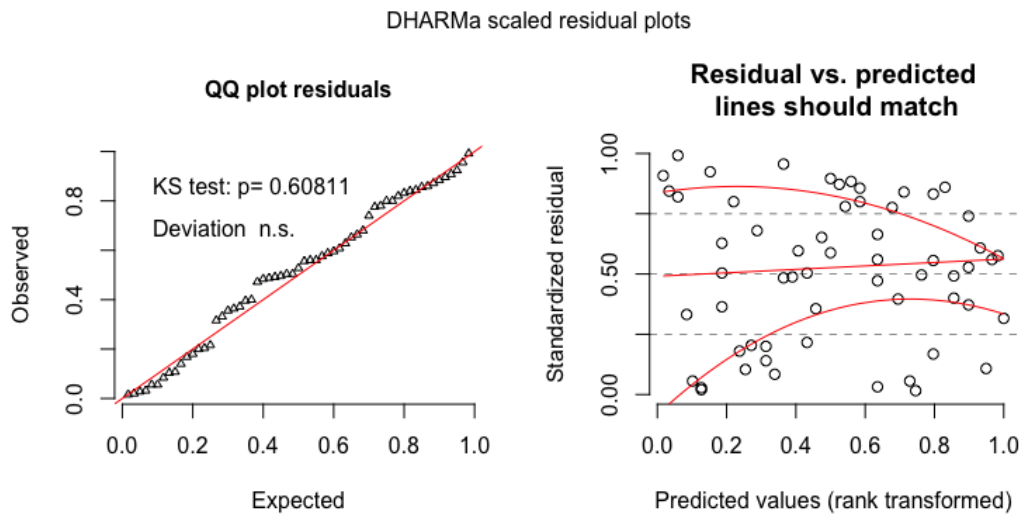
Figure 6. The model residuals from the gaussian mixed-effects regression of TCDS min/hr for the turn-taking sample.

Other-directed speech (ODS)

Random clips. ODS rate in the random clips demonstrated a skewed distribution with extra cases of zero. We therefore modeled it using a zero-inflated negative binomial mixed-effects regression.
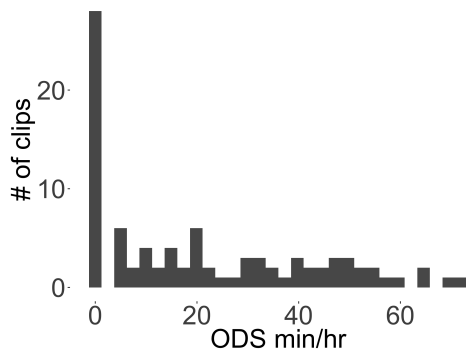

Figure 7. The distribution of ODS rates found across the 90 random clips.

Table 9

Full output of the zero-inflated negative binomial mixed-effects regression of ODS min/hr for the random sample.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.87	0.16	17.95	0.00
cond	tchiyr.std	-0.13	0.18	-0.70	0.49
cond	stthr.trimorning	0.36	0.17	2.09	0.04
cond	stthr.triafternoon	0.29	0.16	1.89	0.06
cond	hsz.std	0.04	0.10	0.44	0.66
cond	nsk.std	0.65	0.09	7.33	0.00
cond	tchiyr.std:stthr.trimorning	0.10	0.21	0.48	0.63
cond	tchiyr.std:stthr.triafternoon	0.38	0.17	2.21	0.03
cond	tchiyr.std:hsz.std	0.32	0.13	2.41	0.02
cond	tchiyr.std:nsk.std	-0.02	0.13	-0.15	0.88
zi	(Intercept)	-50.25	10,421.88	0.00	1.00
zi	nsk.std	-53.76	10,600.83	0.00	1.00
random_effect	aclew_child_id	0.00	NA	NA	NA

Table 10

Model output of the zero-inflated negative binomial mixed-effects regression of ODS min/hr for the random sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	3.16	0.11	28.09	0.00
cond	tchiyr.std	0.25	0.14	1.84	0.07
cond	stthr.tri.amidday	-0.29	0.16	-1.89	0.06
cond	stthr.tri.amorning	0.07	0.14	0.48	0.63
cond	hsz.std	0.04	0.10	0.44	0.66
cond	nsk.std	0.65	0.09	7.33	0.00
cond	tchiyr.std:stthr.tri.amidday	-0.38	0.17	-2.21	0.03
cond	tchiyr.std:stthr.tri.amorning	-0.28	0.17	-1.62	0.10
cond	tchiyr.std:hsz.std	0.32	0.13	2.41	0.02
cond	tchiyr.std:nsk.std	-0.02	0.13	-0.15	0.88
zi	(Intercept)	-50.71	11,450.44	0.00	1.00
zi	nsk.std	-54.22	11,647.05	0.00	1.00
random_effect	aclew_child_id	0.00	NA	NA	NA
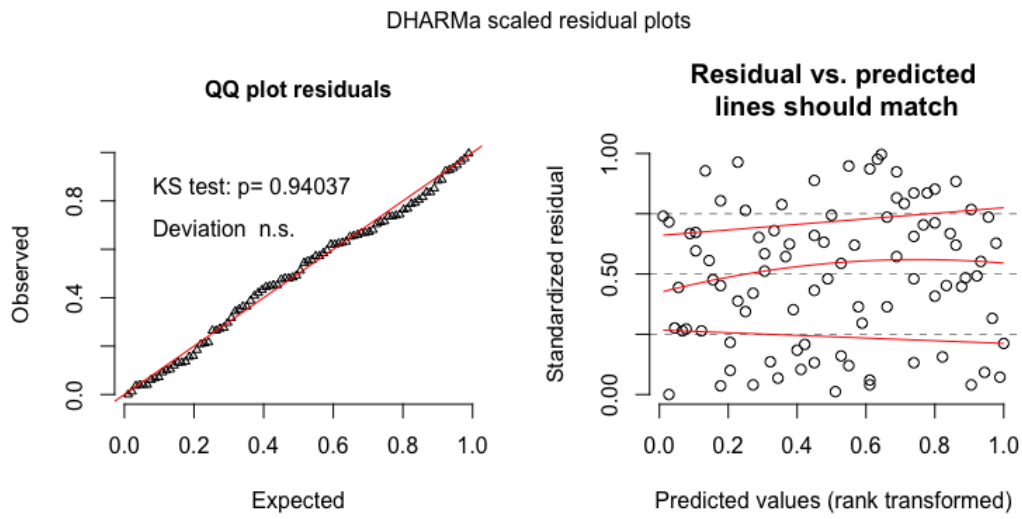
Figure 8. The model residuals from the zero-inflated negative binomial mixed-effects regression of ODS min/hr for the random sample.

Table 11

Full output of the gaussian mixed-effects regression of ODS min/hr for the random sample, with midday as the reference level for time of day.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.21	0.17	12.75	0.00
cond	tchiyr.std	-0.08	0.20	-0.41	0.68
cond	stthr.trimorning	0.21	0.21	1.02	0.31
cond	stthr.triafternoon	0.34	0.19	1.80	0.07
cond	hsz.std	-0.22	0.14	-1.62	0.10
cond	nsk.std	1.53	0.09	16.25	0.00
cond	tchiyr.std:stthr.trimorning	-0.01	0.23	-0.03	0.98
cond	tchiyr.std:stthr.triafternoon	0.42	0.20	2.10	0.04
cond	tchiyr.std:hsz.std	0.32	0.17	1.90	0.06
cond	tchiyr.std:nsk.std	0.08	0.12	0.68	0.50
random_effect	aclew_child_id	0.00	NA	NA	NA
random_effect	Residual	0.72	NA	NA	NA

Table 12

Model output of the gaussian mixed-effects regression of ODS min/hr for the random sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.55	0.14	18.71	0.00
cond	tchiyr.std	0.34	0.16	2.12	0.03
cond	stthr.tri.amidday	-0.34	0.19	-1.80	0.07
cond	stthr.tri.amorning	-0.12	0.18	-0.66	0.51
cond	hsz.std	-0.22	0.14	-1.62	0.10
cond	nsk.std	1.53	0.09	16.25	0.00
cond	tchiyr.std:stthr.tri.amidday	-0.42	0.20	-2.10	0.04
cond	tchiyr.std:stthr.tri.amorning	-0.43	0.20	-2.19	0.03
cond	tchiyr.std:hsz.std	0.32	0.17	1.90	0.06
cond	tchiyr.std:nsk.std	0.08	0.12	0.68	0.50
random_effect	aclew_child_id	0.00	NA	NA	NA
random_effect	Residual	0.72	NA	NA	NA
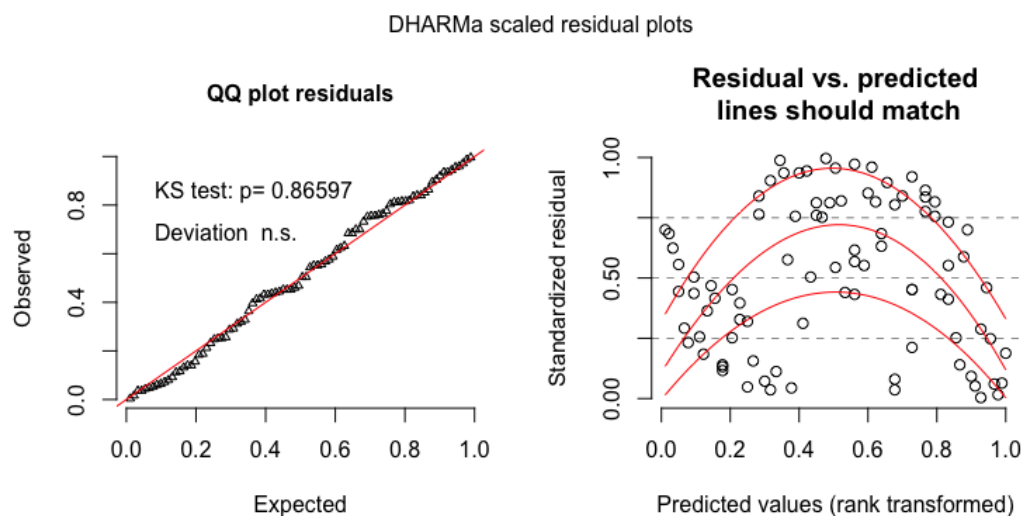
Figure 9. The model residuals from the gaussian mixed-effects regression of ODS min/hr for the random sample.

₅₃ **Turn-taking clips.** ODS rate in the random clips demonstrated a skewed

₅₄ distribution with extra cases of zero. We therefore modeled it using a zero-inflated negative

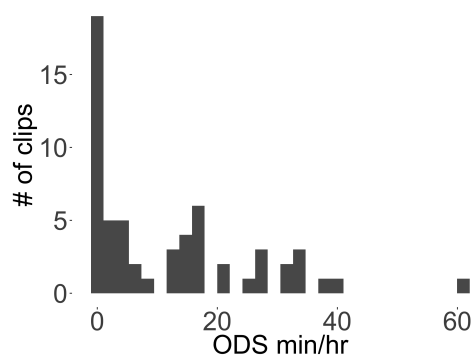₅₅ binomial mixed-effects regression.

Figure 10. The distribution of ODS rates found across the 90 turn-taking clips.

Table 13

Full output of the negative binomial mixed-effects regression of ODS min/hr for the turn-taking sample.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.47	0.22	11.29	0.00
cond	tchiyr.std	-0.45	0.20	-2.19	0.03
cond	stthr.trimorning	0.02	0.26	0.09	0.93
cond	stthr.triafternoon	-0.70	0.29	-2.39	0.02
cond	hsz.std	-0.44	0.17	-2.60	0.01
cond	nsk.std	0.71	0.11	6.63	0.00
cond	tchiyr.std:stthr.trimorning	-0.56	0.28	-1.99	0.05
cond	tchiyr.std:stthr.triafternoon	-0.14	0.30	-0.47	0.64
cond	tchiyr.std:hsz.std	-0.38	0.22	-1.74	0.08
cond	tchiyr.std:nsk.std	0.10	0.14	0.73	0.47
zi	(Intercept)	-32.21	12,233.79	0.00	1.00
zi	nsk.std	-31.55	12,037.74	0.00	1.00
random_effect	aclew_child_id	0.00	NA	NA	NA

Table 14

Model output of the negative binomial mixed-effects regression of ODS min/hr for the turn-taking sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	1.77	0.27	6.64	0.00
cond	tchiyr.std	-0.59	0.28	-2.10	0.04
cond	stthr.tri.amidday	0.70	0.29	2.39	0.02
cond	stthr.tri.amorning	0.72	0.25	2.91	0.00
cond	hsz.std	-0.44	0.17	-2.60	0.01
cond	nsk.std	0.71	0.11	6.63	0.00
cond	tchiyr.std:stthr.tri.amidday	0.14	0.30	0.47	0.64
cond	tchiyr.std:stthr.tri.amorning	-0.42	0.27	-1.54	0.12
cond	tchiyr.std:hsz.std	-0.38	0.22	-1.74	0.08
cond	tchiyr.std:nsk.std	0.10	0.14	0.73	0.47
zi	(Intercept)	-32.46	13,260.31	0.00	1.00
zi	nsk.std	-31.79	13,047.81	0.00	1.00
random_effect	aclew_child_id	0.00	NA	NA	NA
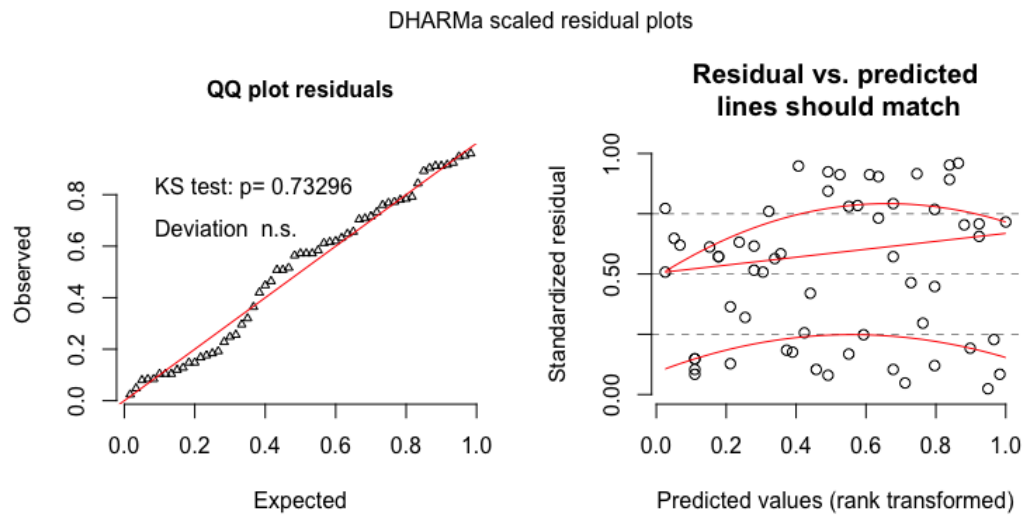
Figure 11. The model residuals from the zero-inflated negative binomial mixed-effects regression of ODS min/hr for the turn-taking sample.

Table 15

Full output of the gaussian mixed-effects regression of ODS min/hr for the turn-taking sample, with midday as the reference level for time of day.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.24	0.24	9.52	0.00
cond	tchiyr.std	-0.26	0.23	-1.13	0.26
cond	stthr.trimorning	-0.19	0.29	-0.65	0.51
cond	stthr.triafternoon	-0.75	0.26	-2.89	0.00
cond	hsz.std	-0.39	0.17	-2.32	0.02
cond	nsk.std	1.12	0.11	10.06	0.00
cond	tchiyr.std:stthr.trimorning	-0.29	0.29	-1.01	0.31
cond	tchiyr.std:stthr.triafternoon	0.04	0.25	0.17	0.86
cond	tchiyr.std:hsz.std	-0.21	0.21	-1.00	0.32
cond	tchiyr.std:nsk.std	-0.03	0.14	-0.22	0.82
random_effect	aclew_child_id	0.00	NA	NA	NA
random_effect	Residual	0.69	NA	NA	NA

Table 16

Model output of the gaussian mixed-effects regression of ODS min/hr for the turn-taking sample, with afternoon as the reference level for time of day.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	1.49	0.20	7.38	0.00
cond	tchiyr.std	-0.21	0.22	-0.96	0.34
cond	stthr.tri.amidday	0.75	0.26	2.89	0.00
cond	stthr.tri.amorning	0.56	0.26	2.18	0.03
cond	hsz.std	-0.39	0.17	-2.32	0.02
cond	nsk.std	1.12	0.11	10.06	0.00
cond	tchiyr.std:stthr.tri.amidday	-0.04	0.25	-0.17	0.86
cond	tchiyr.std:stthr.tri.amorning	-0.33	0.27	-1.24	0.21
cond	tchiyr.std:hsz.std	-0.21	0.21	-1.00	0.32
cond	tchiyr.std:nsk.std	-0.03	0.14	-0.22	0.82
random_effect	aclew_child_id	0.00	NA	NA	NA
random_effect	Residual	0.69	NA	NA	NA

DHARMa scaled residual plots

QQ plot residuals

KS test: p= 0.93724

Deviation n.s.

Residual vs. predicted
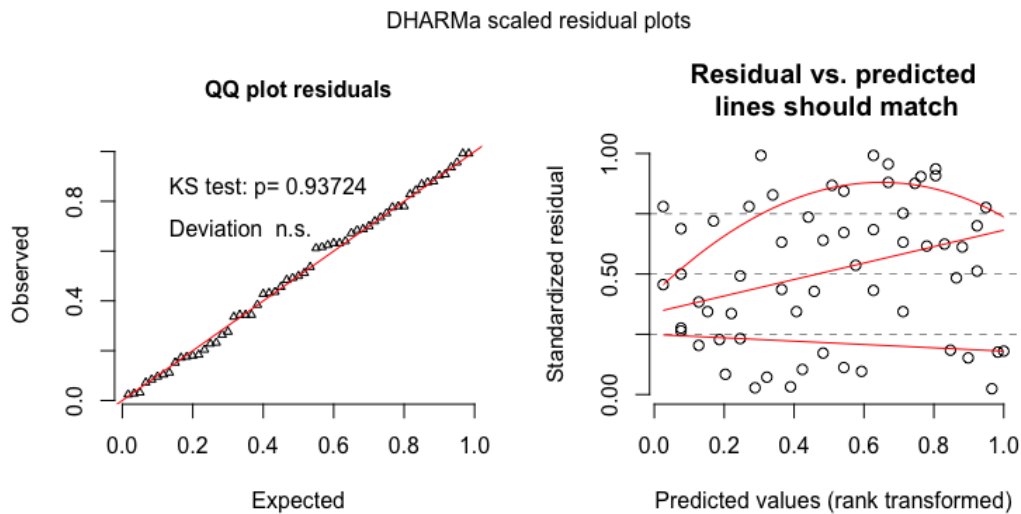lines should match

Figure 12. The model residuals from the gaussian mixed-effects regression of ODS min/hr for the turn-taking sample.

Target-child-to-other turn transitions (TC–O)

Random clips. Target-child-to-other contingent response rate (TC–O transitions/min) in the random clips demonstrated a skewed distribution with extra cases of zero. We therefore modeled it using a zero-inflated negative binomial mixed-effects regression.
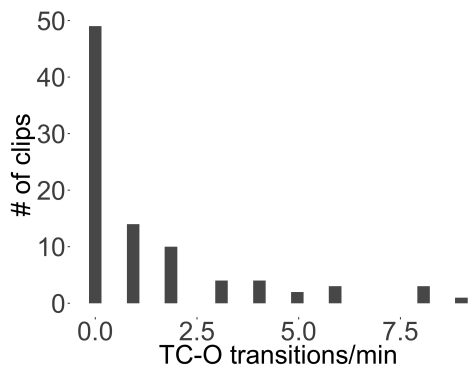
Figure 13. The distribution of TC–O turn transitions/min rates found across the 90 random clips.

Table 17

Full output of the zero-inflated negative binomial mixed-effects regression of TC–O turn transitions/min for the random sample.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	-0.13	0.50	-0.25	0.80
cond	tchiyr.std	0.89	0.61	1.46	0.14
cond	stthr.trimorning	0.48	0.45	1.07	0.28
cond	stthr.triafternoon	0.34	0.40	0.85	0.39
cond	hsz.std	-0.17	0.45	-0.38	0.70
cond	nsk.std	-0.18	0.18	-1.01	0.31
cond	tchiyr.std:stthr.trimorning	-0.14	0.48	-0.29	0.77
cond	tchiyr.std:stthr.triafternoon	-1.08	0.44	-2.44	0.02
cond	tchiyr.std:hsz.std	0.11	0.56	0.20	0.84
cond	tchiyr.std:nsk.std	0.56	0.23	2.48	0.01
zi	(Intercept)	-116.67	53,056.16	0.00	1.00
zi	nsk.std	-100.02	52,343.82	0.00	1.00
random_effect	aclew_child_id	0.71	NA	NA	NA

Table 18

Model output of the zero-inflated negative binomial mixed-effects regression of TC–O turn transitions/min for the random sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	0.22	0.40	0.54	0.59
cond	tchiyr.std	-0.20	0.50	-0.40	0.69
cond	stthr.tri.amidday	-0.34	0.40	-0.85	0.39
cond	stthr.tri.amorning	0.14	0.32	0.44	0.66
cond	hsz.std	-0.17	0.45	-0.38	0.70
cond	nsk.std	-0.18	0.18	-1.01	0.31
cond	tchiyr.std:stthr.tri.amidday	1.08	0.44	2.44	0.02
cond	tchiyr.std:stthr.tri.amorning	0.94	0.38	2.52	0.01
cond	tchiyr.std:hsz.std	0.11	0.56	0.20	0.84
cond	tchiyr.std:nsk.std	0.56	0.23	2.48	0.01
zi	(Intercept)	-115.42	48,611.57	0.00	1.00
zi	nsk.std	-99.00	48,061.56	0.00	1.00
random_effect	aclew_child_id	0.71	NA	NA	NA
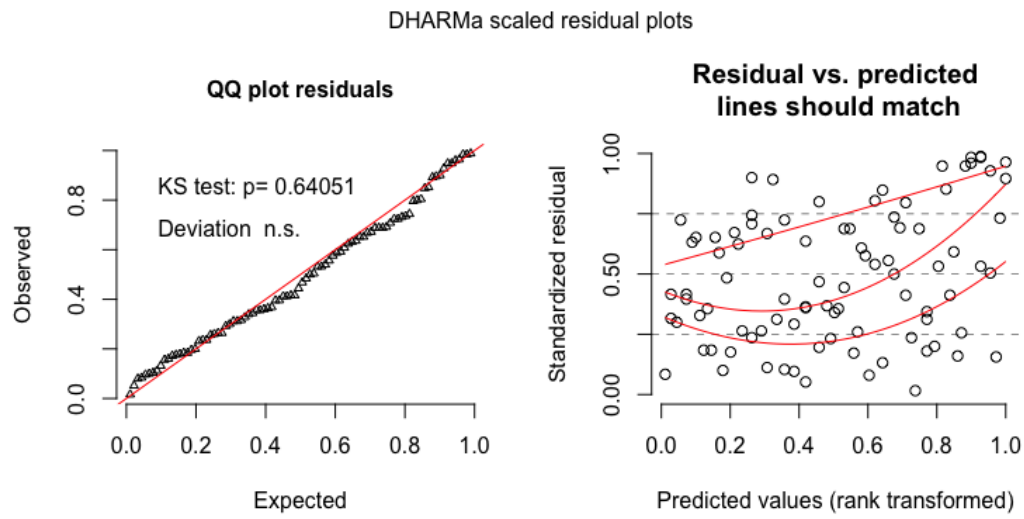
Figure 14. The model residuals from the zero-inflated negative binomial mixed-effects regression of TC–O turn transitions/min for the random sample.

Table 19

Full output of the gaussian mixed-effects regression of TC–O turn transitions/min for the random sample, with midday as the reference level for time of day.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	1.06	0.14	7.80	0.00
cond	tchiyr.std	0.25	0.16	1.59	0.11
cond	stthr.trimorning	0.14	0.12	1.19	0.24
cond	stthr.triafternoon	0.01	0.10	0.13	0.90
cond	hsz.std	-0.11	0.14	-0.82	0.41
cond	nsk.std	0.09	0.06	1.56	0.12
cond	tchiyr.std:stthr.trimorning	-0.02	0.12	-0.20	0.84
cond	tchiyr.std:stthr.triafternoon	-0.30	0.11	-2.73	0.01
cond	tchiyr.std:hsz.std	0.00	0.16	0.02	0.99
cond	tchiyr.std:nsk.std	0.09	0.07	1.34	0.18
random_effect	aclew_child_id	0.21	NA	NA	NA
random_effect	Residual	0.38	NA	NA	NA

Table 20

Model output of the gaussian mixed-effects regression of TC–O turn transitions/min for the random sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	1.07	0.12	8.80	0.00
cond	tchiyr.std	-0.05	0.14	-0.37	0.71
cond	stthr.tri.amidday	-0.01	0.10	-0.13	0.90
cond	stthr.tri.amorning	0.12	0.10	1.24	0.22
cond	hsz.std	-0.11	0.14	-0.82	0.41
cond	nsk.std	0.09	0.06	1.56	0.12
cond	tchiyr.std:stthr.tri.amidday	0.30	0.11	2.73	0.01
cond	tchiyr.std:stthr.tri.amorning	0.28	0.11	2.59	0.01
cond	tchiyr.std:hsz.std	0.00	0.16	0.02	0.99
cond	tchiyr.std:nsk.std	0.09	0.07	1.34	0.18
random_effect	aclew_child_id	0.21	NA	NA	NA
random_effect	Residual	0.38	NA	NA	NA
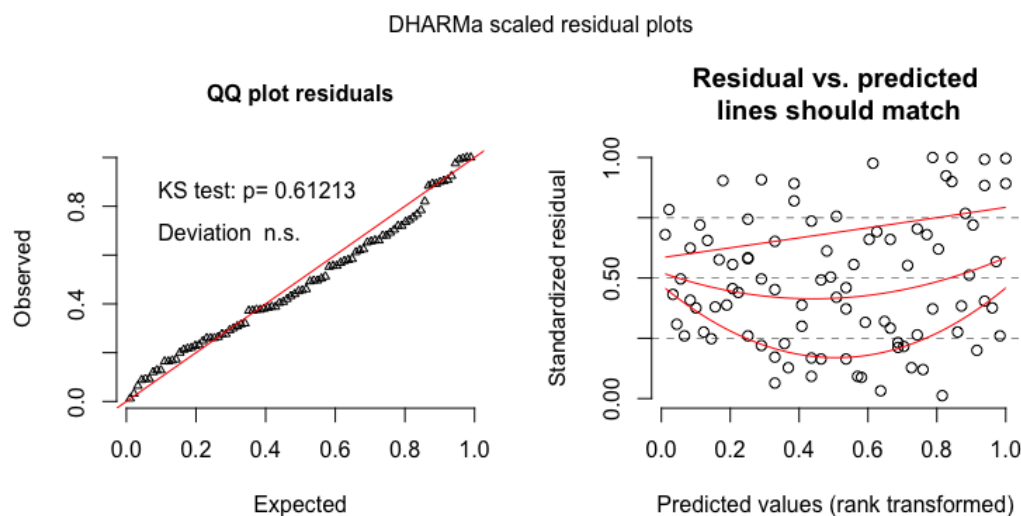
Figure 15. The model residuals from the gaussian mixed-effects regression of TC–O turn transitions/min for the random sample.

⁶¹   **Turn-taking clips.**   TC–O transitions/min in the random clips demonstrated a

⁶²   fairly normal distribution. We therefore modeled it using a plain (i.e., non-zero-inflated)

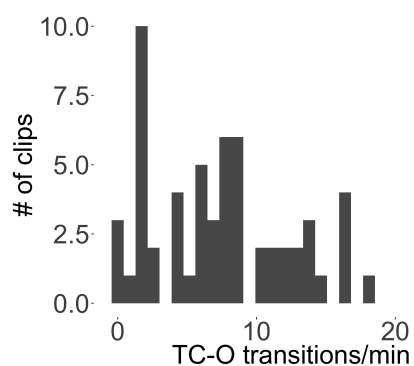⁶³   negative binomial mixed-effects regression.

Figure 16. The distribution of TC–O turn transitions/min found across the 90 turn-taking clips.

Table 21

Full output of the negative binomial mixed-effects regression of TC–O turn transitions/min for the turn-taking sample.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	1.78	0.29	6.19	0.00
cond	tchiyr.std	0.12	0.29	0.40	0.68
cond	stthr.trimorning	0.06	0.32	0.18	0.86
cond	stthr.triafternoon	0.11	0.27	0.41	0.68
cond	hsz.std	-0.04	0.23	-0.17	0.86
cond	nsk.std	-0.21	0.12	-1.84	0.07
cond	tchiyr.std:stthr.trimorning	-0.04	0.30	-0.13	0.89
cond	tchiyr.std:stthr.triafternoon	-0.19	0.25	-0.75	0.45
cond	tchiyr.std:hsz.std	-0.19	0.28	-0.68	0.50
cond	tchiyr.std:nsk.std	0.05	0.13	0.41	0.68
random_effect	aclew_child_id	0.32	NA	NA	NA

Table 22

Model output of the negative binomial mixed-effects regression of TC–O turn transitions/min for the turn-taking sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	1.90	0.24	7.88	0.00
cond	tchiyr.std	-0.07	0.27	-0.26	0.79
cond	stthr.tri.amidday	-0.11	0.27	-0.41	0.68
cond	stthr.tri.amorning	-0.05	0.24	-0.21	0.83
cond	hsz.std	-0.04	0.23	-0.17	0.86
cond	nsk.std	-0.21	0.12	-1.84	0.07
cond	tchiyr.std:stthr.tri.amidday	0.19	0.25	0.75	0.45
cond	tchiyr.std:stthr.tri.amorning	0.15	0.27	0.56	0.58
cond	tchiyr.std:hsz.std	-0.19	0.28	-0.68	0.50
cond	tchiyr.std:nsk.std	0.05	0.13	0.41	0.68
random_effect	aclew_child_id	0.32	NA	NA	NA
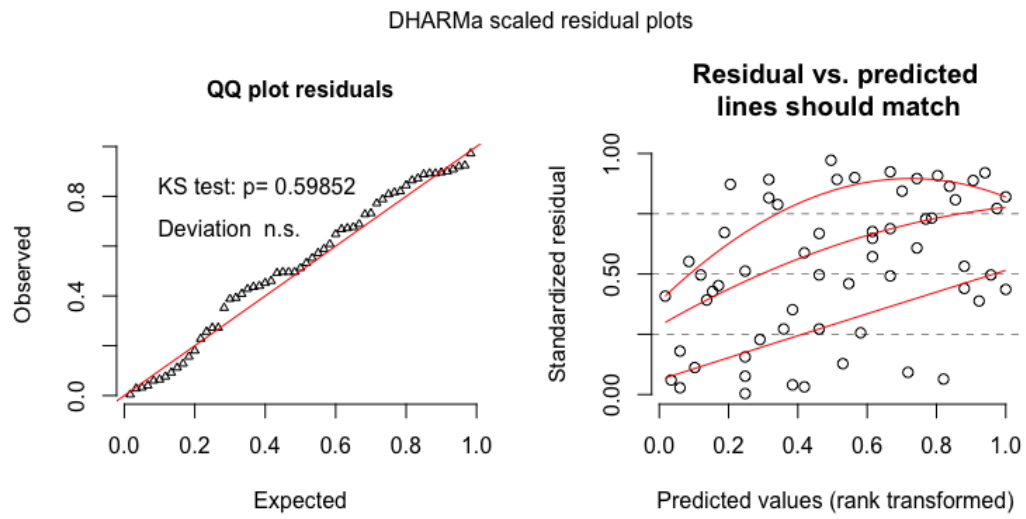
Figure 17. The model residuals from the zero-inflated negative binomial mixed-effects regression of TC–O turn transitions/min for the turn-taking sample.

Table 23

Full output of the gaussian mixed-effects regression of TC–O turn transitions/min for the turn-taking sample, with midday as the reference level for time of day.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.07	0.20	10.19	0.00
cond	tchiyr.std	-0.02	0.23	-0.09	0.93
cond	stthr.tri.amidday	-0.11	0.21	-0.52	0.60
cond	stthr.tri.amorning	-0.08	0.20	-0.40	0.69
cond	hsz.std	-0.02	0.20	-0.12	0.90
cond	nsk.std	-0.18	0.10	-1.86	0.06
cond	tchiyr.std:stthr.tri.amidday	0.11	0.20	0.55	0.58
cond	tchiyr.std:stthr.tri.amorning	0.09	0.22	0.42	0.67
cond	tchiyr.std:hsz.std	-0.17	0.25	-0.68	0.50
cond	tchiyr.std:nsk.std	0.09	0.12	0.79	0.43
random_effect	aclew_child_id	0.30	NA	NA	NA
random_effect	Residual	0.51	NA	NA	NA

Table 24

Model output of the gaussian mixed-effects regression of TC–O turn transitions/min for the turn-taking sample, with afternoon as the reference level for time of day.

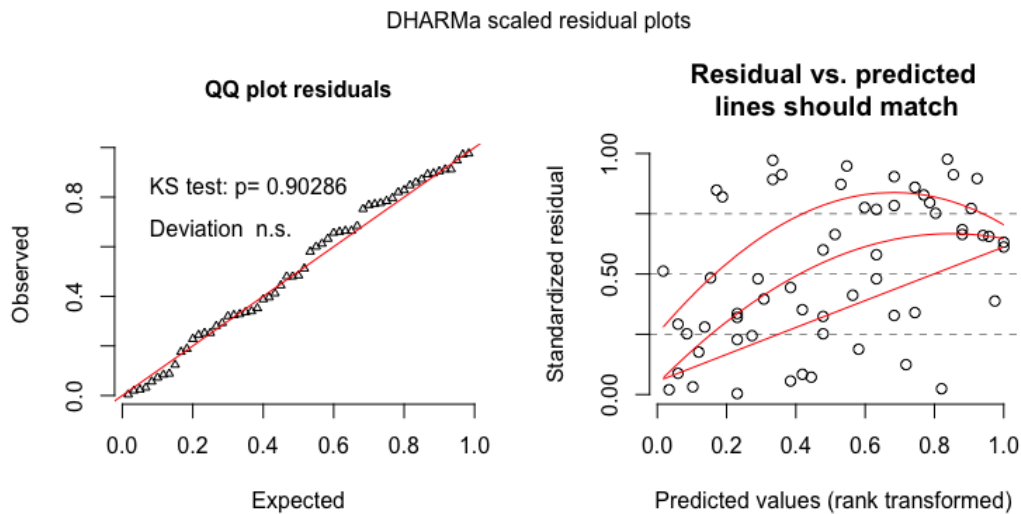| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.07	0.20	10.19	0.00
cond	tchiyr.std	-0.02	0.23	-0.09	0.93
cond	stthr.tri.amidday	-0.11	0.21	-0.52	0.60
cond	stthr.tri.amorning	-0.08	0.20	-0.40	0.69
cond	hsz.std	-0.02	0.20	-0.12	0.90
cond	nsk.std	-0.18	0.10	-1.86	0.06
cond	tchiyr.std:stthr.tri.amidday	0.11	0.20	0.55	0.58
cond	tchiyr.std:stthr.tri.amorning	0.09	0.22	0.42	0.67
cond	tchiyr.std:hsz.std	-0.17	0.25	-0.68	0.50
cond	tchiyr.std:nsk.std	0.09	0.12	0.79	0.43
random_effect	aclew_child_id	0.30	NA	NA	NA
random_effect	Residual	0.51	NA	NA	NA

Figure 18. The model residuals from the gaussian mixed-effects regression of TC–O turn transitions/min for the turn-taking sample.

Other-to-target-child turn transitions (O–TC)

Random clips. Other-to-target-child contingent response rate (O–TC transitions/min) in the random clips demonstrated a skewed distribution with extra cases of zero. We therefore modeled it using a zero-inflated negative binomial mixed-effects regression.
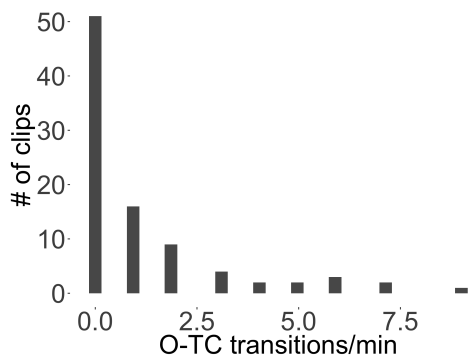

Figure 19. The distribution of O–TC turn transitions/min rates found across the 90 random clips.

Table 25

Full output of the zero-inflated negative binomial mixed-effects regression of O–TCturn transitions/min for the random sample, with midday as the reference level for time of day.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	-0.46	0.54	-0.84	0.40
cond	tchiyr.std	1.14	0.66	1.74	0.08
cond	stthr.trimorning	0.32	0.49	0.65	0.52
cond	stthr.triafternoon	0.50	0.41	1.21	0.22
cond	hsz.std	-0.20	0.50	-0.41	0.68
cond	nsk.std	-0.14	0.18	-0.79	0.43
cond	tchiyr.std:stthr.trimorning	-0.12	0.51	-0.24	0.81
cond	tchiyr.std:stthr.triafternoon	-1.46	0.46	-3.13	0.00
cond	tchiyr.std:hsz.std	0.14	0.61	0.23	0.82
cond	tchiyr.std:nsk.std	0.52	0.22	2.30	0.02
zi	(Intercept)	-115.46	43,943.60	0.00	1.00
zi	nsk.std	-98.63	42,142.48	0.00	1.00
random_effect	aclew_child_id	0.80	NA	NA	NA

Table 26

Model output of the zero-inflated negative binomial mixed-effects regression of O–TC turn transitions/min for the random sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	0.04	0.43	0.08	0.93
cond	tchiyr.std	-0.32	0.54	-0.59	0.56
cond	stthr.tri.amidday	-0.50	0.41	-1.21	0.22
cond	stthr.tri.amorning	-0.18	0.36	-0.49	0.62
cond	hsz.std	-0.20	0.50	-0.41	0.68
cond	nsk.std	-0.14	0.18	-0.79	0.43
cond	tchiyr.std:stthr.tri.amidday	1.46	0.46	3.13	0.00
cond	tchiyr.std:stthr.tri.amorning	1.33	0.42	3.19	0.00
cond	tchiyr.std:hsz.std	0.14	0.61	0.23	0.82
cond	tchiyr.std:nsk.std	0.52	0.22	2.30	0.02
zi	(Intercept)	-115.66	41,463.41	0.00	1.00
zi	nsk.std	-98.60	38,727.01	0.00	1.00
random_effect	aclew_child_id	0.80	NA	NA	NA
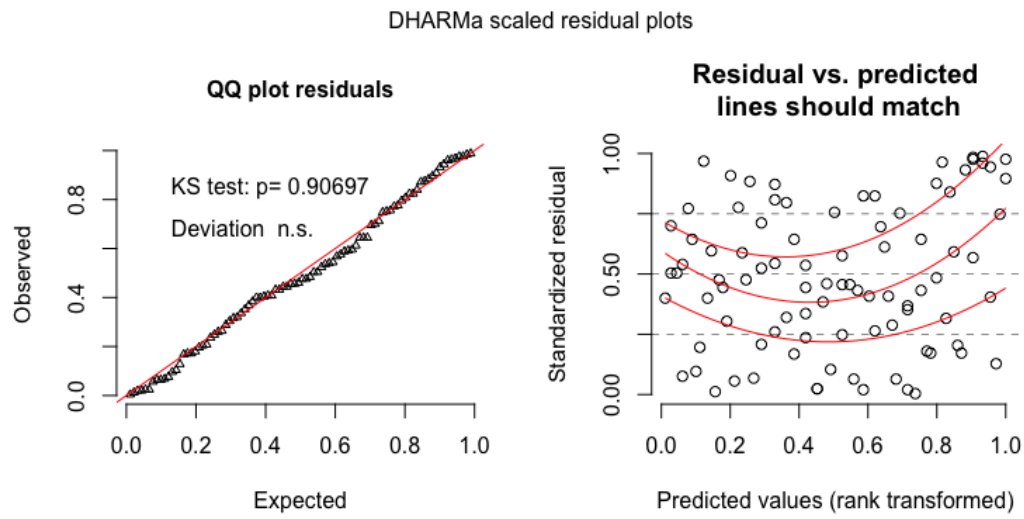
Figure 20. The model residuals from the zero-inflated negative binomial mixed-effects regression of O–TC turn transitions/min for the random sample.

Table 27

Full output of the gaussian mixed-effects regression of O–TC turn transitions/min for the random sample, with midday as the reference level for time of day.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	1.01	0.12	8.09	0.00
cond	tchiyr.std	0.23	0.14	1.57	0.12
cond	stthr.trimorning	0.10	0.11	0.92	0.36
cond	stthr.triafternoon	0.00	0.10	0.00	1.00
cond	hsz.std	-0.12	0.12	-0.96	0.34
cond	nsk.std	0.07	0.05	1.33	0.18
cond	tchiyr.std:stthr.trimorning	-0.02	0.12	-0.17	0.87
cond	tchiyr.std:stthr.triafternoon	-0.29	0.10	-2.76	0.01
cond	tchiyr.std:hsz.std	-0.03	0.15	-0.19	0.85
cond	tchiyr.std:nsk.std	0.08	0.07	1.13	0.26
random_effect	aclew_child_id	0.19	NA	NA	NA
random_effect	Residual	0.36	NA	NA	NA

Table 28

Model output of the gaussian mixed-effects regression of O–TC turn transitions/min for the random sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	1.01	0.11	9.04	0.00
cond	tchiyr.std	-0.06	0.13	-0.45	0.66
cond	stthr.tri.amidday	0.00	0.10	0.00	1.00
cond	stthr.tri.amorning	0.10	0.09	1.06	0.29
cond	hsz.std	-0.12	0.12	-0.96	0.34
cond	nsk.std	0.07	0.05	1.33	0.18
cond	tchiyr.std:stthr.tri.amidday	0.29	0.10	2.76	0.01
cond	tchiyr.std:stthr.tri.amorning	0.27	0.10	2.66	0.01
cond	tchiyr.std:hsz.std	-0.03	0.15	-0.19	0.85
cond	tchiyr.std:nsk.std	0.08	0.07	1.13	0.26
random_effect	aclew_child_id	0.19	NA	NA	NA
random_effect	Residual	0.36	NA	NA	NA
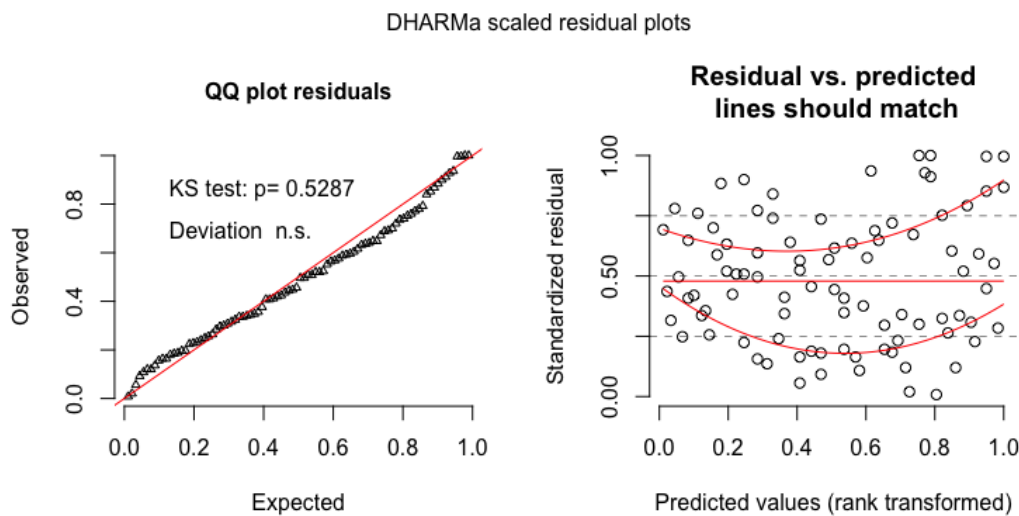
Figure 21. The model residuals from the gaussian mixed-effects regression of O–TC turn transitions/min for the random sample.

₆₉ **Turn-taking clips.** O–TC transitions/min in the random clips demonstrated a

₇₀ fairly normal distribution. We therefore modeled it using a plain (i.e., non-zero-inflated)

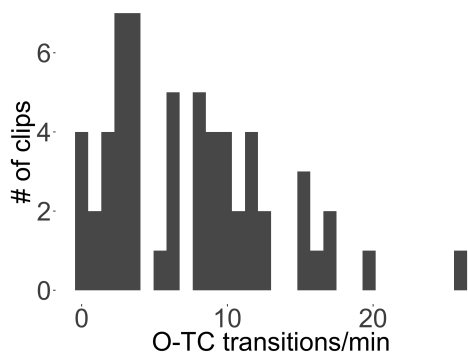₇₁ negative binomial mixed-effects regression.

Figure 22. The distribution of O–TC turn transitions/min found across the 90 turn-taking clips.

Table 29

Full output of the negative binomial mixed-effects regression of O–TC turn transitions/min for the turn-taking sample.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	1.84	0.29	6.32	0.00
cond	tchiyr.std	0.06	0.30	0.20	0.84
cond	stthr.trimorning	-0.05	0.33	-0.15	0.88
cond	stthr.triafternoon	0.03	0.28	0.10	0.92
cond	hsz.std	-0.04	0.23	-0.16	0.88
cond	nsk.std	-0.23	0.12	-1.88	0.06
cond	tchiyr.std:stthr.trimorning	0.12	0.31	0.39	0.69
cond	tchiyr.std:stthr.triafternoon	-0.08	0.26	-0.30	0.77
cond	tchiyr.std:hsz.std	-0.19	0.28	-0.66	0.51
cond	tchiyr.std:nsk.std	0.08	0.14	0.62	0.53
random_effect	aclew_child_id	0.31	NA	NA	NA

Table 30

Model output of the negative binomial mixed-effects regression of O–TC turn transitions/min for the turn-taking sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	1.87	0.25	7.55	0.00
cond	tchiyr.std	-0.02	0.27	-0.06	0.95
cond	stthr.tri.amidday	-0.03	0.28	-0.10	0.92
cond	stthr.tri.amorning	-0.08	0.26	-0.30	0.77
cond	hsz.std	-0.04	0.23	-0.16	0.88
cond	nsk.std	-0.23	0.12	-1.88	0.06
cond	tchiyr.std:stthr.tri.amidday	0.08	0.26	0.30	0.77
cond	tchiyr.std:stthr.tri.amorning	0.20	0.27	0.73	0.46
cond	tchiyr.std:hsz.std	-0.19	0.28	-0.66	0.51
cond	tchiyr.std:nsk.std	0.08	0.14	0.62	0.53
random_effect	aclew_child_id	0.31	NA	NA	NA
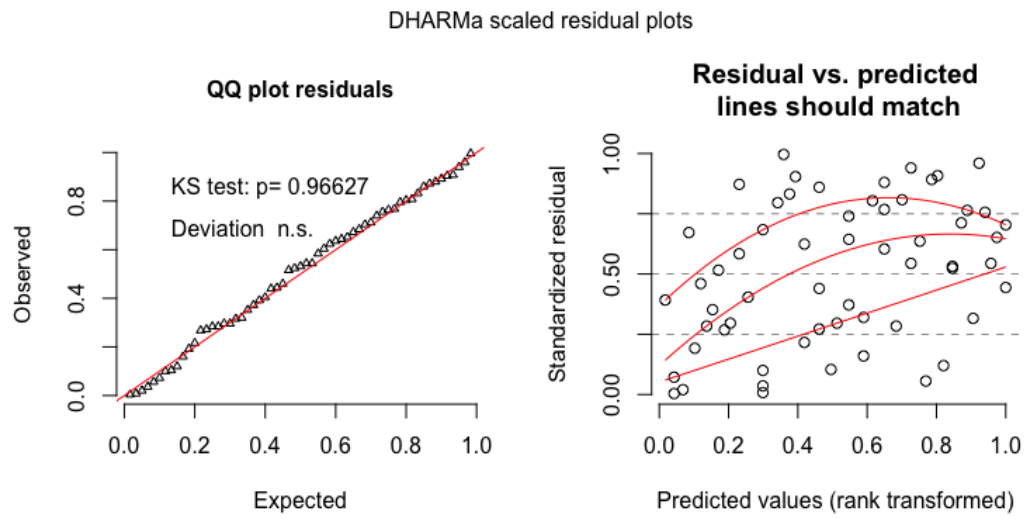
Figure 23. The model residuals from the negative binomial mixed-effects regression of O–TC turn transitions/min for the turn-taking sample.

Table 31

Full output of the gaussian mixed-effects regression of O–TC turn transitions/min for the turn-taking sample, with midday as the reference level for time of day.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.01	0.25	8.10	0.00
cond	tchiyr.std	0.04	0.25	0.16	0.87
cond	stthr.trimorning	-0.09	0.27	-0.34	0.74
cond	stthr.triafternoon	0.04	0.22	0.16	0.87
cond	hsz.std	0.00	0.21	-0.01	0.99
cond	nsk.std	-0.20	0.10	-1.98	0.05
cond	tchiyr.std:stthr.trimorning	0.17	0.25	0.66	0.51
cond	tchiyr.std:stthr.triafternoon	0.00	0.21	-0.02	0.99
cond	tchiyr.std:hsz.std	-0.13	0.26	-0.52	0.61
cond	tchiyr.std:nsk.std	0.08	0.12	0.69	0.49
random_effect	aclew_child_id	0.30	NA	NA	NA
random_effect	Residual	0.53	NA	NA	NA

Table 32

Model output of the gaussian mixed-effects regression of O–TC turn transitions/min for the turn-taking sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.04	0.21	9.74	0.00
cond	tchiyr.std	0.04	0.24	0.15	0.88
cond	stthr.tri.amidday	-0.04	0.22	-0.16	0.87
cond	stthr.tri.amorning	-0.13	0.22	-0.59	0.56
cond	hsz.std	0.00	0.21	-0.01	0.99
cond	nsk.std	-0.20	0.10	-1.98	0.05
cond	tchiyr.std:stthr.tri.amidday	0.00	0.21	0.02	0.99
cond	tchiyr.std:stthr.tri.amorning	0.17	0.23	0.75	0.46
cond	tchiyr.std:hsz.std	-0.13	0.26	-0.52	0.61
cond	tchiyr.std:nsk.std	0.08	0.12	0.69	0.49
random_effect	aclew_child_id	0.30	NA	NA	NA
random_effect	Residual	0.53	NA	NA	NA
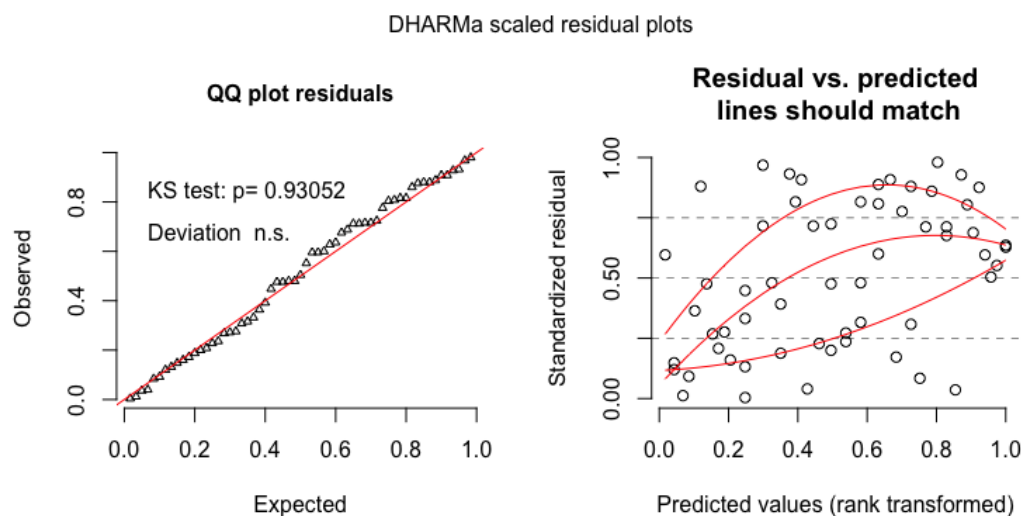
Figure 24. The model residuals from the gaussian mixed-effects regression of O–TC turn transitions/min for the turn-taking sample.

Interactive sequence duration

    Random clips.   Other-to-target-child contingent response rate (O–TC transitions/min) in the random clips demonstrated a skewed distribution with extra cases of zero. We therefore modeled it using a zero-inflated negative binomial mixed-effects regression.
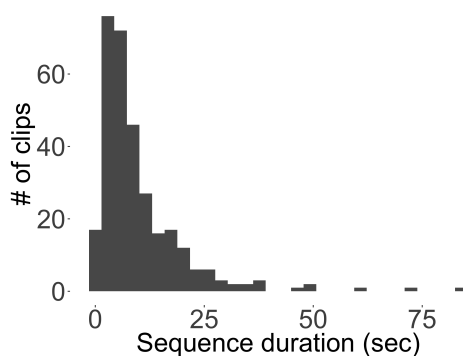

Figure 25. The distribution of interactive sequence duration (sec) found across the 90 random clips.

Table 33

Full output of the negative binomial mixed-effects regression of interactive sequence duration (sec) for the random sample, with midday as the reference level for time of day.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.22	0.14	15.56	0.00
cond	tchiyr.std	0.11	0.19	0.55	0.58
cond	stthr.trimorning	0.14	0.17	0.78	0.44
cond	stthr.triafternoon	0.13	0.16	0.80	0.42
cond	hsz.std	0.01	0.08	0.12	0.90
cond	nsk.std	0.01	0.05	0.13	0.90
cond	tchiyr.std:stthr.trimorning	0.20	0.19	1.05	0.30
cond	tchiyr.std:stthr.triafternoon	0.04	0.18	0.26	0.80
cond	tchiyr.std:hsz.std	0.14	0.11	1.26	0.21
cond	tchiyr.std:nsk.std	-0.03	0.06	-0.51	0.61
random_effect	uniq.segment	0.11	NA	NA	NA
random_effect	aclew_child_id	0.00	NA	NA	NA

Table 34

Model output of the negative binomial mixed-effects regression of interactive sequence duration (sec) for the random sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.35	0.09	27.16	0.00
cond	tchiyr.std	0.15	0.12	1.26	0.21
cond	stthr.tri.amidday	-0.13	0.16	-0.80	0.42
cond	stthr.tri.amorning	0.01	0.12	0.06	0.95
cond	hsz.std	0.01	0.08	0.12	0.90
cond	nsk.std	0.01	0.05	0.13	0.90
cond	tchiyr.std:stthr.tri.amidday	-0.04	0.18	-0.26	0.80
cond	tchiyr.std:stthr.tri.amorning	0.15	0.13	1.17	0.24
cond	tchiyr.std:hsz.std	0.14	0.11	1.26	0.21
cond	tchiyr.std:nsk.std	-0.03	0.06	-0.51	0.61
random_effect	uniq.segment	0.11	NA	NA	NA
random_effect	aclew_child_id	0.00	NA	NA	NA
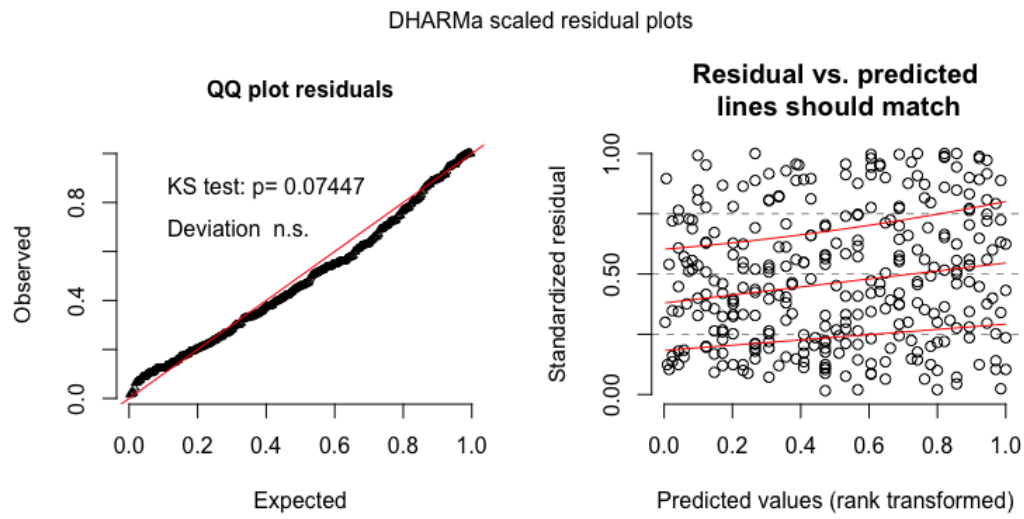
Figure 26. The model residuals from the negative binomial mixed-effects regression of interactive sequence duration (sec) for the random sample.

Table 35

Full output of the gaussian mixed-effects regression of interactive sequence duration (sec) for the random sample, with midday as the reference level for time of day.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	-2.24	0.18	-12.46	0.00
cond	tchiyr.std	0.10	0.25	0.41	0.68
cond	stthr.trimorning	0.08	0.22	0.36	0.72
cond	stthr.triafternoon	0.13	0.20	0.65	0.51
cond	hsz.std	0.01	0.11	0.07	0.94
cond	nsk.std	0.01	0.06	0.17	0.87
cond	tchiyr.std:stthr.trimorning	0.34	0.24	1.39	0.16
cond	tchiyr.std:stthr.triafternoon	0.11	0.22	0.49	0.62
cond	tchiyr.std:hsz.std	0.17	0.14	1.15	0.25
cond	tchiyr.std:nsk.std	-0.06	0.08	-0.74	0.46
random_effect	uniq.segment	0.19	NA	NA	NA
random_effect	aclew_child_id	0.00	NA	NA	NA
random_effect	Residual	0.85	NA	NA	NA

Table 36

Model output of the gaussian mixed-effects regression of interactive sequence duration (sec) for the random sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	-2.11	0.11	-19.42	0.00
cond	tchiyr.std	0.21	0.16	1.36	0.18
cond	stthr.tri.amidday	-0.13	0.20	-0.65	0.51
cond	stthr.tri.amorning	-0.05	0.15	-0.36	0.72
cond	hsz.std	0.01	0.11	0.07	0.94
cond	nsk.std	0.01	0.06	0.17	0.87
cond	tchiyr.std:stthr.tri.amidday	-0.11	0.22	-0.49	0.62
cond	tchiyr.std:stthr.tri.amorning	0.22	0.17	1.34	0.18
cond	tchiyr.std:hsz.std	0.17	0.14	1.15	0.25
cond	tchiyr.std:nsk.std	-0.06	0.08	-0.74	0.46
random_effect	uniq.segment	0.19	NA	NA	NA
random_effect	aclew_child_id	0.00	NA	NA	NA
random_effect	Residual	0.85	NA	NA	NA
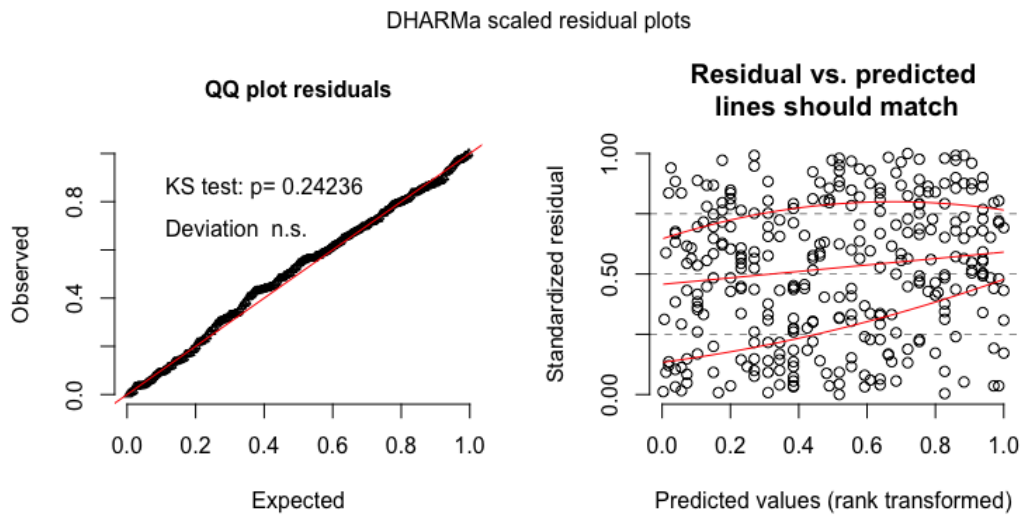
Figure 27. The model residuals from the gaussian mixed-effects regression of interactive sequence duration (sec) for the random sample.

77 **Turn-taking clips.** O–TC transitions/min in the random clips demonstrated a
78 fairly normal distribution. We therefore modeled it using a plain (i.e., non-zero-inflated)
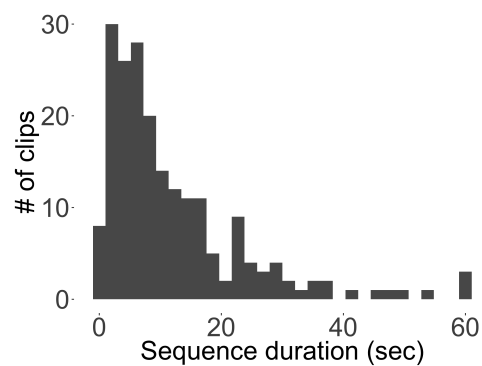79 negative binomial mixed-effects regression.

Figure 28. The distribution of interactive sequence duration (sec) found across the 90 turn-taking clips.

Table 37

Full output of the negative binomial mixed-effects regression of interactive sequence duration (sec) for the turn-taking sample.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.25	0.14	16.54	0.00
cond	tchiyr.std	-0.18	0.12	-1.51	0.13
cond	stthr.trimorning	0.06	0.16	0.37	0.71
cond	stthr.triafternoon	0.38	0.14	2.61	0.01
cond	hsz.std	-0.17	0.10	-1.74	0.08
cond	nsk.std	-0.01	0.06	-0.18	0.85
cond	tchiyr.std:stthr.trimorning	-0.02	0.17	-0.12	0.90
cond	tchiyr.std:stthr.triafternoon	0.02	0.14	0.14	0.89
cond	tchiyr.std:hsz.std	-0.18	0.13	-1.37	0.17
cond	tchiyr.std:nsk.std	0.03	0.08	0.38	0.70
random_effect	uniq.segment	0.00	NA	NA	NA
random_effect	aclew_child_id	0.00	NA	NA	NA

Table 38

Model output of the negative binomial mixed-effects regression of interactive sequence duration (sec) for the turn-taking sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	2.63	0.12	20.93	0.00
cond	tchiyr.std	-0.16	0.13	-1.23	0.22
cond	stthr.tri.amidday	-0.38	0.14	-2.61	0.01
cond	stthr.tri.amorning	-0.32	0.15	-2.12	0.03
cond	hsz.std	-0.17	0.10	-1.74	0.08
cond	nsk.std	-0.01	0.06	-0.18	0.85
cond	tchiyr.std:stthr.tri.amidday	-0.02	0.14	-0.14	0.89
cond	tchiyr.std:stthr.tri.amorning	-0.04	0.17	-0.24	0.81
cond	tchiyr.std:hsz.std	-0.18	0.13	-1.37	0.17
cond	tchiyr.std:nsk.std	0.03	0.08	0.38	0.70
random_effect	uniq.segment	0.00	NA	NA	NA
random_effect	aclew_child_id	0.00	NA	NA	NA
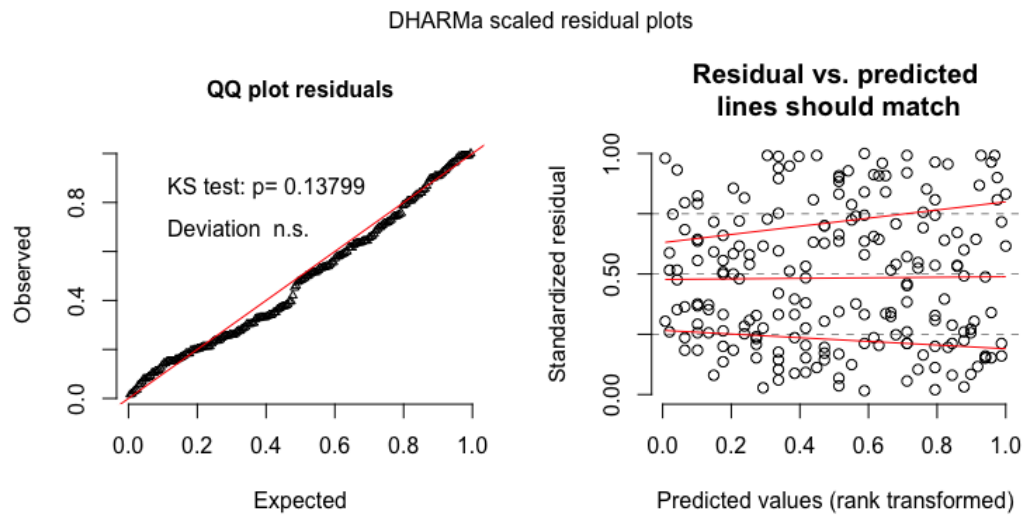
Figure 29. The model residuals from the negative binomial mixed-effects regression of interactive sequence duration (sec) for the turn-taking sample.

Table 39

Full output of the gaussian mixed-effects regression of interactive sequence duration (sec)
for the turn-taking sample, with midday as the reference level for time of day.

component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	-2.33	0.16	-14.96	0.00
cond	tchiyr.std	-0.20	0.14	-1.40	0.16
cond	stthr.trimorning	0.08	0.19	0.39	0.70
cond	stthr.triafternoon	0.57	0.18	3.11	0.00
cond	hsz.std	-0.23	0.12	-2.01	0.04
cond	nsk.std	-0.02	0.07	-0.32	0.75
cond	tchiyr.std:stthr.trimorning	0.02	0.20	0.08	0.94
cond	tchiyr.std:stthr.triafternoon	-0.01	0.19	-0.08	0.94
cond	tchiyr.std:hsz.std	-0.20	0.15	-1.32	0.19
cond	tchiyr.std:nsk.std	0.05	0.10	0.49	0.62
random_effect	uniq.segment	0.00	NA	NA	NA
random_effect	aclew_child_id	0.00	NA	NA	NA
random_effect	Residual	0.89	NA	NA	NA

Table 40

Model output of the gaussian mixed-effects regression of interactive sequence duration (sec) for the turn-taking sample, with afternoon as the reference level for time of day.

| component	term	estimate	std.error	statistic	p.value
cond	(Intercept)	-1.75	0.16	-11.17	0.00
cond	tchiyr.std	-0.22	0.17	-1.29	0.20
cond	stthr.tri.amidday	-0.57	0.18	-3.11	0.00
cond	stthr.tri.amorning	-0.50	0.19	-2.58	0.01
cond	hsz.std	-0.23	0.12	-2.01	0.04
cond	nsk.std	-0.02	0.07	-0.32	0.75
cond	tchiyr.std:stthr.tri.amidday	0.01	0.19	0.08	0.94
cond	tchiyr.std:stthr.tri.amorning	0.03	0.21	0.14	0.89
cond	tchiyr.std:hsz.std	-0.20	0.15	-1.32	0.19
cond	tchiyr.std:nsk.std	0.05	0.10	0.49	0.62
random_effect	uniq.segment	0.00	NA	NA	NA
random_effect	aclew_child_id	0.00	NA	NA	NA
random_effect	Residual	0.89	NA	NA	NA
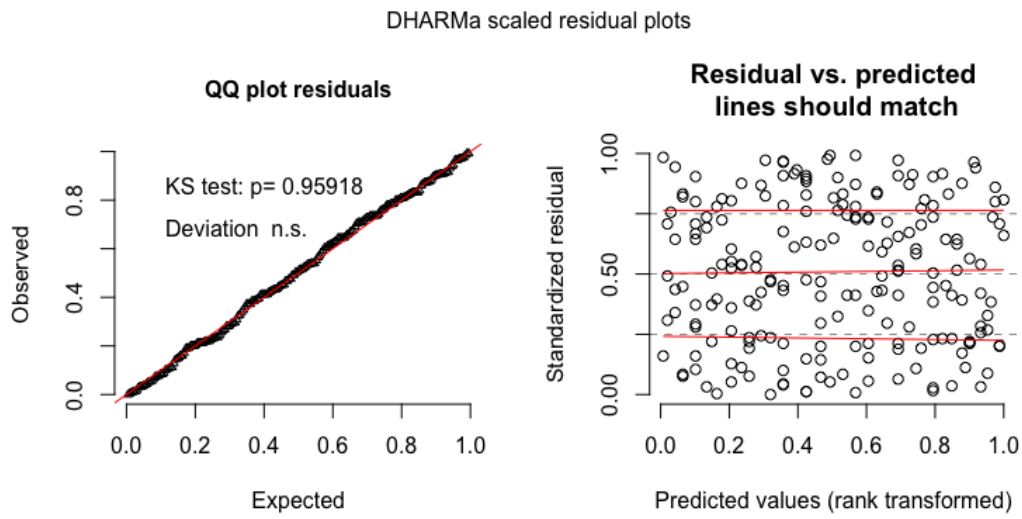
Figure 30. The model residuals from the gaussian mixed-effects regression of interactive sequence duration (sec) for the turn-taking sample.

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