S4: Results comparing individual participants

This JASP file contains all assumption checks and analyses to test the following hypotheses:

1. We hypothesise that there will be differences in pitch between ASD and TD participants, such that ASD participants will show less variance in pitch than TD participants.
2. We hypothesise that there will be differences in intensity between ASD and TD participants, such that ASD participants will show less variance in intensity than TD participants.
3. We hypothesise that there will be differences in articulation rate between ASD and TD participants, such that ASD participants will show a decreased articulation rate compared to TD participants.
4. We hypothesise that there will be differences in synchronisation of pitch between ASD and TD participants, such that ASD participants will show less synchronisation of pitch than TD participants.
5. We hypothesise that there will be differences in synchronisation of intensity between ASD and TD participants, such that ASD participants will show less synchronisation of intensity than TD participants.

We also hypothesised differences in synchronisation of articulation rate, however, it did not exceed the levels of pseudosynchrony.

pit_var: Bayesian Repeated Measures ANOVA

Model Comparison

Models	P(M)	P(M|data)	Log(BF_M)	Log(BF_{10})	error %
Null model (incl. subject and random slopes)	0.200	0.002	−4.904	0.000	
task + diagnostic status	0.200	0.507	1.413	5.612	2.179
task + diagnostic status + task ✻ diagnostic status	0.200	0.304	0.558	5.102	3.859
task	0.200	0.181	−0.121	4.585	1.864
diagnostic status	0.200	0.006	−3.699	1.201	5.605

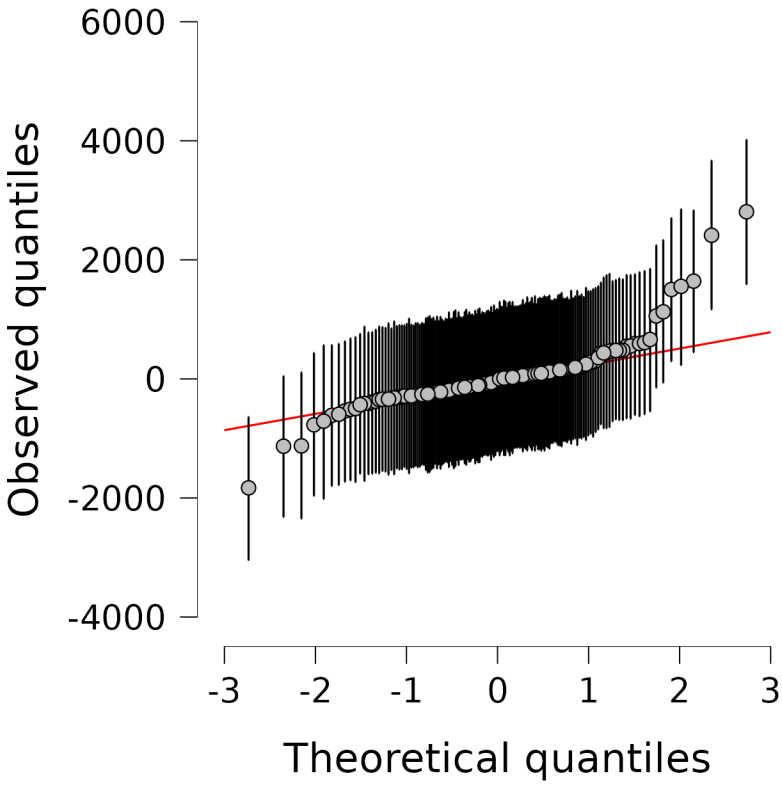
Note. All models include subject, and random slopes for all repeated measures factors.

Analysis of Effects

Effects	P(incl)	P(excl)	P(incl|data)	P(excl|data)	Log(BF_{incl})
task	0.400	0.400	0.688	0.008	4.455
diagnostic status	0.400	0.400	0.513	0.183	1.030
task ✻ diagnostic status	0.200	0.200	0.304	0.507	−0.510

Note. Compares models that contain the effect to equivalent models stripped of the effect. Higher-order interactions are excluded. Analysis suggested by Sebastiaan Mathôt.

Model Averaged Q-Q Plot



Descriptives

Descriptives

task	diagnostic status	N	Mean	SD	SE	Coefficient of variation
hobbies	ASD	26	930.856	973.995	191.016	1.046
	TD	54	1720.993	1492.267	203.072	0.867
mealplanning	ASD	26	1140.318	1420.396	278.563	1.246
	TD	54	2244.362	2202.542	299.728	0.981

int_var: Bayesian Repeated Measures ANOVA

Model Comparison

Models	P(M)	P(M|data)	Log(BF_M)	Log(BF_{10})	error %
Null model (incl. subject and random slopes)	0.200	0.038	−1.858	0.000	
task + diagnostic status + task ✻ diagnostic status	0.200	0.925	3.903	3.205	4.926
diagnostic status	0.200	0.024	−2.318	−0.446	3.641
task	0.200	0.008	−3.455	−1.566	2.067
task + diagnostic status	0.200	0.005	−3.849	−1.958	4.433

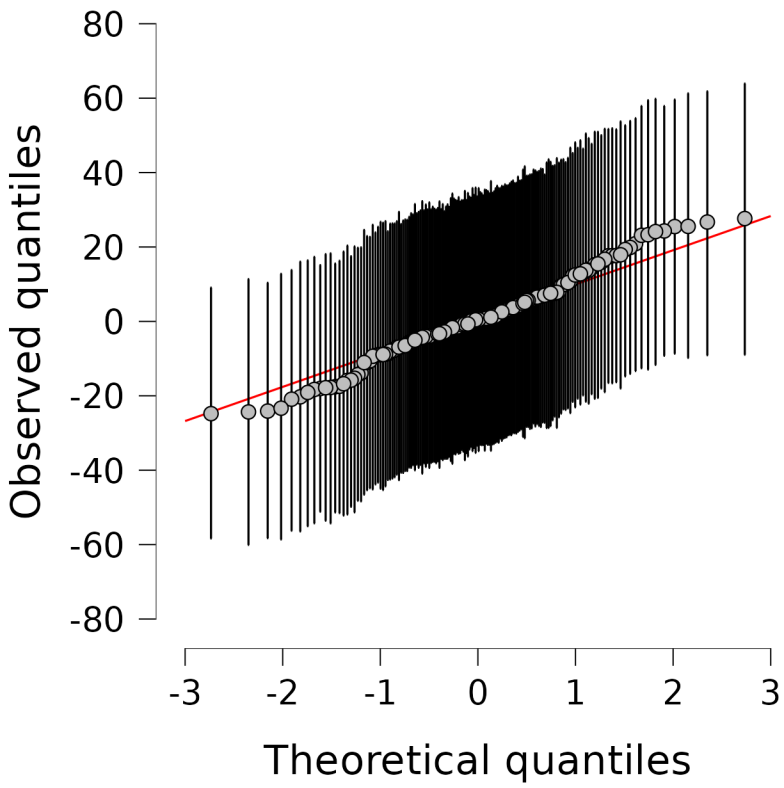
Note. All models include subject, and random slopes for all repeated measures factors.

Analysis of Effects

Effects	P(incl)	P(excl)	P(incl|data)	P(excl|data)	Log(BF_{incl})
task	0.400	0.400	0.013	0.062	−1.544
diagnostic status	0.400	0.400	0.029	0.045	−0.436
task ✻ diagnostic status	0.200	0.200	0.925	0.005	5.163

Note. Compares models that contain the effect to equivalent models stripped of the effect. Higher-order interactions are excluded. Analysis suggested by Sebastiaan Mathôt.

Model Averaged Q-Q Plot



Descriptives

Descriptives

task	diagnostic status	N	Mean	SD	SE	Coefficient of variation
hobbies	ASD	26	170.943	75.906	14.886	0.444
	TD	54	169.608	66.304	9.023	0.391
mealplanning	ASD	26	158.373	75.819	14.869	0.479
	TD	54	178.378	65.195	8.872	0.365

art: Bayesian Repeated Measures ANOVA

Model Comparison

Models	P(M)	P(M|data)	Log(BF_M)	Log(BF_{10})	error %
Null model (incl. subject and random slopes)	0.200	0.001	−5.440	0.000	
task + diagnostic status + task ✻ diagnostic status	0.200	0.905	3.636	6.727	8.519
task + diagnostic status	0.200	0.073	−1.155	4.210	2.560
task	0.200	0.016	−2.728	2.696	0.903
diagnostic status	0.200	0.005	−3.873	1.563	1.995

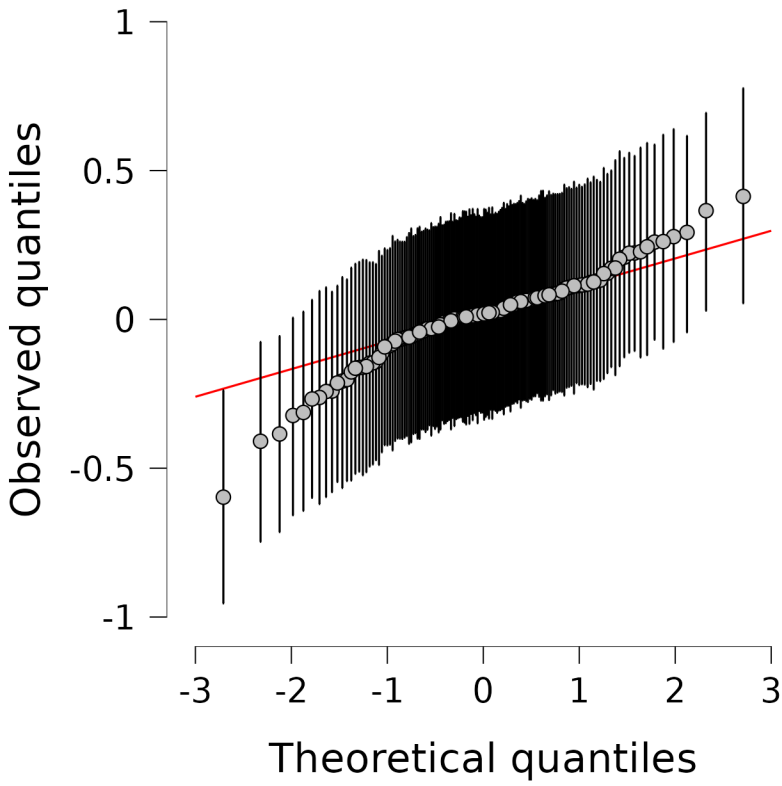
Note. All models include subject, and random slopes for all repeated measures factors.

Analysis of Effects

Effects	P(incl)	P(excl)	P(incl|data)	P(excl|data)	Log(BF_{incl})
task	0.400	0.400	0.089	0.006	2.656
diagnostic status	0.400	0.400	0.078	0.017	1.517
task ✻ diagnostic status	0.200	0.200	0.905	0.073	2.517

Note. Compares models that contain the effect to equivalent models stripped of the effect. Higher-order interactions are excluded. Analysis suggested by Sebastiaan Mathôt.

Model Averaged Q-Q Plot



Descriptives

Descriptives

task	diagnostic status	N	Mean	SD	SE	Coefficient of variation
hobbies	ASD	24	3.963	0.395	0.081	0.100
	TD	50	4.155	0.473	0.067	0.114
mealplanning	ASD	24	3.715	0.514	0.105	0.138
	TD	50	4.116	0.465	0.066	0.113

pit_sync: Bayesian Repeated Measures ANOVA

Model Comparison

Models	P(M)	P(M|data)	Log(BF_M)	Log(BF_{10})	error %
Null model (incl. subject and random slopes)	0.200	0.613	1.847	0.000	
diagnostic status	0.200	0.153	−0.328	−1.391	0.815
task	0.200	0.142	−0.411	−1.462	1.407
task + diagnostic status + task ✻ diagnostic status	0.200	0.056	−1.441	−2.396	16.710
task + diagnostic status	0.200	0.036	−1.899	−2.833	1.610

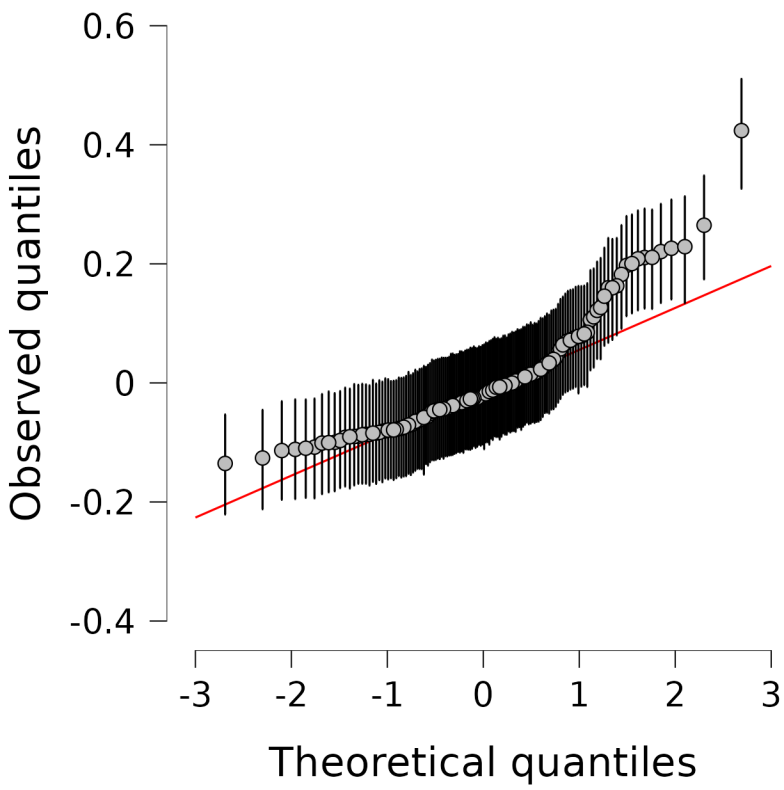
Note. All models include subject, and random slopes for all repeated measures factors.

Analysis of Effects

Effects	P(incl)	P(excl)	P(incl|data)	P(excl|data)	Log(BF_{incl})
task	0.400	0.400	0.178	0.766	−1.458
diagnostic status	0.400	0.400	0.189	0.755	−1.387
task ✻ diagnostic status	0.200	0.200	0.056	0.036	0.437

Note. Compares models that contain the effect to equivalent models stripped of the effect. Higher-order interactions are excluded. Analysis suggested by Sebastiaan Mathôt.

Model Averaged Q-Q Plot



Descriptives

Descriptives

task	diagnostic status	N	Mean	SD	SE	Coefficient of variation
hobbies	ASD	21	0.163	0.108	0.024	0.662
	TD	49	0.115	0.124	0.018	1.077
mealplanning	ASD	21	0.099	0.071	0.016	0.720
	TD	49	0.125	0.102	0.015	0.815

int_sync: Bayesian Repeated Measures ANOVA

Model Comparison

Models	P(M)	P(M|data)	Log(BF_M)	Log(BF_{10})	error %
Null model (incl. subject and random slopes)	0.200	0.677	2.127	0.000	
diagnostic status	0.200	0.153	−0.326	−1.488	1.633
task	0.200	0.118	−0.623	−1.745	0.795
task + diagnostic status	0.200	0.027	−2.197	−3.221	1.793
task + diagnostic status + task ✻ diagnostic status	0.200	0.025	−2.285	−3.307	1.784

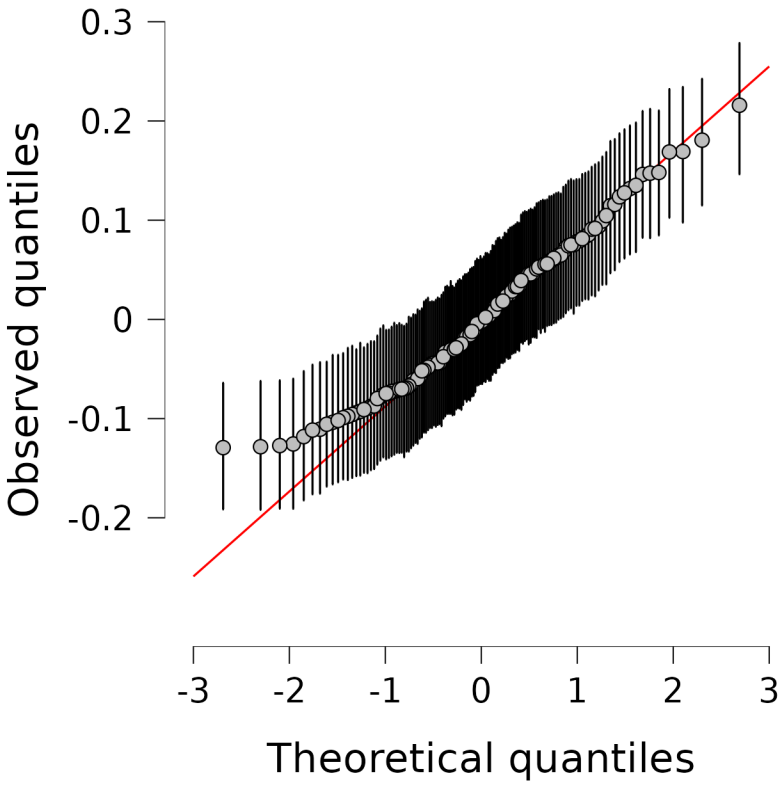
Note. All models include subject, and random slopes for all repeated measures factors.

Analysis of Effects

Effects	P(incl)	P(excl)	P(incl|data)	P(excl|data)	Log(BF_{incl})
task	0.400	0.400	0.145	0.830	−1.743
diagnostic status	0.400	0.400	0.180	0.795	−1.486
task ✻ diagnostic status	0.200	0.200	0.025	0.027	−0.086

Note. Compares models that contain the effect to equivalent models stripped of the effect. Higher-order interactions are excluded. Analysis suggested by Sebastiaan Mathôt.

Model Averaged Q-Q Plot



Descriptives

Descriptives

task	diagnostic status	N	Mean	SD	SE	Coefficient of variation
hobbies	ASD	21	0.164	0.093	0.020	0.565
	TD	49	0.137	0.085	0.012	0.617
mealplanning	ASD	21	0.129	0.093	0.020	0.717
	TD	49	0.154	0.082	0.012	0.530

art_sync: Bayesian Repeated Measures ANOVA

Model Comparison

Models	P(M)	P(M|data)	Log(BF_M)	Log(BF_{10})	error %
Null model (incl. subject and random slopes)	0.200	0.201	0.004	0.000	
task	0.200	0.586	1.734	1.072	5.255
task + diagnostic status	0.200	0.129	−0.522	−0.441	3.761
diagnostic status	0.200	0.043	−1.724	−1.547	1.074
task + diagnostic status + task ✻ diagnostic status	0.200	0.042	−1.753	−1.576	3.276

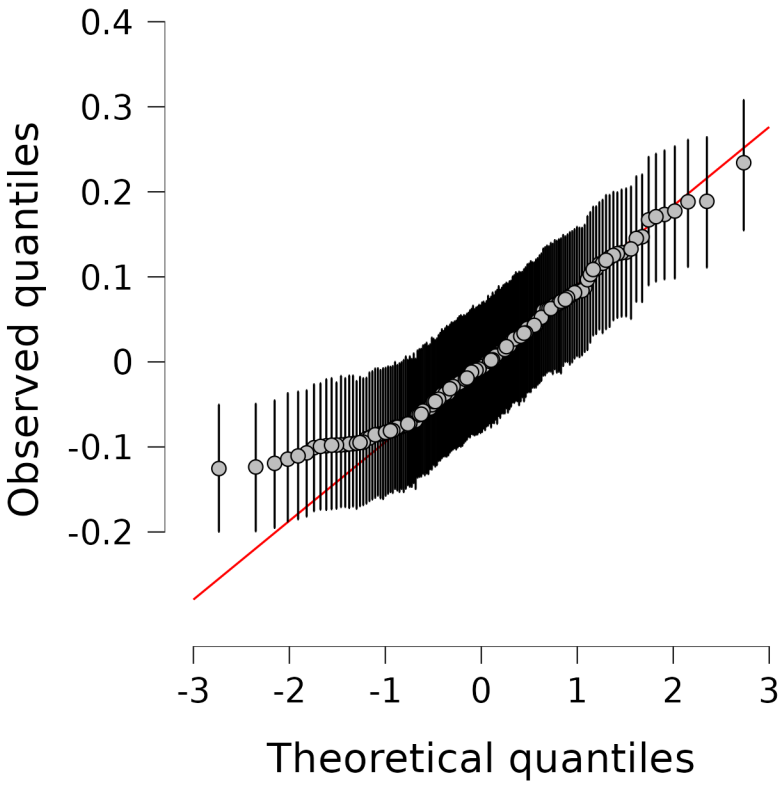
Note. All models include subject, and random slopes for all repeated measures factors.

Analysis of Effects

Effects	P(incl)	P(excl)	P(incl|data)	P(excl|data)	Log(BF_{incl})
task	0.400	0.400	0.715	0.243	1.078
diagnostic status	0.400	0.400	0.172	0.787	−1.521
task ✻ diagnostic status	0.200	0.200	0.042	0.129	−1.135

Note. Compares models that contain the effect to equivalent models stripped of the effect. Higher-order interactions are excluded. Analysis suggested by Sebastiaan Mathôt.

Model Averaged Q-Q Plot



Descriptives

Descriptives

task	diagnostic status	N	Mean	SD	SE	Coefficient of variation
hobbies	ASD	26	0.129	0.100	0.020	0.779
	TD	54	0.114	0.081	0.011	0.711
mealplanning	ASD	26	0.146	0.095	0.019	0.650
	TD	54	0.155	0.102	0.014	0.659

Nonparametric tests

Bayesian Mann-Whitney U Test

	$Log(BF_{10})$	W	Rhat
pit_var	0.888	439.000	1.044
pit_sync	−0.940	609.000	1.023
int_sync	−0.881	609.000	1.009
art_sync	−1.382	666.000	1.013

Note. Result based on data augmentation algorithm with 5 chains of 5000 iterations.

Descriptives

							95% Credible Interval	
	Group	N	Mean	SD	SE	Coefficient of variation	Lower	Upper
pit_var	ASD	26	1035.587	1183.399	232.084	1.143	557.602	1513.572
	TD	54	1982.678	1798.021	244.680	0.907	1491.912	2473.443
pit_sync	ASD	21	0.131	0.055	0.012	0.418	0.106	0.156
	TD	49	0.120	0.083	0.012	0.695	0.096	0.144
int_sync	ASD	21	0.131	0.055	0.012	0.418	0.106	0.156
	TD	49	0.120	0.083	0.012	0.695	0.096	0.144
art_sync	ASD	25	0.139	0.080	0.016	0.573	0.106	0.172
	TD	53	0.135	0.064	0.009	0.473	0.117	0.153