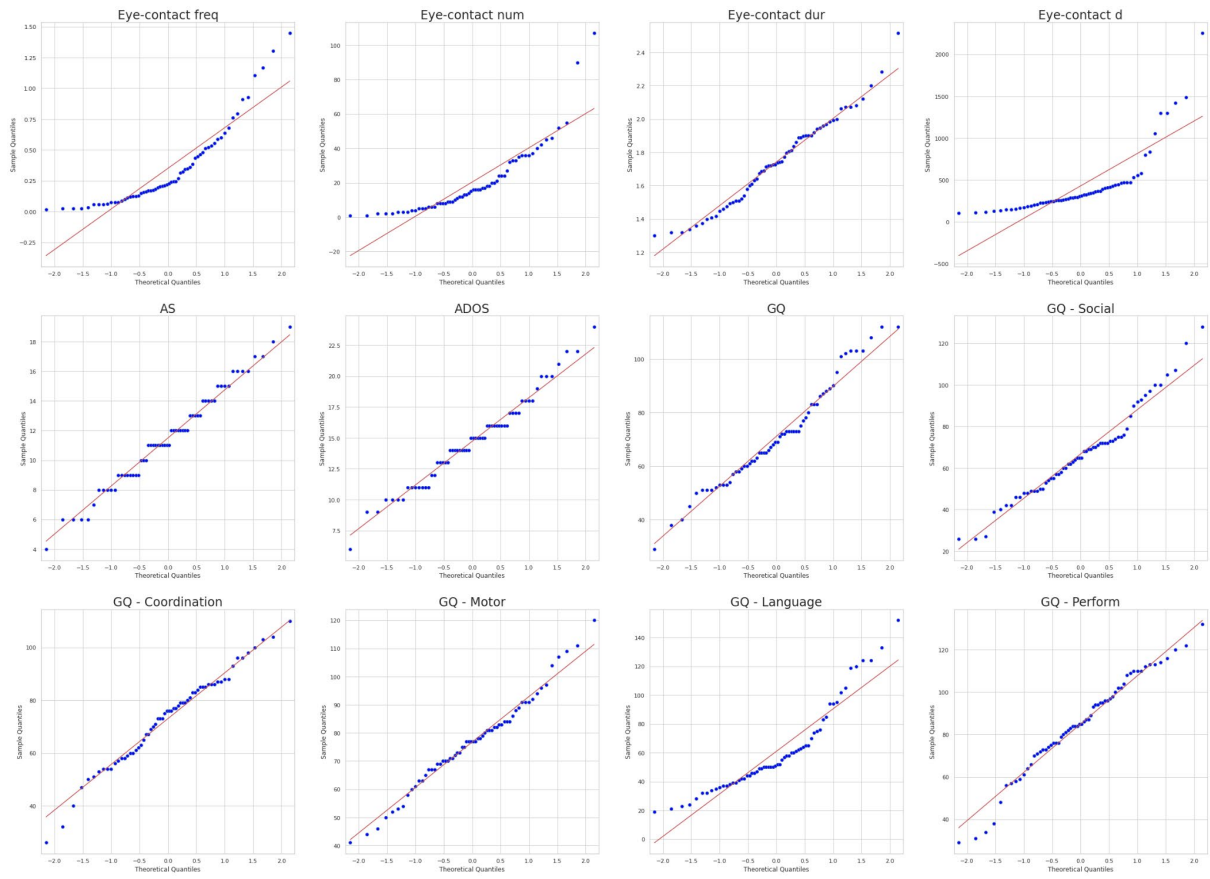
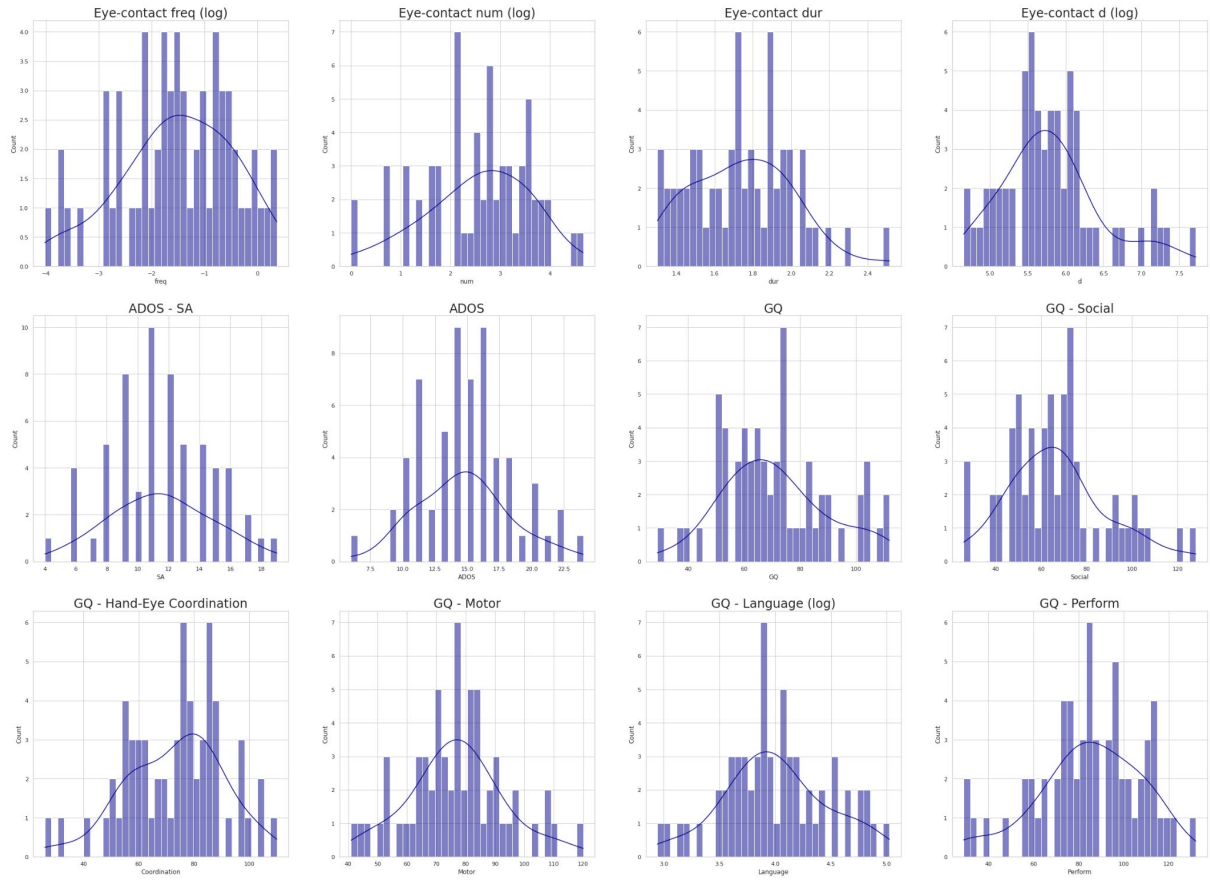


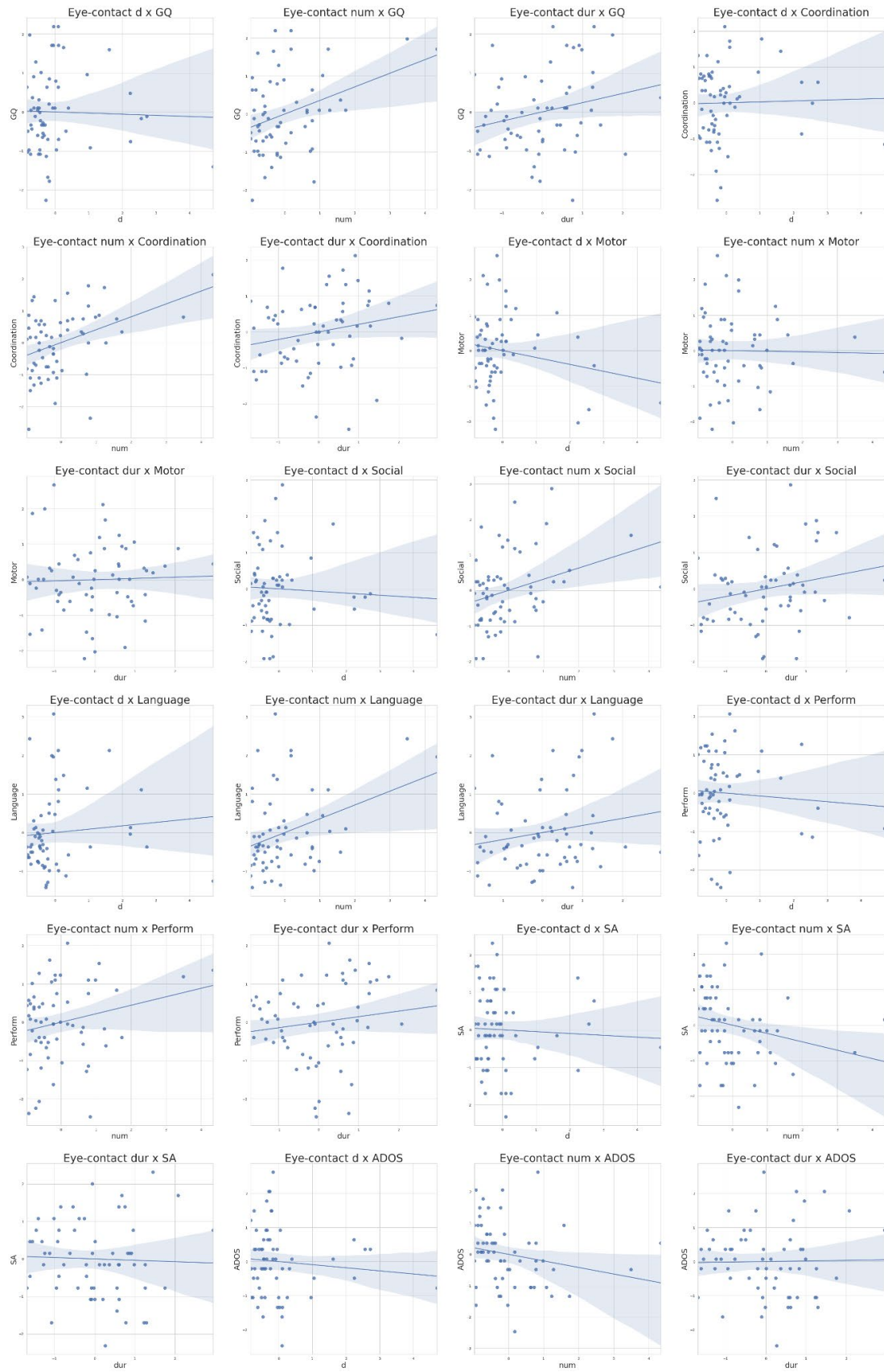
## Supplementary Materials



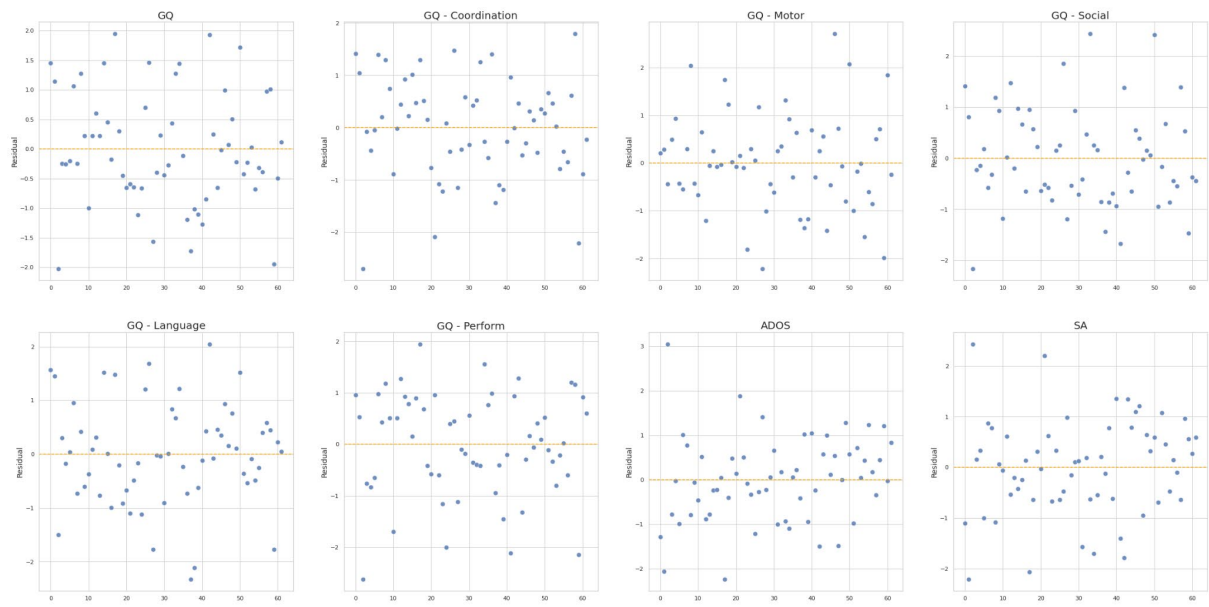
**Figure S1.** Q-Q Plots for normality of distributions diagnostics.



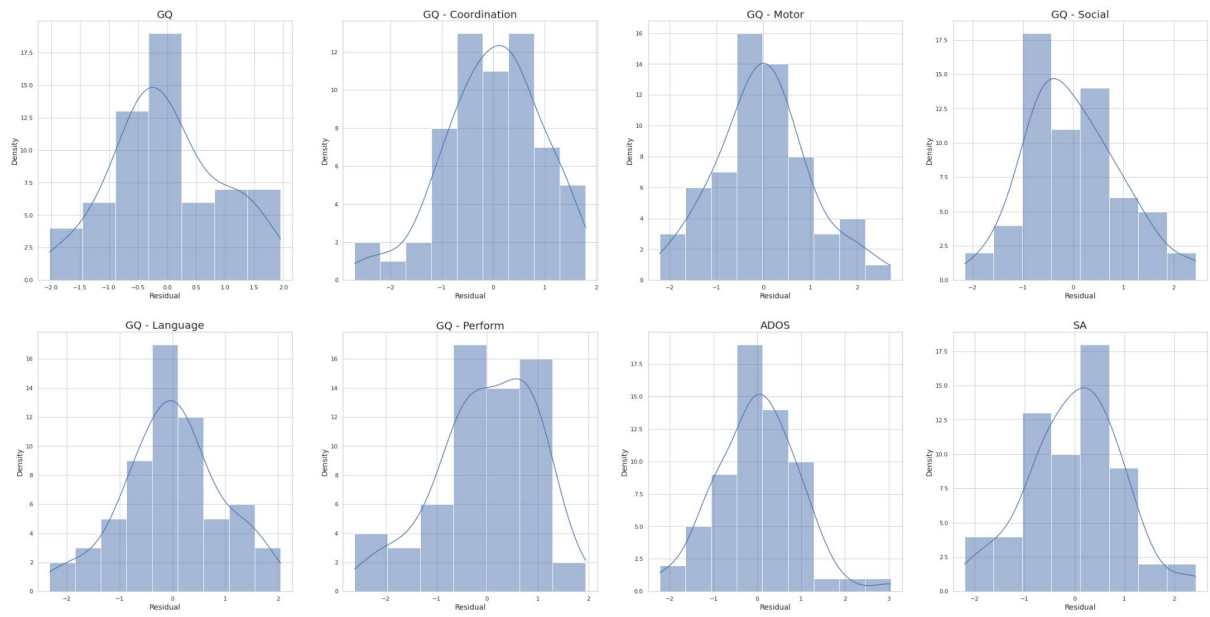
**Figure S2.** Distributions of variables after logarithmic transformation.



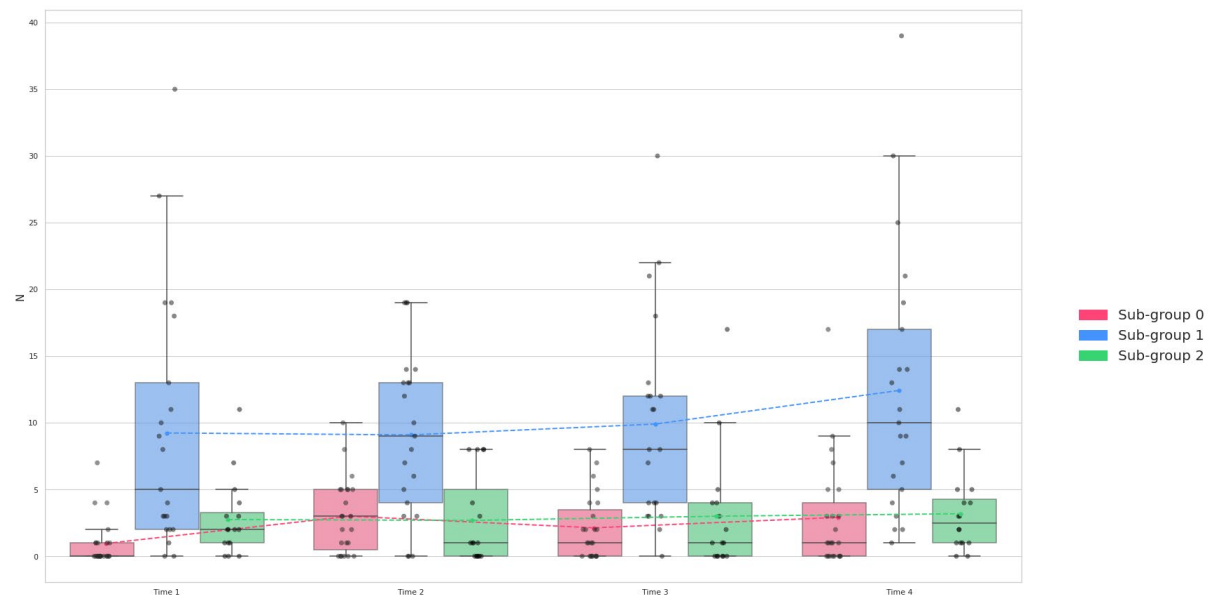
**Figure S3.** Linear regressions of candidate predictors with the EYE-C feature as dependent variable.



**Figure S4.** Homoschedasticity of residuals.



**Figure S5.** Residuals distributions.



**Figure S6.** Eye-contact periods total number (num) over time.

**Table S1.** Kolmogorov-Smirnov test results.

Variable	Validation sub-sample	General sample	Statistic	<i>p</i>
freq (N/minute), mean (SD)	2.1 (0.8)	0.3 (0.3)	0.963	***
dur (seconds), mean (SD)	1.87 (0.3)	1.72 (0.3)	0.309	0.659
d (px), mean (SD)	340.1 (169.3)	423.9 (387.5)	0.254	0.852

*Note:* Validation sub-sample: subset of 5 video sections used for model validation; General sample: sample including other 80 participant videos; freq: eye-contact periods frequency; d: average child gaze distance; dur; average eye-contact periods duration.

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

**Table S2.** Multiple Linear Regressions summaries for all dependent variables.

Variable		R <sup>2</sup>	Adj. R <sup>2</sup>	F	F - prob.	coef.	t	t - prob.
<b>ADOS</b>		0.123	0.078	2.718	*			
	const					0.000	0.000	1
	num					-0.391	-2.758	**
	d					-0.108	-0.865	0.391
<b>SA</b>	dur	0.129	0.084	2.866	*	0.191	1.336	0.187
	const					0.000	0.000	1
	nu					-0.4	-2.83	**
	m							
<b>GQ</b>	d	0.108	0.062	2.349	0.082	-0.106	-0.849	0.399
	dur					0.141	0.991	0.326
	const					0.000	0.000	1
	num					0.233	1.631	0.108
<b>Coordination</b>	d	0.126	0.081	2.783	*	0.12	0.952	0.345
	dur					0.143	0.994	0.324
	const					0.000	0.000	1
	num					0.315	2.22	*
<b>Motor</b>	d	0.011	-0.04	0.218	0.884	0.099	0.79	0.432
	dur					0.074	0.515	0.609
	const					0.000	0.000	1
	num					-0.03	-0.198	0.844
<b>Language</b>	d	0.126	0.081	2.795	*	-0.099	-0.746	0.459
	dur					0.031	0.204	0.839
	const					0.000	0.000	1
	num					0.309	2,184	*
<b>Social</b>	d	0.109	0.063	2.376	0.079	0.187	1.492	0.141
	dur					0.042	0.297	0.767
	const					0.000	0.000	1
	num					0.286	2	0.05
<b>Perform</b>	d	0.04	-0.01	0.798	0.5	0.066	0.525	0.602
	dur					0.084	0.58	0.564
	const					0.000	0.000	1
	num					0.158	1.062	0.293
	d					0.011	0.084	0.833
	dur					0.069	0.458	0.649

*Note:* freq: eye-contact periods frequency; num: eye-contact periods total number; d: average child gaze distance d; dur; average eye-contact periods duration. GQ: Global Developmental Quotient; SA: Social Abilities subscale.

\*p<0.05; \*\*p<0.01; \*\*\*p<0.001



**Table S3.** Sub-groups pairwise comparisons.

Sub-groups		Mean diff.	SE	t	p
<b>0 vs 1</b>					
Eye-contact	num	-31.667	4.287	-7.387	***
	freq	-0.577	0.059	-9.615	***
	dur	-0.25	0.074	-3.36	**
	d	7.837	97.858	0.08	0.9
Clinical	ADOS	2.561	1.044	2.452	*
	Coordination	-12.582	4.951	-2.541	*
	Social	-11.153	6.362	-1.753	0.195
	Perform	1.823	6.691	0.272	0.9
	Age	-5.944	3.15	-1.887	0.152
<b>0 vs 2</b>					
Eye-contact	num	-2.625	4.624	-0.568	0.82
	freq	-0.024	0.065	-0.376	0.9
	dur	-0.077	0.08	-0.965	0.595
	d	-340.542	105.548	-3.226	**
Clinical	ADOS	0.171	1.126	0.152	0.9
	Coordination	4.859	5.34	0.91	0.626
	Social	5.921	6.862	0.863	0.653
	Perform	17.245	7.217	2.39	0.052
	Age	-22.962	3.397	-6.759	***
<b>1 vs 2</b>					
Eye-contact	num	29.042	4.713	6.162	***
	freq	0.552	0.066	8.377	***
	dur	0.173	0.082	2.11	0.097
	d	-348.379	107.591	-3.238	**
Clinical	ADOS	-2.39	1.148	-2.082	0.103
	Coordination	17.441	5.443	3.204	**
	Social	17.074	6.994	2.441	*
	Perform	15.423	7.357	2.096	0.1
	Age	-17.018	3.463	-4.914	***

*Note:* freq: eye-contact periods frequency; num: eye-contact periods total number; d: average child gaze distance d; dur: average eye-contact periods duration.

\*p<0.05; \*\*p<0.01; \*\*\*p<0.001