Supplementary Table

Summary of literature review on the age-related changes in neurotypical children, adolescents, and adults

Literature demonstrating that the ERN amplitude increased with age					
Authors	Age group(s) and sample size	Paradigm	ERN measures	Statistical analyses	Findings related to age effect
Davies et al., 2004	• individuals aged between 7-25 year-old (n=151)	Flanker task (H and S)	Peak-to-peak amplitude	Regression	Age significantly accounts for significant variance in the ERN for boys (linear and quadratic trends) and girls (linear trend)
DuPuis et al., 2014	• Longitudinal study with 3 annual assessments • children aged 5-7 year-old at initial assessment (n=234)	Go/No-Go	Peak-to-peak amplitude	Multilevel modeling	ERN amplitude increased in at a rate of 0.61 ($p < .001$) units per year
Hajcak et al. 2008	• individuals aged 8-17 (n=18)	A Modified Simon Task	Peak-to-peak amplitude	Correlation	ERN increased with age
Hanna et al. 2012	• youth aged between 10-19 year-old (n=44)	Flanker task (arrow version)	Mean amplitude	Correlation	ERN at Cz increased with age
Hogan et al., 2005	• adults: 18–22 yrs (n=11) • adolescents: 12–18 yrs (n=12)	Two forced-choice visual reaction time tasks	Peak-to-peak amplitude	ANOVA	ERN amplitudes were larger for adults than adolescents for incompatible condition under the 4-choice task
Kim et al., 2007	• adults: 21–25 yrs (n=13) • children: 7–11 yrs (n=9) o older children aged 9-11 (n=4) o younger children aged 7-8 (n=5)	Go/No-Go	Peak amplitude	ANOVA	• Peak amplitudes of 9–11-year-olds were larger than that of 7–8-year-olds • Neither of the ERN amplitudes in child groups differed from adults
Ladouceur et al., 2004	• late adolescents: 14–17 yrs (n=6) • early adolescents: 9–14 yrs (n=5)	Flanker task (arrow version)	Peak-to-peak amplitude	ANOVA	ERN amplitudes were greater in the late adolescence group than the early adolescence group.
Ladouceur et al., 2012	• individuals aged 7-17 year-old (n=14)	Flanker task (arrow version)	Peak amplitude	Correlation	age was significantly negatively correlated with ERN

Meyer et al., 2012	• children aged 8-13 year-old (n=55)	Flanker task (arrow version)	The average voltages in the 50ms around the peak of the ERN amplitude	Correlation	Age is marginally correlated with ERN in older children (aged 11-13 year-old)
Santesso et al., 2006	• adults: 18–30 yrs (n=28) • children: 10 yrs (n=39)	Flanker task (H and S)	Peak-to-peak amplitude	ANOVA	Adult group had greater ERN amplitudes than children at Cz
Santesso & Segalowitz, 2008	• older adolescents: 18–20 yrs (n=39) • younger adolescents: 15–16 yrs (n=35)	Flanker task (H and S) and Go/No-Go	Peak-to-peak amplitude	ANOVA	The ERN amplitudes in older adolescents (18–20 years old) was larger than younger adolescents (15–16 years old) on both go/no-go task and flanker task
Torpey et al., 2012	• children aged 5-6 year-old (n=328)	Go/No-Go	$\Delta ERN_{Mean\_amplitude}$	Regression	• ΔERN at Cz increased with age
Torpey et al., 2013	• children aged 6 year-old (n=413)	Go/No-Go	$\Delta ERN_{Mean\_amplitude}$	Regression	• ΔERN at Cz increased with age
van Meel et al., 2012	• young adults: 18–26 yrs (n=16) • older children: 10-12 yrs (n=24) • younger children: 6–9 yrs (n=23)	Flanker task (arrow version)	Mean amplitude	ANOVA	• ERN amplitudes were larger for adults than older children • No difference was found in ERN amplitude between younger and older children
Wiersema, et al., 2007	• adults: 23–24 yrs (n=17) • young adolescents: 13–14 yrs (n=14) • children: 7–8 yrs (n=13)	Go/No-Go	Peak amplitude	Correlation	ERN amplitudes increased with age
Literature demonstrating no age-related differences in the ERN amplitude					
Authors	Age group(s) and sample size	Paradigm	ERN measures	Statistical analyses	Findings
Brooker et al. 2011	• children aged 4-8 year-old (n=33)	Attention Network Test	$\Delta ERN_{Peak\_amplitude}$	Regression	Age did not significantly predict ΔERN
Eppinger et al., 2009	• adults (aged 19–24 yrs; n=18) • children (aged 10 - 12 yrs; n=17)	Two choice decision task	Peak-to-peak amplitude	ANOVA	No differences in the ERN amplitudes between children and adults were found when

					performance differences are equated
Grammer et al., 2014	• children: 3–7 yrs (n=95)	Go/No-Go	Mean amplitude	Regression	Age did not significantly account for the variance in ERN
Richardson, et al., 2011	• older children: 9 yrs (n=41) • younger children: 7 yrs (n=36)	Flanker task (fish version) with color reversal	Peak amplitude	ANOVA	No main effect or interaction effect of age on the ERN amplitude

Note: $\Delta ERN_{Mean\_amplitude}$ = Difference between mean amplitude of the ERN and CRN; $\Delta ERN_{Peak\_amplitude}$ = Difference between peak amplitude of ERN and CRN; ANOVA= Analysis of variance; MANOVA= multivariate analysis of variance

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