

## Corrigendum

# Developmental pathways to social anxiety and irritability: The role of the ERN – CORRIGENDUM

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The article “Developmental pathways to social anxiety and irritability: The role of ERN” (Filippi et al., 2020) included an error.

The authors identified an error in one of the scripts used to process the event-related potential (ERP) data in the original manuscript (Buzzell et al., 2017). A typo in one of the MATLAB scripts caused one of the seven electrodes going into the error-related negativity (ERN) ERP cluster to be from an incorrect scalp location (computing the cluster relies on indexing into a matrix and one of the indices were off by a value of 1). This mistake ultimately impacts the ERN variable described in the original article (Filippi et al., 2020). Given that only one of the 7 electrodes in the cluster was wrong, after correcting this error, the original and corrected ERN variables—for the sample used in this paper—correlate highly ( $n = 127$ ,  $r = .99$ ,  $p < .001$ ). Similarly, after re-running all analyses in the main text and supplement using the corrected variable, we find that all primary results involving the ERN (interactions, follow-up correlations, and partial correlation tests) remain unchanged in terms of significance. It is worth noting that while one of the control analyses does change from  $p < .05$  to  $p = .06$ , the associated follow-up partial correlation tests remain unchanged in terms of significance. Thus, there are no changes in the interpretation or conclusions drawn from the manuscript as a result of correcting the error with the ERN variable. Please note that this is an author-initiated correction, in line with the principles of open science and to ensure the validity of any future meta-analytic work based on this manuscript. Changes to the originally published article and supplement are listed below in red font.

1. Page 901, Table 2 should appear as follows:

2. Page 901, “Focal analysis strategy” section, paragraph 1, lines 11–14 should read:

“High ERN reflects scores less than  $-3.28$  ( $n = 42$ ); moderate ERN reflect scores that are between  $-3.28$  and  $-.98$  ( $n = 43$ ); and low ERN reflects scores that are greater than  $-.98$  ( $n = 42$ )”

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3. Page 901, “Behavioral inhibition to social anxiety” section, paragraph 1, lines 1-4 should read:

“Results indicate distinct correlations between ERN and social anxiety in children with and without BI,  $\beta = -.083$ ,  $\Delta R^2 = .027$ ,  $F(1,122) = 4.037$ ,  $p < .047$ ”

4. Page 902, Figure 2 should appear as follows:

5. Page 902, “Behavioral inhibition to social anxiety” section, paragraph 2, lines 6–14 should read:

“Results indicated that the association between BI and social anxiety was significant for the high-ERN,  $r(41) = .563$ ,  $p < .001$ , and the moderate-ERN groups,  $t(41) = .521$ ,  $p < .001$ , but not the low-ERN group ( $p > .786$ ). This suggests that the association between BI and social anxiety found in the two higher ERN groups fails to manifest among individuals who exhibit a low ERN. These correlations held when controlling for childhood irritability, high-ERN:  $r(36) = .547$ ,  $p < .001$ ; moderate-ERN:  $r(39) = .533$ ,  $p < .001$ ; low-ERN:  $p < .565$ .”

6. Page 902, “Childhood irritability to irritability at age 12” section, paragraph 1, lines 1-4 should read:

The association between childhood irritability and age-12 irritability differed as a function of ERN magnitude,  $\beta = .590$ ,  $\Delta R^2 = .078$ ,  $F(1,59) = 5.806$ ,  $p < .019$ ”

**Table 2.** Correlations among focal variables of interest

	(1)	(2)	(3)	(4)	(5)
(1) Childhood BI	–	–	–	–	–
(2) High stable irritability childhood	.070	–	–	–	–
(3) ERN	.024	.049	–	–	–
(4) 12-year Social Anxiety	.341**	–.031	.024	–	–
(5) 12-year Irritability (ARI)	–.035	.350**	–.142	.190	–

**Table 3.**

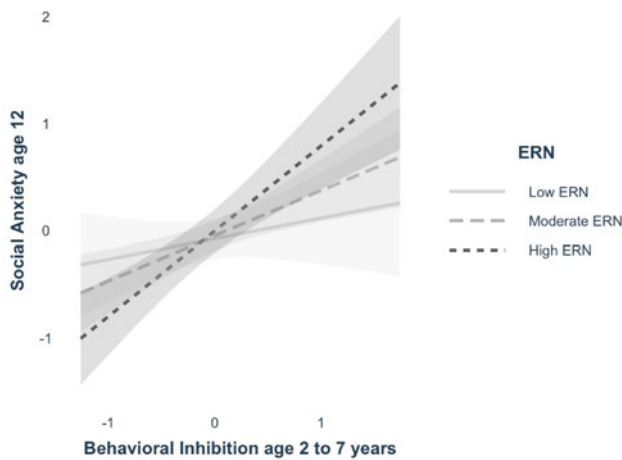
Model	Predictor	$\beta$	SE B	t	p	Fit
1	BI	.318	.170	1.877	.063	$R^2 = .185, p < .001$
	ERN	-.009	.023	-.371	.711	
	BI x ERN	-.083	.041	-2.009	.047	
2	BI	.323	.174	1.854	.066	$R^2 = .182, p < .001$
	ERN	-.009	.024	-.358	.721	
	BI x ERN	-.080	.042	-1.902	.060	
	High childhood irritability	-.024	.214	-.112	.911	

Regression results predicting social anxiety at age 12

Note: As reported in the original article, the primary interaction between BI and ERN does not change in significance (Model 1) and all follow-up correlation tests probing the nature of this interaction for Model 1 do not change in significance. In Model 2, when controlling for irritability, the BI x ERN changes from  $p < .05$  to  $p = .06$ . Nonetheless, all follow-up partial correlation tests probing the nature of this interaction in Model 2 do not change in significance.

**Table 4.**

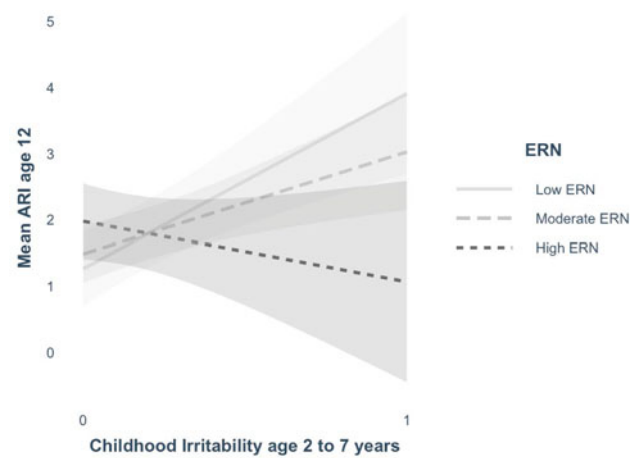
Model	Predictor	$\beta$	SE B	t	p	Fit
1	High childhood irritability	2.60	.675	3.854	.0003	$R^2 = .212, p < .003$
	ERN	-.139	.065	-2.127	.038	
	High childhood irritability x ERN	.590	.245	2.41	.019	
2	High childhood irritability	2.567	.682	3.765	.0004	$R^2 = .216, p < .007$
	ERN	-.143	.066	-2.166	.035	
	High childhood irritability x ERN	.597	.247	2.421	.019	
	BI	.180	.327	.551	.584	



**Figure 2.**

7. Page 902, “Childhood irritability to irritability at age 12” section, paragraph 2, lines 5-10 should read:

“Results indicated that the correlation between childhood and age-12 irritability did manifest in the low-ERN group,  $r(23) = .613, p < .002$ , but not in the high- or moderate-ERN groups (all  $ps > .05$ ). These results held when controlling for BI, low-ERN:  $r(20) = .615, p < .002$ ; moderate- and high-ERN,  $ps > .09$ .”



**Figure 3.**

8. Page 903, Table 3 should appear as follows:

9. Page 903, Figure 3 should appear as follows:

10. Page 904, Table 4 should appear as follows:

**Supplementary Material.** The supplementary material for this article can be found at <https://doi.org/10.1017/S0954579421000316>

**References**

- Buzzell, G. A., Troller-Renfree, S. V., Barker, T. V., Bowman, L. C., Chronis-Tuscano, A., Henderson, H. A., Kagan, J., Pine, D. S., & Fox, N. A. (2017). A Neurobehavioral Mechanism Linking Behaviorally Inhibited Temperament and Later Adolescent Social Anxiety. *Journal of the American Academy of Child and Adolescent Psychiatry*, 56(12), 1097–1105. doi:10.1016/j.jaac.2017.10.007
- Filippi, C. A., Subar, A. R., Sachs, J. F., Kircanski, K., Buzzell, G., Pagliaccio, D., Abend, R., Fox, N. A., Leibenluft, E., & Pine, D. S. (2020). Developmental pathways to social anxiety and irritability: The role of the ERN. *Development and Psychopathology*, 32(3), 897–907. doi:10.1017/S0954579419001329