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Corrigendum: Differential neural reward reactivity in response to food advertising medium in children

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A corrigendum on
Differential neural reward reactivity in response to food advertising medium in children

by Yeum, D., Jimenez, C. A., Emond, J. A., Meyer, M. L., Lansigan, R. K., Carlson, D. D., Ballarino, G. A., and Masterson, T. D. (2023). *Front. Neurosci.* 17, 1052384. doi: 10.3389/fnins.2023.1052384

In the original article, there was an error in Figure 3 as published. An error was caught with the ventral tegmental area (VTA) masks. We have identified the MNI coordinates for VTA, created a mask, and updated the analysis.

The corrected Figure 3 and its caption appear below.

Following the incorrect mask used for VTA, there was an error in Table 2/Supplementary Table 1 as published. Using the corrected mask, *t*-, *p*-, *q*-values for VTA changed. *q*-values (FDR-corrected statistical significance) for some other regions slightly changed because they are derived using the *p*-values of the multiple tests, but did not affect the interpretation of statistical significance. The VTA was statistically significantly associated with the dynamic advertising condition, but the statistical significance did not survive FDR correction.

The corrected Table 2/Supplementary Table 1 appears below.

Three corrections have been made to the main text due to the error in the VTA mask.

1. A correction has been made to **the abstract**, *Result*, line 46.

This sentence previously stated:

"From the ROI analyses, the right and left hemispheres of the amygdala and insula, and the right hemisphere of the ventral tegmental area and substantia nigra showed significantly

higher responses for the dynamic food ad medium after controlling for covariates and a false discovery rate correction."

The corrected sentence appears below:

"From the ROI analyses, the right and left hemispheres of the amygdala and insula, and the right hemisphere of the substantia nigra showed significantly higher responses for the dynamic food ad medium after controlling for covariates and a false discovery rate correction."

2. A correction has been made to **the method**, *Region of Interest Analyses*, paragraph 1, line 312.

This sentence previously stated:

"Masks of these bilateral regions were generated using the Talairach Daemon and Montreal Neurological Institute (MNI) atlas using AFNI (Analysis of Functional NeuroImages version: 21.0.06, (Cox and Hyde, 1997) and are shown in Figure 3."

The corrected sentence appears below:

"Masks of these bilateral regions were generated using the Talairach Daemon and Montreal Neurological Institute (MNI) atlas using AFNI [Analysis of Functional NeuroImages version: 21.0.06 (Cox and Hyde, 1997)]. The mask of the ventral tegmental area was defined by the sphere with a radius of 5 mm centered at MNI coordinate [4, −16, −10] (Carter, 2009). The ROI masks are shown in Figure 3."

3. A correction has been made to **the results**, *ROI Analyses*, paragraph 1, line 357.

This sentence previously stated:

"Specifically, in both unadjusted and adjusted models and after the FDR correction, the right and left amygdala, the right and left insula, right ventral tegmental area, and right substantia nigra showed statistically significant higher reward-related response to dynamic ads as compared to static ads."

The corrected sentence appears below:

"Specifically, in both unadjusted and adjusted models and after the FDR correction, the right and left amygdala, the right and left insula, and right substantia nigra showed statistically significant higher reward-related response to dynamic ads as compared to static ads. The right ventral tegmental area and left substantia nigra showed significantly higher reward-related response to dynamic ads as compared to static ads before the FDR correction but not after."

The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

Publisher's note

References

Carter, R. M. (2009). Activation in the VTA and nucleus accumbens increases in anticipation of both gains and losses. *Front. Behav. Neurosci.* 3, 21. doi: 10.3389/neuro.08.021.2009

Cox, R. W., and Hyde, J. S. (1997). Software tools for analysis and visualization of fMRI data. *NMR Biomed.* 10, 17196178. doi: 10.1002/(SICI)1099-1492(199706/08)10:4/5<171::AID-NBM453<3.0.CO;2-L

The corrected Figure 3 with caption:

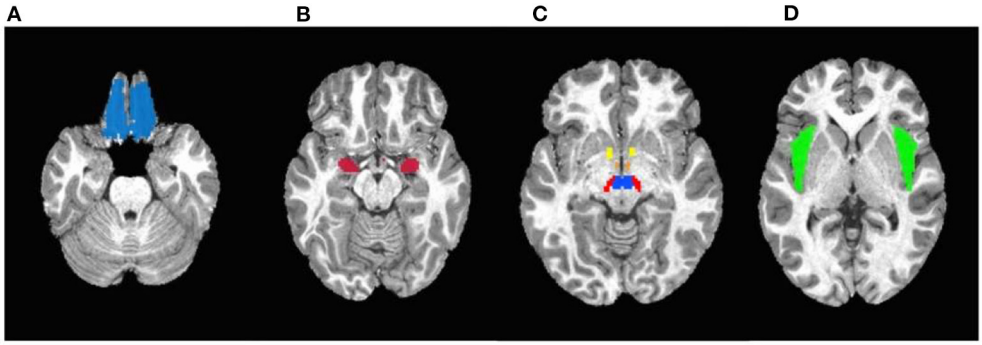

FIGURE 3
Masks used in the region-of-interest (ROI) analysis. **(A)** Orbitofrontal cortex. **(B)** Amygdala. **(C)** Yellow: Nucleus accumbens; Orange: Hypothalamus; Red: Substantia nigra; Blue: Ventral tegmental area. **(D)** Insula.

The corrected Table 2:

TABLE 2 Region-of-interest (ROI) analysis ($N = 115$).

		Unadjusted LME models[1,2,4]			Adjusted LME models[1,2,3,4]		
	L/R	*t*-value	*p*-value	FDR *q*-value	*t*-value	*p*-value	FDR *q*-value
Nucleus accumbens	R	−1.49	0.140	0.218	−1.49	0.138	0.215
	L	−1.20	0.232	0.325	−1.24	0.218	0.305
Orbitofrontal cortex	R	−0.94	0.351	0.406	−0.97	0.331	0.386
	L	−1.02	0.309	0.393	−1.07	0.287	0.365
Amygdala	R	5.34	**<0.001**	**<0.001**	5.34	**<0.001**	**<0.001**
	L	2.43	**0.016**	0.056	2.43	**0.016**	**0.048**
Insula	R	3.07	**0.003**	**0.019**	3.15	**0.002**	**0.014**
	L	2.31	**0.023**	0.064	2.42	**0.017**	**0.048**
Hypothalamus	R	−0.89	0.377	0.406	−0.89	0.373	0.402
	L	0.09	0.929	0.929	0.10	0.919	0.919
Ventral tegmental area	R	2.07	**0.039**	0.089	2.09	**0.037**	0.086
	L	1.95	0.052	0.091	1.94	0.054	0.094
Substantia nigra	R	2.94	**0.004**	**0.019**	2.94	**0.004**	**0.019**
	L	2.04	**0.044**	0.089	2.04	**0.043**	0.086

[1]Linear mixed effects models.
[2]FDR-corrected threshold at $q < 0.05$ was used.
[3]Covariates include BMI-z, age, sex, % caloric intake at preload, and physical activity.
[4]Bold values represent the statistical significance.

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The corrected Supplementary Table 1:

SUPPLEMENTARY TABLE 1 Sensitivity analysis with total screen exposure time as a covariate.

		Adjusted LME models[1,2,3]		
	L/R	*t*-value	*p*-value	FDR *q*-value
Nucleus accumbens	R	−1.37	0.172	0.268
	L	−1.23	0.219	0.307
Orbitofrontal cortex	R	−0.87	0.384	0.419
	L	−1.04	0.300	0.382
Amygdala	R	5.26	**<0.001**	**<0.001**
	L	2.43	**0.016**	**0.045**
Insula	R	3.17	**0.002**	**0.014**
	L	2.43	**0.016**	**0.045**
Hypothalamus	R	−0.86	0.389	0.419
	L	0.13	0.895	0.895
Ventral tegmental area	R	2.09	**0.037**	0.086
	L	1.93	0.055	0.096
Substantia nigra	R	2.95	**0.004**	**0.019**
	L	2.00	**0.046**	0.092