

Supplementary Table 1. Table summarizing the main R packages use for statistical analysis and data visualization for this paper.

Package	Citation
afex	Singmann H, Bolker B, Westfall J, Aust F, Ben-Shachar M (2022). <code>_afex: Analysis of Factorial Experiments_</code> . R package version 1.1-1, < https://CRAN.R-project.org/package=afex >

corrplot	Wei, T., Simko, V. R., & Levy, M. (2021). <code>_corrplot'</code> : Visualization of a Correlation Matrix. R package version 0.92. < https://github.com/taiyun/corrplot >
ggcorrplot	Kassambara, A. (2022). Visualization of a correlation matrix using “ggplot2”[R package ggcorrplot version 0.1. 3] 2019. < https://CRAN.R-project.org/package=afex >
ggplot2	Wickham H (2016). ggplot2: Elegant Graphics for Data Analysis. Springer-Verlag New York. ISBN 978-3-319-24277-4,
ggpubr	Kassambara A (2022). <code>_ggpubr: 'ggplot2' Based Publication Ready Plots_</code> . R package version 0.5.0. < https://CRAN.R-project.org/package=ggcorrplot >.
Hmisc	Harrell Jr F (2022). <code>_Hmisc: Harrell Miscellaneous_</code> . R package version 4.7-2, < https://CRAN.R-project.org/package=Hmisc >.
nlme	Pinheiro J, Bates D, R Core Team (2022). <code>_nlme: Linear and Nonlinear Mixed Effects Models_</code> . R package version 3.1-157. < https://CRAN.R-project.org/package=nlme >.
patchwork	Pedersen T (2022). <code>_patchwork: The Composer of Plots_</code> . R package version 1.1.2 < https://CRAN.R-project.org/package=patchwork >.
readxl	Wickham, H., & Bryan, J. (2022). <code>_readxl: Read Excel Files_</code> . R package version 1.4.1, < https://CRAN.R-project.org/package=readxl >.
reshape	Wickham, H. (2007). Reshaping data with the reshape package. <i>Journal of statistical software</i> , 21, 1-20.
rstatix	Kassambara A (2022). <code>_rstatix: Pipe-Friendly Framework for Basic Statistical Tests_</code> . R package version 0.7.1, < https://CRAN.R-project.org/package=rstatix >.

sjstats	Lüdecke D (2022). <code>_sjstats</code> : Statistical Functions for Regression Models. R package version 0.18.2. < https://CRAN.R-project.org/package=sjstats >.
tidyverse	Wickham, H., Averick, M., Bryan, J., Chang, W., McGowan, L. D. A., François, R., ... & Yutani, H. (2019). Welcome to the Tidyverse. <i>Journal of open source software</i> , 4(43), 1686.

Supplementary Table 2. Body weight was altered by ELS in a time dependent matter.

Table summarizing body weight (mean % ± SEM) in control and ELS mice at P2, P9, and adolescent age (averaged from P28 to P30). Pre-weaning values are presented as averages per litter for male pups due to the impossibility of tracking individual pups at this early age. N_{Control}= 10, N_{ELS}= 11. ** ELS effect, p <0.01.

Period	PND2	PND9	Adolescence
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Number of cells	120 ± 12	92 ± 7	89 ± 10	51 ± 6 (*)	56 ± 6	25 ± 3 (**)	46 ± 2	27 ± 2 (****)	63 ± 1	50 ± 2 (**)
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Supplementary Fig. 1. GAD67 staining allows for localizing BLA. The BLA was identified through the combination of DAPI (A) and GAD67 (B) counterstaining, in alignment with the mouse brain atlas (Paxinos & Franklin, 2019). Scale bar = 100 μ m.

Supplementary Fig. 2. Orthogonal views probes colocalization between Arc::dVenus and c-Fos expression. Close-up of a representative image, showed as orthogonal view, indicated by the yellow cross-lines, from 3D reconstruction along the XZ and YZ axis. Red signal: c-Fos, Green signal: Arc::dVenus.

Supplementary Fig. 3. Unaltered area of DG and BLA following training or retrieval. A. Barplots showing the area in mm² (mean ± SEM) of the dorsal DG 90 minutes after FC. No changes were found due to ELS or RU486 treatment. **B.** Barplots showing the area in mm² (mean ± SEM) of the ventral DG 90 minutes after FC. No changes were found due to ELS or RU486 treatment. **C.** Barplots showing the area in mm² (mean ± SEM) of the BLA 90 minutes after FC. No changes were found due to ELS or RU486 treatment. **D.** Barplots showing the area in mm² (mean ± SEM) of the dorsal DG 90 minutes after reexposure to the context 24h later. No changes were found due to ELS or RU486 treatment. **E.** Barplots showing the area in mm² (mean ± SEM) of the ventral DG 90 minutes after reexposure to the context 24h later. No changes were found due to ELS or RU486 treatment. **F.** Barplots showing the area in mm² (mean ± SEM) of the BLA 90 minutes after reexposure to the context 24h later. No changes were found due to ELS or RU486 treatment. Training: N_{Control-Vehicle} = 8, N_{Control-RU486} = 8, N_{ELS-Vehicle} = 9, N_{ELS-RU486} = 8. Retrieval: N_{Control-Vehicle} = 10, N_{Control-RU486} = 13, N_{ELS-Vehicle} = 7, N_{ELS-RU486} = 8.