Barcelona, August 12th, 2024

Dear Editor,

We are pleased to submit our study titled **“Childhood exposure to non-persistent endocrine disruptors, glucocorticosteroids, and attentional function: A cross-sectional study based on the parametric g-formula”** for your consideration. Our research examines the influence of endocrine disrupting chemicals (EDCs) on the neurodevelopment of children, with a focus on the hypothalamic-pituitary-adrenocortical (HPA) axis, a vital component in brain development. Utilizing data from the HELIX study, our findings reveal significant associations between exposure to specific EDCs and reduced attention levels in children. These chemicals are also linked to increased levels of glucocorticosteroids, hormones involved in brain maturation. Although elevated glucocorticosteroid levels did not directly correlate with inattention, our analysis suggests a potential sex-specific modification effect, indicating differing impacts on boys and girls. Our research underscores the critical need to consider EDC exposure in childhood when exploring the factors contributing to the rise in neurodevelopmental disorders. These findings highlight the intricate ways in which environmental factors can influence brain development, pointing to the necessity for policies aimed at minimizing EDC exposure to protect children's health. In conclusion, our study adds evidence to the growing body of research suggesting that EDC exposure may disrupt the HPA axis and interfere with neurodevelopment, especially concerning attentional functions. Understanding these mechanisms is essential for developing effective strategies to mitigate the negative impacts of EDCs on children's health and development. Thank you for considering our manuscript. We believe it will be a valuable contribution to the field of environmental health and neurodevelopmental research.

The following authors were involved in this project:

* **Lorenzo Fabbri** (first author) conceptualized the study, analyzed the data, interpreted the results, and wrote the manuscript.
* **Oliver Robinson** was involved in funding acquisition, data acquisition and curation, and reviewed the manuscript.
* **Xavier Basagaña** was involved in data acquisition and curation, provided support on the methodology, and reviewed the manuscript.
* **Leda Chatzi** was involved in data acquisition and curation, and reviewed the manuscript.
* **Regina Grazuleviciene** was involved in data acquisition and curation, and reviewed the manuscript.
* **Mònica Guxens** was involved in data acquisition and curation, and reviewed the manuscript.
* **Manik Kadawathagedara** was involved in data acquisition and curation, and reviewed the manuscript.
* **Amrit Kaur Sakhi** was involved in data acquisition and curation, and reviewed the manuscript.
* **Lea Maitre** was involved in data acquisition and curation, and reviewed the manuscript.
* **Rosemary McEachan** was involved in data acquisition and curation, and reviewed the manuscript.
* **Claire Philippat** was involved in data acquisition and curation, and reviewed the manuscript.
* **Oscar Pozo Mendoza** was involved in data acquisition and curation, and reviewed the manuscript.
* **Cathrine Thomsen** was involved in data acquisition and curation, and reviewed the manuscript.
* **John Wright** was involved in data acquisition and curation, and reviewed the manuscript.
* **Tiffany Yang** was involved in data acquisition and curation, and reviewed the manuscript.
* **Martine Vrijheid** (corresponding author) was involved in funding acquisition, project supervision, data acquisition and curation, and reviewed the manuscript.

Approval for the HELIX project was obtained from local ethics committees in each country, and all participating families provided written informed consent.

We declare that authors have no competing interests. We confirm that this manuscript has

not been published or submitted for publication elsewhere, and that no other closely related paper was submitted by the authors. All authors have approved the

manuscript and agree with its submission to the journal *Environmental Research*.