Reviewer's report

Title: Of decrements and disorders: assessing impairments in neurodevelopment in prospective studies of environmental toxicant exposures

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Reviewer: Virginia A. Rauh

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This is a clear, cogent commentary that lays out the advantages of a prospective cohort approach to the study of possible adverse health outcomes associated with exposures to toxic chemicals. Every public health student and experienced researcher should review these key points, as they provide a blueprint for why this design is well worth the expense. Several points were initially made by giants in the field (e.g., G. Rose) and deserve to be reiterated and other points are a welcome addition to the field. This is particularly useful to the readers of Environmental Health, who are not necessarily epidemiologists and might find such a review very helpful in thinking about their own work as well as evaluating the literature. The use of autism spectrum disorders as an example of the merits of this approach is extremely useful and illustrates each of the four points. Perhaps the greatest contribution of this article lies in its discussion of dimensional traits, rather than ‘caseness’ as an outcome. This is exactly what had been suggested by the neuropsychologists for years and now is being put forth by the field of psychiatry in its new RDoC (NIMH Research Domain Criteria) approach to nosology of disorders, so the timing of this article is excellent. I recommend acceptance.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Declaration of competing interests:

I declare that I have no competing interests