



# Inflammation does not mediate an adverse childhood experience – self-harm risk association

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Inflammation has been proposed to be a candidate mechanism contributing to the association between exposure to adverse childhood experiences (ACEs) and the risk of self-harm.<sup>1-2</sup> In the first study of its kind, researchers in the UK have now directly studied whether inflammatory processes do indeed mediate this association. Abigail Russell and colleagues used data from >4,000 adolescents recruited to the UK population-based birth cohort study, Avon Longitudinal Study of Parents and Children (ALSPAC).<sup>3</sup> They modelled the number of ACEs experienced between ages 0 and 9 years, the levels of interleukin-6 (IL-6) and c-reactive protein (CRP) (key markers of inflammation) at age 9.5 years and the number of self-harm reports at age 16 years. They confirmed that ACEs between 0-9 years were associated with an increased risk of adolescent self-harm. Furthermore, each additional ACE conferred an additional 11% risk of self-harm at

16 years-of-age. They found no evidence, however, to support that their measures of inflammation mediated this ACE–self-harm association in their sample. The researchers propose many reasons for their result. For example, they suggest that inflammation might impact on self-harm via an altered inflammatory response to immune system challenges. Alternatively, previous studies might have detected inflammatory consequences of self-harm, rather than have detected inflammation as an antecedent to self-harm. Based on their data thus far, however, the researchers do not consider that inflammatory markers are a useful biomarker of self-harm risk in those exposed to ACEs.

*Russell, A. et al. (2019), Pathways between early life adversity and adolescent self-harm: the mediating role of inflammation in the Avon Longitudinal Study of Parents and Children (ALSPAC). J. Child Psychol. Psychiatr. doi:10.1111/jcpp.13100*

## References

<sup>1</sup>Baumeister, D., Akhtar, R., Ciufolini, S., Pariante, C. M. and Mondelli, V. (2016). Childhood trauma and adulthood inflammation: a meta-analysis of peripheral C-reactive protein, interleukin-6 and tumour necrosis factor- $\alpha$ . *Mol. Psychiatry*, 21: 642-649. doi: 10.1038/mp.2015.67.

<sup>2</sup>Coelho, R., Viola, T., Walss-Bass, C., Brietzke, E. and Grassi-Oliveira, R. (2014). Childhood maltreatment and inflammatory markers: a systematic review. *Acta Psychiatr. Scand.*, 129: 180-192. doi: 10.1111/acps.12217.

<sup>3</sup>Boyd, A., Golding, J., Macleod, J., Lawlor, D. A., Fraser, A., Henderson, J., et al. (2013). Cohort profile: the 'children of the 90s'—the index offspring of the Avon Longitudinal Study of Parents and Children. *Int. J. Epidemiol.*, 42: 111-127. doi: 10.1093/ije/dyso64.