

Generational study looks for biological links between adverse childhood experiences and self-harm

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New research from the University of Bristol is the first to use a large generational family study to examine links between childhood trauma, the impact of inflammation and self-harm.

Epidemiologists examined 4300 young people in Bristol's Children of the 90s study to see if adverse childhood experiences (ACEs) such as experiencing abuse, witnessing domestic violence or having separated parents are linked to [self-harm](#) at the age of 16.

While there is existing evidence to link ACEs and teenage self-harm it was not known if biological [inflammation](#), sparked by the 'fight or flight' response to stress, could help to explain this association. Previous work has looked at adversity and inflammatory markers and at inflammation and self-harm but this is the first study to look at all three together. Research looking at inflammation and self-harm in young people is also rare as the vast majority of studies are on adult samples.

They found that for each extra type of ACE, a young person is 11 percent more likely to self-harm at the age of 16, and 22 percent more likely to have self-harmed with suicidal intent. Researchers did not find any evidence that levels of inflammation taken from blood samples at the age of 10 years old were associated with [childhood trauma](#) and self-harm.

Published today in a special edition of the *Journal of Child Psychology and Psychiatry*, "Pathways between early life adversity and adolescent self-harm; the mediating role of inflammation in the Avon Longitudinal Study of Parents and Children (ALSPAC)" is one of several studies funded by the Medical Research Foundation and the Medical Research Council (MRC) to examine the biological underpinnings of self-harm in teenagers.

Lead author and senior research associate in epidemiology Abby Russell will be taking part in a webinar for the Association for Child and Adolescent Mental Health on Friday 6 September to mark the special issue of the Journal. She said:

"This is the first study to directly examine whether the relationship between [adverse childhood experiences](#) and self-harm is due to inflammation.

"Our findings confirm that ACEs are a useful indicator of an increased risk of teenage self-harm. By making use of a large longitudinal study we were also able to conclude that inflammatory markers in [childhood](#) are probably not a good indicator of risk of later self-harm.

"This is all helpful to direct future research towards alternative biological and psychological pathways for the risk of self-harm and suicide. It also provides more evidence of the importance of preventing children from experiencing adversity, supporting the need for local authority initiatives like Bristol City Council who are developing an ACE-aware city, with interventions to help protect the mental health of future generations."

More information: Abigail Emma Russell et al. Pathways between early-life adversity and adolescent self-harm: the mediating role of inflammation in the Avon Longitudinal Study of Parents and Children, *Journal of Child Psychology and Psychiatry* (2019). [DOI: 10.1111/jcpp.13100](#)

Provided by University of Bristol

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