Title: Understanding heterogeneity in grey matter research of adults with childhood maltreatment—a meta-analysis and review

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TITLE: Understanding heterogeneity in grey matter research of adults with childhood maltreatment– a meta-analysis and review

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Highlights

- Meta-analysis of 36 articles on grey matter alterations following childhood trauma
- Adults with childhood trauma exhibit reduced hippocampal and amygdala grey matter
- Whole brain studies link prefrontal and hippocampal grey matter to childhood trauma
- Cohort age, gender, diagnosis and trauma-type underpin heterogeneous findings

ABSTRACT

Childhood trauma has been associated with long term effects on prefrontal-limbic grey matter. A literature search was conducted to identify structural magnetic resonance imaging studies of adults with a history of childhood trauma. We performed three meta-analyses. Hedges' g effect sizes were calculated for each study providing hippocampal or amygdala volumes of trauma and non-trauma groups. Seed based differential mapping was utilised to synthesise whole brain voxel based morphometry (VBM) studies. A total of 38 articles (17 hippocampus, 13 amygdala, 19 whole brain VBM) were included in the meta-analyses. Trauma cohorts exhibited smaller hippocampus and amygdala volumes bilaterally. The most