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Introduction

Trauma is a necessary causative factor for the development of Post-Traumatic Stress Disorder (PTSD), but it is not sufficient; not everyone who experiences a traumatic event will develop PTSD. There are clearly other variables resulting in the occurrence of this significant and disabling psychiatric condition.

This study explores whether temperament (affective and behavioural differences seen from infancy) is associated with exposure to trauma during later childhood and PTSD as a young adult.

Aims & Objectives

- Do temperament traits of emotional instability in early childhood predispose to both trauma during the developmental period and PTSD age 24?
- Does a “Difficult” temperament cluster in childhood predispose to both trauma during the developmental period and PTSD age 24?
- Is temperament an effect modifier for the relationship between trauma and PTSD?

Materials & Methods

Data was used from the Avon Longitudinal Study of Parents and Children (ALSPAC) to address these aims (14 062 participants at the start) (Boyd et al. 2013). Two types of temperament measures in infancy and childhood were used: nine variables from the Carey/ Infant Toddler Temperament Questionnaire at 6 and 24 months, and the four traits of the Emotionality, Activity and Sociability Scale at 38 months. Clusters of temperament traits were derived using methodology from the authors of the New York Longitudinal Study (Thomas 1970).

Linear regression modelling was used to examine the relationship between temperament and trauma measures from questionnaires and interviews during childhood, and PTSD measured at age 24 with the PTSD Symptoms Checklist (PCL-5). Secondary analyses adjusted for confounders and reverse causation.

Temperament Traits:

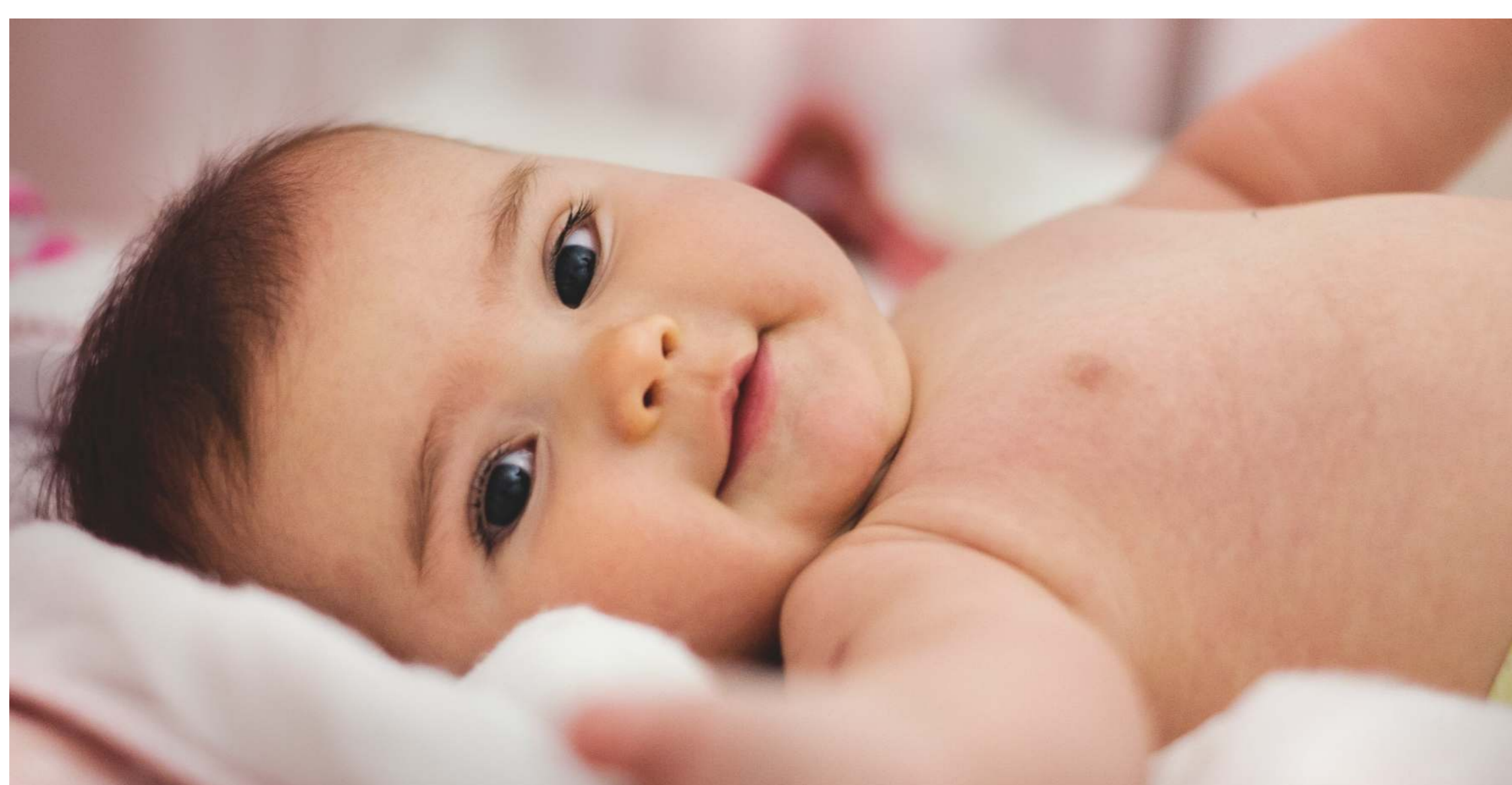
Carey
Activity, Rhythmicity,
Approach, Adaptability,
Intensity, Mood,
Persistence, Distractibility,
Threshold

Temperament Traits:

EAS
Emotionality, Activity,
Shyness, Sociability

Temperament Clusters

Easy, **Difficult,** Slow to
Warm



Results

The following temperament traits were significantly associated with TRAUMA (age 5-18), after adjusting for confounders (gender, social class, maternal history of psychiatric disorder) and reverse causation:

Results in red signify temperament traits or clusters from the hypothesis.

Carey: Activity 6m, Activity 24m, **Intensity 6m, Intensity 24m, Mood 6m, Mood 24m**

EAS: **Emotionality 38m,** Shyness 38m (inverse), Sociability 38m.

Cluster: **Difficult**

The following temperament traits were associated with PTSD (measured age 24):

- **Intensity 6m** OR 1.20 (95% CI 1.03-1.40, p value 0.014)
- **Emotionality 38m** OR 1.22 (95% CI 1.05-1.42, p value 0.009)
- **Difficult temperament 6m** OR 1.14 (95% CI 1.04-1.24, p value 0.006)

Temperament was not found to be an effect modifier for the relationship between trauma and PTSD.

Conclusions

This study used data from a cohort study to examine the relationship between temperament, trauma and PTSD. The sample size was large, a considerable strength. The main weaknesses were lack of control over what was measured in the cohort and the change in temperament measurement between 24 and 38 months.

The findings suggest that temperament traits related to intense, distressing emotions are associated with increased likelihood of both subsequent trauma and PTSD. A Difficult temperament cluster was associated with increased risk of the outcomes at 6 but not 24 months.

This research supports the idea that there are factors beyond the trauma important for the development of PTSD. Future research is needed into the role of temperament and other trauma-related disorders, such as emotionally unstable personality disorder.

Reference

- Boyd, A et al. (2013). Cohort profile “The Children of the 90’s”- the Index Offspring of the Avon Longitudinal Study of Parents and Children. *International Journal of Epidemiology*. 42(1) pp 111-127. doi: <https://doi.org/10.1093/ije/dys064>.
- Thomas, A et al. (1970). The Origin of Personality. *Scientific American* 223(2) pp103-109.

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Avon Longitudinal Study of Parents and Children