Associations Between Positive Parenting, Cortical Thickness, & Depressive Symptoms in Young, Typically Developing Children
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INTRODUCTION
- Previous research states harsh, authoritarian, or inconsistent parenting styles are predictive of greater anxious and depressive symptoms in children (Korom et al., 2021; Romero-Acosta et al., 2021).
- Positive parenting, parental monitoring, and responsiveness may be beneficial or protective against maladaptive outcomes (Piko & Balazs, 2012); however, data are limited.
- Literature exploring associations between parenting and cortical thickness (CT) in ‘normative’ samples is sparse.
- Findings are mixed and/or are largely limited to children older than eight years of age (Farber et al., 2020).

OBJECTIVE: The present study examined links between positive parenting, depressive symptoms, and CT in young, pre-adolescent children.

HYPOTHESES
- Positive parenting will be associated with decreased depressive symptoms and increased CT.

METHOD
- Parents completed the Childhood Depression Inventory (CDI) and the Parenting Styles and Dimensions Questionnaire (PSDQ).
- Children were scanned using a Siemens 3.0T scanner. T1-weighted structural scan was acquired & processed in FreeSurfer v5.1.
- A priori Regions of Interest (ROIs) were identified: caudal medial frontal, postcentral, rostral medial frontal, precentral, inferior parietal, caudal anterior cingulate, & pars triangularis.
- Measurement model of positive parenting was saturated. Standardized factor loadings were above .51 (p < .001).

RESULTS
- All analyses controlled for age and sex.
  - Positive parenting was related to bilateral precentral CT (β = .31, p = .01), RH pars triangularis CT (β = .32, p = .02), such that greater positive parenting was associated with thicker cortices.
  - Positive parenting was related to CDI (β = -.37, p = .003), such that greater positive parenting was associated with lower depression scores. The ROIs were not related to children’s CDI scores (p > .23).
  - Warmth moderated the relation between CDI scores and CT of LH caudal anterior cingulate thickness (β = -.36, p < .01) and RH caudal anterior cingulate (β = .31, p < .01). Autonomy granting moderated the relationship between CDI scores and CT of RH pars triangularis (β = .28, p < .05).

WHOLE-BRAIN ANALYSIS (Monte Carlo simulations corrected)
- Analyses revealed a negative association between positive parenting and CT of the right superior frontal gyrus and right rostral middle frontal gyrus. There were no associations with the left hemisphere or CDI.

DISCUSSION
- Positive parenting is associated with child depressive symptoms and CT.
- These findings extend previous literature to a younger age group, which may be relevant to neurodevelopmental trajectories of CT (Shaw et al., 2008).
- Opposite effects found between ROI and whole-brain analysis may be driven by the differing rates of maturation in different areas of the brain.
- Future analyses should explore these associations in children with clinically significant depression and should utilize observational assessment of positive parenting.

REFERENCES
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GIF: Greater positive parenting is associated with cortical thickness & lower depression scores in young children.

Warmth & autonomy-granting moderated the relation between depression & cortical thickness.