

EARLY PARENTING STRESS AS A PREDICTOR OF REGIONAL BRAIN VOLUMES AT AGE 10 YEARS

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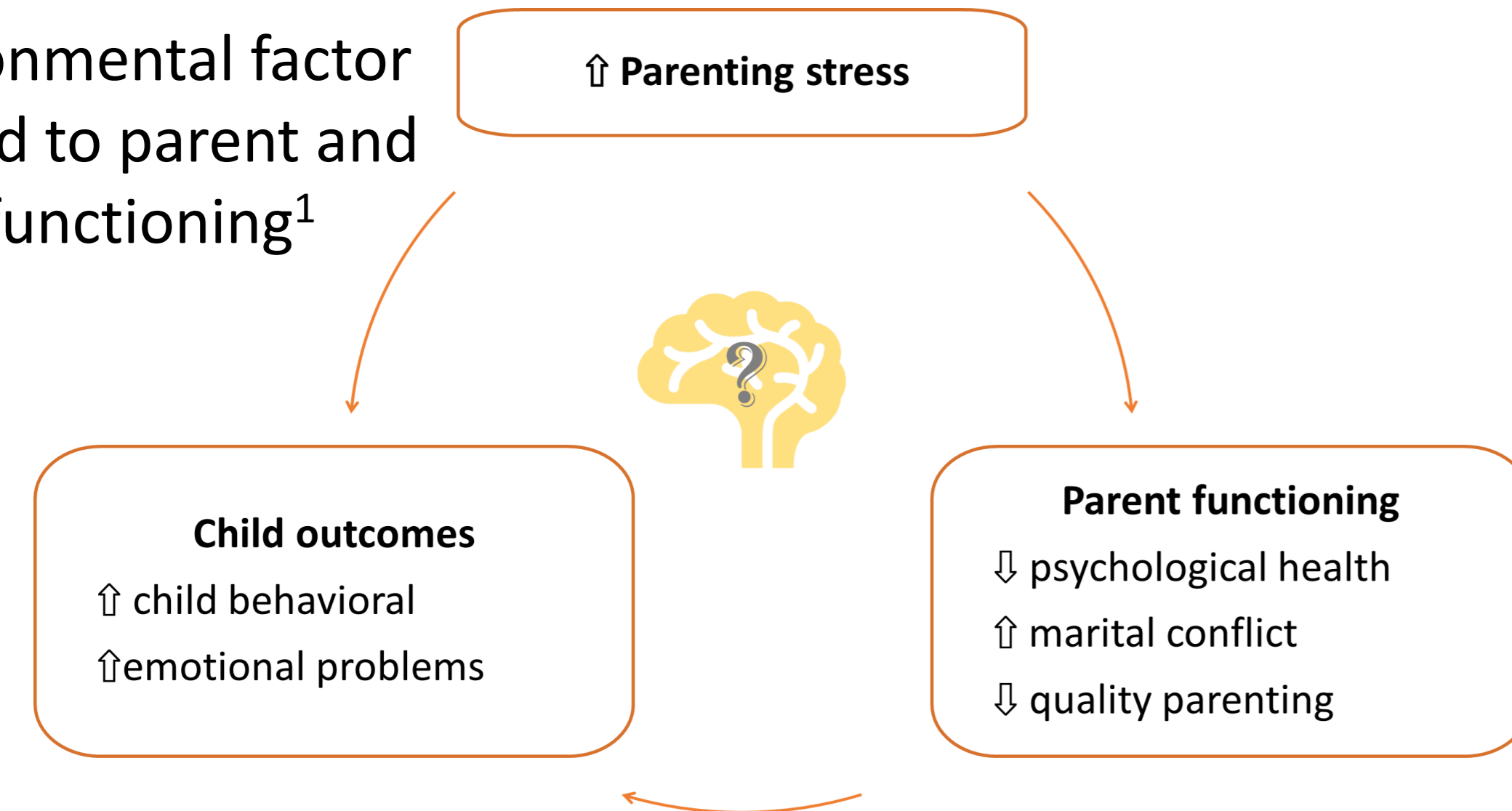
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INTRODUCTION

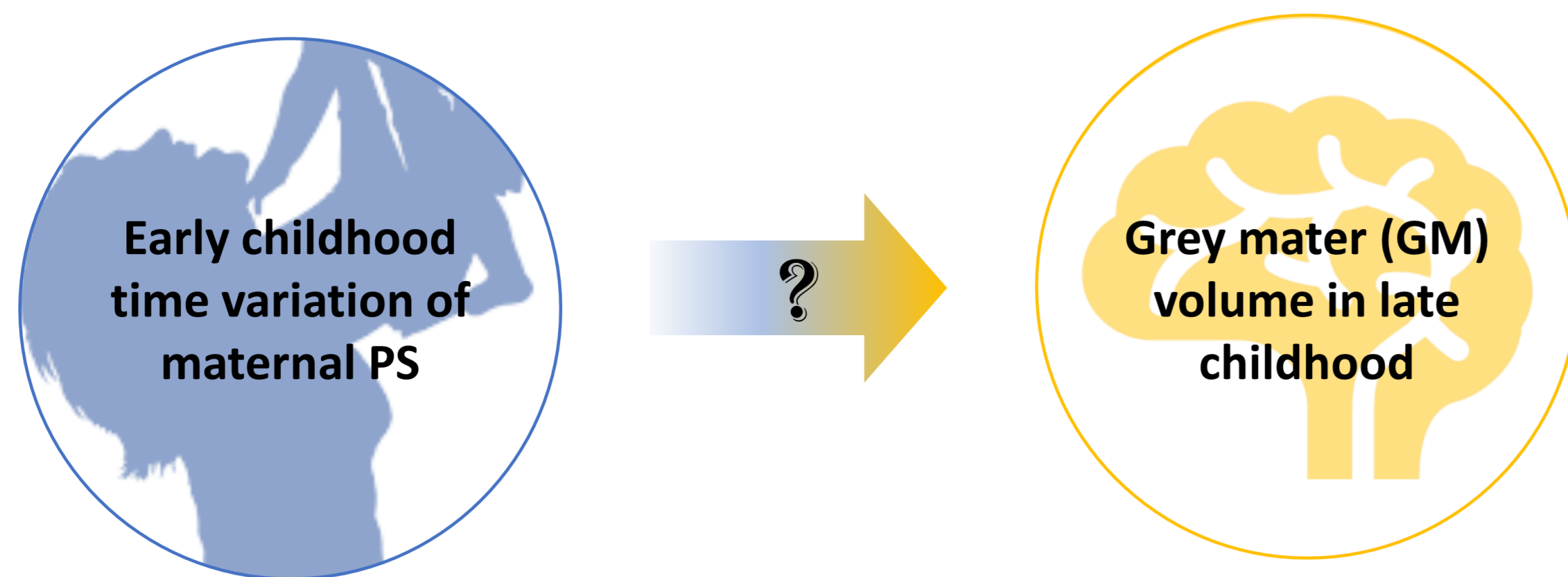
Parenting stress (PS)

- Environmental factor related to parent and child functioning¹

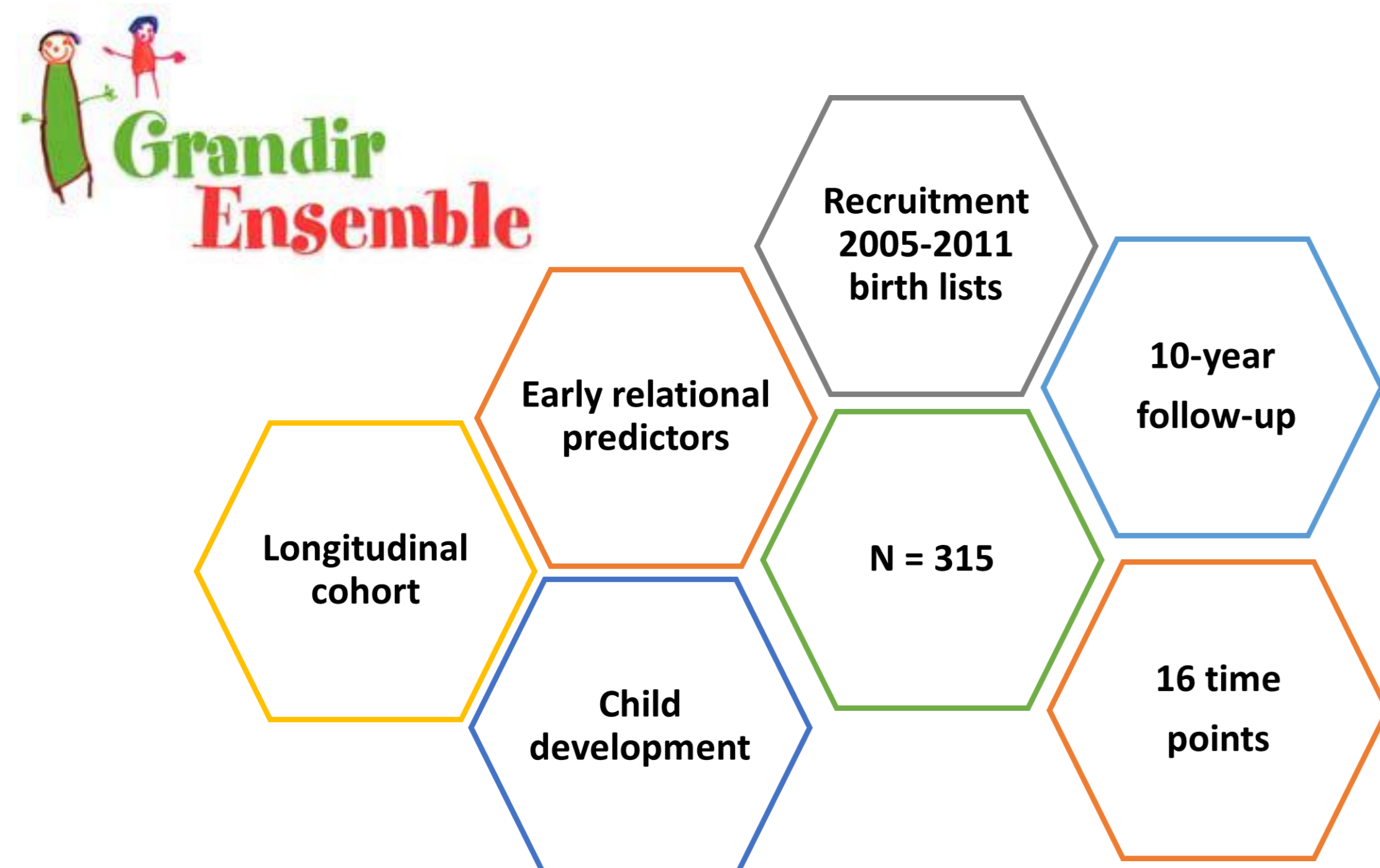


PS varies across time as child, parents and family change¹

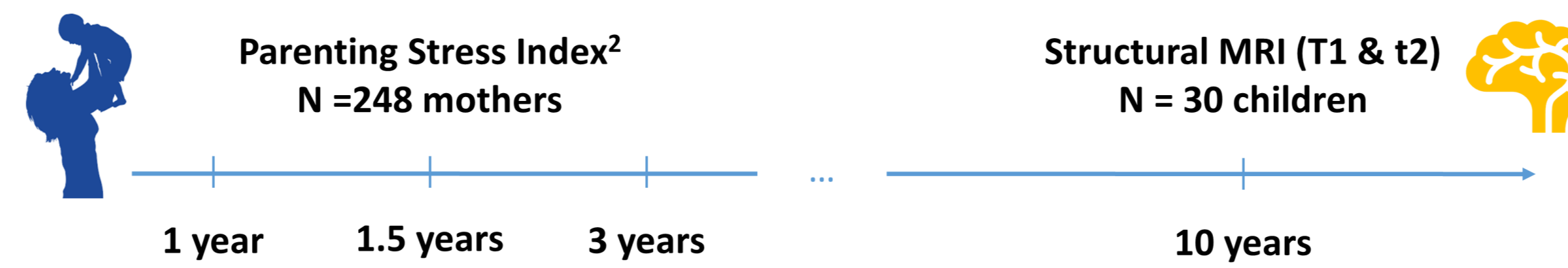
- Longitudinal measurements of PS to assess time variability



COHORT



METHOD



PS longitudinal trajectory

- Linear mixed modeling – lme4 in R
- For each PS domain*
 - Significant change for PS-child only
- Missing data
- Full information maximum likelihood

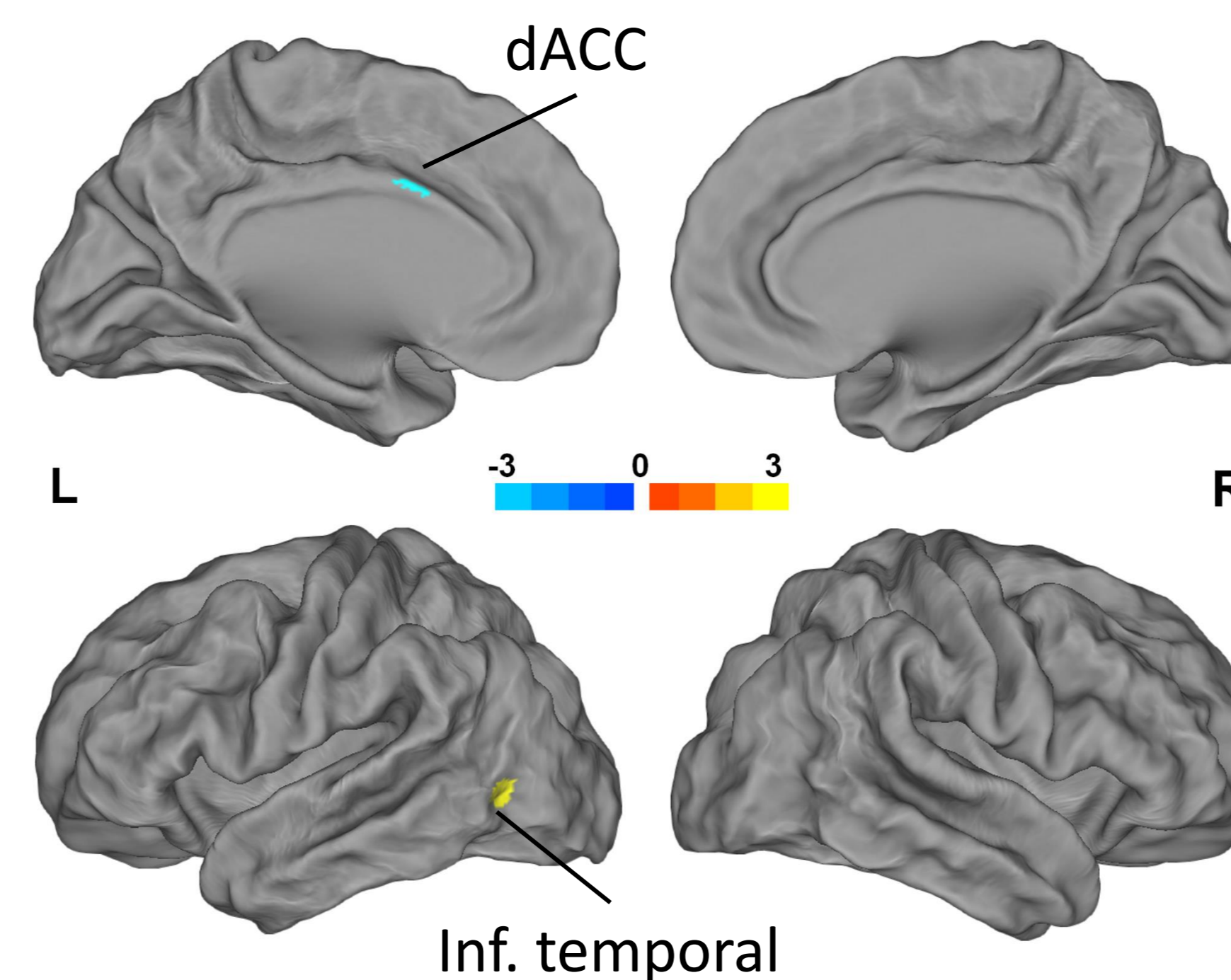
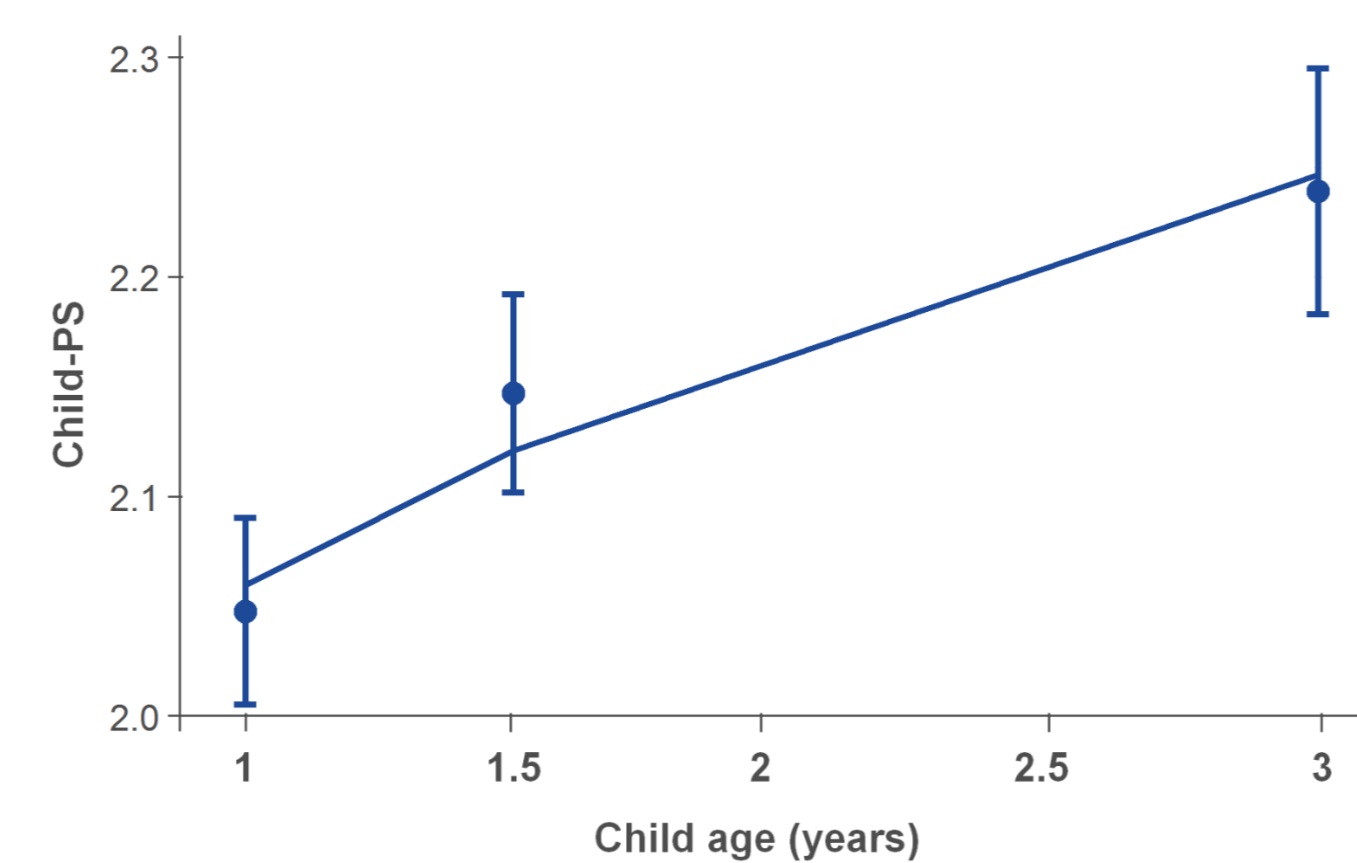
Regional brain volume

- Multiple regression – SPM12
- Predictor: Child-PS slope
- Covariates
 - Age, sex, TIV, maternal education
- $p < .001$ uncorrected, $k > 100$ voxels

* Parental Distress, Parent-Child Interaction and Difficult Child (PS-child)

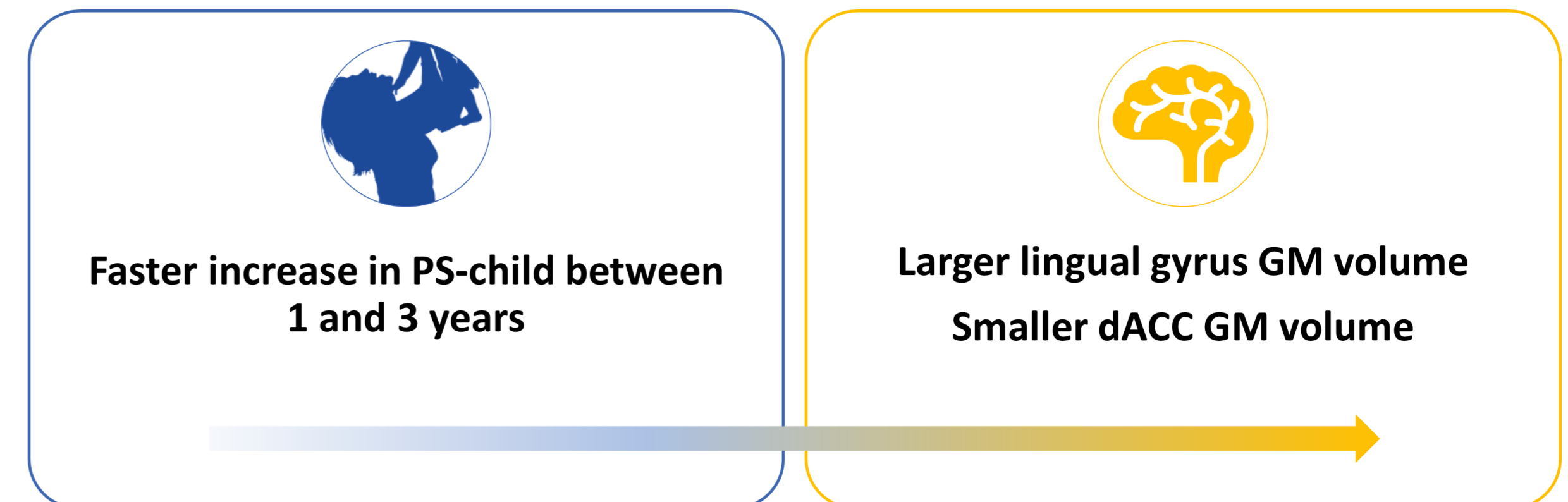
RESULTS

- PS-child ⇔ how difficult the child is perceived



- Left dACC
 - [0 8 38]
 - 127 voxels
 - Tscore = 4.30
- Inf. temporal gyrus
 - [-45 -66 2]
 - 350 voxels
 - Tscore = 4.48

DISCUSSION



- ↑ PS-child could represent
 - ↓ child self-regulatory abilities^{1,3}
 - parental difficulties in gaining the child's cooperation or managing his/her behavior^{1,3}
- Inf. temporal ⇔ visual recognition and semantic memory⁴
- dACC ⇔ cognitive reappraisal of negative emotion⁵

CONCLUSION

Albeit preliminary, this is the first evidence to suggest that variation in PS pertaining to child characteristics during early childhood may influence child grey matter volume in regions involved in emotion and cognition.

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