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TITLE: Directional relationships between childhood psychopathology dimensions across development

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ABSTRACT:

Disentangling trait-like between-person from state-like within-person processes of psychiatric traits across childhood is vital to understand causes of comorbidity, and to gain insights on developmental pathways underlying mental health problems. We present results of a preregistered study conducted in two large population-based cohorts, the Twin Early Developmental Study and the Netherlands Twin Register, where we investigated the longitudinal directional relationships between psychopathology-related traits from childhood to early adolescence, jointly estimating between-person and within-

person processes within a network model.

The contrast between trait-like individual differences and state-like within-person processes can be extended to the family. Members of a family, especially siblings, are known to behave alike and this can be attributed to shared genetic and environmental influences. However, there are obvious direct interactions between siblings, age-specific symptoms in one sibling, which could precipitate mental symptoms in the other sibling at a later age.

We developed an extension of the network model to family-level data by considering sibling pairs instead of unrelated individuals. Aim of this extension is to estimate reciprocal directional influences between siblings over time separating them from similarities between siblings that arise through shared (genetic or environmental) influences that exist in a family. Furthermore, this application can be used to parse out genetic and environmental components of variance at the level of time-invariant overarching stable traits, as well as age-specific effects. In practice, our approach takes the network model from an individual to a family level, while controlling for the fact that family members are related to each other.

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