Network Analysis of the Association Between Symptoms of Parental Psychopathology and Children's Executive Functioning



Maitri Jain, Krithika Prakash, Angela D. Staples, Jamie M. Lawler

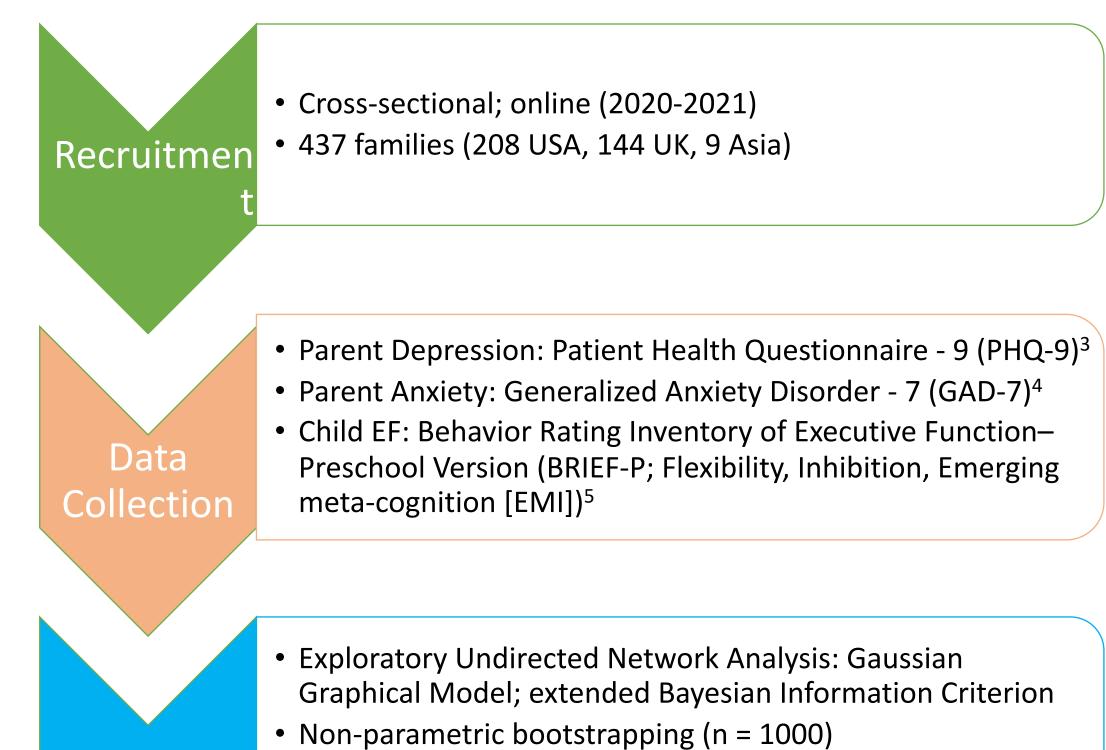
BACKGROUND

- Parent depression & anxiety associated with lower child executive functioning (EF) 1,2 .
- Associations between specific parent psychopathology symptoms and child EF unclear.

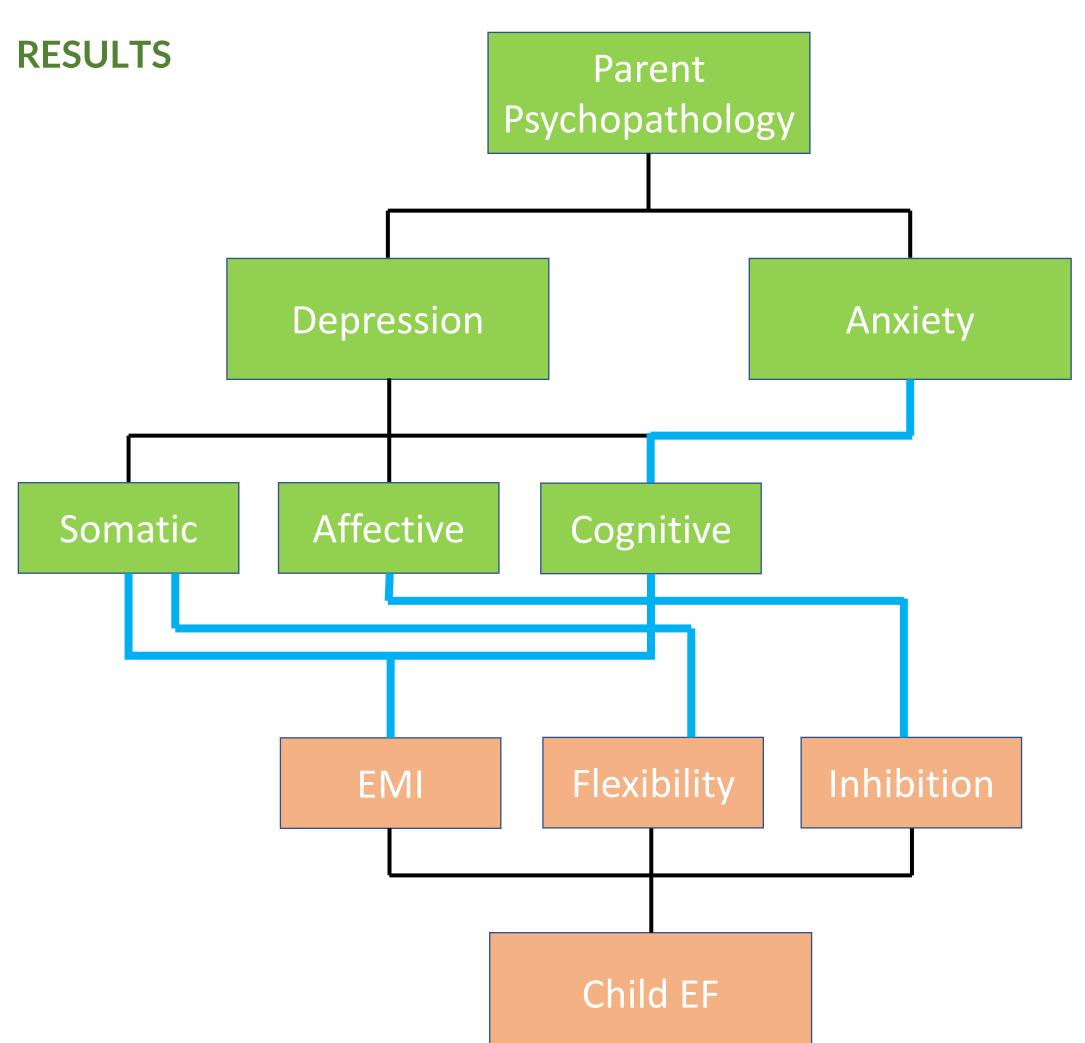
AIM

Network analysis to explore the association of parental anxiety & depression symptoms with child EF.

METHODS



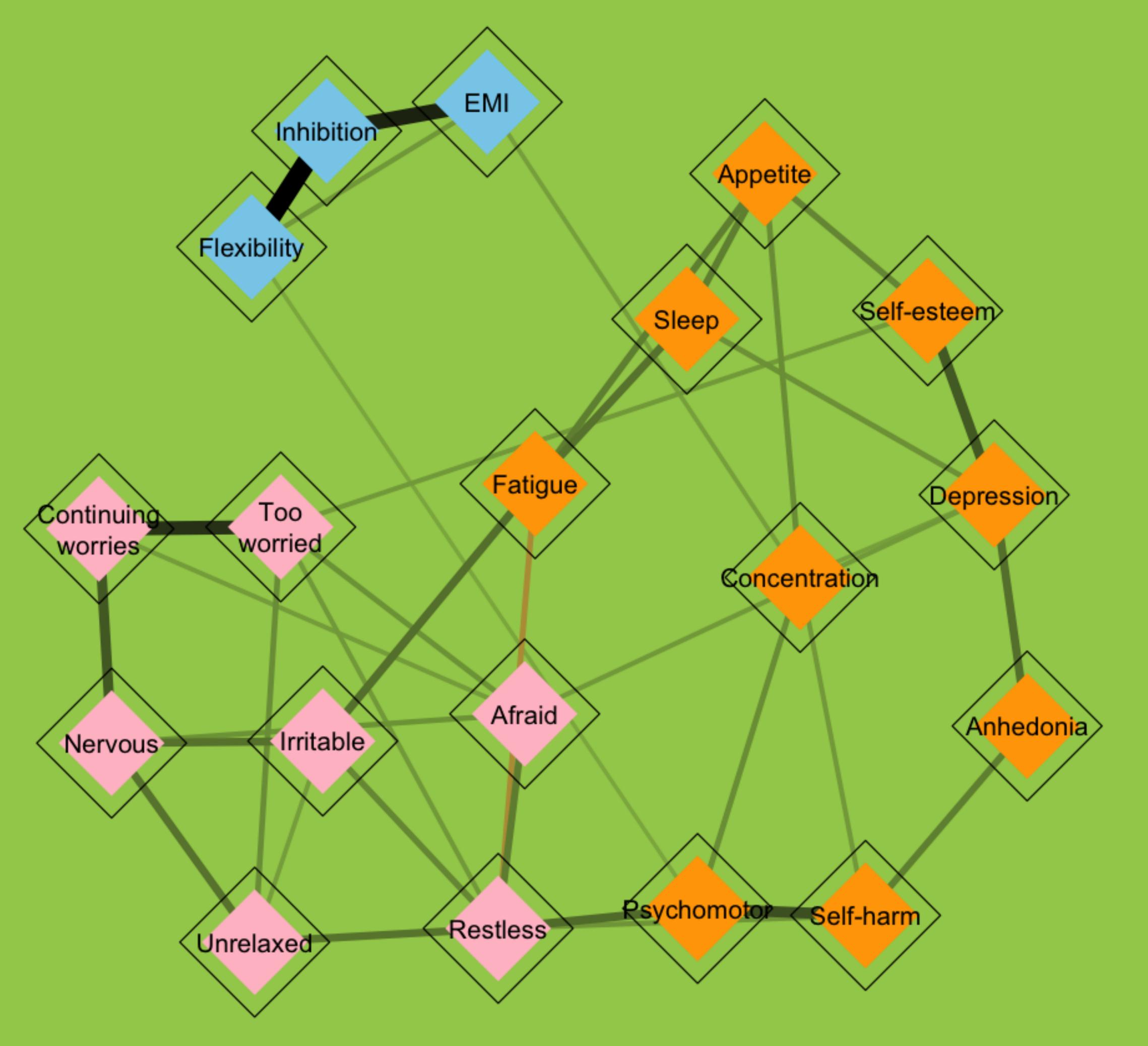
Case-dropping subset bootstrapping



CONCLUSIONS

- Child EF associated more with parent depression than anxiety.
- Somatic → EMI/Flexibility; Affective → Inhibition;
 Cognitive → EMI
- Cross-sectional design, sample size, self-report data limit generalization

Parent cognitive symptoms of depression are associated with child emerging meta-cognition.





SUPLLEMENTAL INFORMATION

METHODS

Participant Demographics

137 participants: online, non-paid
300 participants: Prolific, paid

	Parent	Child
Income (n)	<10k = 12 10k-30k = 118 30k-50k = 82 50k-70k = 73 70k-100k = 56 100k-120k = 23 120k-150k = 12 140k-160k = 7 >160k = 9	
Marital Status (n)	Married = 238 Unmarried = 199	
Gender (n)	She/her/hers = 273 He/him/his = 129 They/them/their = 1	She/her/hers = 145 He/him/his = 199 They/them/their = 4
Age (M; SD [range])	32.75; 5.72 [19, 51]	3.49; 1.02 [0.92, 7.17]
Race (n)	Asian = 16 American Indian/Alaskan Native = 5 Black = 69 Native Hawaiian/Pacific Islander = 2 Other = 6	Asian = 14 American Indian/Alaskan Native = 9 Black = 66 Native Hawaiian/Pacific Islander = 1 Other = 8

Data Analysis

• 115 missing data points imputed through Full Information Maximum Likelihood.

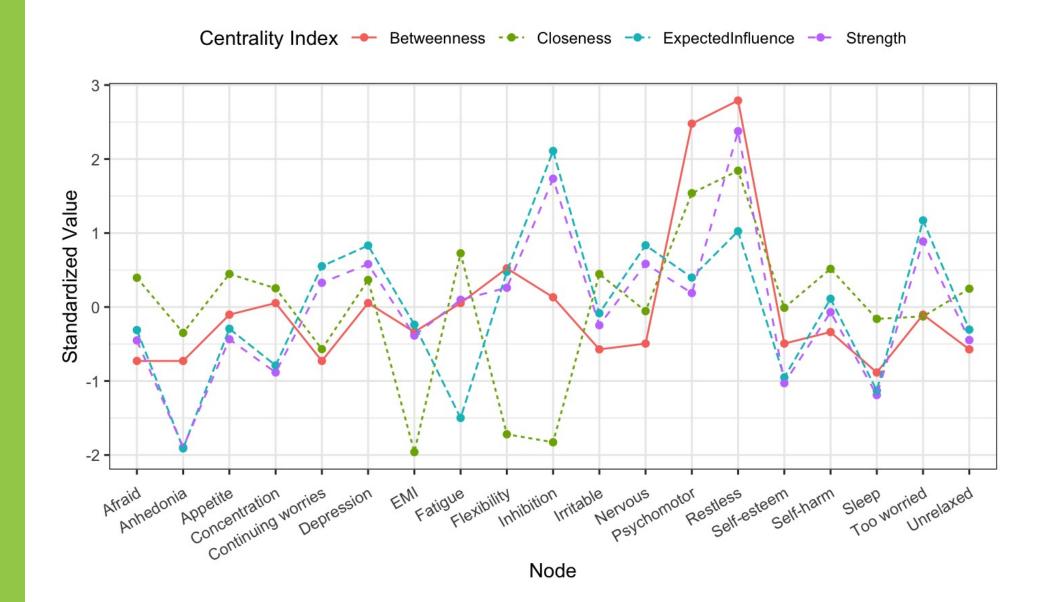
White = 294

 Least absolute shrinkage & selection operator sparse network (R qgraph)⁶.

White = 247

- Centrality indices: strength, betweenness, closeness, expected influence (R Bootnet)⁷.
- Strength—most stable—used for interpretation.

RESULTS



Standardized centrality indices for the overall network.

Strength: Restlessness (GAD-7) & inhibition (EF)
Closeness: Restlessness (GAD-7), psychomotor

agitation/retardation (PHQ-9) **Betweenness**: Restlessness (GAD-7), psychomotor

agitation/retardation (PHQ-9)
Influence: Inhibition (EF)

LIMITATIONS & FUTURE DIRECTIONS

- Cross-sectional
- Child EF was parent-reported
- Future research: Use task-based/observational EF data
- Sample size was small for network analysis
- Data collected during COVID-19 pandenic, low generalizability

🖂 mjain2@emich.edu 😏 @MaitriJain99 😱 Maitrijain99