

## Testing the Replicability of Internalizing Symptom Network Structure in Subclinically Anxious or Depressed Youth

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### Introduction

- Network analysis is popular for examining relationships among individual symptoms in psychopathology
- However, there are mixed findings about replicability of these analyses

### Methods

- Sample consisted of 7130 youth from the ABCD<sup>®</sup> Study with some symptoms of depression or anxiety, selected using KSADS interview
- Networks of internalizing symptoms from the CBCL estimated for split-half samples
- Edge weight accuracy, edge weight stability, stability of strength centrality, global strength and global structure were compared

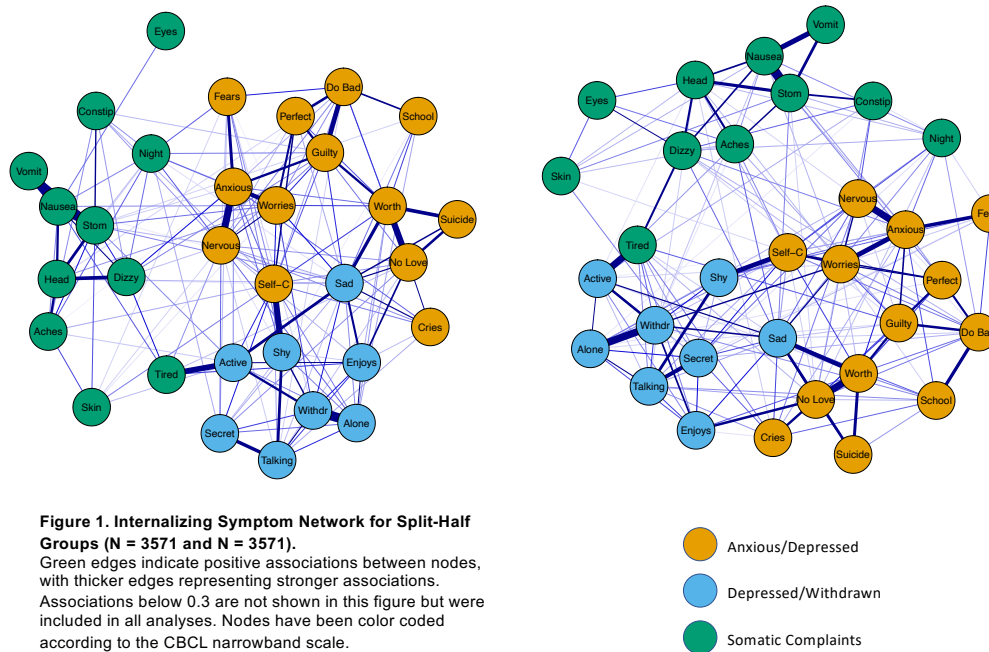
### Results

Metric of Replicability or Stability	Result
% Edges present in both networks	77%
% stably estimated edges present in both networks	76%
Correlation Stability Coefficient – Strength Centralities	0.75 (both split-half samples)
Network Comparison Test – Difference in Global Strength	$S = 4.4, p = 0.2$
Network Comparison Test – Difference in Network Structure	$M = 0.78, p = 0.24$

### Discussion

- High degree of overlapping edges and stable strength centrality indicate network structure replicated well
- Important to assess replicability and stability if conducting additional network analyses
- Future directions include investigating network characteristics associated with the development of anxiety or depression in youth

**Network structure of internalizing symptoms replicates well within a large community youth sample. Examining replicability is an important first step if continuing with advanced network analyses of psychopathology.**



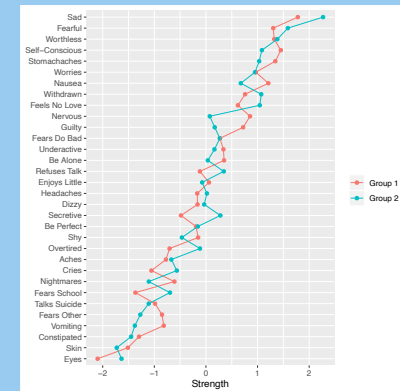
**Figure 1. Internalizing Symptom Network for Split-Half Groups (N = 3571 and N = 3571).** Green edges indicate positive associations between nodes, with thicker edges representing stronger associations. Associations below 0.3 are not shown in this figure but were included in all analyses. Nodes have been color coded according to the CBCL narrowband scale.



Any questions, comments, or to see a copy of the full abstract and supplementary information please contact the author at [jefreder@fiu.edu](mailto:jefreder@fiu.edu)

**Figure 2. Strength Centrality for Split-Half Group Networks (N = 3571 and N = 3571).**

The x-axis represents z-scores for strength centrality.



**Figure 3. Centrality Stability for Split-Half Group Networks (N = 3571 and N = 3571).**

Dotted lines indicate the average correlation between centrality indices of original networks and networks samples with cases dropped. The shaded areas indicate the range from the 2.5<sup>th</sup>-97.5<sup>th</sup> quartile. Results shown only for the first split-half sample, the second split-half sample showed similar findings

