INTRO
- Disorders may be networks of dynamic and causal relationships between Sx
- Most network models have used cross-sectional data, which cannot identify directionality

Aim: examine (1) unique longitudinal relationships between individual Sx (“edges”), and (2) Sx centrality (i.e., how connected each Sx is to all other Sx)

METHODS
- 4,093 youth from the ABCD study
  - $M_{age} = 10.5$ years
  - Transdiagnostic Sx assessed twice (6 months apart)
    - Youth-report Brief Problem Monitor

Data Analysis
- Cross-lagged panel network model
  - Series of regularized regressions with all Sx at T1 predicting each Sx at T2
  - Edges = unstandardized regression coefficients
    - Blue = positive; Red = negative
- Centrality
  - Out-expected influence = sum of outgoing edges
  - In-expected influence = sum of incoming edges
- Note: the network plot excludes autoregressive and weak (< .3) edges for interpretability

DISCUSSION
- Strongest longitudinal edges = depressed mood ⇄ worthlessness
  - Consistent with hopelessness theory of MDD
- Destructiveness and threats of violence had highest in-expected influence
  - Most predicted by other symptoms at T1
- Results may differ for different time lags
  - More frequent sampling may be beneficial
  - ‘True’ time lag may differ for different edges and/or people

Unique longitudinal associations between symptoms of psychopathology in youth: A cross-lagged panel network analysis in the ABCD study

Carter Funkhouser, Anjali Chacko, Kelly Correa, Elyse Shenberger, and Stewart Shankman

Depressed mood, inattention, and worry were the strongest prospective predictors of other symptoms in a longitudinal symptom network of 4,093 youths.