

Background

- **Autism spectrum disorder (ASD)** and **schizophrenia (SCZ)** often co-occur and have **overlapping symptomatology**¹
- Both disorders share differences in social, sensory, and cognitive functioning compared to the general population
- Relations among ASD and SCZ symptoms remain unclear
- **Network approach to psychopathology:**
- Disorders are **systems of symptoms** that are causally connected and mutually reinforcing
- **Objective:** Examine patterns of ASD and SCZ symptom organization using **network analysis** to **characterize symptom overlap** and **inform differential diagnosis**

Methods

Participants

- **92 adults** with **ASD (n = 53)** or **SCZ (n = 39)** aged 18-48 years
- Higher WASI-II IQ in ASD ($M = 105, SD = 16.1$) compared to SCZ ($M = 97.2, SD = 10.1$), $t(88.75) = 2.96, p = 0.004$

Measures

Self-reported ASD Symptoms:
Social Responsiveness Scale - Second Edition (SRS-2 Adult Form)

Treatment-oriented subscales:

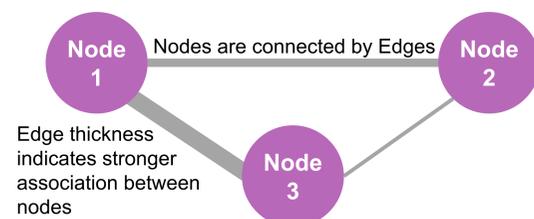
1. Social motivation
2. Social awareness
3. Social cognition
4. Social communication
5. Restricted interests and repetitive behaviors

Self-reported SCZ Symptoms:
Schizotypal Personality Questionnaire (SPQ)

DSM-oriented subscales:

1. Ideas of reference
2. Excessive social anxiety
3. Odd beliefs or magical thinking
4. Unusual perceptual experiences
5. Odd or eccentric behavior
6. No close friends
7. Odd speech
8. Constricted affect
9. Suspiciousness

Network Analysis²



- **Separate networks** were modeled for each diagnostic group to examine symptom organization of ASD and SCZ symptoms within diagnostic category
- **Node centrality:** Expected influence of each node was estimated to assess the **importance of each node to the symptom network**

Results

Figure 1.
ASD Symptom Network

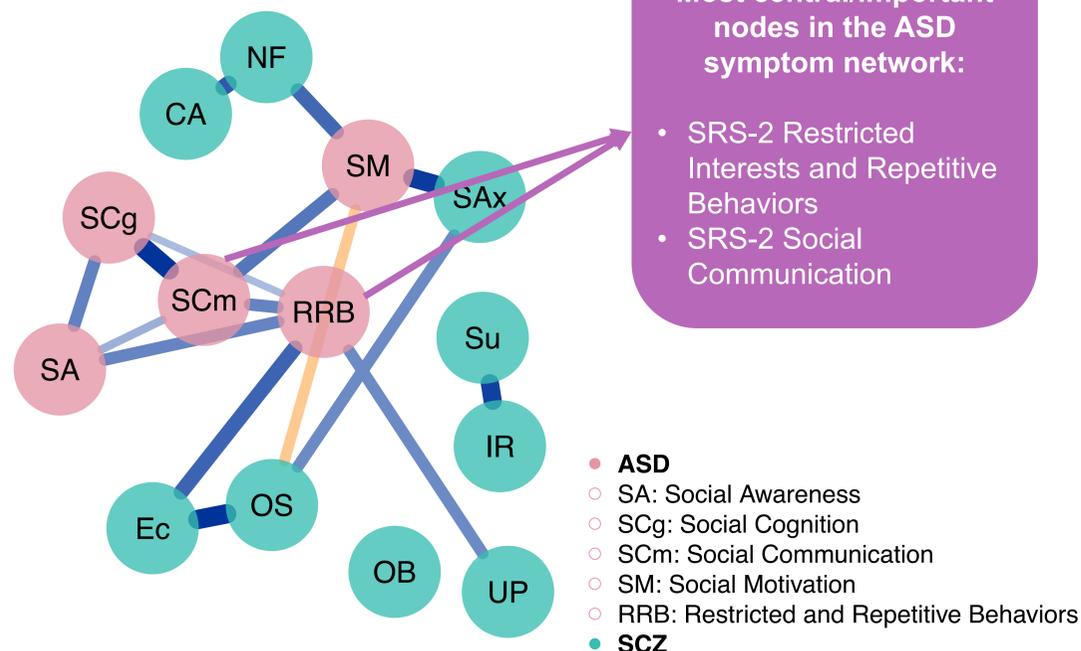
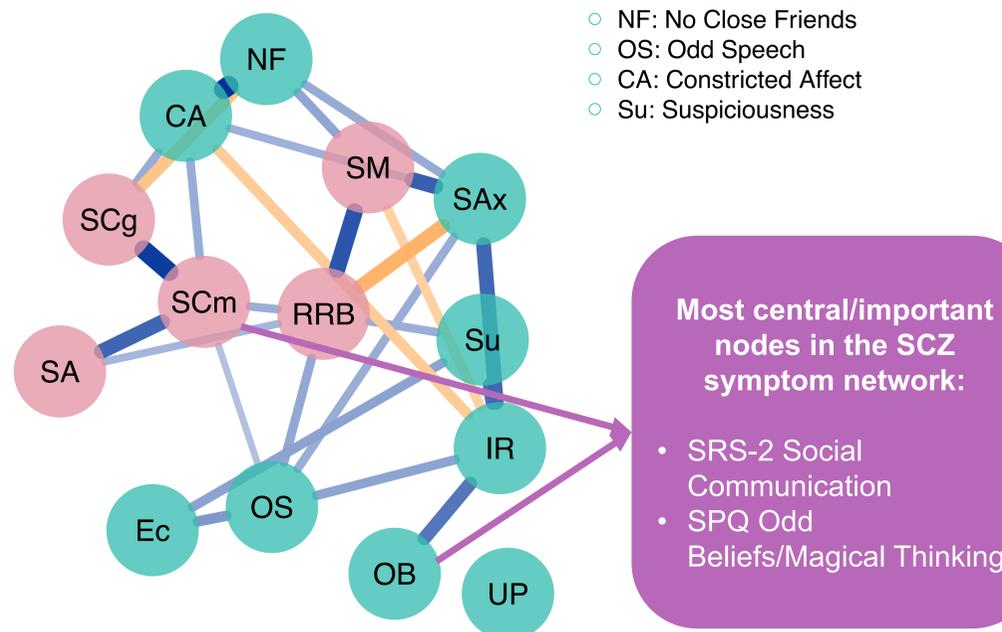
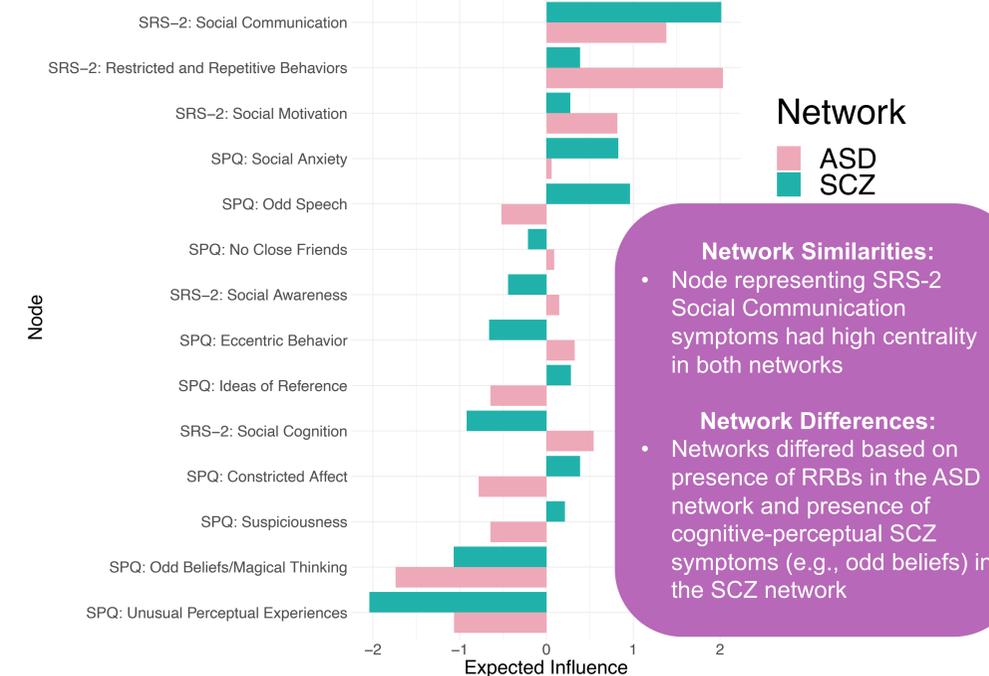


Figure 2.
SCZ Symptom Network



Results

Figure 3.
Estimated Node Centrality via Expected Influence



Conclusions

- **ASD-related social communication symptoms** "held together" the "system of symptoms" in ASD and SCZ; only assessing social symptoms may lead to false ASD positives for individuals with SCZ
- **Differential diagnosis:** Presence of positive cognitive-perceptual SCZ symptoms and ASD-related RRBs differentiated SCZ from ASD
- **Social deficits reflect important treatment targets for both diagnostic groups;** future work is needed to characterize the specific nature of social deficits for each clinical population

References

1. Trevisan, D. A., Foss-Feig, J. H., Naples, A. J., Srihari, V., Anticevic, A., & McPartland, J. C. (2020). Autism spectrum disorder and schizophrenia are better differentiated by positive symptoms than negative symptoms. *Frontiers in Psychiatry, 11*, 548.
2. Epskamp, S., Borsboom, D., & Fried, E. I. (2018). Estimating psychological networks and their accuracy: A tutorial paper. *Behavior Research Methods, 50*(1), 195-212.

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