



Assessment Utility of Intraindividual Network Analysis in Obsessive-Compulsive Disorder

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Introduction

- In a network analysis approach to psychopathology, disorders are systems of symptoms that are mutually interacting and reciprocally reinforcing (Borsboom & Cramer, 2013; David, Marshall, Evanovich, & Mumma, 2018).
- For a particular individual, an intraindividual network analysis (INA) can focus either on concurrent relations (covariation between symptoms within each occasion) or lead-lag (dynamic) relations (does score on the last occasion predict the next score) (David et al., 2018)
- No study to date has examined the incremental utility of different types of INAs. The current study examined the incremental assessment utility in a comorbid case of two types of intraindividual networks: a concurrent bivariate network and a lead-lag bivariate network.

Method

Participant

- The female participant (age mid 30s) was diagnosed with obsessive-compulsive disorder, generalized anxiety disorder, and social anxiety disorder.

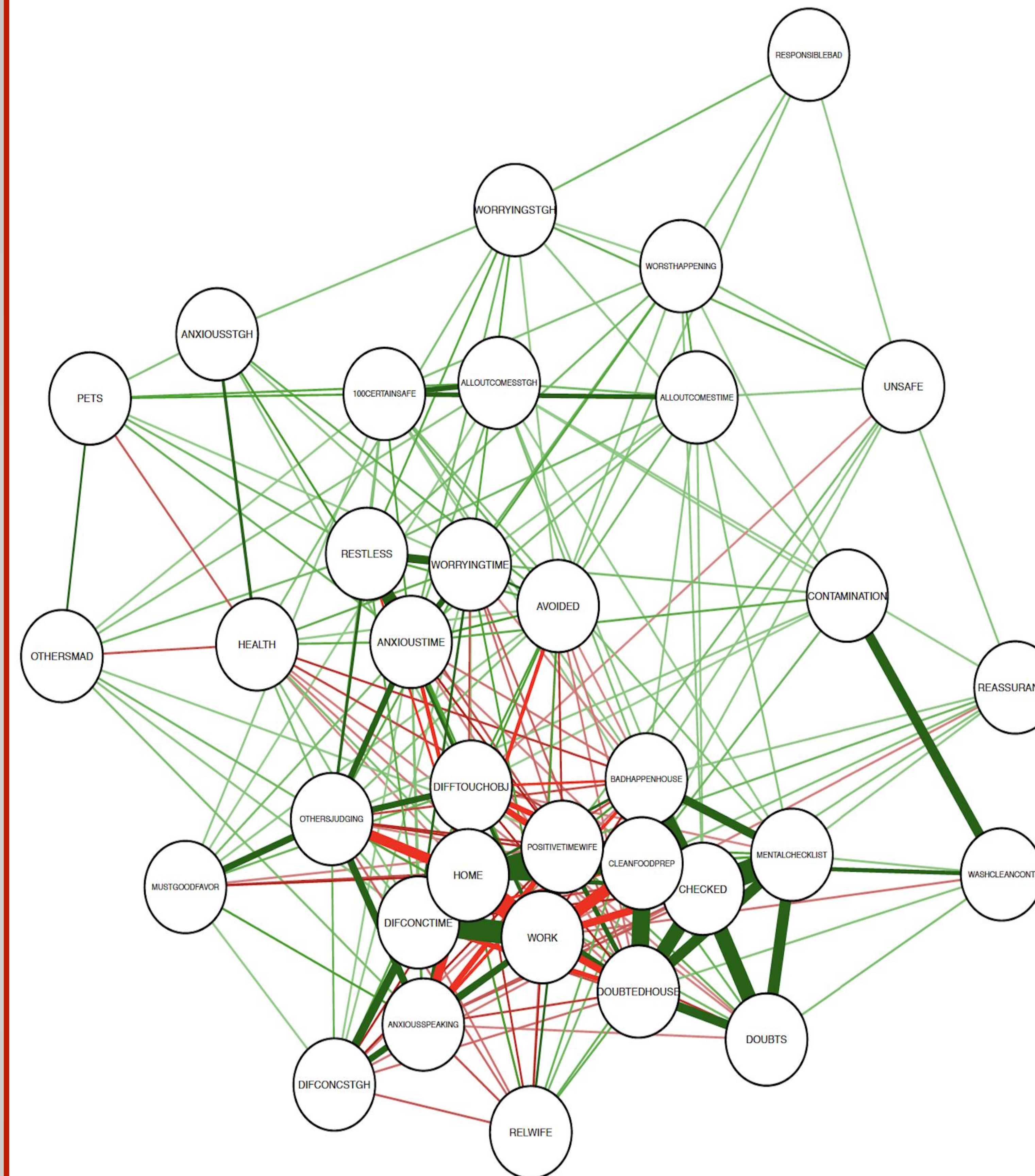
Procedure

- An individualized questionnaire (IndQ) was created using relevant items from standardized assessments, structured interviews, and idiosyncratic statements.
- The participant completed the IndQ 3 times a day (i.e., morning, afternoon, and evening) for 100 occasions on her smartphone or computer.
- Time series analysis of the ecological momentary assessment data (after detrending) was used to construct a concurrent bivariate network and lead-lag bivariate network of the comorbid symptoms.

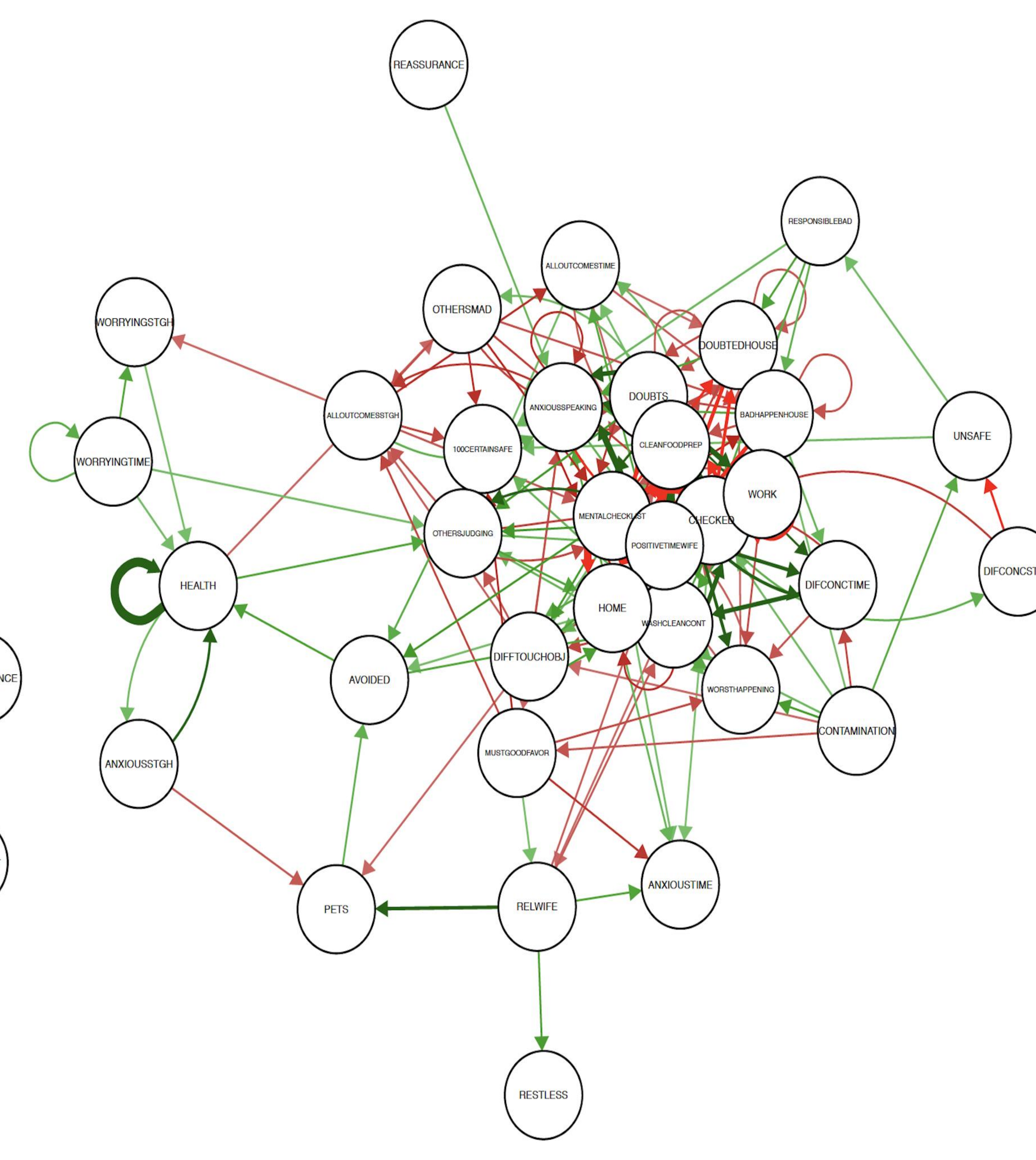
Measures

- Obsessive-Compulsive Inventory (OCI): Frequency Total Score= 63; Distress Total Score= 59
- Obsessive Beliefs Questionnaire (OBQ): Tolerance for Uncertainty Score= 60 (Higher); Threat Estimation= 56 (Higher); Control of Thoughts= 53 (Lower); Importance of Thoughts= 36 (Lower); Responsibility= 80 (Higher); Perfectionism= 54 (Lower)
- Penn State Worry Questionnaire (PSWQ): Total Score= 72 (High worry)

Concurrent Bivariate Network



Lead-Lag Bivariate Network



Results

- Items with the highest degree in the concurrent network were “talked or spent positive time with my wife” (1.40), “I was anxious or nervous” (1.25), and “worried something bad would happen to the house” (1.18).
- In the lead-lag network the items with the highest outdegree were “checked the front and back door, faucets or pipes, garage door, or stove or appliances” (3.45) and “made a mental check list to make sure things were safe or turned off” (3.16). The highest indegree was “talked or spent positive time with my wife” (2.33).

Conclusion

- Results suggest inflated beliefs in responsibility preceded checking compulsions and checking temporarily alleviated concerns related to a feared catastrophe.
- The concurrent network was useful in identifying potential targets for treatment.
- The lead-lag network provided additionally assessment utility in identifying which symptoms were indicative of changes in variability of other symptoms at the next time point, and identifying symptoms with high outdegree (i.e., targets for treatment) and high indegree (i.e., indicators of change).
- Results for this individual support the expectation that different types of intraindividual networks provide differential information related to the individual's psychopathology or for treatment planning purposes.