



# A Network Conceptualization of the Multiple Facets of Distress Tolerance

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## Abstract

The present study utilized cross-sectional data from a larger study to examine relations among various components of distress tolerance (DT) via a network analysis (NA) approach. Ten commonly used measures of DT including two cognitive, two behavioral, and six self-report measures were used as indicators of different types of DT. Each represented a different node in a NA. The results indicate that cognitive, behavioral, and self-report measures of DT may be assessing different facets of DT. This has important implications for DT research as the various DT measures have historically been used interchangeably.

## Introduction

- DT is a construct of wide interest in psychology due to its relation with many different forms of psychopathology.
- DT has been conceptualized and measured in a variety of ways (e.g., behavioral, perceived ability), creating problems for evaluating DT.
- DT can be viewed as both the perceived capacity and behavioral act of withstanding aversive affective, cognitive, and/or physical internal and external states
- The DT conceptualizations and their related measures have not been compared with one another to evaluate the different types of DT.
- A new approach in psychology, network analysis (NA), conceptualizes psychological constructs as complex networks of causally interconnected symptoms.
- Networks are graphical representations consisting of nodes (i.e., constructs, measures) and edges (i.e., relation between two nodes).

## Method

### PARTICIPANTS

- $N = 288$  undergraduate students

### PROCEDURE

- Utilizing the new R-package *bootnet* a regularized partial correlation network was constructed (Figure 1).
- Networks show direction (green indicates positive, red indicates negative) and strength (thickness) of relations between items.
- Nodes with stronger associations appear in the center of the network while those with weaker associations appear on the periphery.

Centrality Indices (Table 2):

- Indegree: estimates how much information a node receives directly from other nodes.
- Outdegree: estimates how much information a node sends directly to other nodes.
- Betweenness: how much information passes through a node (the number of times it lies on the shortest path between two nodes).

Table 1. Node Labels

Measure	Node
<b>Behavioral</b>	
Paced Auditory Stimulus Addition Task	PASAT
Mirror Tracing Task	MTT
Cold Pressor Task	CPT
Breath Holding	BH
<b>Self-Report</b>	
Frustration Discomfort Scale	Emotion
Emotional Intolerance	Entitlement
Entitlement	Achievement
Achievement	Frustration
Discomfort Intolerance	Suppression
Emotion Regulation Questionnaire	Reappraisal
Suppression	
Reappraisal	
Distress Tolerance Scale	Appraisal
Appraisal	Absorption
Absorption	Regulation
Regulation	Tolerance
Tolerance	
Discomfort Intolerance Scale	Phys Disc
Discomfort Intolerance	Disc Avoid
Discomfort Avoidance	
Intolerance of Uncertainty Scale - 12	Inhibition
Inhibitory Anxiety	Prospective
Prospective Anxiety	
Anxiety Sensitivity Index - 3	Physical Sens
Physical Anxiety	Cognitive Sens
Cognitive Anxiety	Social Sens
Social Anxiety	

## Results

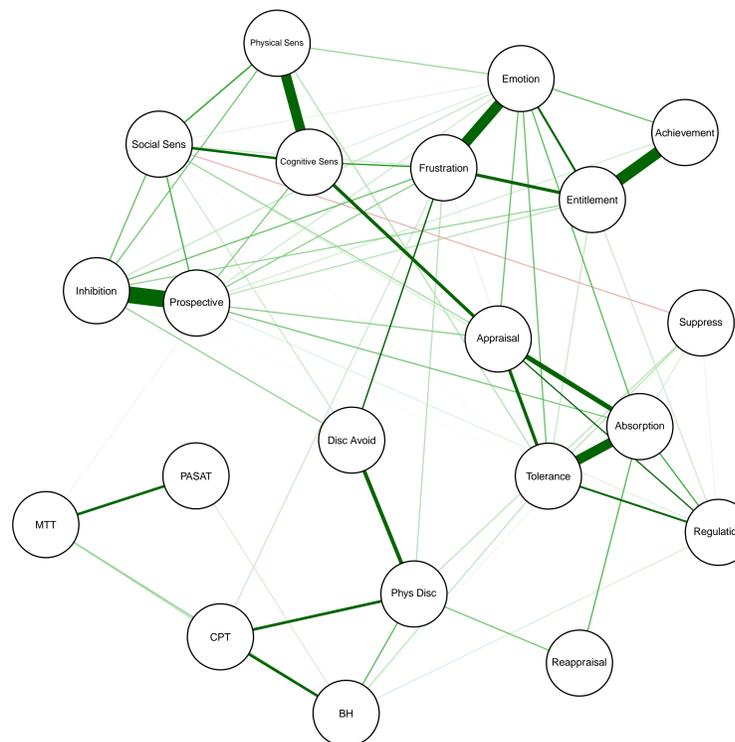


Figure 1. Regularized Partial Correlation Association Network

- Cognitive and behavioral measures were least related to all other types of DT.
- Strength indicated that the Frustration and Prospective demonstrated the strongest relations with other nodes.
- Closeness suggested that Frustration and Achievement evidenced the strongest indirect connections to other nodes.
- Betweenness suggested that Frustration, Phys Disc, and Disc Avoid appeared to be the strongest nodes in connecting other nodes, however, reliability indices indicated that this was not very stable across bootstrapped samples.
- Note: self-report scales were the largest number of measures used so the NA results may have been influenced by methods variance shared by this type of measure.

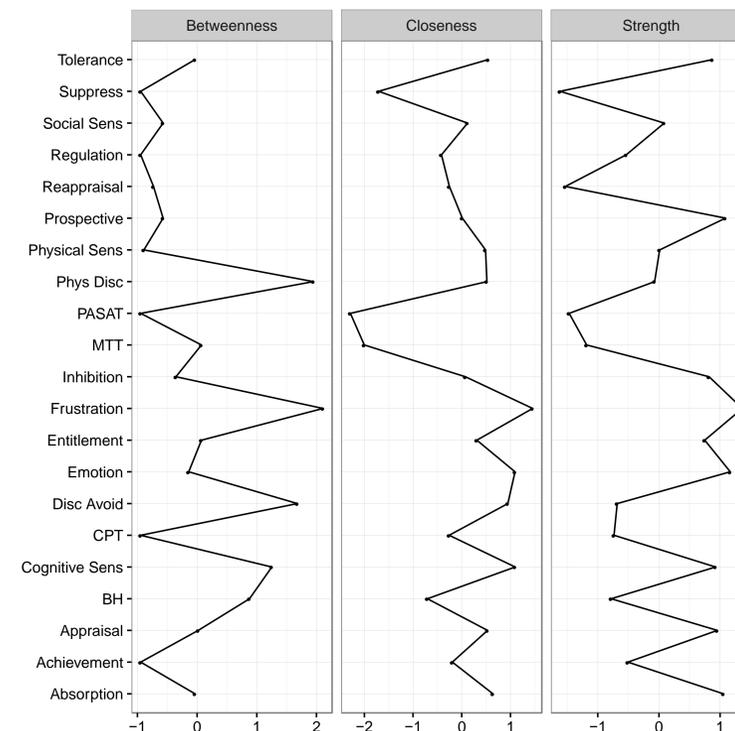


Table 2. Centrality Indices

## Conclusions

- The current study utilized NA to examine how facets of DT relate in a sample of college students and directly contributes to the understanding of DT by providing an integrated illustration of how proposed facets of DT relate.
- Results indicate that DT is a general ability to tolerate aversive states or events that is comprised of many different facets rather than the alternative theory that DT is comprised of distinct constructs.
- Future research should continue to address issues in the conceptualization and measurement of DT through longitudinal assessment and in clinical populations.
- Please feel free to contact Emma Evanovich at [emma.evanovich@ttu.edu](mailto:emma.evanovich@ttu.edu) or Gregory H. Mumma, Ph.D. at [g.mumma@ttu.edu](mailto:g.mumma@ttu.edu) with any questions.



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