Which deficits are most central to Borderline Personality Disorder?
A network analysis of 4,000 participants

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Borderline Personality Disorder

◉ Severe psychiatric disorder characterized by[1]:

  ◉ chronic suicidality

  ◉ impulsivity in multiple domains

  ◉ affective instability

  ◉ self-identity disturbance

  ◉ interpersonal dysfunction

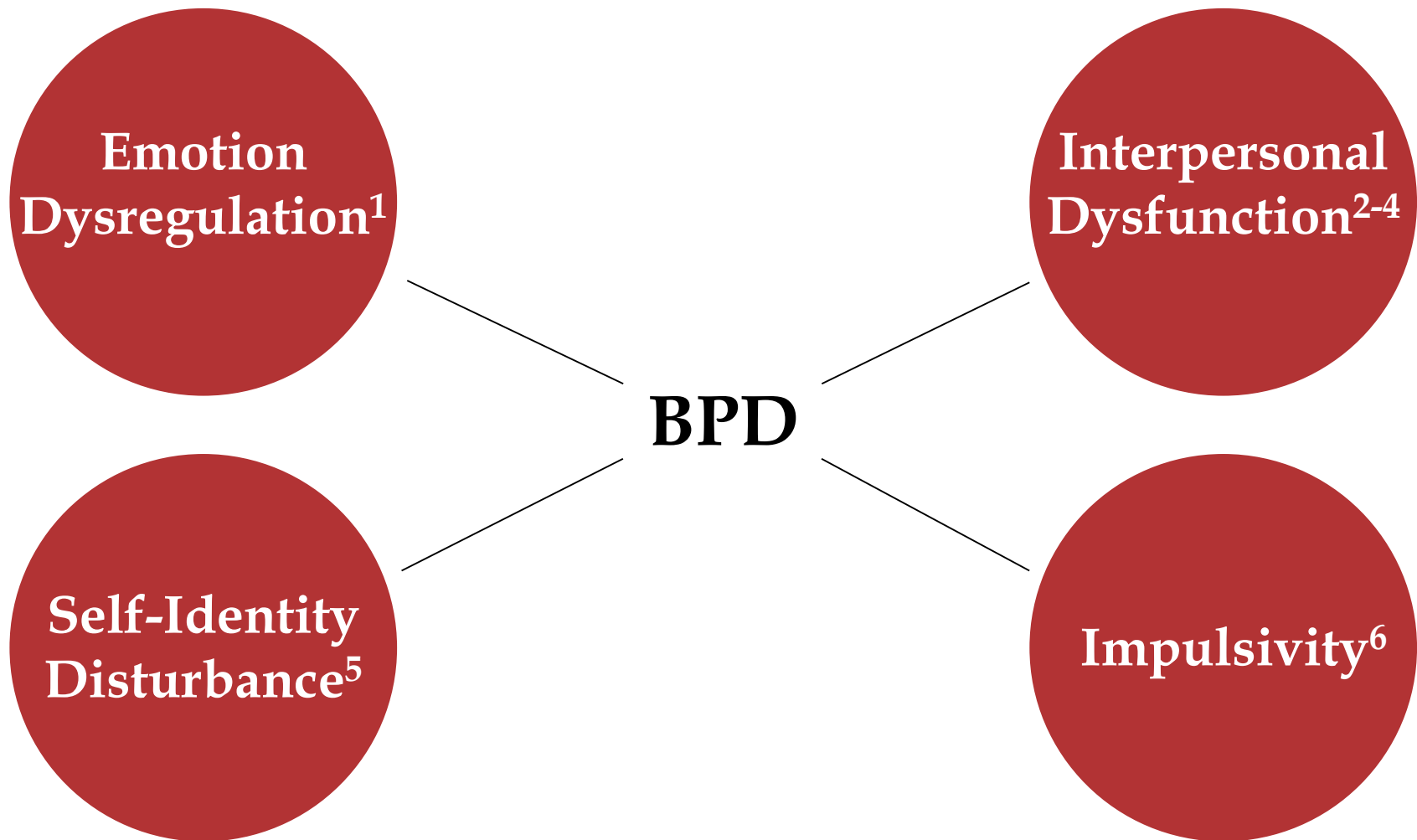 ◉ state-dependent paranoia/dissociation

  ◉ chronic emptiness

[1]American Psychiatric Association, 2013.

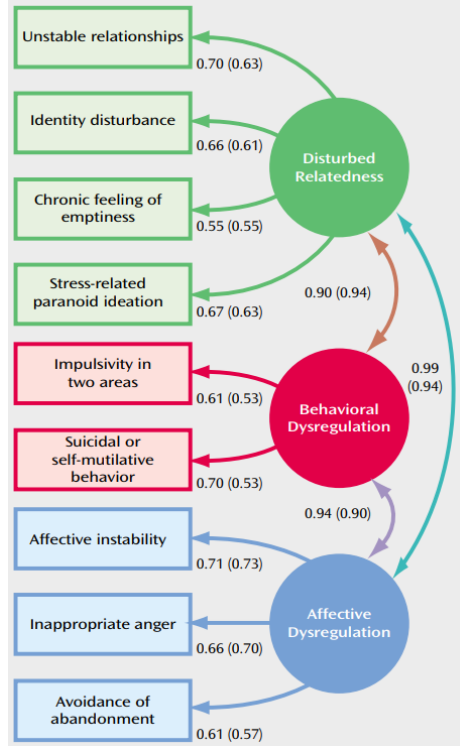# What deficits are central to BPD?

[1]Linehan, 1993; [2]Gunderson, 1996; [3]Conway, Hammen, & Brennan, 2012; [4]Feske, Kirisci, Tarter, & Pilkonis, 2007; [5]Bender & Skodol, 2007; [6]Crowell, Beauchaine, & Linehan, 2009
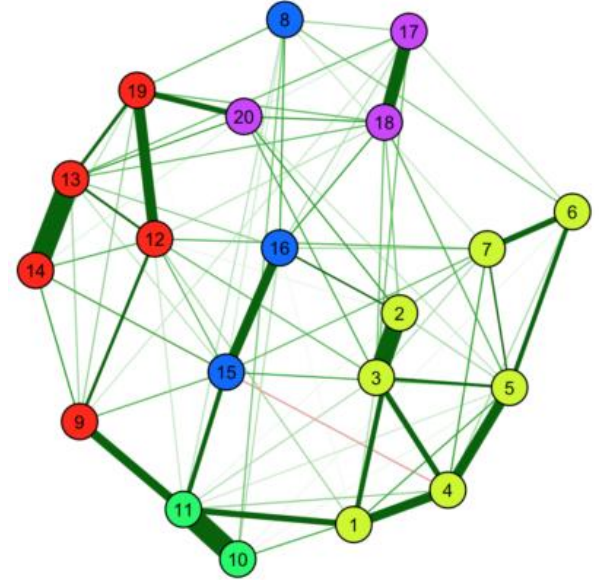
How do you define centrality?

Factor Analysis

Network Analysis

[1]Sanislow et al., 2002; [2]http://psych-networks.com/r-tutorial-identify-communities-items-networks/

Study Aims

◎ Identify most central items in network of BPD features

◎ Compare networks of BPD features between men and women

◎ Compare networks of BPD features between High and Low BPD groups

Participants & methods

- N = 4,386 (18 studies)
- M_{age} = 22.6 (SD = 8.3)
- 61% female
- 74% white

- Personality Assessment Inventory (PAI-BOR)[1]
- 24 items
- 4 subscales:
  - Affective Instability
  - Identity Disturbance
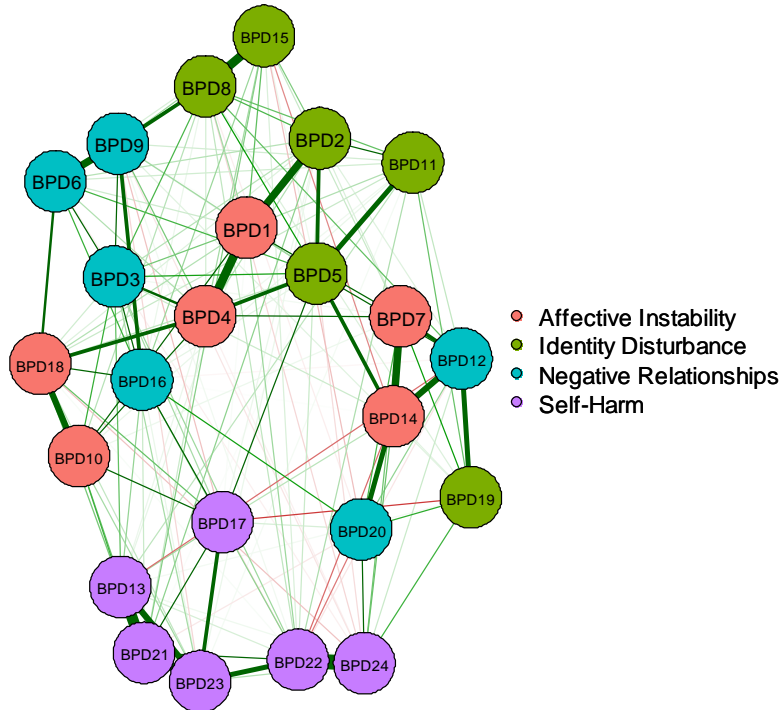 - Negative Relationships
  - Self-Harm

[1]Morey, 1991

PAI-BOR[1]

Affective Instability		Identity Disturbance		Negative Relationships		Self-Harm	
BPD1	Mood shifts	BPD2	Self attitude changes	BPD3	Stormy relationships	BPD13	Do things impulsively
BPD4	Intense moods	BPD5	Emptiness	BPD6	Tell people hurt me	BPD17	Hurt self
BPD7	Unsteady mood	BPD8	Worry people leave	BPD9	People let me down	BPD21	Too impulsive
BPD10	Little anger control	BPD11	What to do with life	BPD12	Loneliness	BPD22	Spend money easily
BPD14	Unhappy person	BPD15	Can't handle separation	BPD16	Mistakes picking friends	BPD23	Reckless
BPD18	Can't express all anger	BPD19	Bored easily	BPD20	Don't stay friends	BPD24	Not careful with money

[1]Morey, 1991

Network analysis of BPD features: All participants

Legend:
- ● Affective Instability
- ● Identity Disturbance
- ● Negative Relationships
- ● Self-Harm

Item	Description	Strength*	Expected Influence*
BPD5	Emptiness	**2.19**	**2.31**
BPD4	Intense mood	1.64	1.56
BPD1	Sudden mood shifts	1.21	.97
BPD8	Worry people leave	.90	.87
BPD21	Too impulsive	.77	.56

*z-scores

[1]Southward & Cheavens, 2018

Network analysis of BPD features: Women vs. men

Women

- ◉ n = 2568 (61%)
- ◉ M_{age} = 23.0 (SD = 11.7)*
- ◉ 74% Caucasian
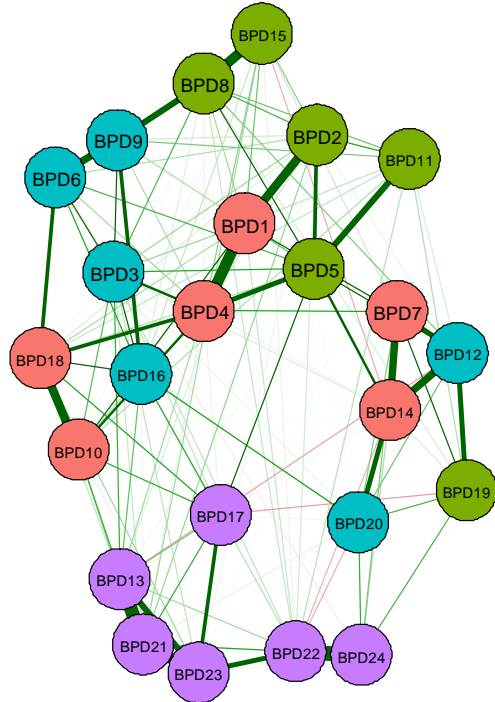- ◉ $M_{PAI-BOR}$ = 28.6 (SD = 12.3)*
- ◉ 12/24 items > men

Men

- ◉ n = 1636 (39%)
- ◉ M_{age} = 21.5 (SD = 6.5)
- ◉ 75% Caucasian
- ◉ $M_{PAI-BOR}$ = 26.6 (SD = 11.7)
- ◉ 3/24 items > women
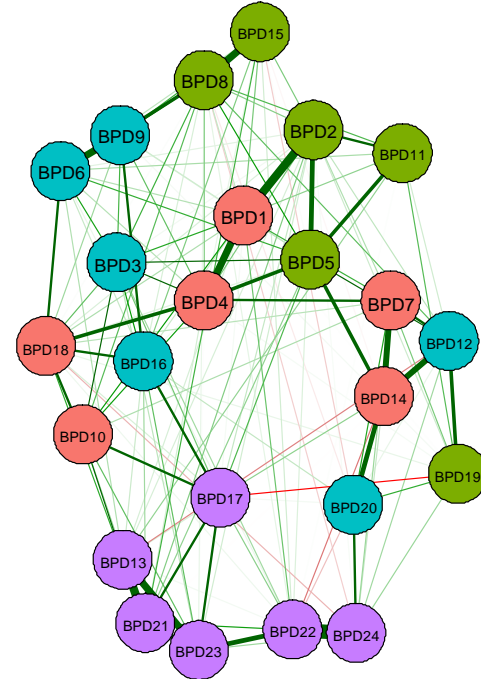 - ○ impulsivity, recklessness

Network analysis of BPD features: Women vs. men

Women

Men

- Affective Instability
- Identity Disturbance
- Negative Relationships
- Self-Harm

[1]Southward & Cheavens, 2018

Network analysis of BPD features: Women vs. men

Women

Item	Description	Strength*
BPD5	Emptiness	**2.18**
BPD4	Intense mood	1.74
BPD1	Sudden mood shifts	1.04
BPD8	Worry people leave	.87
BPD21	Too impulsive	.87

*z-scores

Men

Item	Description	Strength*
BPD5	Emptiness	**2.15**
BPD4	Intense mood	1.46
BPD1	Sudden mood shifts	1.12
BPD8	Worry people leave	1.06
BPD21	Too impulsive	.59

*z-scores

[1]Southward & Cheavens, 2018

Network analysis of BPD features: Low vs. High BPD

Low BPD

- ◉ PAI-BOR < 38
- ◉ n = 3363 (77%)
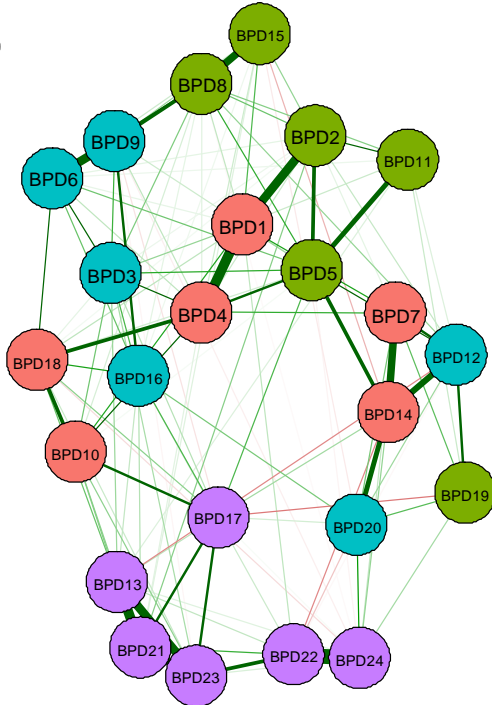- ◉ M_{age} = 22.1 (SD = 7.9)
- ◉ 60% female
- ◉ 75% Caucasian

High BPD

- ◉ PAI-BOR ≥ 38
- ◉ n = 1023 (23%)
- ◉ M_{age} = 23.8 (SD = 9.0)*
- ◉ 67% female*
- ◉ 72% Caucasian

[1]Southward & Cheavens, 2018. *High BPD significantly greater than Low BPD, ps < .01.
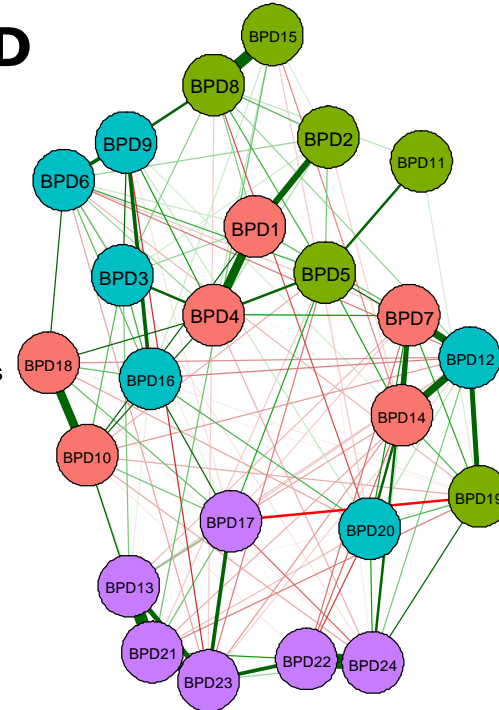
Network analysis of BPD features: Low vs. High BPD

Low BPD

High BPD

Legend:
- Affective Instability
- Identity Disturbance
- Negative Relationships
- Self-Harm

[1]Southward & Cheavens, 2018. *Low BPD significantly greater than High BPD, *p* < .01.

Network analysis of BPD features: Low vs. High BPD

Low BPD

Item	Description	Strength*	Expected Influence*
BPD5	Emptiness	**2.14**	**2.13**
BPD4	Intense moods	1.38	1.45
BPD1	Sudden mood shifts	1.13	1.31
BPD14	Unhappy person	1.07	.35
BPD23	Recklessness	.76	.86

*z-scores

High BPD

Item	Description	Strength*	Expected Influence*
BPD12	Loneliness	**1.71**	.94
BPD23	Recklessness	1.35	1.02
BPD21	Too impulsive	1.09	1.36
BPD4	Intense moods	1.08	**1.78**
BPD24	Not careful with money	.89	.70

*z-scores

[1]Southward & Cheavens, 2018

Limitations

- Cross-sectional
- Majority Caucasian college-aged participants
- Berkson's bias comparing Low vs. High BPD groups[1]
- PAI-BOR not validated for network analyses
  - *lvnet*[2] more appropriate?

[1]de Ron, Fried, & Epskamp, 2019. [2]Epskamp, 2018.

Putting the Pieces Together!

- ◉ Chronic emptiness, mood intensity, & affective lability most central features for dimensional BPD
- ◉ BPD network structure and centrality equivalent among women and men
- ◉ Loneliness, mood intensity, & impulsivity most central features for High BPD
  - ○ Different network structures at different levels of severity?[1]

[1]Fried, van Borkulo, Epskamp, Schoevers, Tuerlinckx, & Borsboom, 2016

Future Directions

- Within-person, longitudinal BPD networks
- Do treatments for BPD (e.g., DBT) change the network structure or severity?
- Do modular treatments for BPD target intended BPD features (e.g., emotion regulation skills → mood lability)?
- Assessments of suicidality

Thanks!

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