Social Dysfunction in Borderline Personality Disorder: A Linguistic Factor Analysis

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Component 1 – (Lack of) Connectedness/intimacy

Component 2 – Immediacy

Component 3 – Social Rumination

Component 4 – Negative Affect

Background

Borderline personality disorder (BPD) is a high-risk disorder characterised by severe interpersonal dysfunction (Hill et al., 2008), yet the underlying mechanisms of such dysfunction remains poorly understood.

A substantial body of research has shown that it is possible to analyse people's language patterns to reveal both the substance and style of thought (see Pennebaker, 2011), with numerous studies highlighting how specific dimensions of personality can be traced in natural language (e.g., Yarkoni et al., 2010). Thus, looking at the ways in which people talk about their relationships should be revealing of key social-cognitive dimensions, which may help to identify the mechanisms underpinning social dysfunction in BPD.

The present study sought to describe the social-cognitive contributors to interpersonal dysfunction in BPD objectively and more precisely, using computational language analysis methods.

Methods

Participants (N = 530) completed an online survey comprising validated measures of BPD features and other problematic interpersonal traits (e.g., narcissism), as well as a writing prompt where they were asked to share their personal thoughts and beliefs about interpersonal relationships.

Computerised language analysis methods (i.e., LIWC2015; Pennebaker et al., 2015) were used to quantify various psychosocial dimensions of participants' writing, which were incorporated into a principal component analysis (PCA).

LIWC Variable	Component 1 (Connectedness/Intimacy)	Component 2 (Immediacy)	Component 3 (Social Rumination)	Component 4 (Negative Affect)
Affiliation	0.75			
Family	0.68			
Social	0.66			
Drives	0.66			
Cognitive processes	-0.50			
Impersonal pronouns	-0.52			
Personal pronouns		0.62		
Verb		0.60		
Auxiliary verb		0.57		
I-words		0.56		
Focus present		0.54		
Relativity			0.60	
Focus past			0.56	
Time			0.54	
Positive emotion			-0.53	
Negative emotion				0.65
Affect			-0.56	0.62
Anger				0.54

	BPD features	Overall Dark Triad	Machiavellianism	Narcissism	Psychopathy
Connectedness/intimacy	☆	☆	☆		☆
Immediacy	★				★
Social Rumination	★				
Negative affect	★	★	★	★	

Positive relationship: ★ = $r \leq 0.1$, ★ = $r > 0.1$

Negative relationship: ☆ = $r \leq 0.1$, ☆ = $r > 0.1$

Results

The PCA resulted in the extraction of four social-cognitive components: 1) Connectedness/Intimacy (socially connected language); 2) Immediacy (self-focused, present-tense, action-orientated language); 3) Social Rumination (past-tense, non-positive language); 4) Negative Affect (negative emotive and angry language). The model accounted for 25.6% of variance.

Correlation analyses revealed that BPD features significantly correlated negatively with Connectedness/Intimacy and positively with Immediacy, Social Rumination, and Negative Affect. The positive association with Social Rumination was specific to BPD.

Discussion

Our findings revealed four core social-cognitive components related to BPD in intuitive ways. Several components were associated with more general problematic interpersonal traits, while others were more specific to BPD.

As Social Rumination was revealed to be exclusively related to BPD, this component may distinguish interpersonal dysfunction in BPD from other problematic traits.

This study highlights the value of natural language analysis to break down and better understand fundamental dimensions of personality disorder.

Limitations of the study include a lack of a clinical sample and the use of self-report measures of problematic personality constructs, which are subject to various biases.