Journal of Affective Disorders 150 (2013) 481–489

Contents lists available at ScienceDirect

Journal of Affective Disorders

journal homepage: www.elsevier.com/locate/jad

Research report

Affective temperaments and ego defense mechanisms associated with somatic symptom severity in a large sample

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ARTICLE INFO

Article history:
Received 17 February 2013
Accepted 26 April 2013
Available online 23 May 2013

Keywords:
Web-based research
Web survey
Temperament
Defense mechanisms
Somatization
Personality

ABSTRACT

Background: Several complex mechanisms including biological, psychological and social factors may contribute to the development of bodily symptoms. Affective temperaments may represent heritable subclinical manifestations of mood disorders, and the concept of ego defense mechanisms has also provided a model for the comprehension of psychopathology. The relationship between affective temperaments, defensive functioning and somatic symptom severity remains unknown.
Methods: We obtained data from a subsample of the Brazilian Internet Study on Temperament and Psychopathology (BRAINSTEP). Participants completed the Affective and Emotional Temperament Composite Scale (AFECTS), the Defense Style Questionnaire (DSQ-40) and the Symptom Checklist-90-Revised (SCL-90-R). SCL-90-R Somatization scale was used as outcome variable.
Results: Among 9937 participants (4472 male; 45%), individuals with dysphoric, cyclothymic and depressive temperaments and those who adopted displacement, somatisation and passive aggression as their predominant defense mechanisms presented high somatic symptom severity. Participants with dysphoric temperament and those with higher displacement scores were more likely to endorse numerous bodily symptoms after controlling for age, gender, education and depressive symptoms. Moderator analysis showed that the relationship of dysphoric temperament with somatic symptom severity was much more powerful in people who adopted displacement as their predominant defense.
Limitations: The data was collected from a convenience web-based sample. The study was cross-sectional. There was no information on the presence of established physical illness.
Conclusions: Affective temperaments and defense mechanisms are associated with somatic symptom severity independently of depressive symptoms. These two personality theories provide distinct but interacting views for comprehension of somatic symptom formation.

1. Introduction

Somatic symptoms are multiply determined and are common in everyday life, constituting the leading cause of outpatient medical visits (Kroenke, 2003; Dimsdale and Creed, 2009). Although somatic symptom severity is associated with the diagnosis of a somatoform disorder (Körber et al., 2011), this diagnostic concept has been challenged, mainly because it requires the presence of persistent multiple "medically unexplained" symptoms (American Psychiatric Association, 1994), a criterion that has been criticized because it is rather restrictive, dualistic in concept, and may raise questions regarding an undetected somatic disease (Ladwig et al., 2010; Creed et al., 2010). Therefore, field researchers have been arguing for the necessity to consider "bodily symptoms in their own right" (Kroenke et al., 2007; Sharpe et al., 2006) and not just as manifestations of either bodily pathology or psychopathologies (Ladwig et al., 2010). Recent research proposes a biopsychosocial approach, which encompasses the interaction of physiological, psychological and social factors in understanding

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http://dx.doi.org/10.1016/j.jad.2013.04.043

the origins and presentation of widespread somatic complains (Hauser et al., 2009; Tanaka et al., 2011; Creed et al., 2012). Accordingly, the DSM-V workgroup had advocated the concept of "somatic symptom disorder", which considers the patient's difficulty to tolerate physical discomfort and to cope adaptively with bodily symptoms as hallmarks of this new diagnostic category (Dimsdale and Creed, 2009).

Several complex mechanisms may contribute to the emergence of widespread bodily symptoms. For instance, history of child abuse, lower education, general medical conditions, anxiety and depression have been indicated as risk factors for persistent multiple somatic symptoms in population-based cohort studies (Gureje and Simon, 1999; Creed and Barsky, 2004; Leiknes et al., 2007; Creed et al., 2012). Our knowledge, however, about the psychopathogenesis of multiple somatic symptoms remains incomplete (Creed et al., 2011) and if a high total somatic symptom count is to be considered an independent dimension of psychopathology, it is necessary to demonstrate additional factors associated with this phenomenon (Creed et al., 2012), including personality dimensions. Among the personality variables studied, neuroticism was independently associated with self-reported somatic symptoms in large community samples (Rosmalen et al., 2007; Neeleman et al., 2004).

Akiskal and collaborators (Akiskal et al., 2005a, 2005b) operationalized the concept of affective temperaments for use in research based on theoretical and clinical observations from the seminal works of Kraepelin (1921) and Kretschmer (1936). Recently, Lara et al. (2012a) extended the concept of affective temperaments to include 12 predominant types, namely euthymic, depressive, anxious, apathetic, obsessive, cyclothymic, dysphoric, irritable, volatile, disinhibited, hyperthymic and euphoric. Affective temperaments may be a genetically determined part of personality (Gonda et al., 2006; Rihmer et al., 2010) which influence the vulnerability to psychopathology, such as affective disorders (Akiskal and Akiskal, 2005). Therefore, affective temperaments may play a contributory role in the formation of somatic symptoms as well.

The concept of ego mechanisms of defense was first proposed by Sigmund Freud (1914) and further developed by his daughter Anna Freud (Freud, 1986) and others (for a review see Cramer, 1991). These personality constructs are defined as "automatic psychological processes that protect the individual against anxiety and from the awareness of internal or external dangers or stressors" (American Psychiatric Association, 1994). It has been argued that no mental status or clinical examination should be considered complete without an effort to identify the patient's predominant defenses (Vaillant, 1992), and in selected instances, a return to the Freudian defense mechanisms is also warranted (Sartorius et al., 1990). The classical psychoanalytic perspective posits that somatic symptoms result from a shifting or *displacement* of psychic energy from the cathexis of mental processes to that of somatic innervations to express in a distorted way the derivatives of repressed forbidden impulses (Fox, 1959). According to the self-psychology perspective, bodily symptoms occur as a consequence of defensive operations to ward off affect when affective arousal triggers the psychological threat of fragmentation (Rodin, 1991). These theoretically sound assumptions have not been empirically confirmed by means of validated measures (i.e., through quantitative research) in large samples.

Table 1
Socio-demographic characteristics of the sample ($N=9937$).

Number of participants	9937
Age (mean ± SD)/(median)	32.67 ± 10.87/30
Gender (*N*, %)	
Male	4472 (45.0%)
Female	5465 (55.0%)
Education (*N*, %)	
Incomplete elementary school	81 (.8%)
Complete elementary school	289 (2.9%)
High school degree	4365 (43.9%)
University degree	3013 (30.3%)
Post-grad degree	2189 (22.0%)
Race (*N*, %)	
Caucasian	7513 (75.6%)
African American	383 (3.9%)
Mulatto[a]	1733 (17.4%)
Asian	145 (1.5%)
Other	163 (1.6%)
Marital status (*N*, %)	
Single	3125 (31.4%)
Married/Stable union	5901 (59.4%)
Widowed	552 (5.6%)
Other	359 (3.6%)
Religion (*N*, %)	
Catholic	3916 (39.4%)
Evangelical (Protestant)	1370 (13.8%)
Spiritist	1404 (14.1%)
Other	741 (7.0%)
Without religion	2549 (25.7%)
Occupation (*N*, %)	
Employed or self-employed (independent contractor)	6163 (62.0%)
Student	2210 (22.2%)
Unemployed	916 (9.2%)
Housewife/Househusband	308 (3.1%)
Under financial aid for disease (government)	75 (.8%)
Retired	265 (2.6%)
Gross monthly income (in US dollars) (mean SD/median)	1491.6 ± 2236.5/857.1

[a] Refers to an ethnic group of mixed white and black ancestry.