Research report

The relationship between affective temperaments, defensive styles and depressive symptoms in a large sample

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ABSTRACT

Background: Affective temperaments may represent heritable subclinical manifestations of mood disorders. The concept of ego defense mechanisms also has provided a model for the comprehension of mood psychopathology. The relationships between affective temperaments, defense styles and depressive symptoms remain unknown.
Methods: We obtained data from a subsample of the Brazilian Internet Study on Temperament and Psychopathology (BRAINSTEP). Socio-demographic information was collected and 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).
Results: Among 9937 participants (4472 male; 45%), individuals with hyperthymic or euthymic temperaments were more likely to present a mature defense style, whereas an immature defensive style was predominantly observed in individuals with cyclothymic, volatile, depressive, dysphoric, euphoric and disinhibited temperaments. Higher immature and lower mature defense style scores were independently associated with depressive symptoms. Participants with either euthymic or hyperthymic temperaments were less likely to endorse depressive symptoms. Euthymic and hyperthymic temperaments moderated the correlations of mature/immature defenses with depressive symptoms.
Limitations: The data was collected from a convenience web-based sample. The study was cross-sectional.
Conclusions: Affective temperaments are associated with distinct defense styles. These two personality theories provide distinct but interacting views for comprehension of depressive psychopathology.

1. Introduction

More than 90 years ago, the seminal work of Kraepelin (1921) first recognized four basic affective dispositions (depressive, manic, cyclothymic and irritable), which he believed to be subclinical forms and frequently the precursors of major affective psychoses. He thought that these affective predispositions had their roots in adolescence (Kraepelin, 1921). The modern concept of affective temperaments as operationalized in research by

Akiskal and coworkers (Akiskal et al., 2005a,b), were based primarily in the work of Kraepelin (1921) and Kretschmer (1936) and was derived from both theoretical and clinical observations. Recently, Lara et al. (2012a) proposed a system-based integrative approach in which temperament is conceived as a self-regulated system with seven emotional dimensions: volition, desire, anger, inhibition, sensitivity, coping and control. Different combinations of these six emotional dimensions result in 12 temperament types, namely depressive, anxious, apathetic, obsessive, cyclothymic, dysphoric, irritable, volatile, disinhibited, hyperthymic, and euphoric (Lara et al., 2012a). Affective temperaments may be a genetically determined part of personality (Gonda et al., 2006; Rihmer et al., 2010), being relatively stable during lifetime (Kawamura et al., 2010), and being a nucleus for

affective disorders (Akiskal and Akiskal, 2005). Predominant affective temperaments are associated with depressive symptoms in the general population (Lazary et al., 2009).

Ego mechanisms of defense are considered important determinants of an individual response to stressors. This psychoanalysis-driven personality construct was first formulated by Freud (1914) and further developed by Freud (1986). Defense mechanisms 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 formulation should be considered complete without an effort to identify the patient's dominant defense mechanisms (Vaillant, 1992), and in selected instances, a return to the Freudian defense mechanisms is also warranted (Sartorius et al., 1990). In confirming this stance, defenses were included in the DSM-IV (American Psychiatric Association, 1994) among the axes suggested for further study (Soldz and Vaillant, 1998; Perry et al., 1998). Vaillant (1992) proposed a consensus in which ego defense mechanisms: (1) are relatively unconscious, (2) often form the building blocks of psychopathology, (3) in the service of healing they often affect creative mental synthesis, and (4) repress, deny, and distort internal and external reality and thus often appear *odd* or irrational to observers. Moreover, Vaillant's view is that all individuals use defenses in a stable manner over time, although, with development, people may change from using immature to neurotic to mature styles (Vaillant, 1992). Previous data shows that the use of mature defenses predicts better physical and mental health over many years (Vaillant, 1971). While measuring unconscious intrapsychic phenomena is a significant challenge, Bond has developed the defense style questionnaire (DSQ) based on the premise that an individual, from time to time, becomes aware of the conscious derivative of the unconscious defense mechanisms and can, therefore, rate themselves accordingly (Bond and Vaillant, 1986). In addition, Bond et al. (1983) stated that although "it would be impossible to conclude anything about isolated defense mechanisms, we hoped that we could approximate the measure of groups of defense mechanisms that we call defense styles". Thus, having its roots in the hierarchical model of Vaillant (1977) based on an immaturity-maturity continuum, the DSQ assesses groups of defenses, called defense styles, which could be arranged according to Vaillant's continuum. Therefore, in this work we studied defense styles (and not individual defense mechanisms) as measured with the DSQ-40 (Andrews et al., 1993). A recent meta-analysis indicated that individuals with major depressive disorder have a defensive profile with lower scores in the mature defense style and higher scores in the immature and neurotic styles when compared to controls (Calati et al., 2010).

For many years, there have been controversies in psychiatry based on differing models for understanding human psychopathology. These clashes of models or paradigms have partly occurred because of divergent assumptions about etiologic factors in psychopathology, and also, because of conflicts in terminology and an inability to translate the language of one paradigm into the language of another paradigm (Mulder et al., 1996). To our knowledge no study has systematically investigated the relationships between affective temperaments and defense styles. Possibly, individuals with different affective temperaments vary in the level of maturity of their defenses. These interactions may have implications for the psychopathological formation of depressive symptoms.

Therefore, the present study was designed to address two specific research questions. First, we aimed to study how affective temperaments relate to defense styles in a large web-based sample derived from the Brazilian Internet Study on Temperament and Psychopathology (BRAINSTEP) (Lara et al., 2012b).

Second, we aimed to search if affective temperaments moderate the correlations of defense styles and depressive symptoms.

2. Methods

2.1. Sample

The sample consisted of 9937 consecutive subjects from the Brazilian Internet Study on Temperament and Psychopathology (BRAINSTEP) (Lara et al., 2012b). Participants mean age was 32.67 (S.D.=10.87) years and 5465 (55.0%) were female. Most participants were married (59.4%), caucasian (75.6%) and currently employed (62.0%). Regarding education, most participants had at least a high school degree (96.2%). Other socio-demographic characteristics are summarized in Table 1.

Briefly, this study is an anonymous and confidential web-based survey in which participants fill personal information in two phases in a non-commercial, advertisement-free website (www.temperamento.com.br). This study has two phases: a psychological step and a psychiatric step in which subject fill various measures which are sent via a secure and encrypted connection and stored behind a firewall (see Lara et al., 2012b for details). A number of validation questions throughout the protocol ensure the quality of the data. Importantly, this sample consists of participants who had provided reliable responses to the validation and attention questions throughout the study protocol.

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

Number of participants	9937
Age (mean ± S.D.)	32.67 ± 10.87
Gender (N, %)	
Male	4472 (45.0%)
Female	5465 (55.0%)
Education (N, %)	
Incomplete elementary school	81 (0.8%)
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%)
Divorced	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 (0.8%)
Retired	265 (2.6%)
Gross monthly income (in US dollars) (mean ± SD)	1491.6 ± 2236.5

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