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Research report

A three-year longitudinal study of affective temperaments and risk for psychopathology

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ABSTRACT

Background: Affective temperaments are presumed to underlie bipolar psychopathology. The TEMPS-A has been widely used to assess affective temperaments in clinical and non-clinical samples. Cross-sectional research supports the association of affective temperaments and mood psychopathology; however, longitudinal research examining risk for the development of bipolar disorders is lacking. The present study examined the predictive validity of affective temperaments, using the TEMPS-A, at a three-year follow-up assessment.

Methods: The study interviewed 112 participants (77% of the original sample) at a three-year follow-up of 145 non-clinically ascertained young adults psychometrically at-risk for bipolar disorders, who previously took part in a cross-sectional examination of affective temperaments and mood psychopathology.

Results: At the reassessment, 29 participants (26%) met criteria for bipolar spectrum disorders, including 13 participants who transitioned into disorders during the follow-up period (14% of the originally undiagnosed sample). Cyclothymic/irritable and hyperthymic temperaments predicted both total cases and new cases of bipolar spectrum disorders at the follow-up. Cyclothymic/irritable temperament was associated with more severe outcomes, including DSM-IV-TR bipolar disorders, bipolar spectrum psychopathology, major depressive episodes, and substance use disorders. Hyperthymic temperament was associated with bipolar spectrum psychopathology and hypomania, whereas dysthymic temperament was generally unassociated with psychopathology and impairment.

Limitations: The present sample of young adults is still young relative to the age of onset of mood psychopathology.

Conclusions: These results provide the first evidence of the predictive validity of affective temperaments regarding risk for the development of bipolar psychopathology. Affective temperaments provide a useful construct for understanding bipolar psychopathology.

1. Introduction

Traditional epidemiological studies estimate the prevalence of bipolar disorders to be approximately 1% of the population (Akiskal et al., 2000; Judd and Akiskal, 2003). Bipolar disorders are a leading public health concern that result in severe impairment, enormous health costs, and marked risk of premature death. Furthermore, bipolar disorders have a negative effect on psychosocial functioning resulting in increased interpersonal problems, legal issues, and homelessness (Judd et al., 2005). Bipolar disorders are also associated with increased substance use/abuse and premature death, most often due to suicide (Perroud et al., 2011). It is estimated that individuals with bipolar disorders have approximately double the mortality rate and a 10 times higher suicide rate in comparison to the general population (Ösby et al., 2001).

There appears to be a broader spectrum of bipolar psychopathology that is not captured by traditional categorical diagnoses. Recent research has provided support for understanding bipolar disorders across a continuum of bipolar spectrum psychopathology (Angst et al., 2003; Ghaemi et al., 2002; Walsh, 2012b). This spectrum of psychopathology incorporates subthreshold symptoms that can cause

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marked impairment in one's daily functioning. Current studies suggest that 4–5% of the general population may fall on this broader bipolar spectrum, which is markedly higher than traditional prevalence estimates (Akiskal et al., 2000).

There have been two approaches to considering a broader spectrum of bipolar psychopathology. The first has involved expanding the number of categorical diagnoses set forth by the diagnostic nomenclature. For example, building on the DSM-IV-TR (American Psychiatric Association, 2000), Akiskal (2004) proposed the addition of bipolar II ½, bipolar III, and bipolar IV disorders. Bipolar II ½ is characterized by major depressive episodes superimposed on cyclothymic temperament, whereas bipolar III involves repeated major depressive episodes in addition to hypomania occurring solely in association with use of antidepressant medications or other somatic treatment. Lastly, bipolar IV is characterized by major depression superimposed on hyperthymic temperament. Note that other authors have suggested six or more variations of bipolar disorders (Akiskal and Pinto, 1999; Klerman, 1987). These formulations expand the diagnosis of bipolar disorders; however, they are limited in that they still employ a categorical model that may not adequately capture the full spectrum of bipolar psychopathology or its dimensional characteristics.

The second approach to capturing bipolar psychopathology has involved the use of dimensional traits or temperaments. Building upon the framework established by Kraeplin (1899/1921), Akiskal and Mallya (1987) operationalized four affective temperaments that range from subclinical expressions to severe clinical impairment. These include cyclothymic, irritable, dysthymic, and hyperthymic temperaments. In contrast to categorical bipolar disorders, affective temperaments are continuous, trait-like expressions of affect that are believed to underlie mood psychopathology (Akiskal et al., 2005a). These temperaments tend to have an early onset, are enduring, and for some people are relatively non-impairing. However, affective temperaments also presumably convey risk for developing mood disorders.

Cyclothymic temperament is characterized by chronic cycling between high and low moods lasting a few days each (Akiskal et al., 2000). This biphasic shift in mood is also accompanied by other cyclical patterns including over-confidence alternating with shaky self-esteem, heightened creativity with mental discord, and people-seeking with introversion/social avoidance. Irritable temperament involves being ill-tempered, impulsive, and reactive to aversive events with negative affect. Irritable temperament is often associated with cyclothymic temperament as the two share considerable conceptual and empirical overlap. Akiskal et al. (1979) also suggested overlap between borderline personality and irritable temperament, as both involve rapid shifts in mood and erratic behavior.

Dysthymic temperament is operationalized as being consistently gloomy, pessimistic, self-critical, and derogatory of one's self, in conjunction with a preoccupation with failure and inadequacy in life. In addition, dysthymic temperament includes constant brooding and worrying, skepticism, and an overall indecisiveness (Akiskal et al., 2005a). Kraeplin (1899/1921) provided especially rich descriptions of patients with depressive temperament, describing them as "characterized by permanent gloomy emotional stress in all the experiences in life" (p. 119).

In contrast, hyperthymic temperament can involve adaptive characteristics including cheerfulness, increased energy, people-seeking, and interpersonal warmth. However, hyperthymic temperament also involves problematic features such as recklessness, overconfidence, over-involvement, along with grandiose thoughts and ideas (Akiskal et al., 2000). These maladaptive characteristics can be detrimental to daily functioning and lead to marked impairment in interpersonal relationships, health, and professional well-being (Akiskal et al., 2005a).

The Temperament Evaluation of Memphis, Pisa, Paris, and San Diego-Autoquestionnaire (TEMPS-A; Akiskal et al., 2005a) is a self-report measure designed to assess affective temperaments. Specifically, it assesses affective, cognitive, social, circadian, emotional, and psychomotor features of affective temperaments (Akiskal et al., 2005b). Akiskal et al. (2005a) examined the psychometric properties of the TEMPS-A in a clinical sample and reported test-retest reliability ranging from .58 to .70 over a 6 to 12-month period. Additionally, Cronbach's alpha coefficients ranged from .76 to .88. Numerous studies have validated the TEMPS-A as a measure of affective temperaments in both clinical (Di Florio et al., 2010; Evans et al., 2005; Mendlowicz et al., 2005) and nonclinical settings (Borkowska et al., 2010; Hinic et al., 2013; Rózsa et al., 2008; Signoretta et al., 2005).

Recent studies have provided evidence of the association of affective temperaments with mood psychopathology and impairment. Nilsson et al. (2012) examined affective temperaments and functional impairment in a clinical sample of bipolar patients over 24 months. Cyclothymic temperament was significantly associated with overall functional impairment, including dysfunction in home management, leisure activities, and social activities. These findings support the notion that affective temperaments are relatively stable and can cause impairment throughout and not exclusively during mood episodes.

Recent cross-sectional research has also indicated that affective temperaments are associated with distinct patterns of psychopathology and impairment. Walsh et al. (2012a) examined affective temperaments in a non-clinically ascertained sample of young adults at risk for bipolar psychopathology. Cyclothymic, irritable, and hyperthymic temperaments were associated with DSM-IV-TR bipolar disorders and broader bipolar spectrum disorders along with hypomania and major depressive episodes. Contrastingly, dysthymic temperament was generally unassociated with psychopathology and impairment. Specifically, cyclothymic/irritable temperament was associated with more deleterious outcomes such as DSM-IV-TR bipolar disorders, broader bipolar spectrum disorders, and impaired functioning. Hyperthymic temperament was associated with broader bipolar spectrum disorders and hypomania, yet was positively associated with psychosocial functioning suggesting that it may possess some adaptive qualities. These results offer evidence for cyclothymic/irritable and hyperthymic temperaments conveying risk for bipolar spectrum psychopathology. However, to our knowledge there have not been any longitudinal studies examining risk for bipolar psychopathology in non-clinically identified samples.

1.1. Goals and hypotheses

The present study examined the association of affective temperaments with bipolar psychopathology and impairment in a three-year follow-up assessment of the sample initially reported in Walsh et al. (2012a) and Walsh et al. (2013). This was the first study to our knowledge to examine longitudinal associations of hyperthymic, dysthymic, cyclothymic, and irritable temperaments with psychopathology and impairment in a non-clinically ascertained sample of young adults. Specifically, it was hypothesized that cyclothymic and irritable temperament would be associated with DSM-IV-TR bipolar disorders, bipolar spectrum disorders, unipolar depression, borderline personality disorder symptoms, impaired functioning, and substance use/abuse. Hyperthymic temperament was expected to be positively associated with DSM-IV-TR bipolar disorders, bipolar spectrum disorders, history of hypomania, and psychosocial functioning. Finally, dysthymic temperament was hypothesized to be positively associated with unipolar depression and impaired psychosocial functioning.