Personality and Individual Differences 83 (2015) 249–254

Contents lists available at ScienceDirect

Personality and Individual Differences

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

Dampening and brooding jointly link temperament with depressive symptoms: A prospective study

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ARTICLE INFO

Article history:
Received 24 February 2015
Received in revised form 10 April 2015
Accepted 12 April 2015
Available online 4 May 2015

Keywords:
Positive affectivity
Negative affectivity
Depressive symptoms
Dampening
Brooding

ABSTRACT

Integrated affective-cognitive models of depression suggest that the effects of trait temperament (low positive affectivity (PA) and high negative affectivity (NA)) on depressive symptoms may be mediated by maladaptive cognitive strategies. Research and theory suggest that the effect of NA on depression is mediated by brooding and the effect of PA on depression is mediated by dampening. Despite correlations among these constructs, no studies have examined joint contributions of PA, NA, brooding, and dampening on depression. The present study examined the effects of NA and PA on prospective increases in depressive symptoms, and whether effects were mediated by brooding and dampening. Hypotheses were tested in an eight-week study of 333 young adults; depressive symptoms were assessed at weeks one and eight. Participants reported their use of dampening and brooding in response to ideographically identified weekly events in weeks two through seven. Results suggest that the effect of PA on increases in depressive symptoms was mediated by use of dampening and the effect of NA on increases in depressive symptoms was mediated by use of both brooding and dampening. Future research should consider temperament traits and cognitive strategies jointly to understand the development and maintenance of depression.

1. Introduction

Depression is a significant mental health concern, especially in adolescence and young adulthood when depression increases significantly (Hankin & Abramson, 2001). Research suggests that between 11% and 16% of young adults will experience a major depressive episode by age 25 (Blazer, Kessler, McGonagle, & Swartz, 1994; Shanahan, Copeland, Costello, & Angold, 2011). Studies also suggest that subthreshold symptoms are important to examine due to their association with impaired current and future functioning. Depressive symptoms in adolescence and young adulthood increase risk for suicidality (Andrews & Lewinsohn, 1992), substance use (Lewinsohn, Solomon, Seeley, & Zeiss, 2000), difficulties with everyday functioning and academic performance (Gotlib, Lewinsohn, & Seeley, 1995; Rothon et al., 2008), and later depressive episodes (Bardone, Moffitt, Caspi, Dickson, & Silva, 1996). Understanding factors influencing the development of depressive symptoms in young adults is important for the development of effective depression prevention and intervention methods.

Depression is an affective disorder characterized by high amounts of negative emotion (depressed mood) and low amounts of positive emotion (anhedonia; American Psychological Association, 2013). Affective models of depression have posited that the temperamental traits of high negative affectivity (NA) and low positive affectivity (PA) are associated with depression (Clark & Watson, 1991). Integrated affective-cognitive models of depression have suggested that the effects of temperament on depression may be mediated by use of maladaptive cognitive strategies in response to life events, with brooding, perseverative attention on NA and negative events, mediating the effect of high trait NA on depression and dampening, directing of attention away from PA and positive events, mediating the effect of low trait PA on depression. While research and theory support both affective-cognitive pathways to depression distinctly, no research has examined the combined contributions of NA and PA, brooding, and dampening on increases in depressive symptoms.

1.1. Temperament as a risk factor for depressive symptoms

Research indicates that temperament, one's pattern of emotional, behavioral, and attentional experience and reaction to the world (Rothbart, 2007), is a vulnerability factor for psychopathology in general and for depression specifically (Compas, Connor-Smith,

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http://dx.doi.org/10.1016/j.paid.2015.04.025
0191-8869/

& Jaser, 2004; Muris & Ollendick, 2005). One component of temperament, trait NA, has been heavily implicated in the development of depressive symptoms. NA is described as individual trait tendency to experience more frequent, intense, and prolonged negative emotions and to demonstrate sensitivity to novel or aversive cues (Rothbart & Bates, 2006; Belsky, Hsieh, & Crnic, 1996). Studies have found a strong association between trait NA and internalizing and externalizing disorders, (Rothbart & Bates, 2006) and specifically depressive symptoms (Lengua, West, & Sandler, 1998; Mineka, Watson, & Clark, 1998; Clark & Watson, 1991). In adolescent samples, research has found that trait NA predicts depressive symptoms across the following 8 weeks (Mezulis & Rudolph, 2012), 5 months later (Verstraeten, Vasey, Raes, & Bijttebier, 2009) and 12 months later (Wetter & Hankin, 2009). In a study of young adults, Loh, Schutte, and Thorsteinsson (2014) found that high NA predicted greater depressive symptoms over 3 months. Parrish, Cohen, and Laurenceau (2011) found that while NA reactivity (one aspect of trait NA) predicted depressive symptoms 2 months later, depressive symptoms did not predict NA reactivity 2 months later, supporting the hypothesis that NA is an affective vulnerability established before and affecting later depressive symptoms.

Recently, research has begun to examine the relationship between trait PA and depression. PA is another component of temperament described as the individual tendency to experience more frequent, intense, and prolonged positive emotions and to demonstrate sensitivity to positive cues (Rothbart & Bates, 2006). Low trait PA is uniquely associated with depression above and beyond the effects of high trait NA (Clark & Watson, 1991; Feldman, Joormann, & Johnson, 2008). Research has found that trait PA prospectively predicts depressive symptoms 1 year later in an adolescent sample (Verstraeten et al., 2009) and 3 months later in a young adult sample (Loh et al., 2014). While studies often consider the effect of one temperament trait while controlling for the other, or the interactive effects of temperament (Vasey, Harbaugh, Lonigan, et al., 2013; Vasey, Harbaugh, Mikolich, Firestone, & Bijttebier, 2013), less research has considered these temperament traits jointly for additive effects. More research is needed to understand joint effects of PA and NA on depression and mechanisms driving the relationship between these temperament traits and depressive symptoms.

1.2. Cognitive strategies may mediate effects of temperament on depressive symptoms

Affective-cognitive theories of depression suggest that the effects of temperament on depression may be mediated by deployment of maladaptive cognitive strategies (Gotlib & Joormann, 2010). Research on depression suggests that cognitive strategies for responding to emotions in the face of life events may influence the effects those emotional responses have on the development of depressive symptoms (Feldman et al., 2008; Gentzler, Kerns, & Keener, 2010; Johnson, McKenzie, & McMurrich, 2008). Rumination, a well-established cognitive strategy, is a pattern of repetitive focus on negative emotions, thoughts, or life events (Nolen-Hoeksema, 1991; Mezulis, Abramson, & Hyde, 2002) and has been found to predict the onset and maintenance of depression (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). Brooding, the more maladaptive component of rumination, is the passive focus on negative emotions, thoughts, and events without engagement in problem-solving to alleviate negative emotions (Treynor, Gonzalez, & Nolen-Hoeksema, 2003). Research shows that brooding mediates the relationship between NA and depression (Arger, Sanchez, Simonson, & Mezulis, 2012; Burwell & Shirk, 2007; Schoofs, Hermans, & Raes, 2010). While often studied as a trait measure, one study has found that when controlling for trait rumination and concurrent depressive symptoms, state rumination in response to weekly negative events predicted increases in depressive symptoms the following week (Mezulis & Rudolph, 2012). Brooding on negative life events has been examined as a cognitive pathway for NA only thus far. However, brooding on negative life events may also represent a cognitive response that reduces positive emotions in the moment through distraction or fault finding (Quoidbach, Berry, Hansenne, & Mikolajczak, 2010).

One maladaptive cognitive strategy which may mediate the relationship between PA and depression is dampening, which is the tendency to distract or redirect attention away from positive emotion in order to reduce it (Quoidbach et al., 2010). Individuals may dampen positive emotions for a variety reasons, including to remain consistent with their self-image or attribution style or if they believe they do not deserve to experience the positive emotion (Hayden, Klein, Durbin, & Olino, 2006; Wood, Heimpel, & Michela, 2003). Dampening has been shown to reduce state PA and predict greater depressive symptoms (Raes, Daems, Feldman, Johnson, & Van Gucht, 2009; Werner-Seidler, Banks, Dunn, & Moulds, 2013). While research has not yet found that trait PA predicts dampening, theory suggests that trait PA may predict state PA through cognitive responses that predict state PA (Fredrickson, 2004). Dampening has also been found to correlate with brooding (Johnson et al., 2008), suggesting that dampening may also be associated with NA. Raes, Smets, Nelis, and Schoofs (2012) examined brooding and dampening as mechanisms predicting depressive symptoms 3 and 5 months later. They found that greater dampening of positive emotions at time 1 predicted greater depressive symptoms after controlling for depressive symptoms and brooding at time 1. Also, the significant association between brooding and depressive symptoms fell away when controlling for dampening, suggesting that dampening is an important cognitive strategy to consider in the development and maintenance of depressive symptoms. This study also highlighted the importance of jointly considering cognitive strategies for regulating positive and negative emotions.

1.3. The current study

Little research has examined the joint contributions of temperament and cognitive strategies in the outcome of depressive symptoms. The current study aimed to investigate the role of temperament factors (NA and PA) and cognitive strategies (brooding and dampening) in predicting depressive symptoms in young adults. We hypothesized that together high NA and low PA would be associated with increases in depressive symptoms prospectively. In addition, we expected high brooding in response to negative events and high dampening in response to positive events would be associated with prospective increases in depressive symptoms. Given previous studies and correlational analyses, we hypothesized that with all variables in the model, dampening and brooding would mediate the relationships between PA and depressive symptoms and NA and depressive symptoms.

2. Method

2.1. Participant characteristics

Participants were 333 (70% female) undergraduate students recruited from a liberal arts university in the Pacific Northwest. Participants were at least 18 years old, with a mean age of 19.09 years (SD = 2.10 years). Approximately 70.3% were Caucasian, 3.0% were African American, 15.6% were Asian, 0.6% were Native American, 5.4% were Hispanic/Latino, and 5.1% were otherwise identified.