



Prospective Associations Between Sleep Disturbance and Repetitive Negative Thinking: The Mediating Roles of Focusing and Shifting Attentional Control

Rebecca C. Cox

David A. Cole

Eliza L. Kramer

Bunmi O. Olatunji

Vanderbilt University

Although considerable evidence has linked sleep disturbance to symptoms of psychopathology, including repetitive negative thinking, few studies have examined how sleep disturbance may predict repetitive negative thinking over time. Further, no study to date has examined specific mechanisms that may account for this relationship. The present study sought to address these gaps in the literature by testing focusing and shifting attentional control as two potential mediators of the relationship between sleep disturbance and repetitive negative thinking over a 6-month period. A final sample of 445 unselected community participants completed measures of sleep disturbance and repetitive negative thinking at Time 1, measures of focusing and shifting attentional control 3 months later, and measures of repetitive negative thinking again 6 months later. Results revealed that focusing, but not shifting, attentional control mediated the relationship between sleep disturbance and repetitive negative thinking, specifically, worry, rumination, and obsessions. These findings provide preliminary evidence for focusing attentional control as a candidate mechanism that may explain the causal role of sleep disturbance in the development of repetitive negative thinking observed in various disorders.

Keywords: sleep; repetitive thinking; attentional control; anxiety

Address correspondence to Rebecca Cox, Department of Psychology, Vanderbilt University, 301 Wilson Hall, 111 21st Avenue South, Nashville, TN 37240; e-mail: rebecca.cox.1@vanderbilt.edu.

0005-7894/© 2017 Association for Behavioral and Cognitive Therapies. Published by Elsevier Ltd. All rights reserved.

SLEEP DISTURBANCE HAS RECENTLY BEEN PROPOSED as a transdiagnostic process that may contribute to multiple forms of psychopathology (Harvey, Murray, Chandler, & Soehner, 2011). Recent research has linked sleep disturbance to specific disorders, including mood (Pillai, Kalmbach, & Ciesla, 2011) and anxiety-related disorders (Cox & Olatunji, 2016), and there is strong evidence suggesting that sleep disturbance is linked to increased risk for suicidal ideation and suicide attempts (Pigeon, Pinquart, & Conner, 2012). The presence of sleep disturbance across diverse disorders is consistent with a transdiagnostic view, and understanding how sleep disturbance relates to other transdiagnostic processes may offer important insights into multiple forms of psychopathology. One such process is repetitive negative thinking, or thoughts that are recurrent and excessive, include negative content, and are perceived as difficult to control (Ehring & Watkins, 2008). For example, extant research indicates associations between sleep disturbance and rumination, or negative thought related to perceived threats to the self and/or negative past experiences (Trapnell & Campbell, 1999), in both unselected (Cox, Ebesutani, & Olatunji, 2016) and sleep-disordered samples (Carney, Harris, Moss, & Edinger, 2010) even when controlling for negative affect (Thomsen, Mehlsen, Christensen, & Zachariae, 2003). Further, rumination following a stressor is linked to poor sleep that night in unselected college student samples (Guastella & Moulds, 2007; Zoccola, Dickerson, & Lam, 2009), and daily rumination is linked to subsequent poor

sleep over 1 week in college students with elevated depression symptoms (Pillai, Steenburg, Ciesla, Roth, & Drake, 2014).

Research with sleep-disordered (O'Kearney & Pech, 2014) and healthy samples (Norell-Clarke, Jansson-Frojmark, Tillfors, Harvey, & Linton, 2014; Weise, Ong, Tesler, Kim, & Roth, 2013) has also linked sleep disturbance and worry, or repetitive thought about negative future events (Borkovec, Ray, & Stober, 1998). Although prospective research suggests that sleep disturbance predicts worry over 1 year among unselected adolescents (Danielsson, Harvey, MacDonald, Jansson-Frojmark, & Linton, 2013) and that poor sleep predicts increased worry the next day in those with generalized anxiety disorder (GAD; Thielsch et al., 2015), one study of daily sleep and worry in a high-worry sample found no evidence for an effect of sleep disturbance on subsequent worry (McGowan, Behar, & Luhmann, 2016). Unlike worry, obsessions have not traditionally been considered a variant of repetitive negative thought (Ehring & Watkins, 2008). However, the intrusive, repetitive, and distressing nature of obsessions (Julien, O'Connor, & Aardema, 2007) may share similar functions with other forms of repetitive negative thinking (Ehring & Watkins, 2008). Recent evidence suggests that sleep disturbance is uniquely associated with unacceptable thoughts, but not contamination, washing, or symmetry symptoms of obsessive-compulsive disorder (OCD) in unselected community participants (Raines et al., 2015). Similarly, insomnia is linked to obsessions, but not compulsions, even when controlling for symptoms of depression in unselected college students (Timpano, Carbonella, Bernert, & Schmidt, 2014).

Despite evidence linking sleep disturbance and repetitive negative thinking, a notable limitation of the extant research is the relative lack of studies assessing the relationship between sleep disturbance and repetitive negative thinking over time. Although a small body of work has examined the prospective link between sleep disturbance and worry (Danielsson et al., 2013; McGowan et al., 2016; Thielsch et al., 2015), these studies have yielded mixed results. Further, no study to date has examined the links between sleep disturbance and rumination or obsessions over time. Another important limitation of the available literature is the question of mechanism—that is, if sleep disturbance contributes to repetitive negative thinking over time, by what intermediate processes does sleep disturbance have this effect? One candidate mechanism is attentional control. Attentional control involves the ability to flexibly direct attention and consists of two factors: focusing attention in the face of distractors and shifting attention between tasks or competing

demands (Olafsson et al., 2011). Considerable research has delineated the negative effects of sleep loss on attention (Van Dongen, Maislin, Mullington, & Dinges, 2003), and this effect is found for both total sleep deprivation (Drummond, Gillin, & Brown, 2001) and partial sleep restriction (Sadeh, Dan, & Bar-Haim, 2011). A recent study also found that subjective sleep disturbance is correlated with decreased attentional control (Cox et al., 2016).

Deficits in attentional control are also linked to repetitive negative thinking. In healthy samples, decreased cognitive control is linked to anxiety-related processes, including worry and anxious arousal (Vasey, Chriki, & Toh, 2017), and decreased attentional control is associated with increased rumination (Cox et al., 2016; Macatee et al., 2016), worry (Cox et al., 2016), and obsessions (Macatee et al., 2016). Similar relationships are found in clinical populations characterized by repetitive negative thinking (Armstrong, Zald, & Olatunji, 2011; Bardeen, Fergus, & Orcutt, 2015; Hsu et al., 2015). However, limited research has examined the differential links between focusing and shifting attentional control and repetitive negative thinking, and the extant findings are mixed. A recent study found that focusing attentional control, but not shifting attentional control, accounted for the prospective effect of repetitive negative thinking on symptoms of psychopathology (Mills et al., 2016). Another study found that decreased focusing attentional control was associated with rumination, but not worry or obsessions, and there were no differential links between focusing and shifting attentional control and repetitive negative thinking among those with GAD or OCD (Armstrong et al., 2011). Thus, additional research is necessary to clarify the relationships between focusing and shifting attentional control and repetitive negative thinking.

The present study sought to examine the prospective effects of sleep disturbance on attentional control and repetitive negative thinking over a 6-month period. The present investigation also examined the unique roles of focusing and shifting attentional control as potential mechanisms in the relationship between sleep disturbance and repetitive negative thinking. It was hypothesized that focusing and shifting attentional control at 3 months would together mediate the respective relationships between sleep disturbance at baseline and rumination, worry, and obsessions assessed 6 months later. Given the mixed findings on the unique roles of focusing and shifting attention, exploratory analyses were conducted to assess whether one form of attentional control would

Download English Version:

<https://daneshyari.com/en/article/7261682>

Download Persian Version:

<https://daneshyari.com/article/7261682>

[Daneshyari.com](https://daneshyari.com)