



Mindfulness predicts sleep-related self-regulation and well-being

Andrew J. Howell^{*}, Nancy L. Digdon, Karen Buro

Department of Psychology, Grant MacEwan University, P.O. Box 1796, Edmonton, Alberta, Canada T5J 2P2

ARTICLE INFO

Article history:

Received 17 August 2009
Received in revised form 26 October 2009
Accepted 3 November 2009
Available online 5 December 2009

Keywords:

Mindfulness
Sleep
Self-regulation
Well-being

ABSTRACT

Based upon a model of mindfulness and its relationship to self-regulation and well-being, the current study examined relations among mindfulness, a broad range of measures related to self-regulation of sleep, and a comprehensive measure of emotional, psychological, and social well-being. On data from undergraduate students ($N = 334$), mindfulness predicted well-being both directly and indirectly through its association with self-regulation of sleep, as hypothesized. Results are considered in terms of possible mechanisms underlying these associations and the nature of the self-regulation of sleep.

© 2009 Elsevier Ltd. All rights reserved.

1. Introduction

“Your relationship to sleep is a very fruitful object of mindfulness” (Kabat-Zinn, 1990, p. 367)

While much research has examined sleep dysfunction and its psychological consequences or correlates, associations between sleep and positive psychological functioning have only recently begun to garner attention. For example, Wood, Joseph, Lloyd, and Atkins (2009) showed that gratitude and positive pre-sleep cognitions were associated with greater subjective sleep quality and duration, faster sleep latency, and reduced daytime dysfunction. The current study contributes to the emerging literature on sleep and adaptive aspects of psychological functioning by examining relations between sleep, mindfulness, and well-being.

1.1. Mindfulness and sleep

Mindfulness is “the tendency to be highly aware of one’s internal and external experiences in the context of an accepting, non-judgmental stance toward those experiences” (Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008, p. 205). Mindfulness may be conducive to adaptive sleep-related functioning. First, theoretical arguments have directly implicated heightened mindfulness in reducing sleep dysfunction. Lundh (2005) identified two processes which interact to interfere with sleep: arousal-producing processes such as pre-sleep worry and cognitive-distorting

processes such as dysfunctional beliefs about sleep. Lundh further argued that sleep may be improved by decreasing cognitive regulation over sleep and by cultivating acceptance of the physical and mental experiences that precede sleep onset. Second, outcome studies suggest that mindfulness-based psychological treatments improve sleep functioning (Winbush, Gross, & Kreitzer, 2007), and do so in part by reducing arousal-producing and cognitive-distorting processes (Ong, Shapiro, & Manber, 2008; Yook et al., 2008). Finally, correlational studies reveal that higher dispositional mindfulness is associated with reduced daytime sleepiness (Ong, Shapiro, & Manber, 2009) and improved sleep quality (Howell, Digdon, Buro, & Sheptycki, 2008).

1.2. Well-being and sleep

Keyes (2005) conceptualized well-being as comprising three realms: emotional well-being, emphasizing the presence of positive affect and life satisfaction; psychological well-being, emphasizing satisfaction with one’s achievements and viewing oneself as having a purpose in life and growing as an individual; and social well-being, emphasizing the quality of one’s orientation toward others. Emotional well-being is associated with longer sleep duration (Bardwell, Berry, Ancoli-Israel, & Dimsdale, 1999; Fulgini & Hardway, 2006), earlier sleep onset (Totterdell, Reynolds, Parkinson, & Briner, 1994), greater sleep efficiency (Gray & Watson, 2002), and fewer sleep problems (Hamilton, Gallagher et al., 2007; Steptoe, O’Donnell, Marmot, & Wardle, 2008). Psychological well-being is correlated with longer sleep duration and increased rapid eye movement sleep (Hamilton, Nelson, Stevens, & Kitzman, 2007; Ryff, Singer, & Love, 2004), as well as fewer sleep problems (Hamilton, Gallagher et al., 2007; Steptoe et al., 2008). All three

^{*} Corresponding author. Address: Department of Psychology, Grant MacEwan University, P.O. Box 1796, Edmonton, Alberta, Canada T5J 2P2. Tel.: +1 780 497 5329; fax: +1 780 497 5308.

E-mail address: howella@macewan.ca (A.J. Howell).

types of well-being are associated with better sleep quality (Gray & Watson, 2002; Howell et al., 2008; Norlander, Johansson, & Bood, 2005).

1.3. Conceptualizing relationships among mindfulness, sleep, and well-being

Theorists have argued that mindfulness, in addition to being a direct predictor of well-being, is an indirect predictor of well-being through its influence on improved self-regulated functioning (Brown & Ryan, 2003; Brown, Ryan, & Creswell, 2007b; Shapiro & Schwartz, 1999, 2000). The direct association between mindfulness and well-being is said to result from the richness of sensory experience engendered by mindfulness (Brown et al., 2007b); consistent with this, associations have been demonstrated between mindfulness and aspects of emotional, psychological, and social well-being (e.g., Brown & Ryan, 2003; Howell et al., 2008). Brown and colleagues (Brown & Ryan, 2003; Brown et al., 2007b) also argued that mindfulness fosters well-being indirectly by sensitizing individuals to bodily cues related to intrinsic needs, allowing people to better regulate themselves toward meeting those needs and, as a result, to experience greater well-being. According to Brown and Ryan (2003), mindfulness induces “an enhancement of self-regulated functioning that comes with ongoing attentional sensitivity to psychological, somatic, and environmental cues” (p. 220). In a similar vein, Shapiro and Schwartz (1999, 2000) argued that attending to bodily processes in a mindful manner is conducive to healthy self-regulation of behaviour and ultimately to well-being. This conceptual framework can be extended to the domain of sleep-related functioning: Consistent with arguments made by Lundh (2005), being mindful may foster greater self-regulation of sleep (i.e., greater awareness and acceptance of the bodily need for sleep, and of ongoing sleep-related thoughts, feelings, and behaviours); this in turn may foster greater well-being. In an initial test of this conceptual model, Howell et al. (2008) employed path analysis to show that the prediction of well-being by mindfulness was mediated, in part, through improved sleep quality.

1.4. The current study

In the current study, we included a broad range of sleep measures that address arousal-producing processes (e.g., pre-sleep arousal), cognitive-distorting ones (e.g., dysfunctional beliefs about sleep), or both (e.g., sleep effort and sleep hygiene), as well as indicators of overall sleep-related functioning (e.g., sleep quality and daytime sleepiness). We hypothesized that mindfulness would predict both well-being and sleep-related functioning, and that sleep-related functioning would predict well-being. Further, we hypothesized that, when examining all associations simultaneously, support would emerge for the model positing a direct association between mindfulness and well-being and an indirect one, mediated by self-regulation in the sleep domain.

2. Method

2.1. Participants

Participants were 334 introductory psychology students at a Canadian undergraduate university. Females comprised 66% of the sample, and 85% of participants identified Canada as their country of birth. The average age of participants was 20.89 ($SD = 4.98$), and 90% were younger than 25. First- and second-year students comprised 59% and 30% of the sample, respectively.

2.2. Measures

2.2.1. Mindfulness

The Mindful Attention Awareness Scale (Brown & Ryan, 2003) employs 15 items, each rated on a 6-point scale, to assess the extent to which an individual is aware of and attends to current experiences. An overall score is derived by summing across the items, with higher scores denoting greater mindfulness. Brown and Ryan established the internal consistency of the measure ($\alpha = 0.82$), its test–retest reliability ($r = 0.81$), and its convergent and discriminative validity with other measures.

2.2.2. Sleep quality

The Sleep Quality Scale (Yi, Shin, & Shin, 2006) is a 28-item subjective measure of sleep quality during the past month. Items are rated using a 4-point scale, and items that describe good sleep quality are reverse-scored before being added to the rest of the items to yield the overall sleep quality score. Higher overall scores mean poorer sleep quality. The scale has good internal consistency (Cronbach's $\alpha = 0.92$) and test–retest reliability over a 2-week interval ($r = 0.81$; Yi et al., 2006). Overall scores discriminate those with insomnia from normal sleepers (Yi et al., 2006).

2.2.3. Sleep effort

The Glasgow Sleep Effort Scale (Broomfield & Espie, 2005) is a 7-item measure of need for control over sleep, performance anxiety about sleep, and trying too hard to sleep. Items are rated on 4-point scales, and the overall score is the sum of the item scores; higher scores indicate greater sleep effort, which is maladaptive. The measure has adequate internal consistency (Cronbach's $\alpha = 0.77$) and validity: poor sleepers score higher than do good sleepers (Broomfield & Espie, 2005).

2.2.4. Pre-sleep arousal

The Pre-sleep Arousal Scale (Nicassio, Mendlowitz, Fussell, & Petras, 1985) has 16 items, each rated on a 5-point scale, that describe symptoms of arousal at bedtime. Eight items refer to somatic arousal and eight to cognitive arousal. The somatic and the cognitive scales are internally consistent (Cronbach's $\alpha = 0.79$ and 0.88, respectively) and stable over three weeks ($r = 0.76$ and 0.72, respectively; Nicassio et al., 1985). Scores on both subscales are associated with subjective reports of poor sleep, longer sleep onset latency, reduced total sleep time, more awakenings from sleep, and listlessness during the day (Nicassio et al., 1985). Given that subscale scores correlate significantly with each other (Nicassio et al., 1985), and reflecting our preference for parsimony, we summed item scores to yield an overall score, with higher scores denoting greater pre-sleep arousal.

2.2.5. Sleep hygiene

The Sleep Hygiene Index (Mastin, Bryson, & Corwyn, 2006) has 13 items that describe practices that disrupt sleep. Each item is rated on a 5-point scale, the overall score is the sum of the item scores, and higher scores mean poorer sleep hygiene. The scale has relatively low internal consistency (Cronbach's $\alpha = 0.66$), but the overall score has good test–retest reliability over a five week interval (Mastin et al., 2006). Mastin et al. reported that higher total scores are associated with poorer sleep quality and increased daytime sleepiness.

2.2.6. Daytime sleepiness

The Epworth Sleepiness Scale (Johns, 1991) comprises eight questions, each rated on a 3-point scale, about the likelihood of dozing in different situations. Responses are summed, with higher scores indicating greater sleepiness. Johns (1992) reported a Cronbach's α of 0.73 and a test–retest correlation of 0.82. Johns (1991)

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات