



## Sleep problems and sleep hygiene in young adults with alexithymia

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### ABSTRACT

The present study examined the relationship between alexithymia and self-reported sleep problems and the influence of sleep hygiene on sleep problems. The 20-item Toronto Alexithymia Scale and the Sleep Problems Inventory were administered to a non-clinical sample of 2045 young adults. Alexithymic individuals ( $N = 228$ ) scored significantly higher than non-alexithymic individuals ( $N = 228$ ) on sleep symptoms associated with insomnia, excessive sleepiness, sleepwalking, and nightmares. These differences could not be attributed to poor sleep hygiene behaviours or differences in general mood. The association between alexithymia and sleep disorder symptoms may reflect either the presence of subjective sleep problems or a preoccupation with sleep-related symptomatology.

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### 1. Introduction

The personality construct of alexithymia includes the following salient features: difficulty identifying and describing feelings, difficulty distinguishing between feelings and the bodily sensations of emotional arousal, constricted imagination, and an externally oriented cognitive style (Taylor, Bagby, & Parker, 1997). The core features of the alexithymia construct are thought to reflect a deficit in the cognitive processing and regulation of emotions, thereby contributing to the development of several common medical and psychiatric disorders (Lumley, Neely, & Burger, 2007).

Impairments in emotional processes like fantasy and daydreaming have led a number of alexithymia researchers to explore the link with sleep and the dreaming process (Ouellet, Nielsen, Cartier, & Montplaisir, 1994; Parker, Bauermann, & Smith, 2000; Tantan, Kalucy, & Brown, 1982). Dreaming is involved in emotional processing, the consolidation of memory, and other cognitive functions (Levin, 1990). Interruptions in the dream process can be experienced as nightmares, which reflect a failure to contain, integrate, and symbolize intense unregulated emotions. Nightmares occur commonly in post-traumatic states and in states of pathological dissociation (Agargun et al., 2003), which have both been linked with alexithymia (Grabe, Rainermann, Spitzer, Gänssicke, & Freyberger, 2000).

There are other reasons to explore the link between sleep and alexithymia. As noted earlier, alexithymia has been linked with the development of a number of common medical and psychiatric disorders (Lumley et al., 2007). Sleep problems have also been

linked with a broad range of physical and mental health issues (Fava, 2004). Insomnia, for example, is seen in anxiety and mood disorders, substance use disorders, and is related to a decreased functioning of the immune system (Savard, Laroche, Simard, Ivers, & Morin, 2003). There is evidence that some of these conditions are associated with alexithymia (Guilbaud, Corcos, Hjalmarsson, Loas, & Jeamet, 2003; Taylor et al., 1997). To date, however, only a small number of studies have examined the link between alexithymia and other sleep problems.

The studies that used nocturnal polysomnography to objectively assess the sleep of individuals with alexithymia have provided inconsistent findings. An early investigation collected sleep data from six alexithymic patients suffering from itching due to skin disorders (Tantam et al., 1982) and reported that the patients had less REM sleep and less time in slow-wave sleep (Stages 3 and 4) than the controls. Reduced slow-wave sleep was also noted in alexithymic undergraduates (Bauermann, Parker, & Smith, 1999) and adults, controlling for age, gender and depressive symptoms (Bazydlo, Lumley, & Roehrs, 2001). Alexithymia was also related to more frequent REM periods and more Stage 1 sleep during and immediately following REM sleep, but was unrelated to the total amount of REM sleep (Bazydlo et al., 2001). Ouellet et al. (1994) found no significant differences in the number of REM periods, percentage of REM sleep, and mean REM efficiency between alexithymic and non-alexithymic asthmatic women. Bauermann et al. (1999) compared one night of sleep data from small groups of alexithymic and non-alexithymic young adults and found no differences in total sleep time, percentage of REM sleep, and percentage of Stages 1 and 2. In a similar study with healthy young men, De Gennaro et al. (2002) found no relationships between alexithymia scores and polysomnographic sleep variables during the

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second of two consecutive nights in a sleep laboratory. Taken together, the nocturnal polysomnography studies are suggestive of sleep disturbances in alexithymia, however, methodological limitations should be noted: small samples, participants with co-morbid medical conditions that may contribute to or exacerbate sleep problems, and single night studies which may be confounded because sleepers need to adapt on the first night to sleeping in a laboratory.

Discerning the nature of the relationship between alexithymia and sleep problems is further complicated by the discrepancy between subjective self-reports of sleep variables and objective polysomnographic measures (Morin, 2000). For example, some people complain of insomnia but show no objective evidence of poor sleep; others show objective evidence of poor sleep but do not complain about it (Morin, 2000). Indeed, some researchers have deemphasized the use of nocturnal polysomnography to verify insomnia, and suggest focusing more attention on subjective complaints and any associated emotional or psychological disturbances (Rosa & Bonnet, 2000).

To date, most studies using self-reports have focused on insomnia symptoms and suggest an association between alexithymia and poor quality sleep. For example, in a study with a community sample in Finland, alexithymic features were related to self-reported insomnia symptoms, specifically long sleep latency, and frequent awakenings during the night (Hyypä, Lindholm, Kronholm, & Lehtinen, 1990). In a self-report study of Japanese working men, participants with high levels of alexithymia reported more non-restorative sleep, more frequent awakenings, and more daytime sleepiness than participants with lower degrees of alexithymia (Fukunishi et al., 1997). However, non-restorative sleep and daytime sleepiness may have been accounted for by a mood disturbance, as both were significantly associated with scores on depression and confusion scales.

De Gennaro et al. (2003) conducted a dream study in which alexithymic and non-alexithymic young women were asked to record their dreams and also complete a sleep diary with subjective estimates of various sleep variables (e.g., sleep latency, number of awakenings, and total sleep time). These researchers found no differences in sleep estimates, but reported a non-significant tendency for the alexithymic group to have longer sleep latency and more time awake during the night than the non-alexithymic group. Although De Gennaro et al. (2003) argued these findings support clinical reports that alexithymic individuals have poor sleep quality and poor dream recall, their study was limited by an absence of male participants and lack of quality control over the sleep diaries. Furthermore, the group differences on the sleep variables were not statistically significant, and a more stringent level of significance should have been used to account for their multiple analyses.

De Gennaro, Martina, Curcio, and Ferrara (2004) examined the association between alexithymia and self-reported sleep symptoms and depression in a large sample ( $N = 554$ ) of university students. Sleep symptoms were assessed using the Pittsburgh Sleep Quality Index (PSQI), a measure that assesses a variety of sleep-related variables, including subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbances, use of medications, and daytime dysfunction. Depression was assessed using the 20-item Center for Epidemiological Studies of Depression (CES-D) Scale; alexithymia was measured using the Toronto Alexithymia Scale (TAS-20). These researchers reported that TAS-20 scores were significantly correlated with the sleep quality, sleep latency, sleep duration, sleep disturbance and daytime dysfunction dimensions of the PSQI, but these associations disappeared when depression scores were partialled out. De Gennaro et al. (2004) concluded that depression was mediating the relationship between alexithymia and sleep complaints. However, there are important methodological issues that should be noted. For example, the CES-D contains items

that assess sleep problems and thematically overlap with the PSQI items (and the researchers neglected to report the correlation between these two scales). Furthermore, 87% of the participants were women. Since there are gender difference in depression and sleep problems (see Armitage, 2007 for a review), future research is warranted before accepting the view that depression is responsible for the association between sleep problems and alexithymia.

The purpose of the present study was to further examine the relationship between alexithymia and self-reported sleep problems in a large, non-clinical sample of young adults.

We expanded on the existing literature that has focused primarily on insomnia symptoms by using a more comprehensive measure that assesses sleep symptoms of insomnia, excessive sleepiness, sleepwalking, and nightmares. We also examined the influence of sleep hygiene (i.e., behaviours and lifestyle choices that are known to result in sleep disturbances) on the relationship between alexithymia and self-reported sleep problems.

## 2. Method

### 2.1. Participants

The sample consisted of 2045 young adults (441 men and 1604 women) attending a moderately sized university in central Ontario. The mean age of the participants was 20.06 years ( $SD = 3.93$ ). From this large sample, 11% of participants (61 men and 167 women) were identified as alexithymic on the basis of cut-off scores on the TAS-20. From the remaining pool of non-alexithymic participants, 228 were randomly matched with the alexithymic participants on the basis of age and gender. The mean age for the matched groups was 19.74 years ( $SD = 3.15$ ). For ethnicity, 88% of the participants identified themselves as “White”, 6% as “Asian”, 1% as “Black”, 1% as “Native/Aboriginal”, and 4% identified themselves as “Other” ethnic background.

### 2.2. Measures and procedure

Undergraduate students attending several psychology courses were asked to complete the measures used in the study at the end of regularly scheduled classes. Alexithymia was assessed using the 20-item *Toronto Alexithymia Scale* (TAS-20), which has acceptable reliability and validity and is the most widely used measure of this construct (Bagby, Parker, & Taylor, 1994). Participants respond with respect to how much they agree with statements on 5-point Likert scales. The TAS-20 has three factor scales: difficulty identifying feelings (seven items), difficulty describing feelings (five items), and externally oriented thinking (eight items). Total scores range from 20 to 100; a score of  $>60$  is considered within the alexithymic range and a score of  $<52$  is considered within the non-alexithymic range.

Participants also completed the *Sleep Problems Inventory* (SPI; Bauermann, 2001; Bauermann, Parker, & Smith, 2000; Bauermann et al., 2002). The SPI has four subscales that assess symptoms of: insomnia (eight items), nightmares (seven items), sleepwalking (seven items), and excessive sleepiness (eight items). The SPI also has two scales that assess sleep hygiene behaviours: a substance abuse scale (seven items) and a disrupted routines scale (seven items). The factor structure of the SPI has been replicated in large samples of undergraduate university students, older adults, and sleep disorder patients (Bauermann, Parker, Smith, & Wood, submitted for publication; Bauermann et al., 2000, 2002). The authors report that the SPI has moderate to high test-retest reliability, and preliminary validation has been provided by moderate to high agreement on sleep disorder items from cohabiting couples (Bauermann et al., submitted for publication).

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