Original Article

Attachment styles and sleep measures in a community-based sample of older adults

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ABSTRACT

Background: Measures of attachment style are often used to appraise social and emotional health. In developmental literature, the concept of attachment is used to explain relationships between children and their adult caregivers. While both attachment styles and sleep patterns are conceived as developmentally organized systems, very few studies have explored the link between the two. The present study examined whether attachment styles and sleep measures are associated among older adults.
Methods: Relationships between attachment styles (i.e., secure, fearful, preoccupied, and dismissive) and subjective sleep measures were assessed utilizing data from 70 older participants (mean age: 68 ± 6 years; Blacks: 59% and Whites: 41%) in a community-based study assessing subjective health characteristics. After obtaining informed consent, each participant provided demographic and socioeconomic data, as well as relevant medical and subjective data.
Results: Independent of participants' demographic and subjective factors, significant correlations were found between the preoccupied attachment dimension and sleep measures. Specifically, individuals scoring high on the preoccupied attachment dimension were more likely to report daytime napping ($r_p = 0.31$, $p < 0.01$) and to use sleep-inducing medications ($r_p = 0.37$, $p < 0.05$). No significant correlations were found among sleep measures and the secure, dismissive, and fearful dimensions.
Conclusions: Important relations have been observed between specific attachment styles and subjective sleep factors in our data. Although only one-dimension (preoccupied) demonstrated statistical significance, a trend was observed, suggesting possible associations between the secure attachment style dimension and subjective sleep measures. Future studies are needed to broaden our understanding of the relationship between attachment styles and sleep patterns.

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1. Introduction

Little is known about the relationships between attachment styles and sleep patterns, although both are conceived as developmentally organized systems that develop around the end of the first year of life [1]. Zborowski and McNamara [2] suggest that rapid eye movement (REM), a physiologic manifestation reflective of the dreaming state, is related to attachment styles by selectively activating the biobehavioral systems necessary to promote and maintain attachment between the young and the caregiver. Despite such findings, no in-depth studies have been conducted to further delineate the nature of the relationships between attachment and sleep, particularly in an older sample.

John Bowlby first introduced the concept of attachment, which was initially used to explain the formation of social bonds between infants and their caregivers [3], and the long-term affect this bond had on personality and psychopathology [4]. The concept of attachment has since seen several variations and applications to differing age groups [4–7]. For the purposes of this study, we utilized Bartholomew's variation of the attachment theory. It was Bartholomew et al. [4,8] who developed the four-category/working model, two-dimensional adaptation of the attachment theory. One dimension is the model of self (positive vs. negative) and the other is the model of others (positive vs. negative) [4]. The four working models are designated as secure, preoccupied, dismissive, and fearful. Individuals are categorized as securely attached if they exhibit a positive outlook towards themselves and others [4,8]. Preoccupied individuals have a negative outlook of self and a positive outlook of others [4,8]. Dismissive individuals have a positive

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outlook of self and a negative outlook of others [4,8]. Fearful individuals have a negative outlook of self and others [4,8].

Review of the extant literature suggests a complex interaction between negative emotions (e.g., anxious and depressed emotions) and sleep disturbances in adulthood [9,10]. For instance, volunteers suffering from insomnia or psychiatric patients who show poor sleep quality often go through periods of rumination and exhibit depressive traits [11,12]. Indeed, pre-sleep worries, a concept similar to rumination, constitute the main reason why individuals with insomnia are unable to fall asleep [13]. Interestingly, rumination and depressive traits are often observed among individuals who are classified as having a preoccupied or fearful attachment [14]. Yet another study showed that fears and emotional stress have also been linked to sleep disturbances among adolescents [15].

Consistent with the observation that individuals with different personality types exhibit differential sleep patterns, one might expect that persons with varying attachment styles might also show differential sleep patterns and be more or less likely to report sleep complaints. The current study sought to investigate the relations between attachment styles and sleep patterns, using subjective sleep measures, in a community-based sample of older adults. Specifically, we hypothesized that individuals who are categorized as secure and dismissive would be less likely to report less sleep problems than those who are classified as preoccupied or fearful.

2. Methods

Participants in this study consisted of 70 individuals ranging in age from 60 to 85 years (mean age: 68.3 ± 6.0). Fifty-nine percent of the participants were African Americans and 41% were European Americans. Seventy-three percent of the participants were women. Data for the present analysis came from a multifactorial study investigating relations of depressed mood, attachment styles, sleep, ambient illumination, and ophthalmic diseases. Details of the study have been published previously along with data on associations of ambient illumination with mood and ophthalmic diseases [16]. Here, we report data on relationships between subjective sleep measures and attachment styles.

Physical health was assessed with the Comprehensive Assessment and Referral Evaluation [17]. This scale has been used extensively in investigations involving older individuals in minority populations. The questionnaire has shown good construct validity [18] as well as concurrent and predictive validity [19]. The questionnaire incorporates 85 questions subdivided into numerous subscales. In this analysis, five of these subscales were utilized: vision, respiratory disease, diabetes, sleep disorder, and hypertension (Cronbach α = 0.80, 0.86, 0.82, 0.92, and 0.91, respectively). Except for the sleep disorder subscale, which was used in inferential statistics, these scales were used mainly to describe the medical characteristics of the participants. In our analysis, we did not use the composite sleep disorder scale. Rather, we analyzed four specific questions: "Do you depend on sleep medicine?"; "Do you have difficulty falling asleep?"; "Do you wake up often during the night?"; and "Do you sleep during the day?". Participants were also asked to estimate their habitual sleep duration and rated their health status on a 5-point Likert scale, with 1 denoting "poor" and 5 as "excellent."

Sleep quality was assessed with the Pittsburgh Sleep Quality Index (PSQI) [20]. The PSQI consists of 19 questions, categorized into seven components: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medications, and daytime dysfunction. Each question, reflecting sleep perception during the past month, is rated on a scale of 0–3. Scores from each of the seven components are summed to achieve a global score. A global score of five or more is equated with "poor sleepers." Scores ranged from 0 to 21. According to a

previous study, this scale has shown an acceptable internal reliability coefficient (Cronbach α = 0.77) [21]. Using a cut-off point of 5.5 in the global score, sensitivity and specificity estimates were, respectively, 85.7% and 86.6% for primary insomnia, 80.0% and 86.6% for major depression, 83.3% and 86.6% for generalized anxiety disorder, and 83.3% and 86.6% for schizophrenia.

Attachment styles were measured utilizing the Relationship Style Questionnaire [8]. This scale consists of a 30-question, four-subscale model: secure, preoccupied, dismissive, and fearful. In the present study, α values for these subscales were: 0.54, 0.51, 0.53, and 0.59, respectively. Participants were asked to indicate the extent to which each of the 30, first-person, statements describes their feelings about past and present close relationships. A 5-point Likert scale, ranging from 1 = never to 5 = very often, was used to code responses to each statement. An individual's principal style is derived by tabulating the mean score for each of the four subscales. The subscale with the highest score is then determined to be the individual's attachment style. Some individuals may score equally in more than one subscale and are therefore classified as having more than one attachment style.

Depression was assessed with the Geriatric Depression Scale (GDS) [22]. The GDS comprises five main factors described as sad mood, lack of energy, positive mood, agitation, and social withdrawal. According to a study that examined depressed moods among adults ($\geqslant$60 years old) attending primary-care clinics, the GDS had a sensitivity of 100% and a specificity of 84% in screening for major depression, using a cut-off score of 10 [23]. By contrast, the original psychometric study, which used a cut-off score of 11, found a sensitivity of 81% and a specificity of 61% for major depression (DSMIII-R) [24].

2.1. Statistical analysis

All acquired data were merged into SPSS 10.0 for final analyses. These included sociodemographic, medical, sleep, mood, and attachment data. Distributions were checked for normality before final analyses were performed. Frequency and measures of central tendency were used to describe the sample. Analysis of variance was used to examine ethnic effects on demographic and subjective data. To assess associations between attachment styles (i.e., secure, preoccupied, dismissive, and fearful) and sleep measures (i.e., sleep duration, sleep latency, sleep quality, daytime napping, difficulty initiating sleep, difficulty maintaining sleep, and sleep medicine), partial correlations were used. In these analytic procedures, effects of the covariates: ethnicity, age, sex, BMI, education, marital status, income, and depression were adjusted.

3. Results

Descriptive analysis indicated that 85% of the volunteers reported being in good to excellent health, although 30% had a respiratory condition, 48% hypertension, 42% sleep problems, 47% vision problems, and 17% diabetes. Fifty-three percent reported social drinking, and 7% were current smokers. Approximately 50% of the participants obtained a High-School diploma. The median household income of the sample was $10,000. Thirty-three percent of the participants were either married or living with a partner; the other participants were divorced, separated, widowed, or single.

As volunteers were recruited from two distinct ethnic groupings, we compared the sample characteristics based on ethnicity (see Table 1). Analysis of variance showed that African Americans in the study differed significantly from European Americans with regard to age, BMI, and subjective sleep duration. However, they were not significantly different regarding reported depression scores, overall attachment style scores, or sleep quality. Among African Americans, 76% were female and 24% were male; among