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Short Report

The Relationship between Type A/B Behavior and Sleep Habits in Undergraduate Students

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Abstract

The present study examined the relationships between Type A/B behaviors and sleep habits, and morningness-eveningness types. Undergraduate students (35 males, 125 females) responded to three questionnaires: the KG's (Kwansei Gakuin University) Daily Life Questionnaire, the Japanese version of Morningness-Eveningness Questionnaire (ME) and the Sleep Habits Questionnaire. The results showed that there was no significant correlation between Type A score and sleep habits (sleep duration, wake-up time and bedtime), and that there was also no significant correlation between Type A score and ME score. However, two weak correlations were found between two subscales and sleep habits. HT (hard driving-time urgency) score was negatively correlated with the habitual sleep duration, and SP (speed-power) score was positively correlated with wake-up time. Thus it might be that substructures of Type A behavior are associated with sleep habits.

Type A behavior pattern is closely associated with coronary heart disease. In the late 1950s, two cardiologists[1] reported that the majority of their coronary heart disease patients showed a set of behavioral characteristics that they labeled Type A behavior pattern.

Clinical and epidemiological studies[1)2)] have demonstrated prospectively and retrospectively that Type A pattern is associated with at least twice the incidence of coronary heart disease compared to the noncoronary-

prone pattern called Type B. The Type A pattern has been characterized by extremes of impatience, aggressiveness and hostility, competitiveness, and time related urgency that are evoked by a variety of environmental situations.

Recently some studies[3)~13)] revealed the relationship between Type A/B behavior and sleep behaviors. For example, Hicks et al.[4)] examined the relationship between Type A behavior and habitual sleep duration in college students. The results indicated a significant inverse relationship between Type A behavior and habitual sleep duration: the shorter the duration of sleep, the greater the level of Type A behavior. However, the authors' study[14)] did not replicate the finding. Hicks et al.[5)] also compared scores of Type A behavior in habitual variable sleepers with short sleepers and long sleepers. The results revealed that the habitual variable sleeper had the higher level of Type A behavior than the other two groups.

Davis et al.[15)] reported that Type A behavior was significantly associated with morningness type, but Koulack & Nesca[10)] could not replicate the relationship between Type A behavior and morningness-eveningness (M-E) types. There is no agreement about this relationship.

The purpose of this study is to examine the relationships between Type A behavior and sleep habits (habitual sleep duration, wake-up time and bedtime), and M-E behavior.

Method

Subjects

The participants were 160 undergraduate students (35 males, 125 females) from a course in developmental psychology at the Kawasaki University of Medical Welfare. The mean age was 19.7 years. Prior to receiving a set of questionnaires to them, students were informed about the purpose of the survey, which was to determine the effect of daily habits and behavior on their sleep.

Questionnaires

Subjects completed three questionnaires: the KG's Daily Life[16)], the Japanese version of Morningness-Eveningness (M-E)[17)] and Sleep Habits. KG's Daily Life Questionnaire was used to measure Type A/B characteristics. It consisted of 55 items, and was scored on a three-point scale (Yes, ?, No). The scores totaled to a final score (Type A score). Additionally, the questionnaire had three subscales: aggression-hostility (AH) scale, hard driving-time urgency (HT) and speed-power (SP). Scores of each subscale were calculated. The Japanese version of Morningness-Eveningness Questionnaire was translated from the Horne and Ostberg's[18)] Morningness-Eveningness Questionnaire. It consisted of 19 self-rating items with a maximum possible score of 86. Scores from all items for each subscale were totaled to a final score (ME score). To assess normal habitual sleep behaviors, a self-reported questionnaire was used. This included questions about sleep habits, parasomnia, eating habits etc.

Procedures

Testing was performed during regular class sessions. All subjects were informed about the purpose of the study which was to determine the characteristics of sleep behaviors in undergraduate students. Each questionnaire was self-administered and took approximately 30 minutes.

Results and Discussion

There was no significant gender difference in the Type A scores. Therefore, data of males and females were combined on the following analysis.

The Person's product-moment coefficients were calculated between Type A score and sleep habits (habitual sleep duration, wake-up time and bedtime). The results showed no correlations between Type A score and sleep habit. Data did not confirm the findings from the previous studies[4)5)6)10)13)] that examined the relationship between Type A behavior and sleep duration which showed that subjects sleeping fewer hours had a higher Type A score than those sleeping more hours. However, two weak correlations were found between two subscales and sleep habits. HT (hard driving-time urgency) score was negatively correlated with the habitual sleep duration ($r = -0.26$, $p < .05$), and the SP (speed-power) score was positively correlated with wake-up time ($r = 0.23$, $p < .05$). The results indicate that persons having more hard-driving and time related urgency may sleep less, and that those having more speed-power may awaken earlier. Thus, it might be that substructures of Type A behavior are associated with sleep habits.

Also, no significant correlation was found between Type A and ME scores. Davis et al.[15)] reported that Type A behavior was significantly related to M-E types. They found Type A persons were likely to be morningness type. However, Koulack & Nesca[10)] found no significant relationships between Type A behavior and M-E types. This result was consistent with our study. The previous finding that Type A persons sleep fewer than Type B persons may be consistent with a picture of Type A persons being self-driven. As Friedman & Rosenman[1)] have indicated, competitiveness is a characteristic of Type A persons and they may be significantly associated with morningness type. However, this study and Koulack & Nesca's prior study did not confirm the finding.

In Japan, little attention has been paid to the relationships between Type A/B behaviors and sleep behaviors. Additional studies are needed to clarify the relationship for the mental and physical health of students.

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