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Effect of Duration and Quality of Sleep on College Student Health Behaviours and Outcomes

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Lack of sleep among college students is a significant epidemic affecting millions of students. Sleep duration and quality is an important determinant of overall health, related to health behaviors (physical activity (PA) and diet) and outcomes (mental health). Little is known about the relationships between each of these variables. **PURPOSE:** To examine how PA depression, stress, body mass index (BMI), fruit and vegetable consumption (FVC) differ based on sleep quality and duration. **METHODS:** Students completed an online survey and self-reported their sex, height, weight, PA levels, FVC, and also responded to questions regarding mental health and sleep. Participants were grouped into those who reported less <4 or ≥ 4 nights of restful sleep/week. Paired samples t-tests examined differences in PA, FVC, and BMI between groups. Chi-square tests for independence examined differences in mental health (depression and stress) symptoms between groups. **RESULTS:** Among participants ($n=3675$) the majority were women (57.9%) and non-Hispanic white (77.3%). For all participants, those who reported better sleep reported significantly higher MPA (150.4 ± 138.4 vs. 164.4 ± 140.8 , $p = .002$), VPA (146.0 ± 144.8 vs. 161.0 ± 144.9 , $p = .002$), and MET-minutes (1873 ± 1740 vs. 2047 ± 1685 , $p = .002$), whereas BMI (22.6 ± 5.4 vs 22.7 ± 4.9 , $p = .59$) and FVC (5.7 ± 2.2 vs. 5.8 ± 2.2 , $p = .13$) did not differ between groups. The same health behaviours differed based on sleep among women, but not men. Those who reported better sleep also reported significantly less symptoms of depression and stress regardless of sex ($p < .001$). **CONCLUSION:** A positive relationship between sleep and PA was found for women, but not men, and better sleep was associated with positive mental health regardless of sex. Thus, findings highlight the importance of promoting the importance sleep in the relation to mental health. Further research is required to examine the relationship, in particular directionality, between the amount PA and the duration of sleep in college students.