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Correlations Between Remote Learning and Undergraduate Sleep and Exercise Habits

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The COVID-19 pandemic caused a pivot to primarily remote learning for students. Lack of travel to and from class, increased demands with online learning, and other lockdown-related challenges are likely to negatively influence behaviors such as physical activity (PA) and sleep quality (SQ) in college students – a population already at high-risk for insufficient PA and poor SQ. **PURPOSE**: To examine PA, SQ, and the relationship between these behaviors during a semester of remote learning in college students. **METHODS**: Undergraduate students were invited to complete an online survey on demographics, as well as validated questionnaires on PA and SQ. The Global Physical Activity Questionnaire (GPAQ) was used to determine recreational moderate-to-vigorous PA (MVPA; min/week) in a typical week. The Pittsburgh Sleep Quality Index (PSQI) was used to determine SQ over the past month; scores range from 0-21 (higher scores=worse sleep), and a cut-point >5 is validated for distinguishing "poor" (vs. "good") sleepers. All data was obtained during a remote semester (Fall 2020). **RESULTS**: 33 participants (19.2±1.1 years, 73% female, 46% freshmen) completed the surveys, with 79% and 21% classified as full-time remote and "hybrid," respectively. Participants reported 52±86 min/week of MVPA and a mean PSQI score of 7.9±4.0, with 61% of participants classified as inactive (0 min/week MVPA) and 67% classified as poor sleepers. While there was no correlation between MVPA and PSQI score, PSQI score was significantly, positively correlated with grade level ($r=0.40$, $p=0.02$), such that a higher grade level was associated with poorer sleep quality. When stratified by activity level, associations between grade level and PSQI strengthened for those who were inactive ($r=0.55$, $p=0.01$) and were nonsignificant for those who engaged in MVPA ($r=0.20$, $p=0.58$). **CONCLUSIONS**: During a remote semester, poor SQ and physical inactivity are highly prevalent in college students. Future studies should examine if poor sleep and physical inactivity are exacerbated during remote vs. traditional semesters. Additionally, more research is needed to determine if increasing PA represents a means for ameliorating the apparent decline in SQ that is associated with increasing grade level, particularly for those engaging in primarily remote learning.

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