








ORIGINAL ARTICLE



Was there a significant difference in sleep shifts in the high school population due to the COVID-19 pandemic depending on chronotype? A nationwide cross-sectional study

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ABSTRACT

The aim of this study was to detect whether the COVID-19 pandemic has caused changes in the sleep cycle (subjective sleep shifts) of high school students divided into a sample of young women – W ($n = 1999$, age = 17.65 ± 2.39 y) and young men – M ($n = 1094$, age = 17.49 ± 1.74 y) in Slovakia depending on circadian preference in comparison with the term before COVID-19. The present cross-sectional study employed a self-reported standardized questionnaire (Morningness-Eveningness Questionnaire) to study circadian preference, which was complemented by a question focused on subjective sleep shifts before and during the pandemic. The results revealed significant strong dependence between circadian preference and subjective sleep shift in both W ($\chi^2_{(8)} = 153.1$, $p < .01$, Cramer's $V = .20$, $p < .01$) and M ($\chi^2_{(8)} = 98.3$, $p < .01$, Cramer's $V = .21$, $p < .01$). The delay of the sleep cycle has mainly become apparent in the case of definite evening types (W: 75.7%; M: 71.8%) and moderate evening types (W: 83.1%; M: 70.3%). The delay also prevailed in the intermediate types (W: 61.9%; M: 53.8%). Subjective sleep shifts were not confirmed (W: 93.8%; M: 35.3%) in the definite morning type. The sleep cycle was changed to earlier hours of definite morning types (W: 6.3%; M: 52.9%). It is necessary to focus on definite and moderate evening types and regulate the unsuitable state to time shift of the sleep cycle.

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