

SUPPLEMENTAL MATERIAL

Title:

Sex Moderates Relationships Among School Night Sleep Duration, Social Jetlag, and Depressive Symptoms in Adolescents

Authors

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METHODS

Statistical Analyses

In addition to analyses with social jetlag treated as a continuous predictor (Models 1, 2, and 3; see main manuscript text), we conducted analyses using categories of social jetlag to test the possibility of a non-linear relationship between social jetlag and depressive symptoms. Models 7, 8, and 9 were identical to Models 1, 2, and 3, respectively, except with social jetlag categorized as and low (\leq two hours), moderate ($>$ two hours and \leq four hours), or high ($>$ four hours) within each model (Levandovski et al., 2011). Model 7 included the following predictors: sex, TST School and its interaction with sex, and categories of social jetlag and their interactions with sex. Models 8 and 9 tested the associations of TST School and categories of social jetlag with depressive symptoms separately within females and males, respectively.

RESULTS

Between-Sex Associations of TST School and Categories of Social Jetlag with Depressive Symptoms Score

The full model including both sexes (Model 7) investigated the associations of TST School (TST on school nights), social jetlag categories, and their sex interactions with depressive symptoms score and explained 5.9% of the variance in depressive symptoms. The mean depressive symptoms score for social jetlag categories for females was as follows: low (\leq two hours; $n = 502$): $M = .59$, $SD = .60$; moderate ($>$ two and \leq four hours; $n = 763$): $M = .66$, $SD = .62$; high ($>$ four hours; $n = 214$): $M = .83$, $SD = .71$. The mean depressive symptoms score for

social jetlag categories for males was as follows: low (≤ 2 hours; $n = 503$): $M = .53$, $SD = .58$; moderate (> 2 and ≤ 4 hours; $n = 845$): $M = .51$, $SD = .54$; high (> 4 hours; $n = 232$): $M = .57$, $SD = .55$. Model 7 in both sexes indicated a significant interaction between TST school and sex ($b = .07$, $\Delta R^2 = .010$, $p < .001$) and between social jetlag categories and sex ($b = -.19$, $\Delta R^2 = .007$, $p = .005$) on depressive symptoms score.

Post-hoc analyses were conducted to investigate the associations of TST School and social jetlag categories with depressive symptoms within each sex separately. Model 8 (in females only) explained 7.2% of the variance in depressive symptoms score and indicated that TST School was negatively associated with depressive symptoms score ($b = -.08$, $\Delta R^2 = .026$, $p < .001$). Furthermore, females with high social jetlag expressed significantly higher depressive symptoms than females with low ($b = .20$, $\Delta R^2 = .013$, $p < .001$) or moderate ($b = .16$, $\Delta R^2 = .016$, $p < .001$) social jetlag; there was no difference in depressive symptoms between females with low and moderate social jetlag. Model 9 (in males only) explained 3.2% of the variance in depressive symptoms score and indicated that neither TST school nor social jetlag categories were associated with depressive symptoms.