



Poor sleep quality in adolescence might contribute to poor psychological functioning

By Dr. Jessica Edwards

Sleep problems affect up to 25% adolescents¹ and have frequently been associated with psychopathology². While these findings suggest that sleep parameters might be targets for intervention,³ the reported associations are not necessarily causal. Now, Marije Vermeulen and colleagues have investigated whether short and/or problematic sleep truly contributes to psychological functioning.

The researchers asked >12,800 monozygotic twins aged 13-20 years old to complete questionnaires on sleep and psychological functioning. They completed these questionnaires repeatedly, over a 2-year period. Based on their answers, the researchers could divide the cohort into two groups: twin pairs who were concordant or discordant for sleep duration and trouble sleeping. By harnessing this discordant monozygotic co-twin design, the researchers could rule out genetic and shared environmental influences in their analyses. Rather, they could focus solely on whether duration and/or quality of sleep contributed to internalizing problems, externalizing problems and subjective well-being in their cohort.

In cross-sectional analyses, Vermeulen et al. found associations between worse psychological functioning and both short sleep and problematic sleep. These associations seemed to be bi-directional. In longitudinal analyses, they found that an increase in sleep problems experienced by one individual of a twin pair was accompanied by an increase in internalizing and externalizing problem scores by 52% and 25%, respectively. These differences were significantly different from the within-subject changes observed in co-twins with unchanged sleep quality. Interestingly, psychological functioning did not worsen with low sleep duration.

The researchers conclude that problematic sleep might causally contribute to emotional and behavioural problems in adolescence. They propose that sleep quality, not sleep duration, should be the primary target for prevention and intervention on psychological functioning in adolescents.

Referring to:

Vermeulen, M.C.M., van der Heijden, K.B., Kocavska, D., Treur, J.L., Huppertz, C., van Beijsterveldt, C.E.M., Boomsma, D.I., Swaab, H., Van Someren, E.J.W. & Bartels, M. (2020), Associations of sleep with psychological problems and well-being in adolescence: causality or common genetic predispositions?. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13238.

References:

- ¹ Ohayon, M.M. et al. (2000), Prevalence and patterns of problematic sleep among older adolescents. *J. Am. Acad. Child Adolesc. Psychiatry.* 39, 1549–1556. doi: 10.1097/00004583-200012000-00019.
- ² Gregory, A.M. et al. (2016). *Annual Research Review: Sleep problems in childhood psychiatric disorders – A review of the latest science.* *J. Child Psychol. Psychiatr.* 57, 296-317. doi: 10.1111/jcpp.12469
- ³ Winkelman, J.W. (2020). How to identify and fix sleep problems: Better sleep, better mental health. *JAMA Psychiatry.* 77, 99-100. doi: 10.1001/jamapsychiatry.2019.3832.

Glossary:

Internalizing problems: individuals with internalizing problems typically attempt to conceal their maladaptive emotions and cognitions. This internalizing approach can manifest as depression, withdrawal, low self-esteem, anxiety and/or loneliness. Some affected individuals might also exhibit suicidal behaviours.

Externalizing problems: individuals with externalizing problems exhibit their maladaptive thoughts and emotions externally. Characteristic behaviours include impulsivity, and antisocial or aggressive behaviours. Adult manifestations of externalizing problems can include alcohol-related or substance-related disorders.