

Too little sleep in childhood may have negative effects on cholesterol levels

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Sleep has important functions for both health and cognitive performance. In her doctoral dissertation, MA Liisa Kuula-Paavola from University of Helsinki investigated typical, non-restricted sleep over a developmental span from middle childhood to early adulthood.

Longitudinal analyses revealed that shorter sleep duration and irregular sleep in [middle childhood](#) were associated with a more detrimental lipid profile (higher levels of LDL cholesterol and triglycerides, lower levels of HDL cholesterol) in [early adolescence](#) – especially among girls. These associations survived controlling for [body mass index](#) and physical activity.

The dissertation's studies regarding cognitive functioning also indicate that sleep duration is closely related to executive functioning, i.e. the ability to control one's behavior. During early adolescence, especially boys' shorter sleep duration was associated with poorer performance in tests evaluating executive functioning.

"We found similar results in young adults, but also found that later sleep timing and irregular sleep were associated with weaker trait-like [executive functioning](#), such as self-control and behavior regulation," Kuula-Paavola says.

She also analyzed the sleep patterns of different circadian preference phenotypes longitudinally, and found that those adolescents with a preference for morningness differed from others in sleep timing already

at age 8. This suggests long-term stability in [sleep patterns](#).

Based on these findings, objectively measured sleep and its timing have longitudinal pathways which connect to future health, and may act as risk factors or as protective features for various health related outcomes.

"It is also likely that sleep, self-control, and health behavior are intertwined during development," Kuula-Paavola says.

Provided by University of Helsinki

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