

Associations Between Daily Neighborhood Crime and Physical Disorder Exposure and Sleep Patterns in Adolescents

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Study objectives: While growing evidence suggests neighborhood safety and physical disorder may impact adolescent sleep, prior research has not accounted for mobility outside the home neighborhood. This study examined associations of crime and physical disorder surrounding adolescents' homes, schools, and in their daily activity spaces with sleep patterns.

Methods: Adolescents aged 15-18 years (n=142) were followed for 14 days using smartphone GPS tracking and actigraphy. GPS locations recorded during adolescents' waking hours were spatially linked to local data on crime and vacant lots to derive exposures surrounding adolescents' homes, schools, and daily activity spaces. Mixed-effects linear and modified Poisson models estimated associations of crime and vacant lots with sleep duration, timing, efficiency, insufficient (<8 hours) and very short sleep (<6 hours). Fixed-effects models estimated associations of within-person differences in activity-space crime and vacant lot exposures with sleep patterns.

Results: Higher crime exposure surrounding adolescents' homes and schools was associated with shorter sleep duration, higher risk of insufficient and very short sleep, earlier offset timing (home only) and later onset timing (school only). Higher activity-space exposure to vacant lots was associated with shorter sleep duration, later onset, and higher risk of insufficient sleep. On days when adolescents' exposure to vacant lots was higher relative to their own average, they had shorter sleep duration, earlier offset timing, and higher risk of insufficient and very short sleep, while such associations were not seen for neighborhood crime.

Conclusions: Associations of crime and vacant lot exposures with actigraphy-assessed adolescent sleep patterns varied by setting.

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[Sleep](#)

Authors: [Stephanie Mayne](#), [Gabrielle DiFiore](#), [Alexander Fiks](#), Hannah Martin, Vicky Tam, Jonathan A. Mitchell, PhD, Ian Barnett, PhD, Douglas Wiebe, PhD, Mathias Basner, MD, PhD, MSc, Karen Glanz, PhD, MPH