

MEDIA RELEASE FOR IMMEDIATE RELEASE

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ADDRESSING SLEEP PROBLEMS AMONG "NIGHT OWL" PRESCHOOLERS MAY MITIGATE EMOTIONAL AND BEHAVIOURAL ISSUES IN PRIMARY SCHOOL



Caption: Study reveals how early intervention in sleep problems may optimise children's socio-emotional development (Photo credit: 123RF)

SINGAPORE — A recent local study led by researchers from the A*STAR Institute for Human Development and Potential (A*STAR IHDP) has revealed that addressing sleep problems in preschoolers – especially "night owls" – may reduce emotional and behavioural challenges as they transition into primary school.

"Night Owl" Preschoolers at Higher Risk of Sleep Problems

The study, conducted as part of the "Growing Up in Singapore Towards healthy Outcomes" (GUSTO) birth cohort, followed 399 children from preschool to school age. The longitudinal research examined how chronotype – whether an individual is more active in the morning or evening – is linked to sleep patterns among preschool children aged 4.5 to 6 years old.

Published in *Sleep Medicine*, the study was conducted by a team of researchers from A*STAR IHDP, NUS Yong Loo Lin School of Medicine, National University Health System (NUHS), KK Women's and Children's Hospital (KKH), and Amsterdam University Medical Center (Amsterdam UMC).

Although the study found no significant difference in sleep duration among preschoolers with different chronotypes, it was observed that evening-chronotype preschoolers or "night owls" had later bedtimes and waketimes, confirming they experience delayed sleep-wake cycles. More importantly, evening-chronotype children appeared most susceptible to the development of overall sleep problems, such as difficulties falling asleep, staying asleep, and night wakings.

The Impact of Sleep Quality on Socio-Emotional Problems at School-Age

Over time, these sleep difficulties can impair their emotional regulation and behaviour, exacerbating socio-emotional problems, including anxiety, depressive symptoms, and attention and conduct problems when they enter primary school.

Addressing the underlying reasons for the development of socio-emotional problems during childhood is important as they may escalate into more severe behavioural and emotional problems in adulthood¹. The findings of the study thus places greater emphasis on the importance of early intervention to mitigate the development of sleep difficulties and downstream socio-emotional problems, especially among children with evening-chronotype.

"Parents often only focus on ensuring that their children get enough sleep. However, that is not enough as our findings highlight that the quality of sleep prior to formal schooling is also critical to a child's emotional and social development," said lead author Dr Cai Shirong, Principal Investigator from A*STAR IHDP. "By addressing sleep problems early in childhood, it could have long-lasting positive impacts on a child's socio-emotional well-being, particularly for those who are naturally more active in the evenings."

Adding to this, Derric Eng, Senior Research Officer from A*STAR IHDP and the first author of the study, emphasised that "Parents and educators can take practical steps, such as creating bedtime routines and limiting screen exposure, to help children better develop emotionally as they enter primary school."

Study Highlights the Impact of Sleep Quality on Preschoolers

The study employed cross-sectional and longitudinal analyses to explore how sleep problems during late preschool mediate the relationship between chronotype and socioemotional outcomes at school age. Using caregiver-reported questionnaires, the children's chronotype (morning versus evening preference) was measured at 4.5 years old, while sleep problems were assessed at both 4.5 and 6 years old. Emotional and behavioural issues were evaluated through the Child Behaviour Checklist (CBCL), which is widely used in clinical practice and research, at ages 4 and 7.

¹ Sleep in infancy and childhood: implications for emotional and behavioral difficulties in adolescence and beyond. Curr Opin Psychiatr, 27 (6) (Nov 2014), pp. 453-459

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About GUSTO

Set up in 2009, GUSTO (Growing Up in Singapore Towards healthy Outcomes) is a nationwide birth cohort study involving collaborators from KK Women's and Children's Hospital (KKH), National University Health System (NUHS), National University of Singapore (NUS), and A*STAR Institute for Human Development and Potential (A*STAR IHDP). It is a longitudinal study of Singaporean mothers and their offspring. Since its inception, the study has recruited 1,247 Singaporean pregnant women as volunteers. These volunteers are studied extensively during their pregnancy, and their offspring are closely followed up as they grow up. GUSTO aims to understand how conditions during pregnancy and early childhood may affect the mothers' and children's health, growth and development, as well as metabolic, neurodevelopmental and other conditions - all of which are of major public health and economic importance in Asia and around the globe. The research spans across four themes, where the results from monitoring both mother and child help in developing public health policies; clinically-valuable, testable interventions; reduce the burden of childhood obesity and non-communicable diseases, e.g. diabetes; and improve neurodevelopmental outcomes in children. The study is supported by the National Research Foundation (NRF) under the Open Fund-Large Collaborative Grant (OF-LCG) administered by the Singapore Ministry of Health's National Medical Research Council (NMRC), and the Agency for Science, Technology and Research (A*STAR). In RIE2025, GUSTO is supported by funding from the NRF's Human Health and Potential (HHP) Domain, under the Human Potential Programme. https://www.gusto.sg/