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The Shape and Term Structure of the Index Option Smirk: Why Multifactor Stochastic Volatility Models Work So Well.

The objective of the present study was to examine whether parent-reported short sleep duration and sleeping difficulties are related to behavioral symptoms among pre-school aged children. The study is a cross-sectional survey of 297 families with 5–6-year-old children. The Sleep Disturbance Scale for children was used to measure sleep duration and sleeping difficulties, and the Child Behavior Checklist and Teacher's Report Form were used to measure attention problems, and internalizing and externalizing symptoms. In multivariate logistic regression models, short sleep duration was according to parental reports related to inattention (adjusted odds ratio 4.70, 95% CI 1.58–14.00), internalizing (adjusted odds ratio 3.84, 95% CI 1.32–11.21), and total psychiatric symptoms (adjusted odds ratio 3.53, 95% CI 1.23–10.17) while according to teacher's reports it was almost significantly related to internalizing symptoms (adjusted odds ratio 4.20, 95% CI 0.86–20.51). Sleeping difficulties were strongly related to all subtypes of psychiatric symptoms according to parental reports (adjusted odds ratios ranging from 6.47 to 11.71) and to externalizing symptoms according to teachers' reports (adjusted odds ratio 7.35, 95% CI 1.69–32.08). Both short sleep duration and sleeping difficulties are associated with children's behavioral symptoms. Intervention studies are needed to study whether children's behavioral symptoms can be reduced by lengthening sleep duration or improving sleep quality.