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TIME FOR BED? THE RELATIONSHIP BETWEEN BEDTIMES AND SOCIOEMOTIONAL AND COGNITIVE DEVELOPMENT IN 7 YEAR OLD CHILDREN: FINDINGS FROM THE UK MILLENNIUM COHORT STUDYYJ Kelly,* JAJ Kelly, A Sacker *Institute for Social and Economic Research, University of Essex, Colchester, UK*

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Background The links between sleep deprivation and health and well being in adults and teenagers are well documented. Less is known about sleep and healthy development in younger children.

Aim To examine whether the time children go to bed during mid-childhood is associated with socioemotional and cognitive development, and to assess whether socioeconomic and psychosocial environments contribute to observed associations.

Design Cross-sectional analysis of data from the Millennium Cohort Study.

Setting UK.

Participants 12275 cohort members with data at 7 years of age.

Main outcome measures Markers of socioemotional (clinically relevant scores on the strengths and difficulties questionnaire) and cognitive (test scores for reading, maths and spatial abilities) development.

Methods Bedtimes on term time weekdays were categorised (before 19:30, 19:30–20:00 (reference), 20:00–20:30, 20:30–21:00, after 21:00 and no fixed time). Multivariate regression models were run to assess associations between bedtimes and socioemotional difficulties and cognitive test scores.

Results Girls and boys who went to bed at 19:30–20:00 had the lowest prevalence of clinically relevant socioemotional

difficulties (4.4% and 9.5%), and the highest reading (115.3 and 111.8), maths (9.7 and 9.8) and spatial (53.8 and 54.2) test scores. 'Late', after 21:00, bedtime was associated with an increased likelihood of socioemotional difficulties in girls (OR=1.6, 95% CI=1.0 to 2.5) and lower test scores for girls (reading=110.6, maths=9.3, spatial=52.0, all $p<0.01$) and boys (reading=108.5, maths=9.3, spatial=50.3, all $p<0.01$). Not having a fixed bedtime was associated with an increased likelihood of socioemotional difficulties in girls (3.2, 1.8 to 5.7) and boys (2.1, 1.3 to 3.5) lower test scores for girls (reading=107.3,

maths=8.9, spatial=51.6, all $p<0.01$) and boys (reading=106.3, maths=9.1, spatial=50.7, all $p<0.01$). Adjustment for socioeconomic and psychosocial markers attenuated some but not all associations.

Conclusion Our results suggest that the time children go to bed is important for their socioemotional and cognitive development. Some but not all of these relationships are confounded by socioeconomic characteristics, while psychosocial factors partly mediate some of the observed relationships.