Social Adaptation and Respiratory Infection in Preschool Children Transitioning to School

Adaptability to stress as shaped early in life and the potential of hypothalamic-pituitary-adrenal (HPA) axis activity to influence health outcome were examined. The present ESRC funded study investigated 105 children experiencing the social stressor of primary school transition, recruited from preschools in the south-west of England. Parents and teachers longitudinally (over 12 months) recorded adaptation, temperament, salivary cortisol and resistance to upper respiratory infection (URI) at 3 time points: 1) within 6 months prior to; 2) two weeks after; and 3) 6 months after, starting school. Results revealed a trend towards an increase in awakening and evening cortisol at school transition. Temperament indicators of higher internalising social isolation, introversion, anxiety and depression during school transition predicted lower awakening cortisol and extroversion predicted higher awakening cortisol. Higher activity levels and extroversion/surgency were related to higher evening cortisol and temperament characteristics of smiling and laughter and teacher reports of greater impaired physical development predicted a flatter cortisol slope. Longer URI duration was predicted by awakening cortisol and flatter diurnal cortisol decline, whilst evening cortisol negatively predicted the onset of URI during months 2 and 6 post transition. Evening cortisol consistently and negatively predicted onset and duration of a URI. In conclusion, the study has implications for understanding factors that predict the developing stress-response in young children, with associated repercussions for health across the lifespan.