

## PHYSIOLOGICAL RESILIENCE IN CHILDREN WITH DAYCARE HISTORY: CORTISOL, EFFORTFUL-CONTROL AND DEMOGRAPHIC MODERATORS

Julie M. Turner-Cobb, PhD, Department of Psychology, University of Bath, Bath, Somerset, UK,

James Hall, PhD, Department of Education, University of Oxford, Oxford, Oxfordshire, UK

**Objective:** This study explored cortisol adaptability underlying resiliency and social vulnerability in young children in a naturalistic setting.

**Methods:** One hundred and five children were studied over a twelve month period during transition to school (mean age 49 months). Salivary cortisol was assessed on waking and early evening at three time points: prior to, 2 weeks after, and 6 months after school entry. Effortful-control was measured via the teacher-administered Child Adaptive Behavior Inventory; and parental questionnaires measured length in daycare, marital status, responding parent's age (103 mothers), and child gender.

**Results:** Latent Class Growth Analysis (LCGA) revealed two distinct trends in diurnal cortisol pattern; 44% demonstrated a steeper diurnal cortisol decline at all three time points (greater physiological adaptability) and was more likely ( $OR=61.2$ ;  $p=0.002$ ) to be observed for children who had spent a greater number of months in daycare. Comparing levels of effortful-control across the two groups revealed lower physiological adaptability to be linked with greater amounts of exerted effortful-control ( $b=0.23$ ;  $p=0.036$ ). Physiological adaptability also altered the extent to which demographic factors were linked to effortful-control: children who had a steeper cortisol decline were more likely to have lower exerted effortful control if their parents were partnered ( $\beta=-0.37$ ;  $p=0.005$ ), parent was older ( $\beta=-0.45$ ;  $p=0.015$ ), or the child was male ( $\beta=-0.31$ ;  $p=0.02$ ).

**Conclusions:** Whilst starting school is a known social stressor for children, spending time in daycare prior to school entry may enable greater physiological resiliency by influencing adaptability of developing allostatic systems. Such adaptability was observed in the need for less self-monitoring through effortful-control, a key factor in the ability to succeed at school. This research suggests a mechanism of physiological adaptability by which daycare effects might alter how demographic factors impact school readiness.