

## Children stressed six months before starting school

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The first few days at school can be an anxious time as children face the challenge of a new environment and making new friends. However, according to new research from the universities of Bristol and Bath funded by the Economic and Social Research Council, children show signs of stress three to six months before term even starts.

Dr David Jessop of the University of Bristol, Dr Julie Turner-Cobb at the University of Bath and colleagues studied the effect of children's temperament and behaviour on how stressful they found the experience of starting school.

To do this, they measured the levels of the stress hormone cortisol in children two weeks after they had started primary school and then measured them again six months later. They also took cortisol measurements three to six months before the children started school to provide baseline levels for comparison.

But the researchers were surprised to find that, far from providing a baseline, children's cortisol levels were already high several months before the start of the school term. "This suggests that stress levels in anticipation of starting school begin to rise much earlier than we expected," says Dr Turner-Cobb.

Why a preschool child should be anxious about an event so far in the future is something of a mystery but the researchers speculate that parents were getting stressed about their children starting school and that



their stress was being passed on to the children.

Whilst there was a significant rise in cortisol levels at the start of school as expected, children with a more shy, fearful personality appeared less stressed than their more extrovert peers.

"More extroverted children had consistently higher levels of cortisol and their levels tended to remain high throughout the day, possibly because their more impulsive nature gets them into more confrontational situations," Dr Turner-Cobb explains.

One of the concerns surrounding cortisol is that high levels, particularly when they remain high throughout the day, can suppress an individual's immune response making them more susceptible to everyday illnesses.

But in this study, the researchers found that children who had higher levels of cortisol throughout the day when starting school were actually less likely to suffer from cold symptoms during the next six months and had fewer days off sick if they did catch a cold.

They also found that these children were more likely to get sick during the school holidays than at term time suggesting that, at least in the shortterm, higher stress levels provide some protection against colds and flu.

For most children, stress levels had lowered significantly at the six months follow-up, suggesting that they had adapted well to the school environment. As the researchers are keen to emphasise, this temporary stress response to starting school is natural and experiences such as this help shape a child's ability to cope with new and potentially threatening situations through life.

However, some children still had high cortisol levels throughout the day at follow-up, suggesting that they were experiencing a more long-term



stress response that could lead to poorer health. These children were more extroverted but had also become increasingly socially isolated during the study, perhaps because their peers had lost patience with their exuberance.

According to Dr Turner-Cobb, this highlights the importance of monitoring the experiences of children starting school, particularly those who seem to find the school environment more of a social challenge.

Given the unexpected high levels of cortisol months in advance of the start of term, Dr Turner-Cobb also suggests that parents may need more support to reduce their anxiety about the experience of school transition, so benefiting the health and social well-being of the child.

Source: University of Bristol

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