

Autism linked with stress hormone levels

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Some of the symptoms of the autistic condition Asperger Syndrome, such as a need for routine and resistance to change, could be linked to levels of the stress hormone cortisol, suggests new research led by the University of Bath.

Normally, people have a surge of this hormone shortly after waking, with levels gradually decreasing throughout the day. It is thought this surge makes the brain alert, preparing the body for the day and helping the person to be aware of changes happening around them.

However, a study led by Dr Mark Brosnan and Dr Julie Turner-Cobb from the Department of Psychology at the University of Bath, and Dr David Jessop from the University of Bristol, has found that [children](#) with Asperger Syndrome (AS) do not experience this surge.

The researchers believe these findings may help to explain why individuals with this condition have difficulties with minor changes to their routine or changes in their environment.

The study has been published in the peer-reviewed journal *Psychoneuroendocrinology*.

Dr Brosnan explained: "Cortisol is one of a family of [stress hormones](#) that acts like a 'red alert' that is triggered by stressful situations allowing a person to react quickly to changes around them.

"In most people, there is a two-fold increase in levels of this hormone

within 30 minutes of waking up, with levels gradually declining during the day as part of the internal body clock.

"Our study found that the children with AS didn't have this peak although levels of the hormone still decreased during the day as normal.

"Although these are early days, we think this difference in stress hormone levels could be really significant in explaining why children with AS are less able to react and cope with unexpected change."

Dr Julie Turner-Cobb, Senior Lecturer in Psychology at Bath and co-author on the study, said: "These findings are important as they give us a clearer understanding about how some of the symptoms we see in AS are linked to how an individual adapts to change at a chemical level."

Dr David Jessop analysed samples from the children for levels of hormone at the Henry Wellcome Laboratories for Integrative Neuroscience and Endocrinology at the University of Bristol.

He added: "This study suggests that children with AS may not adjust normally to the challenge of a new environment on waking.

"This may affect the way they subsequently engage with the world around them."

The researchers hope that by understanding the symptoms of AS as a stress response rather than a behavioural problem it could help carers and teachers develop strategies for avoiding situations that might cause distress in children with the condition.

The next step in the research will be to look at whether children with other types of autism also lack a peak of cortisol after waking.

Source: University of Bath

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