

Stress in young adults indicates future disease

3 March 2016, by Vicky Manley, Sciencenetwork Wa



Participants in the study were asked to complete a 'challenging test' and [stress hormones](#) (ACTH and cortisol) were measured from their blood and saliva.

Samples were collected at various times before and after the test.

"Our research uses a novel way of examining response-to-stress test data by describing different patterns of stress response," Ms Herbison says.

Males, non-smokers and overweight people were most likely to show a cortisol response to a stressful event
Credit: iStock

Gender, BMI and smoking status influence stress response patterns in young adults, and these stress response patterns could indicate future adult diseases.

One of the largest [stress-response](#) studies ever performed in a teenage community-based cohort, has been analysed by University of Western Australia PhD candidate, Carly Herbison.

Her work with the local Western Australian (Raine) Study has found clear associations with different patterns of stress response in young adults.

The aim of the study was to examine factors that contribute to stress response patterns in [young adults](#) and how these responses can be potentially used as predictors for future health such as cardiovascular disease and mental illness.

"We need to respond appropriately to a stressor. If we are subjected to or exposed to a stress and our stress response system doesn't respond, or over-responds, then there can be repercussions to our health," says Ms Herbison.

Stress response patterns include:

- People who respond with increased levels of stress hormones during the stressful event and then recover afterwards (to normal levels)
- People who show increases in stress hormones beforehand, in anticipation of an event and recover afterwards
- People who do not show stress hormone changes with a stressful event

Results showed stress response patterns varied in relation to a person's gender, their BMI and whether they were smokers or non-smokers.

"Males, non-smokers and overweight people were more likely to show a cortisol response (responders) to a stressful event than females, smokers and normal weight people," says Ms Herbison.

Ms Herbison suggests that working with this large epidemiological teenage cohort, consisting of data collected from pregnancy, scientists can examine whether genetics or early life stress can impact stress responses and if that predisposes adults to certain psychological and physical health issues.

"We may then be able to intervene early to modify negative cortisol stress responses and improve health outcomes," she says.

"Once scientists have more understanding on how our response to stress is formed and how it impacts our health, we can then figure out how to change it!"

This article first appeared on [ScienceNetwork Western Australia](#) a science news website based at Scitech.

Provided by Science Network WA

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