

Stress response predictor in police officers may be relevant for military

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(Medical Xpress) -- Police academy recruits who showed the greatest rise in the stress hormone cortisol after waking up in the morning were more likely to show acute stress symptoms in response to trauma years later as police officers, according to a study by researchers at the San Francisco VA Medical Center, the University of California, San Francisco and New York University Langone Medical Center.

The study is one of the largest to identify a possible method for predicting vulnerability to stress during and after a traumatic event, said lead author Sabra Inslicht, PhD, a psychologist SFVAMC and an assistant adjunct professor of psychiatry at UCSF.

The results are published in the December, 2011 issue of [Biological Psychiatry](#).

For the longitudinal, prospective study, directed by Charles R. Marmar, MD, of NYU, the researchers measured cortisol levels in 296 police recruits when they awakened, and then 30 minutes later. The difference between the two levels is known as cortisol awakening response, or CAR. After one, two and three years of active service as police officers, the [study participants](#) were then assessed for stress reactions in response to duty-related [traumatic events](#).

“When we wake up in the morning, we all have a rise in cortisol as part of the normal awakening process that helps mobilize our body to start the day,” said Inslicht. “In this study, the stronger a recruit’s CAR, the

greater the chance they would have [stress symptoms](#) years later in response to trauma.”

A stronger CAR predicted two specific stress responses: dissociation – a feeling of dreamlike unreality during the traumatic event – and acute stress disorder (ASD) soon after the event. Symptoms of [acute stress disorder](#) include intrusive memories of the event, increased heart rate, faster breathing and conscious avoidance of thoughts or feelings related to the event.

“These are symptoms of post-traumatic stress disorder [PTSD], but limited to a shorter timeframe,” said Inslicht. She noted that a significant number of people with ASD go on to develop PTSD.

However, in the current study, the researchers did not find an association between stronger CAR and PTSD. They attribute this to a number of possible factors: police and other emergency personnel tend to report low levels of PTSD early in their careers; self-selection and rigorous screening before acceptance into the police academy may have resulted in a more resilient study population; and police officers are known to minimize their own stigma-related symptoms.

The authors emphasized in their paper the importance of re-examining the same officers they studied later in their careers and replicating the study in a civilian population in order to establish the generalizability of their findings.

The study results are potentially significant for military recruits, according to Inslicht. “It’s very possible that the same vulnerability that we see in this subset of [police officers](#) may help predict which veterans develop stress symptoms after a traumatic event,” she said.

Inslicht cautioned that work is still at a very early stage. “While more

research is needed to understand these mechanisms, the ultimate goal would be to develop interventions to prevent and treat some of the [stress](#) responses that we see – or at least ways of identifying people who may be at higher risk of PTSD and would thus benefit from getting interventions earlier on,” she said.

More information: www.sciencedirect.com/science/.../S0006322311007232

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