

Stress make women social and men antisocial

April 23 2010, by Lin Edwards

(PhysOrg.com) -- New studies by scientists at the University of Southern California have found that while stress may result in a universal physiological "fight or flight response" there are gender differences in psychological and behavioral responses. The new findings suggest stress makes women more social and more aware of facial expressions, while it tends to make men less social.

The research led by psychologist Mara Mather, lends support to the theory proposed by Shelley Taylor, a neuroscientist from the University of California, Los Angeles, that women faced with [stress](#) “tend and befriend” by [social networking](#) and nurturing, probably as a way to protect their children, and that the fight or flight psychological and behavioral responses apply mainly to [men](#).

In the experiments, Mather and her team split their male and female subjects into two groups. One group was put under stress by being asked to hold one hand in ice water for three minutes, which caused an elevation in the level of the stress hormone cortisol that lasted for about an hour. The other group held their hands in comfortably warm water, which does not elevate cortisol levels. The subjects were then shown pictures of neutral or angry faces while they were lying inside a brain scanner.

The results showed striking gender differences in the brain scans. The men with high cortisol levels showed less [brain activity](#) in the fusiform face area (FFA), an area of the brain involved in processing images of faces, than unstressed men did, while the stressed women’s brains were

more active in that area than in unstressed women. There were similar differences in the regions of the brain concerned with understanding other people's emotions and states of mind, and in feeling empathy towards others, with the stressed men showing reduced activity and a disconnection between the regions, and the stressed women showing an increased activity and greater connectivity.

Mather said [women](#) tend to seek out, befriend and bond with other people when they are under threat or stress, whereas men generally do not. She said the women's enhanced abilities to gauge [facial expressions](#) and respond to them could partly underlie their tend and befriend reaction to stressful situations.

The group's findings were presented at the 17th annual meeting of the *Cognitive Neuroscience Society (CNS)* held between 17 and 20 April 2010 in Montreal, Canada.

More information: Shelley E. Taylor's lab page:
taylorlab.psych.ucla.edu/index.htm

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