

Taylor Takes on 'Fight-or-Flight'

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Conventional research on stress has focused on the fight-or-flight theory, theorizing that all animals react to stress with either an aggressive or evasive response. APS Fellow and Charter Member Shelley Taylor argued that while the fight-or-flight model may be applicable to male animals, it may not apply to females.

Taylor

Females are primarily responsible for the care of early offspring, especially in primate animals, which are born physically immature and relatively defenseless. If females fight they may be injured and become unable to care for the offspring, or their offspring may be hurt. If they flee, then the offspring are left unprotected and unable to fend for themselves. Thus, females who engage in fight-or-flight responses to stress may be endangering the species. Through her work at the University of California, Los Angeles, Taylor proposed a new model for female reactions to stress – the “tend and befriend” model. She presented this theory and the accompanying evidence at a November 13, 2003 lecture at the National Institutes of Health Neuroscience Center.

The “tend and befriend” model theorizes that stressed females devote more attention to caring for offspring and dependents, and also seek support from others. Biological support for this argument comes partly from the study of oxytocin, a hormone that is released in response to stress. Animal studies have shown that injected oxytocin has reduced anxiety, enhanced grooming and touching behaviors, and promoted bonding, all of which are tending and befriending behaviors. Oxytocin is considered more influential in females, because it is enhanced by estrogen and inhibited by androgen.

Taylor noted that a meta-analysis of 26 studies found that all but one study showed evidence that women sought social support from others in times of stress. There is also significant evidence that women are more likely to turn to other women, like close friends and relatives, and less likely to turn to their spouses for this support.

To further investigate gender differences in reaction to stress, Taylor’s colleague at UCLA, Rena Repetti, studied gender differences in human parenting under stressful conditions. Repetti interviewed parents and asked them about their stressful days, and then she interviewed their children, and asked them about how their parents responded to stress. She found that when fathers were stressed by work overload, they were more likely than usual to show social withdrawal. When the fathers were stressed by interpersonal conflict, however, they projected their reaction outward in the form of arguments. At the other end of the spectrum, Repetti found that mothers experiencing stress showed their children more love and affection.

While social support is very beneficial to the recipient, providing support has typically been thought to

be very draining on the provider's health. Taylor argued that it may be true in many demanding situations, such as caring for an elderly parent or a disabled child, but she also pointed to recent research that has shown that people who provide social support may benefit as well, perhaps even more than those who only receive it. "Giving social support is not inherently biologically costly," Taylor said. "It may actually be helpful, as the providers are receiving psychological and biological benefits as well." These findings by Stephanie Brown and her colleagues at the University of Michigan were published in the July 2003 issue of *Psychological Science*.

Taylor also studied gender response to marital stress. She cited one study that asked men and women to think about their spouses before going through a stressful event. The result was that men's stress responses decreased, while women's significantly increased. Another study showed that "married women experience elevations of stress responses for a longer part of the day." For example, many women's autonomic arousal states remain elevated until 10:00 at night, while men's tends to decrease significantly after they leave work. "The net effect of marriage on men is very beneficial," Taylor said. "It is estimated that the death rate of married men is 250 percent lower than that of unmarried men." But for women, she said, "marriage is likely to be a wash in terms of health protection."