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A physician's ability to empathize may be in the genes

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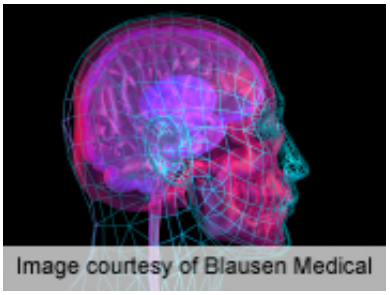
Image courtesy of Blausen Medical

(HealthDay)—Sensory processing sensitivity (SPS) is associated with increased activation of brain regions involved in awareness, attention, and action planning, according to a study published online June 23 in *Brain and Behavior*.

Noting that self-report studies show high-SPS individuals are strongly affected by others' moods, Bianca P. Acevedo, Ph.D., from the University of California in Santa Barbara, and colleagues examined the neural correlates of SPS, measured by the standard short-form Highly Sensitive Person (HSP) scale. The functional magnetic resonance imaging study was conducted in 18 participants (10 female) who viewed photos of their romantic partners and of strangers displaying positive, negative, or neutral facial expressions. Thirteen of the 18 participants were scanned twice, one year apart.

The researchers found that HSP scores correlated with increased brain activation in the cingulate and premotor area (involved in attention and action planning) across all conditions. SPS correlated with activation of brain regions involved in awareness, integration of sensory information, empathy, and action planning for happy and sad photo conditions. HSP scores correlated with stronger activation of brain regions involved in awareness, empathy, and self-other processing for partner images and happy facial photos.

"We found that areas of the brain involved with awareness and emotion, particularly those areas connected with empathetic feelings, in the highly sensitive people showed substantially greater blood flow to relevant brain areas than was seen in individuals with low sensitivity during the 12 second period when they viewed the photos," a coauthor said in a statement. "This is physical evidence within the brain that highly sensitive individuals respond especially strongly to social situations that trigger emotions, in this case of faces being happy or sad."

More information: Abstract
Full Text

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