

Researchers find differences in how adolescent girls' and boys' brains react to peer interaction

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(PhysOrg.com) -- A team of researchers with the National Institute of Mental Health (NIMH), including a Georgia State University scientist, have found differences between girls and boys in how parts of the brain develop in responding to peer judgments — with girls becoming more preoccupied with how peers view them, while boys become more focused on their place in groups.

Erin McClure-Tone, assistant professor of psychology at Georgia State, was part of a team of researchers at NIMH who studied the brain activity of healthy adolescent [girls](#) and boys aged 9 to 17 using a [functional magnetic resonance imaging \(fMRI\)](#) scanner.

“The bottom line seems to be that as adolescents, particularly girls, mature, both the ways in which they approach new relationships and the patterns of brain activity associated with thinking about these relationships gradually change,” McClure-Tone said.

The [adolescents](#) were shown 40 photographs of other teens and were asked to rate on a scale of 0 to 100 how much they'd like to interact with each person depicted. They were also told that each teen in the picture would see their picture and rate how much they would like to interact with the study participant, and that they would be matched to chat online with a mutually interested peer.

The study subjects were scanned two weeks later using the fMRI, during which they viewed all 40 photos again, but were asked how much they thought each depicted person would want to interact with them.

Data were then collected about which areas of the brain were activated while the study participants thought about being judged by high-desirable versus low-desirable peers.

Older females in the study showed more [brain activity](#) than younger females in the parts of the brain that process social emotion, such as the amygdala, while males showed little change in most of those areas.

“Many of the regions in which we saw distinct activation patterns project to each other, which suggests that they are all part of a loose network that implements aspects of social thought and behavior,” McClure-Tone said.

The data suggest that the different patterns of reaction might contribute to a marked increase in the rates of depression in adolescent girls, which does not happen with [boys](#), she said.

The study, “Probing the Neural Correlates of Anticipated Evaluation in Adolescence,” appears in the July 2009 issue of *Child Development*.

Provided by Georgia State University ([news](#) : [web](#))

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