

## Cause of conduct problems among girls appears to be different than in boys

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The first study to include a significant number of aggressive girls with conduct problems indicates that psychological conditions including conduct disorder may have separate causes in the two sexes.

The research reaffirmed that boys 8 to 12 years of age diagnosed with conduct and oppositional defiance disorders have lower heart rates and sweated less while at rest and playing a video game for money compared to boys without these conditions. However, girls of the same age exhibited the same physiological responses whether they did or did not have conduct problems.

"Previous studies have focused on boys because boys with conduct disorder outnumber girls by a 10-to-1 ratio," said Theodore Beauchaine, a University of Washington associate professor of psychology and lead author of the study. "We went out of our way to find girls with conduct problems because we thought something different must be going on since there is such a big difference in the number of boys and girls with conduct disorder.

"Our findings suggest we had better start studying girls differently than boys. We can't assume the same processes are at work in boys and girls. When there are different mechanisms it suggests there should be different treatments."

In the study, UW researchers took physiological measurements -- focusing on the autonomic nervous systems that controls and regulates

such involuntary body functions as heart rate, blood flow, and the workings of muscles and glands -- of 110 boys and 65 girls while they played a computerized game. About half of the boys and girls met the criteria for conduct and/or oppositional defiant order. The other boys and girls had no psychological problems.

The game had the children, who were seated at a monitor, look a number that appeared on the screen and then press the same number on a keyboard. A correct response enabled them to win money. The faster and more accurately they played the more money could earn.

"It was not unusual for some children to make \$50 playing this game, which is a considerable amount of money for kids of these ages," said Beauchaine. "Normal boys get pretty excited while they play, but boys with conduct problems don't. However, we found no differences in the way the groups of girls responded."

Biological markers that seem to make boys more vulnerable to conduct problems appear to be largely inherited, according Beauchaine.

"We know impulsivity is 80 percent inheritable and these markers go along with sensation seeking. So boys inherit this low arousal from their parents. This doesn't mean they will have conduct disorder, but it puts them at risk for it."

He added that the failure to find a biological marker among girls with conduct problems suggests that this behavior is driven by different causes. They may be strong social or environmental influences such as ineffective parenting or simply hanging around the wrong kids.

Conduct problems typically begin with attention deficit hyperactivity disorder in young children. Some then develop oppositional defiance disorder in elementary school. This behavior is marked by talking back

to parents and teachers and refusing to do what adults say. This cycle of behavior problems ends at this point for most children, but in middle school a small number go on to develop conduct disorder that is much more severe and can include such behaviors as stealing, property damage and, in extreme cases, arson and cruelty to animals.

Co-authors of the paper, published in the Journal of the American Academy of Child & Adolescent Psychiatry, are James Hong, a former UW undergraduate student now in the Peace Corps, and Penny Marsh, a former UW graduate student now working for Microsoft Corp. The National Institute of Mental Health and the UW's Mary Gates Endowment for Students funded the research.

Provided by University of Washington

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