

Strict parental rules about drinking can curb adolescent impulses to drink

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Frequent drinking can lead to changes in the processing of alcohol cues that can, in turn, facilitate renewed drinking if an individual's ability and motivation to reflect on drinking behaviors are insufficient. A study investigating the interaction between automatically activated approach tendencies and the ability and motivation to reflect on drinking behaviors in young adolescents with limited drinking experience has found that stricter parental rules about drinking are highly protective, especially for males.

Results will be published in the May 2012 issue of *Alcoholism: Clinical & Experimental Research* and are currently available at Early View.

"With repeated alcohol use, cues that are previously associated with alcohol use – such as the sight of a beer bottle – become increasingly important," explained Sara Pieters, a researcher at Radboud University Nijmegen and corresponding author for the study. "This might be due to alcohol-induced changes in the brain's reward system and the formation of memory associations."

The term "approach tendencies," Pieters added, can be understood by asking if a person is inclined to approach or to avoid a stimulus. "In most people," she said, "tendencies to avoid are automatically triggered by threatening stimuli such as a snake, and approach-tendencies can be triggered by appetitive stimuli such as water when thirsty. In heavy drinkers, stimuli that have been associated with alcohol use automatically trigger a tendency to approach."



"Studies have shown that adolescence is marked by a temporal lag in the maturation of two brain systems, one related to emotional and motivational processes, one to control behavior and thoughts," added Rebecca de Leeuw, a postdoctoral researcher at Radboud University Nijmegen. "Whereas the former develops relatively fast during puberty, the latter continues to develop until adulthood, around 25 years of age. This means that adolescents are more likely to engage in reckless behavior. In addition, alcohol affects the former system by making it hypersensitive to cues associated with alcohol use, while it affects the latter system by decreasing the ability to control behavior. This means that adolescents are at a higher risk for an imbalance between impulsive versus reflective processes in general."

Pieters agreed that the motivation to inhibit behavior is often low in young adolescents. "Therefore we explored the role parents play in the motivation to inhibit approach tendencies," she said. "As a marker of the ability to inhibit, we chose working memory capacity, as we know that that adolescents with good working memory are better able to inhibit impulsive reactions to alcohol cues."

A total of 238 adolescents aged 12 to 16 years (120 females, 118 males) were tested. Working memory capacity was used as a measure of the ability to reflect on behavior, while parental rules regarding the youth's alcohol use were treated as an index of the motivation to reflect on behavior.

"Results indicated that in young adolescents, approach tendencies were related to alcohol," said Pieters. "However, we found that if parents set strict rules regarding their offspring's alcohol use, adolescents could inhibit these approach tendencies, particularly males. Conversely, permissive parenting seems to exacerbate the link between approach tendencies and alcohol use for adolescent males."



Both Pieters and de Leeuw noted that prior research had already shown that stricter parental rules tend to be associated with less alcohol use among their children. "However," said de Leeuw, "this is the first study that, when it comes to alcohol, investigated the role of parents in relation to impulsive processes." Pieters speculated that young adolescents perhaps internalize parental rules in such a way that approach tendencies can be more successfully inhibited.

"In summary," said Pieters, "the link between parental rule-setting and adolescent alcohol use is well-established, with more rules being associated with less alcohol use. This study extends previous research on this topic by indicating that parental rules might also be related to the degree to which approach tendencies are linked to changes in alcohol use, with approach tendencies being predictive of increases in alcohol use for adolescents with permissive parents. This suggests that parental rule-setting is particularly relevant for adolescents who are already at increased risk to develop alcohol-related problems for reasons such as genetic factors."

Provided by Alcoholism: Clinical & Experimental Research

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