

Alcohol exposure in the womb affects 'teenage' booze behavior

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Rats whose mothers were fed alcohol during pregnancy are more attracted to the smell of liquor during puberty. Researchers writing in BioMed Central's open access journal *Behavioral and Brain Functions* have shown that rats exposed during gestation find the smell of alcohol on another rat's breath during adolescence more attractive than animals with no prior fetal exposure.

Professor Steven Youngentob from the State University of New York Upstate Medical University, USA, led a team of researchers who investigated the social and behavioral effects of fetal ethanol exposure in adolescent and adult rats. He said, "The findings by Amber Eade in my lab reveal that fetal ethanol exposure influences adolescent re-exposure, in part, by promoting interactions with intoxicated peers. These results highlight an important relationship between fetal and adolescent experiences that appears essential to the progressive development of alcohol abuse."

Fetal ethanol experience is believed to train the developing sense of smell to find ethanol odor more attractive. The authors describe how, in both rats and humans, fetal exposure changes how the odor and flavor of ethanol are perceived. They write, "Such learning may be a fundamental feature of all mammalian species because it is important (from a survival standpoint) for the pre-weanling animal to accept and be attracted to the food sources consumed by the mother". In this study the authors found that rats unexposed to ethanol were significantly less likely to follow an intoxicated peer than those with gestational experience.

The authors also found that the behavioural effects of fetal ethanol were not seen in otherwise unexposed adult rats. They say that this shows adolescence is a key time for perpetuating fetal experiences. According to Youngentob, "Such a proposition is clinically relevant since, in humans, adolescence is a key transition point for emergent patterns of alcohol abuse".

Speculating further on this study's implications for human problem drinking, Youngentob added, "Within the context of 'at risk' adolescents, prior exposure to ethanol may, among other things, worsen the consequences of alcohol-related social interaction by increasing teenagers' propensity to engage in such settings".

Paper: The consequence of fetal ethanol exposure and adolescent odor re-exposure on the response to ethanol odor in adolescent and adult rats, Amber M Eade, Paul R Sheehe, Juan C Molina, Norman E Spear, Lisa M Youngentob and Steven L Youngentob, *Behavioral and Brain Functions* (in press), www.behavioralandbrainfunctions.com

Source: BioMed Central

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