

# The brain



Young people should not consume alcohol Recent research shows that due to several important structural and functional changes in brain function which take place in adolescence, adolescents are more vulnerable than adults to the impact of alcohol on memory and learning (White, 2003). The study conducted by Markwiese reveals that young rats are more likely than adults to experience alcohol-induced learning difficulties. Furthermore, adolescent rats are more vulnerable to suffer from long-lasting effects of alcohol use, which involve cognitive and memory impairments. These findings have further implications for the impact of alcohol on adolescent human brains. Thus, young people should not consume alcohol as it may severely damage their learning and memory processes.

The research on rats suggests that adolescent brains may be particularly vulnerable to alcohol-induced memory impairments and learning difficulties. The study conducted with young adults confirms this thesis; when tested under alcohol, people in their early 20s performed worse on a task which involved immediate and delayed recall than people in their late 20s. This data clearly shows the vulnerability of younger subjects to alcohol-induced memory impairments. Young people often experience blackouts-episodes of anterograde amnesia, during which they are likely to engage in risky behaviours, such as vandalism, unprotected intercourse, or violence. Later they have no recollection of their actions. It is suggested that alcohol affects memory formation as it disrupts brain plasticity and interferes with the changes in circuitry which are essential for the learning process. Alcohol use damages hippocampus, the brain region which is crucial for memory formation.

Moreover, repeated exposure to alcohol in adolescence may result in long-

lasting changes in brain function later in life (White, 2003). The study conducted with adolescent alcohol abusers reveals that despite their relatively short periods of drinking, young people experienced severe cognitive impairments weeks after they stopped drinking. These changes are due to sensitivity of adolescent hippocampus to the neurotoxic effects of long-lasting use of alcohol. The data suggests that the subjects who abuse alcohol in their early adolescence are more vulnerable to hippocampal damage in the future.

Use of alcohol in adolescence severely affects the establishment of new memories as well as memorization skills and learning capacities. Due to common blackouts, adolescent drinkers are likely to engage in risky behaviours. Moreover, extensive alcohol abuse in adolescence may result in long-lasting brain damage. Thus, young people definitely should not drink alcohol bevarages.