POSTER ABSTRACT

Motor Effects of Ethanol and the Role of Ethanol Metabolites

T.L. Chuck1, M.N. Arizzi1, M. Correa1,2, P.J. McLaughlin1, & J.D. Salamone1
1Department of Psychology, University of Connecticut, Storrs, CT
2Psychobiology, Universitat Jaume-I, Castelló, Spain

Ethanol is a sedative hypnotic that metabolizes into acetaldehyde and acetate. Recent evidence indicates that several of the behavioral effects of ethanol are mediated by these metabolites. This study first investigated ethanol as a sedative, evaluating animals on the Sedation Rating Scale 5 and 10 minutes after IP injections of ethanol. Ataxia, or incoordination, a component of sedation was assessed on the Rotarod apparatus. Ethanol dose of 2.0 g/kg showed lower ratings on the Sedation Scale and lower performance on the Rotarod. In a second experiment, rats were trained in operant boxes on a FR5 schedule. Rats were injected IP with ethanol, acetaldehyde or acetate. Data show suppressive effects at 2.0, 1.6 and 1.0 g/kg ethanol; 0.2 g/kg acetaldehyde and 0.4 and 0.2 g/kg acetate. Therefore, ethanol metabolites may be, in part, responsible for the reduced motor abilities displayed after ethanol intake and are more potent than their ethanol precursor.