

BINGE DRINKING AND ATTENTION: UNPACKING THE COMPLEX RELATIONSHIP IN YOUNG ADULTS

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INTRODUCTION

Alcohol binge drinking is highly prevalent among young adults, and its unique deleterious effects on the brain through the acute intoxication and withdrawal cycle have been well-documented. While previous research has reported broad cognitive impairments associated with binge drinking in young adults, its relationship with attention remains unclear. This study aims to investigate this relationship and explore whether sex and age of onset of binge drinking moderate the effects. With attention being a crucial component of cognitive function, understanding the impact of binge drinking on this ability is vital for developing effective interventions to mitigate its harmful effects.

What is attention network theory?

Attention Network Theory (ANT; Peterson & Posner, 1990) is a model that describes how attention is a multifaceted cognitive process that involves three distinct, but interrelated, attentional networks: alerting, orienting, and executive control. The model proposes that these networks work together to direct and sustain attention, with each network serving a unique role in processing incoming information.

METHODS

University students ($N=105$; $m=43$, $F=62$; avg. age = 19.88 $SD = 2.27$) were recruited to complete an online survey. Socio-demographic and alcohol use information was collected, then participants completed cognitive tasks based on the Attention Network Theory: alerting, orienting, and executive control.

Cognitive Tasks:

- Attention Network Test
- Colour-word Stroop
- Rapid Visual Information Processing
- Sustained Attention to Response

RESULTS

Linear hierarchical regressions were used to predict performance with binge drinking score, sex and age of first binge drinking session as predictors. There were no significant predictors of attention impairment, nor did sex moderate the relationship. The tasks measuring attention did not relate in the expected manner.

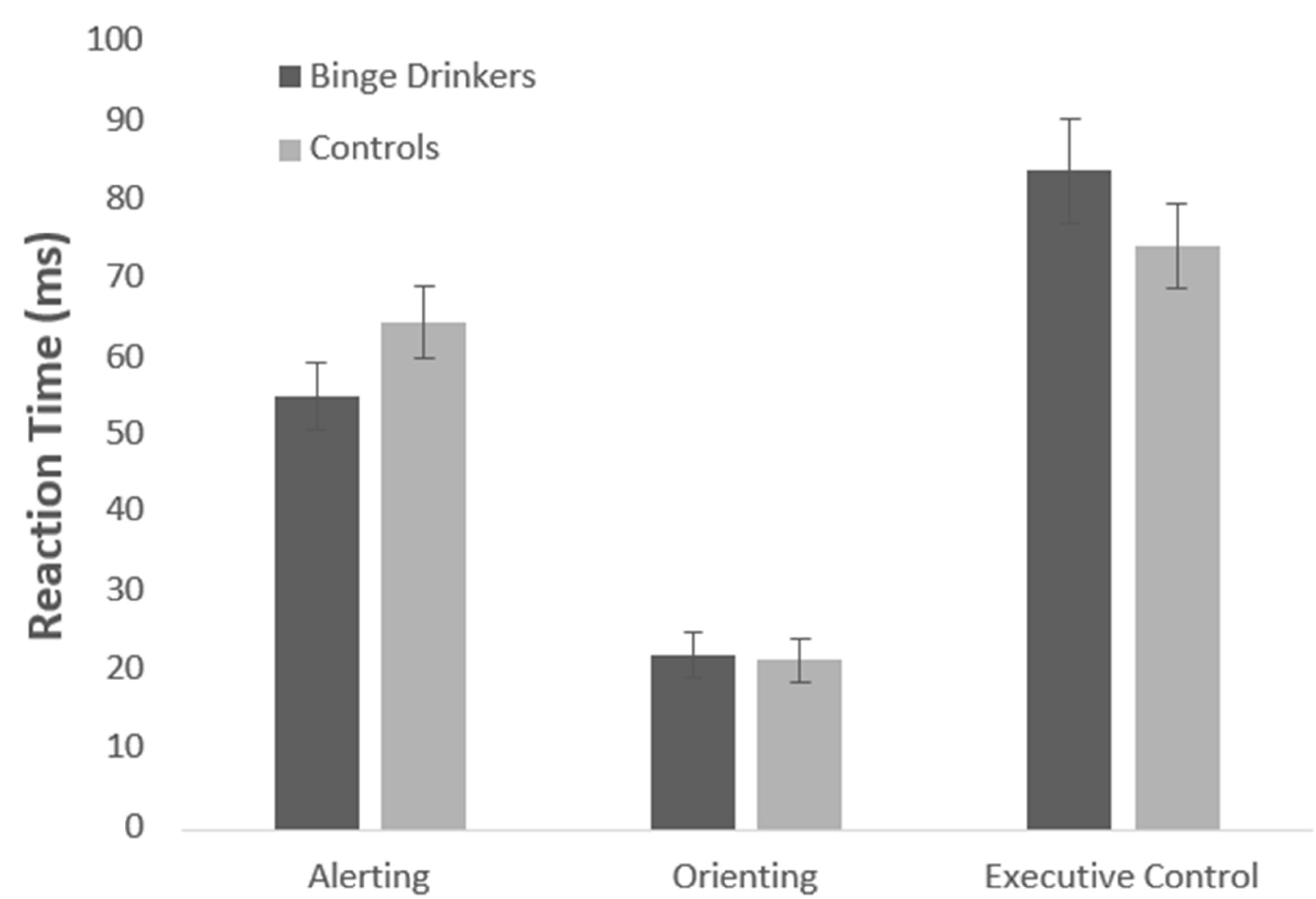


Figure 1. Efficiency of each attention network as a function of reaction time (in milliseconds; M, SE) among those who binge drink and controls.

DISCUSSION

While there were no differences in attention performance between those who binge drink and controls in this study, the relationship between binge drinking and attention impairments in young adults may be more nuanced and future research directions are suggested.