

Using Neuroeconomics to Characterize State-Based Increases and Decreases in Alcohol Value

NCT04067765

February 20, 2024

Final Statistical Analysis Plan

Data Analysis

Behavioral analyses.

Individual APT trials were coded according to the method used in MacKillop et al. (2014). Inelastic choices were choices for a participant's personal maximum consumption. Elastic choices were choices in which consumption was less than maximum but greater than zero. Suppressed choices were choices for no alcohol. Observed alcohol demand indices included Intensity (consumption at free price), Breakpoint (price that suppressed consumption to zero), and Omax (maximum expenditure). An exponentiated demand curve model (Koffarnus et al., 2015) was used to estimate α for each participant's mean neutral and alcohol demand curves. A shared k parameter was calculated as the logarithmic range in consumption ($k = 2.23$). A small number of outliers were winsorized for Omax (3 datapoints) and α (3 datapoints) (Tabachnick and Fidell, 2001). Omax was square root transformed and α was logarithmically transformed to correct for skew. Four participants did not reach breakpoint and were excluded from analyses using this index.

Statistical Analyses for Behavioral Data

Differences in alcohol demand were analyzed using separate repeated measures analyses of variance (ANOVA) models for each demand index. In these models, condition was a two-level within-subjects factor (neutral, alcohol). Partial eta-squared was calculated as a measure of effect size. Subjective craving was similarly analyzed using a repeated measures ANOVA. A conventional significance level of $p < .05$ was used for all analyses.