**Preliminary Data Analysis for EDE Task at Shirley Li’s Lab**

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**Participants**

12 participants were recruited.

Participants were excluded if accuracy level in emotion detection was less than 70% or if they made no responses in 20% of all trials; no participants were excluded.

All participants completed the well-rested condition first, then the sleep deprivation condition.

**Questionnaires**

Participants completed the following questionnaires once and before sleep conditions were induced: reduced Morningness/Eveningness Questionnaire (rMEQ), Epworth Sleepiness Scale (ESS) and Hospital Anxiety and Depression Scale (HADS).

Participants completed the following questionnaires twice, before each sleep condition was induced: Stanford Sleepiness Scale (SSS) and Positive and Negative Affect Schedule (PANAS).

**Data Analysis**

The independent variables were sleep (well-rested (WR) vs sleep deprived (SD)), endogenous attention (fear (F) vs neutral (N)), stimulus emotion (fearful face (FF) vs neutral face (NF)), and objective probability (60% vs 50% vs 40%). The dependent variables are accuracy and speed of emotion detection and accuracy of estimating the proportion of fearful or neutral faces participants think are in the dataset for that trial.

To test the effect of sleep deprivation on accuracy of emotion detection as a function of endogenous attention (F vs N), we conducted a 2 (WR vs SD) X 2 (F vs N) repeated-measures analysis of variance (rmANOVA) on participant’s accuracy of emotion detection.

To test the effect of sleep deprivation on speed of emotion detection as a function of endogenous attention (F vs N), we conducted a 2 (WR vs SD) X 2 (F vs N) rmANOVA on participant’s speed of emotion detection.

To test the effect of sleep deprivation on accuracy of estimating probability of fearful faces and neutral faces in a database from a sample as a function of endogenous attention (F vs N), we conducted a 2 (WR vs SD) X 2 (F vs N) rmANOVA on participant’s estimation rating. Here, difference scores were computed, wherein objective probability was subtracted from participant’s estimation rating because the present study was interested in how subjective estimations deviated from objective reality to reveal whether individuals were accurately estimating or over-/under- estimating.

**Results**