

# Analysis Report for ASNE\_\_2025-04-10T15-35-43-216Z\_\_data

Scatter Plots of Gaze Data (Red Ellipse Represents Center of Highest Concentration)

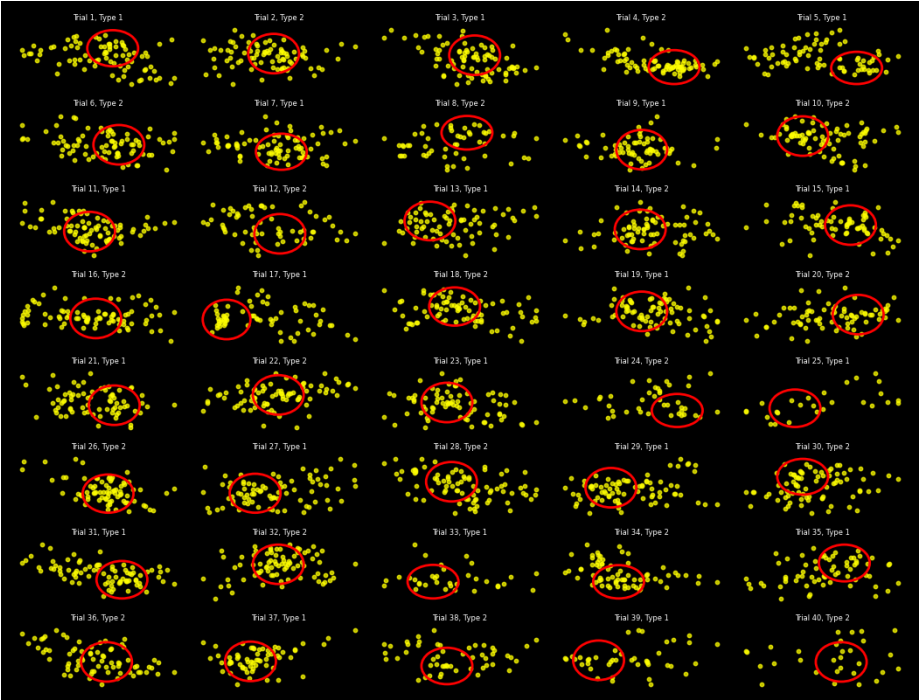


Figure 1: Scatter Plots

## Violin Plot of Gaze Data

Descriptive Statistics for Gaze Percentages (Target vs Combined Non-Target Objects)

Measure	Target Object Gaze	Non-Target Objects Gaze
Mean	22.833091636635366	35.65644057978339
Standard Deviation	29.093886656169715	37.379384730459606
Median	4.605263157894736	18.333333333333332
Min	0.0	0.0
Max	90.78947368421053	90.12345679012346

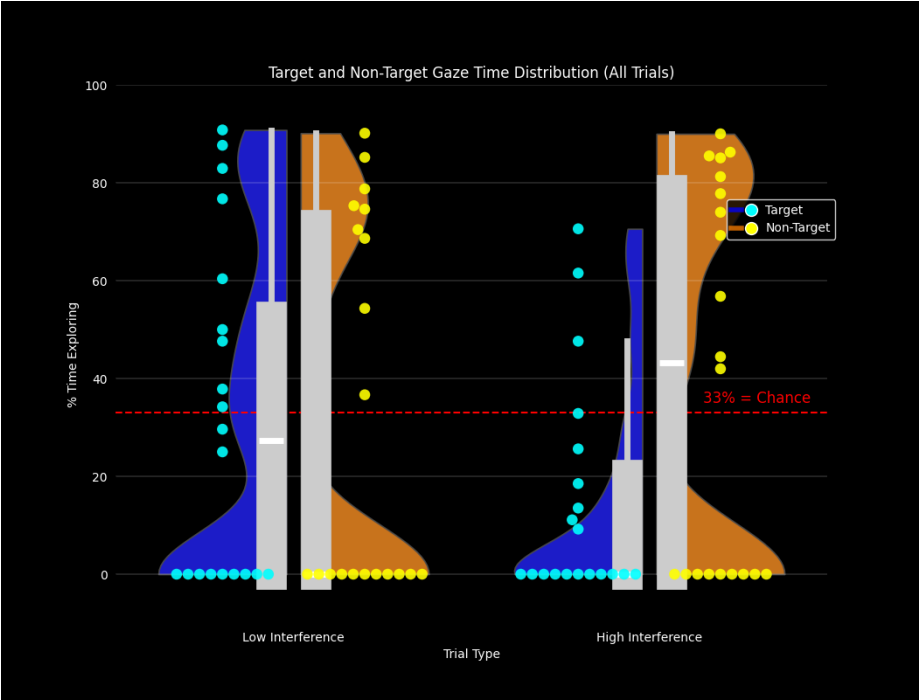


Figure 2: Violin Plot

### Shapiro-Wilk Test for Normality

This test checks whether the data follows a normal distribution. It returns a test statistic and a p-value. A p-value less than 0.05 indicates that the data significantly deviates from a normal distribution.

Measure	W Statistic	p-value
Target Gaze	0.7777976389522246	0.000002
Non-Target Gaze	0.7561518346514571	0.000001

### Levene's Test for Homoscedasticity

W Statistic	p-value
5.920044373402171	0.017258

### Wilcoxon Test (One-Sided; Target $\geq$ 33%)

W Statistic	p-value
252.0	0.984473

### Wilcoxon Test (Two-Sided; Target vs Non-Target)

W Statistic	p-value
301.0	0.142889

### Difference: -12.82 ### T-Test (Two-Sided; Target vs Non-Target)

T-Statistic	Degrees of Freedom	p-value
-1.6906512011396102	78	0.094896

Difference: -12.82

### ANOVA (Target Gaze Percentages across Trial Types)

F-Statistic	Degrees of Freedom (Between)	Degrees of Freedom (Within)	p-value
3.3709123360381685		38	0.074191

### Executive Summary

This analysis examined the gaze data across different trial types to determine if there were significant differences in gaze behavior. The Shapiro-Wilk test for normality indicated that the target gaze data did not follow a normal distribution (p-value: 0.000002), while the non-target gaze data did not follow a normal distribution (p-value: 0.000001). Levene's test for homoscedasticity showed that the variances between target and non-target gaze data were not equal (p-value: 0.017258).

The Wilcoxon signed-rank test revealed that the target gaze percentage was not significantly greater than 33% (p-value: 0.984473). Additionally, the Wilcoxon test comparing target and non-target gaze percentages indicated that there was no significant difference between the two conditions (p-value: 0.142889).

The independent t-test comparing target gaze percentages between Trial Type 1 and Trial Type 2 showed that there was no significant difference between the two trial types (p-value: 0.094896). Finally, the one-way ANOVA test indicated that the target gaze percentages across different trial types were not significantly different (p-value: 0.074191).

Overall, these results provide insights into the gaze behavior across different trial types, highlighting significant differences where applicable.