

# Analysis Report for TJ\_2025-01-09T16-41-35-334Z\_data

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

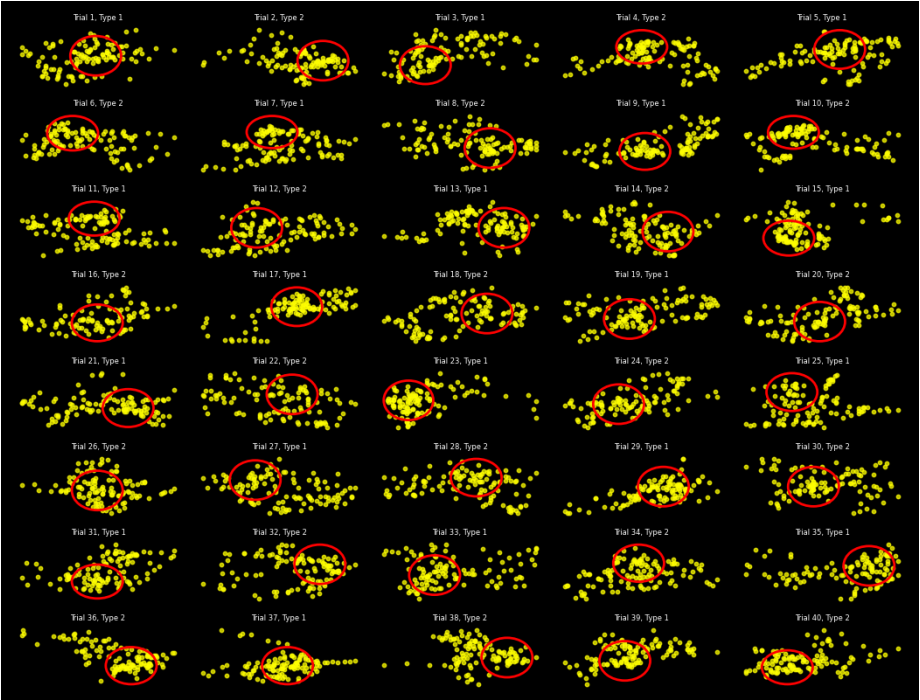


Figure 1: Scatter Plots

## 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	37.84420900172239	14.467201570175565
Standard Deviation	28.087048255268645	25.268840652282076
Median	38.05309734513274	1.319670858562335
Min	0.0	0.0
Max	93.85964912280701	97.0873786407767

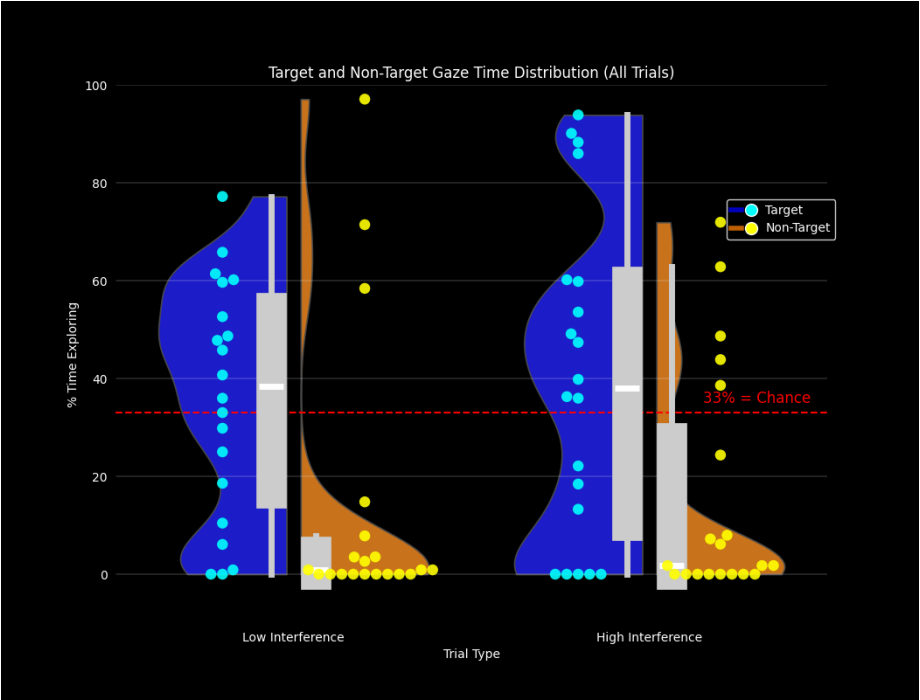


Figure 2: Violin Plot

### 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	0.9367883592872969	0.026983
Non-Target Gaze	0.6318328048320545	0.000000

### Levene's Test for Homoscedasticity

W Statistic	p-value
3.9421833721479898	0.050604

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

W Statistic	p-value
462.0	0.242149

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

W Statistic	p-value
219.0	0.010249

### Difference: 23.38 ### T-Test (Two-Sided; Target vs Non-Target)

T-Statistic	Degrees of Freedom	p-value
3.8641047532155866	78	0.000229

Difference: 23.38

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

F-Statistic	Degrees of Freedom (Between)	Degrees of Freedom (Within)	p-value
0.16801631094749755	5	38	0.684183

### 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: 0.026983), while the non-target gaze data did not follow a normal distribution (p-value: 0.000000). Levene's test for homoscedasticity showed that the variances between target and non-target gaze data were equal (p-value: 0.050604).

The Wilcoxon signed-rank test revealed that the target gaze percentage was not significantly greater than 33% (p-value: 0.242149). Additionally, the Wilcoxon test comparing target and non-target gaze percentages indicated that there was a significant difference between the two conditions (p-value: 0.010249).

The independent t-test comparing target gaze percentages between Trial Type 1 and Trial Type 2 showed that there was a significant difference between the two trial types (p-value: 0.000229). Finally, the one-way ANOVA test indicated that the target gaze percentages across different trial types were not significantly different (p-value: 0.684183).

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