

# Analysis Report for PS\_2025-03-06T17-02-49-038Z\_data

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

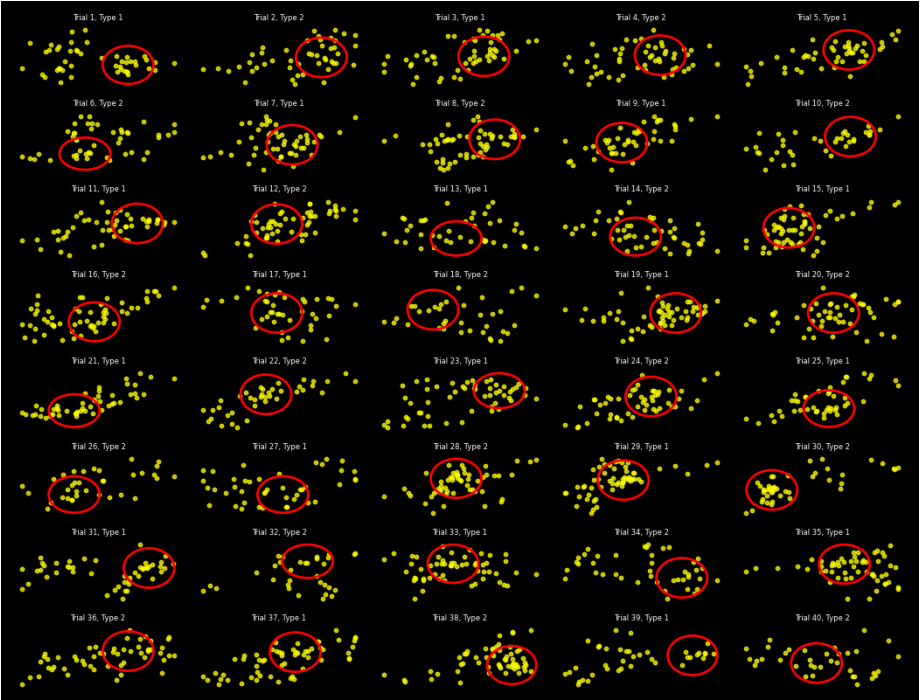


Figure 1: Scatter Plots

## 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	30.478122865038927	31.658852838477276
Standard Deviation	29.559644608686867	31.51683530443865
Median	20.89470812875068	18.71069182389937
Min	0.0	0.0
Max	86.95652173913044	93.61702127659575

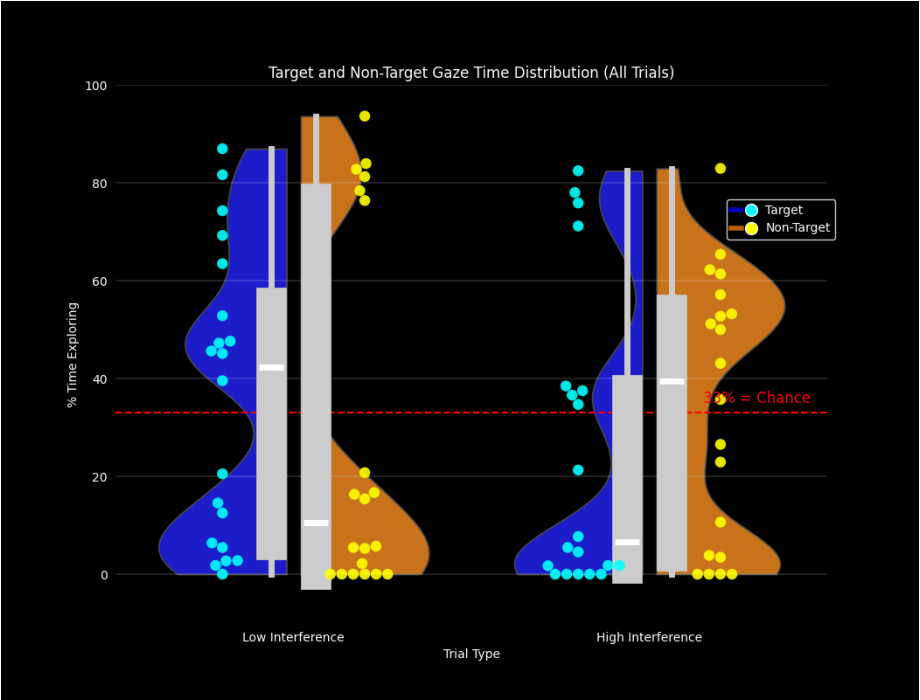


Figure 2: Violin Plot

### 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	0.8562245080967088	0.000128
Non-Target Gaze	0.8489062909255997	0.000085

### Levene's Test for Homoscedasticity

W Statistic	p-value
0.11203819161267443	0.738734

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

W Statistic	p-value
379.0	0.661613

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

W Statistic	p-value
384.0	0.734557

### Difference: -1.18 ### T-Test (Two-Sided; Target vs Non-Target)

T-Statistic	Degrees of Freedom	p-value
-0.1706479288193472	78	0.864942

Difference: -1.18

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

F-Statistic	Degrees of Freedom (Between)	Degrees of Freedom (Within)	p-value
1.377801589355131		38	0.247780

### 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: 0.000128), while the non-target gaze data did not follow a normal distribution (p-value: 0.000085). Levene's test for homoscedasticity showed that the variances between target and non-target gaze data were equal (p-value: 0.738734).

The Wilcoxon signed-rank test revealed that the target gaze percentage was not significantly greater than 33% (p-value: 0.661613). Additionally, the Wilcoxon test comparing target and non-target gaze percentages indicated that there was no significant difference between the two conditions (p-value: 0.734557).

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: 0.864942). Finally, the one-way ANOVA test indicated that the target gaze percentages across different trial types were not significantly different (p-value: 0.247780).

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