

# Analysis Report for PS\_2025-01-23T16-32-17-150Z\_data

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

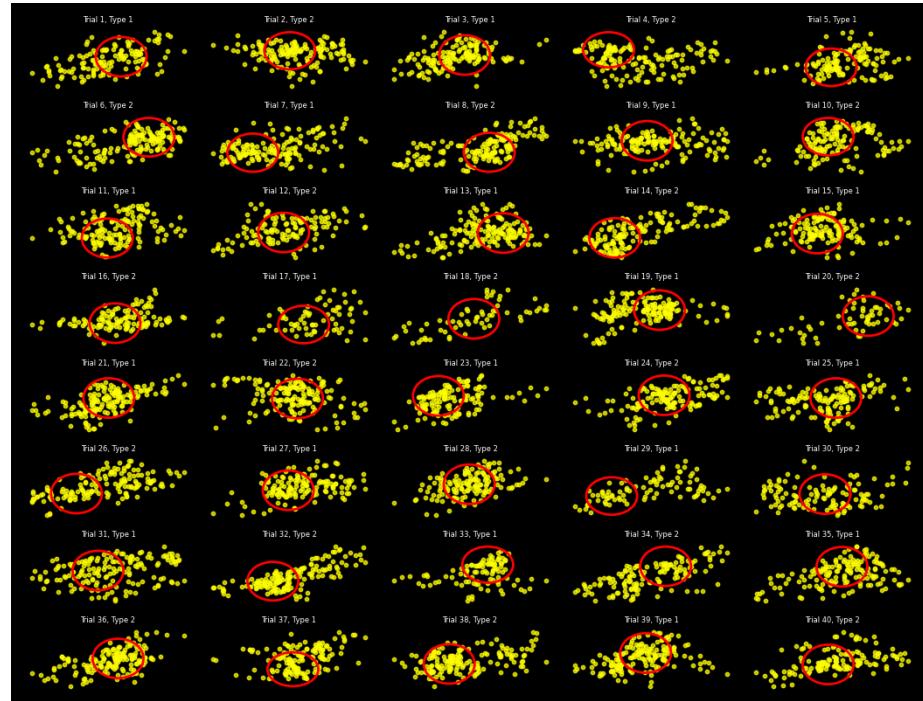


Figure 1: Scatter Plots

## 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	30.240529899396126	31.224846563476934
Standard Deviation	22.549023969420436	26.955835746229873
Median	28.333926031294453	19.260752688172044
Min	0.0	1.342281879194631
Max	81.6	86.16352201257862

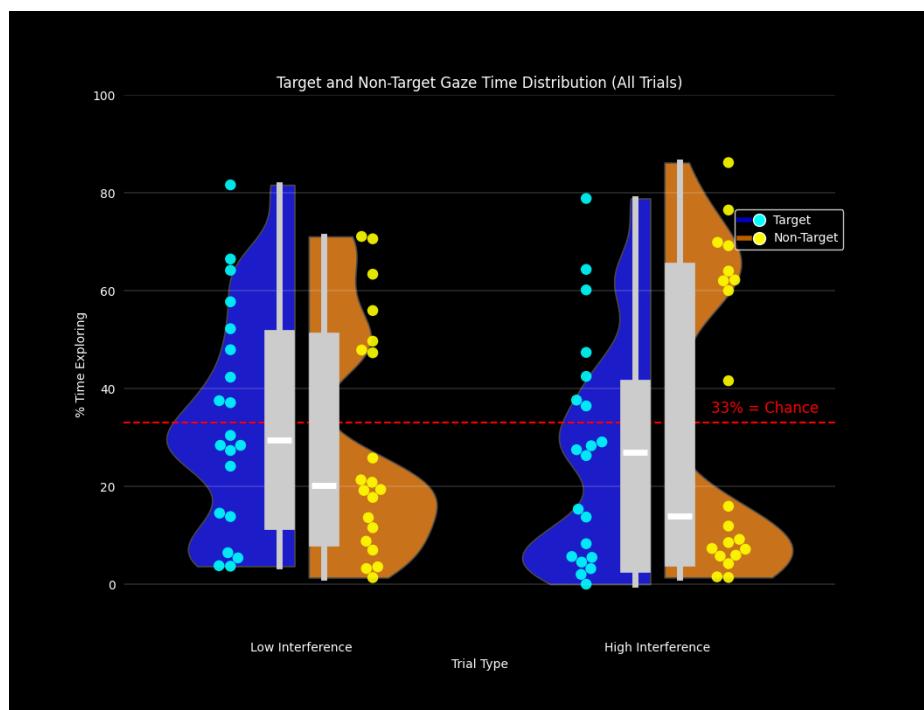


Figure 2: Violin Plot

### **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	0.9324443785485839	0.019368
Non-Target	0.8547345587094087	0.000117
Gaze		

### **Levene's Test for Homoscedasticity**

W Statistic	p-value
1.675032771195342	0.199405

### **Wilcoxon Test (One-Sided; Target >= 33%)**

W Statistic	p-value
339.0	0.830045

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

W Statistic	p-value
386.0	0.747002

**Difference:** -0.98 ### T-Test (Two-Sided; Target vs Non-Target)

T-Statistic	Degrees of Freedom	p-value
-0.17491231052659262	78	0.861602

**Difference:** -0.98

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

F-Statistic	Degrees of Freedom (Between)	Degrees of Freedom (Within)	p-value
0.8925870061128415		38	0.350746

### 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: 0.019368), while the non-target gaze data did not follow a normal distribution (p-value: 0.000117). Levene's test for homoscedasticity showed that the variances between target and non-target gaze data were equal (p-value: 0.199405).

The Wilcoxon signed-rank test revealed that the target gaze percentage was not significantly greater than 33% (p-value: 0.830045). Additionally, the Wilcoxon test comparing target and non-target gaze percentages indicated that there was no significant difference between the two conditions (p-value: 0.747002).

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: 0.861602). Finally, the one-way ANOVA test indicated that the target gaze percentages across different trial types were not significantly different (p-value: 0.350746).

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