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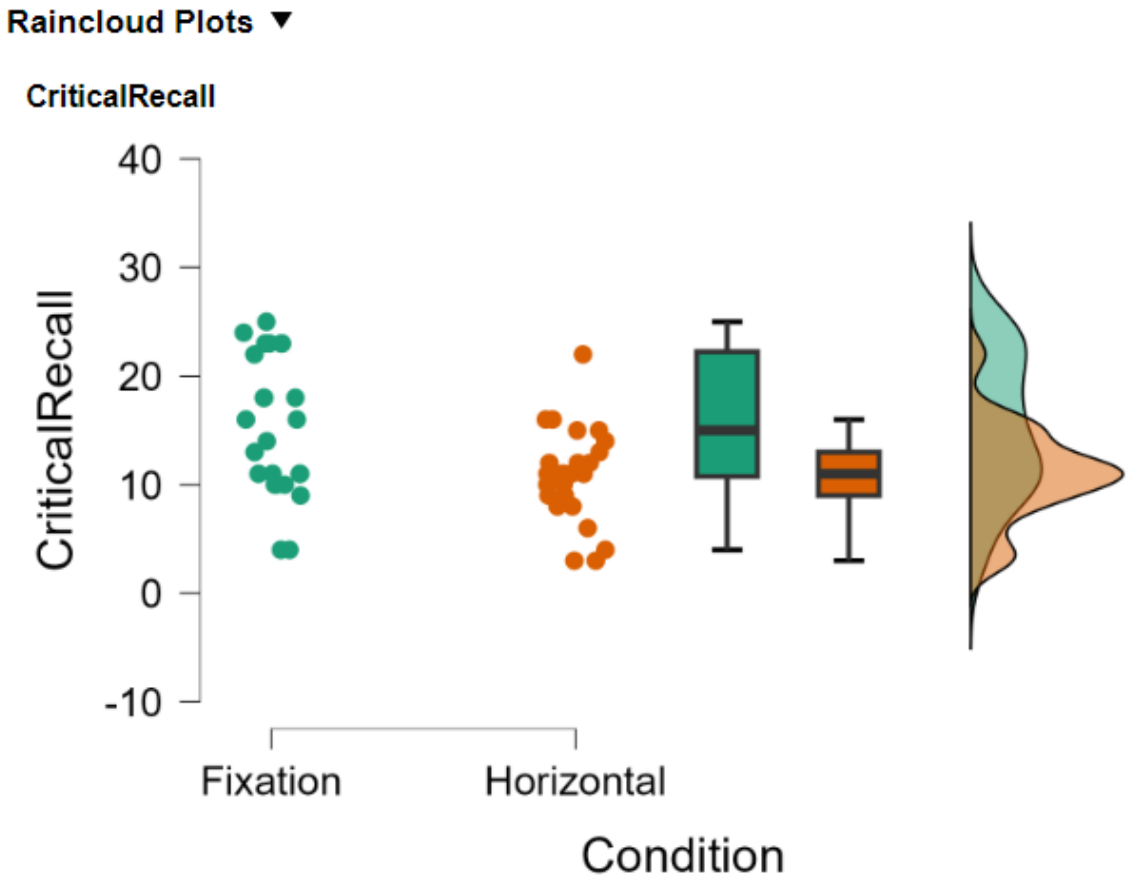
Assumption 1: The dependent variable (CriticalRecall) is at continuous level.

Assumption 2: The independent variable (Condition) consists of two categorical, independent groups (Fixation, Horizontal)

Assumption 3: Each ParticipantNumber is present only to one group.



Assumption 4: Outliers. There are no significant outliers in the two groups of independent variables (Condition) in terms of the dependent variable (CriticalRecall), as assessed by visual inspection of boxplots.

Assumption 5: Normality Test

Assumption Checks

Test of Normality (Shapiro-Wilk)

		W	p
CriticalRecall	Fixation	0.926	0.079
	Horizontal	0.959	0.396

Note. Significant results suggest a deviation from normality.

Null Hypothesis (H0): The data follows a normal distribution.

Alternative Hypothesis (H1): The data does not follow a normal distribution.

Interpretation:

1. Critical Recall vs. Fixation:
- P-Value (0.079) < 0.05: We reject the null hypothesis.
- The data for Critical Recall and Fixation does not follow a normal distribution.
2. Horizontal vs. Fixation:
- P-Value (0.396) > 0.05: We fail to reject the null hypothesis.
- There is not enough evidence to conclude that the data for Horizontal and Fixation does not follow a normal distribution.

In conclusion, null hypothesis is rejected as the data does not follow a normal distribution

Assumption 6: Homogeneity of Variances

Test of Equality of Variances (Levene's)

	F	df_1	df_2	p
CriticalRecall	7.459	1	47	0.009

The homogeneity of variances was violated for criticalrecall, p <.05

Computation

Independent Samples T-Test

						95% CI for Mean Difference	
	t	df	p	Mean Difference	SE Difference	Lower	Upper
CriticalRecall	2.845	47	0.007[a]	4.412	1.551	1.292	7.531

Note. Student's t-test.

[a] Levene's test is significant (p < .05), suggesting a violation of the equal variance assumption

Analysis:

t-Test Results:

t-Statistic (t): The t-statistic is 0.926, which is less than 2 in absolute value. The t-statistic measures the difference between the means in terms of standard errors. A t-value around 1 suggests that the means are relatively close.

p-Value (p): The p-value is 0.007, which is less than the common significance level of 0.05. This suggests that there is evidence to reject the null hypothesis (typically, the null hypothesis is that there is no difference between the groups).

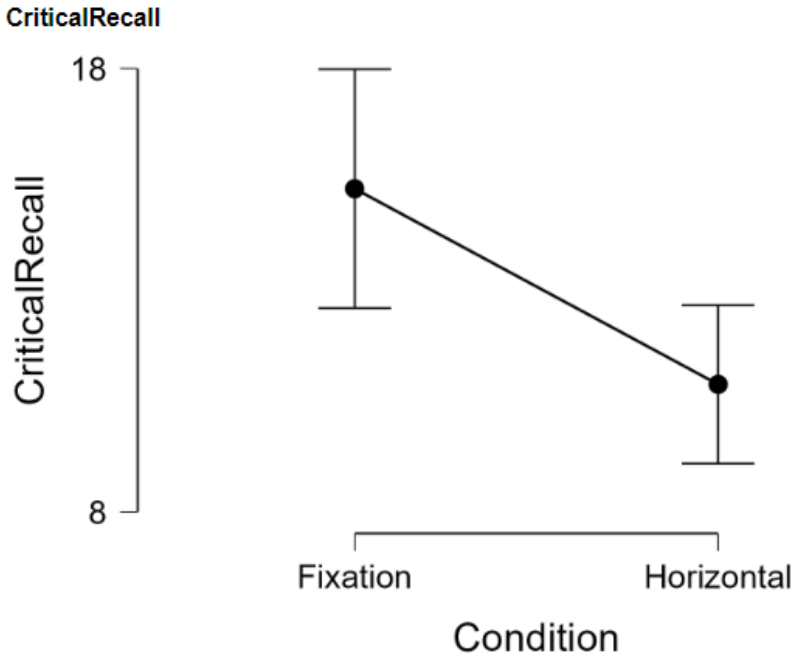
Mean Difference: The mean difference of 4.412 indicates the average difference in the observed values between the groups.

Standard Error of the Difference (SE): The standard error of the difference is 1.551, providing a measure of the variability of the difference.

95% Confidence Interval: The 95% confidence interval for the mean difference (1.292 to 7.531) suggests that we are 95% confident that the true mean difference lies within this interval. If this interval does not include zero, it indicates a statistically significant difference.

Conclusion:

The results of the t-test, including the statistically significant p-value and the non-zero 95% confidence interval, suggest that there is a significant difference in recall performance between the two groups. Specifically, the mean difference of 4.412 is likely not due to random chance, supporting the conclusion that there is a meaningful distinction in the recall abilities of participants in the "Critical Recall" group.



Overall Results:

The statistical analysis revealed a noteworthy distinction in recall performance between the two groups ($t = 2.845$, $p = 0.007$). Specifically, participants in the horizontal eye movement condition demonstrated varied recall abilities in comparison to those in the fixed gaze condition.

Conclusion:
The obtained results strongly indicate that horizontal eye movements exert a significant influence on the memory retrieval process when contrasted with a fixed gaze. This aligns with our initial hypothesis that eye movements can indeed impact cognitive processes, such as the recall of information.