

Explanation of Dunn's Test Results Columns

- The following table presents the results of the Dunn's post-hoc test, which evaluates pairwise comparisons of log-transformed sales across different product categories. Each column provides specific information about the comparisons made, statistical significance, and the estimated effect sizes.

Column Name	Description
group1	The first category being compared in the pairwise analysis.
group2	The second category being compared against the first.
p-adj	The adjusted p-value for the comparison, indicating statistical significance.
meandiff	The mean difference in log sales between group1 and group2.
reject	Boolean value indicating whether to reject the null hypothesis for the comparison (True = significant difference).
lower	Lower bound of the confidence interval for the mean difference.
upper	Upper bound of the confidence interval for the mean difference.

1. **group1:**
 - This column indicates the first group (or category) being compared in the pairwise test. It represents one level of the categorical variable (in your case, Category) involved in the analysis.
2. **group2:**
 - Similar to group1, this column indicates the second group being compared against the first group. It represents another level of the same categorical variable. Together with group1, it allows you to see which specific pairs of groups are being analyzed for differences.
3. **p-adj:**

- This column contains the adjusted p-value for the pairwise comparison between group1 and group2. The adjustment (in your case, Bonferroni correction) is used to control for the increased risk of Type I error when conducting multiple comparisons. A lower p-adj value indicates a more statistically significant difference between the two groups.

4. **meandiff:**

- This column shows the mean difference in log_sales between group1 and group2. It quantifies the difference in the average logged sales figures of the two groups. A positive value indicates that group1 has higher average sales than group2, while a negative value indicates the opposite.

5. **reject:**

- This column is a boolean indicator (True/False) that specifies whether to reject the null hypothesis for the comparison between group1 and group2. If reject is True, it means there is a statistically significant difference between the two groups at the chosen alpha level (commonly 0.05). If reject is False, it indicates that any observed difference is not statistically significant.

6. **lower:**

- This column provides the lower bound of the confidence interval for the mean difference (meandiff) between group1 and group2. It indicates the lowest value of the mean difference that is likely to be true in the population, given the sample data.

7. **upper:**

- This column provides the upper bound of the confidence interval for the mean difference (meandiff) between group1 and group2. It indicates the highest value of the mean difference that is likely to be true in the population, given the sample data.

Summary

Together, these columns provide a comprehensive view of the results from the Dunn's test, allowing you to assess both the statistical significance and the practical implications of the differences in sales between the various categories in your dataset. By examining these results, you can make informed decisions based on the sales performance of different product categories.