Bias Detection Report

Study Time Distribution Bias Analysis Report

1. Skewness Analysis: The skewness of the studytime feature is 0.632, indicating a slight positive skew. Bias Level: 2 (Minimal Bias).

2. Kurtosis Analysis: The kurtosis value is -0.014, suggesting a normal distribution in terms of tailedness. Bias Level: 1 (No Bias).

3. Outlier Detection: No outliers were detected in the studytime data. Bias Level: 1 (No Bias).

4. Cohen's d Analysis: The Cohen's d value is 35443.038, indicating extreme deviation. Bias Level: 5 (Extreme Bias).

5. Quantile Deviation: The quantile deviation is 0.0, showing no deviation from the median. Bias Level: 1 (No Bias).

6. Kolmogorov-Smirnov Test: The K-S statistic is 0.287 with a p-value of 1.111e-07, indicating significant distributional differences between subgroups (sex categories). Bias Level: 5 (Extreme Bias).

Overall Bias Level: Level 5 (Extreme Bias), indicating significant distributional differences in study time across subgroups.

Conclusion: The studytime feature shows significant distribution differences, particularly between sex categories, as indicated by the Kolmogorov-Smirnov test. This suggests potential biases that need further investigation.