Bias Detection Report

Bias Detection Report

Dataset Analyzed: Student Performance

Features Examined: `famsize` and `G3`

Type of Bias Detected: Correlation

Bias Analysis Summary:

- **Max Absolute Mean**: The maximum absolute mean (N value) for categories in `famsize` is 0.1278, indicating a minimal correlation bias.

- **Cohen's d Effect Size**: The effect size is 0.1838, which suggests minimal bias according to the Cohen's d metric.

- **Standardized Difference**: The standardized difference is -0.0790, indicating no significant bias according to this measure.

Bias Levels:

- **Correlation Bias**:

  - Max Absolute Mean: Level 2 (Minimal Bias)

  - Cohen's d: Level 2 (Minimal Bias)

  - Standardized Difference: Level 1 (No Bias)

Conclusion: The analysis indicates minimal correlation bias between `famsize` and `G3`. The dataset may be used with consideration of the slight variations detected in specific metrics.

Recommendations:

- Proceed with the dataset, keeping in mind the minimal bias detected in specific contexts.

Additional Explanation:

The correlation between family size and student performance has been assessed using multiple methods. The results consistently indicate minimal bias, suggesting the dataset's reliability in educational performance analysis. The slight variations in metrics, such as Max Absolute Mean and Cohen's d, should be taken into account in special cases.