Bias Detection Report

Bias Detection Report: Family Relationship Quality

Dataset Analyzed: Student Performance

Feature Examined: famrel (Family Relationship Quality)

Type of Bias Detected: Distribution
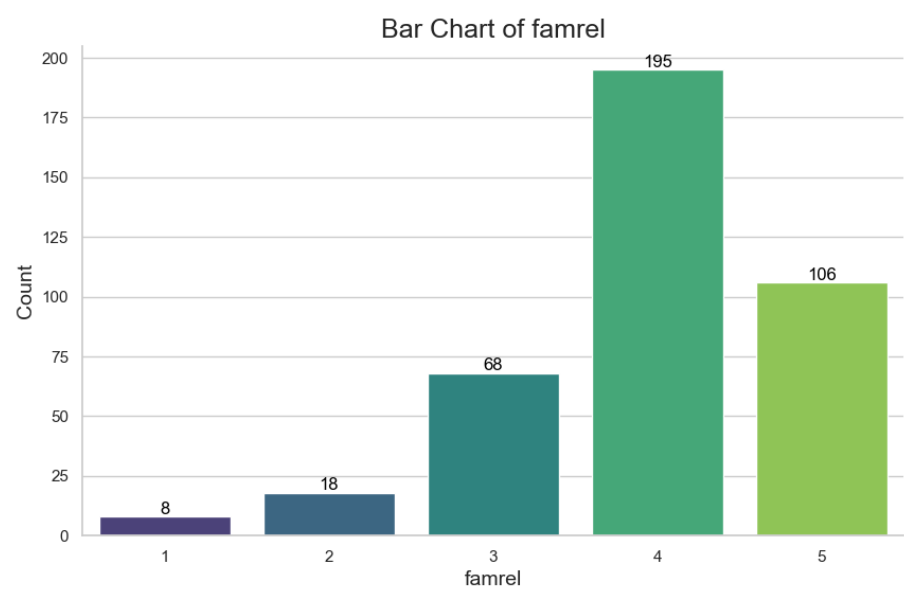
Tools and Methods Used:

- Relative Risk Analysis

- Chi-Square Test

Key Findings:

- **Relative Risk Analysis:** Normalized Bias Score: 24.375

- **Chi-Square Test:** Chi-Square Value: 150.18, P-value: < 0.001 (extremely significant)

Visualization: A bar chart was created to display the distribution of family relationship quality

levels.

Bar Chart of famrel

Detailed Summary

The analysis indicates that there is extreme bias in how students perceive their family relationships. The Chi-Square test showed a significant deviation from a uniform distribution, and the relative risk analysis indicates substantial variations across categories.

Interpretation:

- The feature 'famrel' exhibits severe distribution bias.

- This extreme bias suggests that students report significantly different levels of family relationship quality, which could skew any related analyses.

Recommendations:

- Consider the implications of this bias if using the 'famrel' feature in further analyses.

- Mitigation strategies may be needed to address this bias in decision-making or predictive modeling tasks involving family relationship quality.