

# Bias Detection Report

## Bias Detection Report for Marital Status Distribution

This report analyzes the distribution of marital statuses in the dataset and identifies potential biases using various statistical methods.

### 1. Chi-Square Test:

The Chi-Square test revealed significant bias with a high Chi-Square value of 20614.58 and a p-value of 0.0, indicating a substantial deviation from a uniform distribution.

### 2. Shannon Entropy and Balance Metric:

The Balance metric of 0.653 and Shannon entropy of 1.834 suggest a moderate bias level (Level 3) in the distribution of marital status.

### 3. Gini Index:

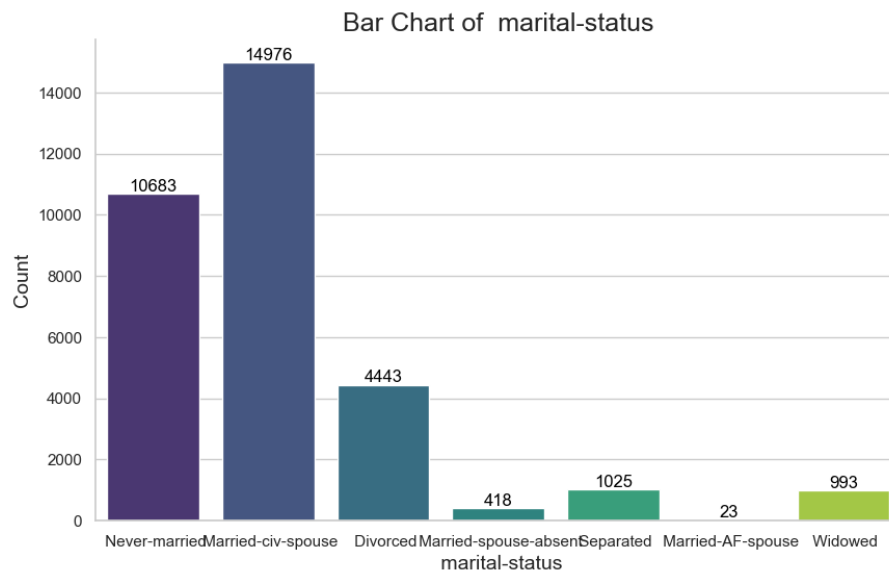
The Corrected Gini Index of 0.660 and Adjusted Gini Index of 0.770 also indicate moderate bias (Level 3).

### 4. Max/Min Ratio:

The max/min ratio of 651.13 suggests extreme bias (Level 5), highlighting significant overrepresentation of certain categories.

### Overall Analysis:

The analyses suggest moderate to extreme bias, with some methods indicating more severe bias than others. This discrepancy may be due to different sensitivity levels of the methods employed.



### Conclusion:

Based on the analysis, the distribution of marital statuses shows significant bias. It is recommended to consider these findings in further analysis or decision-making processes.