Bias Detection Report

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Dataset Analyzed:

- **Path**: source_files/COMPAS.csv

- **Relevant Features**: Sex_Code_Text (Gender) and RawScore (Assessment Scores)

Bias Type: Correlation

- **Relevant Features**: Gender (Categorical) and Assessment Scores (Numerical)

Tools Used:

1. **Cohen's d Method** (Effect Size): Suitable for detecting bias in numerical outcomes across two categorical groups.

   - Result: Cohen's d = 0.0564, indicating a negligible effect size.

2. **Standardized Difference**: Measures the difference in means relative to variability.

   - Result: Standardized Difference = -0.2338, indicating a small difference.

3. **Hilbert-Schmidt Independence Criterion (HSIC)**: A method to assess dependence between features.

- Result: HSIC Value = 4.956e-12, indicating no significant bias.

Visualization:

- A box plot was created to visually assess the distribution of assessment scores across different genders.

Additional Explanation:

This analysis confirms no significant bias in the assessment scores concerning gender. The negligible effect sizes and HSIC value suggest that the dataset is unbiased in this context.