Empirical research consistently finds that standardized cognitive tests are not biased (Brown et al., 1999)

Continued claims of test bias are not empirically justified (Power et al., 2004)

Differences in mean scores across ethnic group ≠ Bias (Reynolds & Suzuki, 2012)

Based on the empirical research findings, Judge John F. Grady found that I.Q. tests do not discriminate against African-American children (United States District Court, PASE v. Hannon, 1980)
Scientific Procedures Used to Identify & Eliminate Bias

- Follow APA & AERA test development guidelines for fairness of assessment.
- Expert bias review of all test items, arts, instructions, and scoring rules.
- DIF analysis using IRT and Mantal Hanszel methods, and minority over-samples.
- Measurement invariant analysis: Ensure tests measure the same construct when assessing individuals of different ethnic groups, gender, or with different clinical diagnoses.
- Demonstration, teaching, & sample items: Ensure all students learn the task before being administered the real test items.
- Response process analysis: Ensure tests invoke the relevant cognitive process.
- Scoring rule study for verbal subtests: Ensure fairness of scoring.
- Normative samples are randomly stratified according to census: Ensure they are representative of the current US population.
IRT DIF (Bias) Analysis

Item DIF exist when the item characteristic curves of two groups do not overlap
Continued Claims of Test Bias are not Empirically Justified

**Claim 1:**
- The verbal subtests in the WISC are culturally loaded and biased against African American students.

**Fact 1:**
- On the average, African American student perform relatively better on the verbal tests than on nonverbal ones:

<table>
<thead>
<tr>
<th>Test</th>
<th>Verbal</th>
<th>Non-verbal</th>
<th>FSIQ (d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WISC-R</td>
<td>VIQ=87.8</td>
<td>PIQ=87.2</td>
<td>86.4 (-.91)</td>
</tr>
<tr>
<td>WISC-III</td>
<td>VIQ=90.7</td>
<td>PIQ=88.5</td>
<td>88.6 (-.76)</td>
</tr>
<tr>
<td>WISC-IV</td>
<td>VCI=91.9</td>
<td>POI=91.4</td>
<td>91.7 (-.55)</td>
</tr>
<tr>
<td>WISC-V</td>
<td>VCI=92.1</td>
<td>VSI=90.2, NVI=91.7</td>
<td>91.9 (-.54)</td>
</tr>
</tbody>
</table>
Continued Claims of Test Bias are not Empirically Justified

• **Claim 2:**
  - The test is biased because the mean scores are different across different race/ethnicity groups.

• **Fact 2:**
  - Mean score difference ≠ bias
  - Race/ethnicity accounts for only 3.7% score variance in FSIQ
  - Parent education accounts for 18.8% score variance in FSIQ
  - Racial differences are significantly reduced after controlling family income, parent education, single parent, school resources, etc.
  - Birth order accounts for about the same amount of variance in FSIQ:
    - 1st Born = 102.3
    - 2nd Born = 100.0
    - 3rd Born = 97.7
    - 7th Born = 90.6
Specific Learning Disability

- **Simple difference method**: Compare achievement and ability score directly
- **Regression method**: Compare observed and predicted achievement
- **PSW method**: Compare strength-weakness patterns between achievement & cognitive abilities.

Cognitive tests & their utilities have been changed significantly

- **WISC-R (1974)**: VIQ, PIQ, FSIQ
- **WISC-V (2014)**: VCI, VSI, FRI, WMI, PSI, FSIQ, NVI, QRI, GAI, CPI
Summary

➢ Cognitive tests are not biased  (Brown et al., 1999; Reynolds & Suzuki, 2013)
➢ The social-political unfairness, such as poverty and lack of opportunity, is the root cause  (Power et al., 2004; Hiramoto & Gamble, 2017)
➢ Test ban has not solved the problem & disproportionality is not the result of intelligence testing  (Power et al., 2004; Kirst 2017)
➢ Test ban deprives African American students of opportunities to be evaluated using high quality cognitive tests.
➢ School Psychologists are best qualified to determine appropriate assessment tools  (Kirst, 2017)
References


• Kirst, M (2017). Letter to: The Honorable Tom Torlakson, State Superintendent of Public Instruction, California Department of Education.


