Does Modification of Identification Policies Increase the Diversity of Gifted Students?

NATIONAL CENTER FOR RESEARCH ON GIFTED EDUCATION

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Three Research Questions

1. How much do districts use policies that modify gifted identification processes for underserved populations?
2. How extensive is the problem of underrepresentation?
3. Can modification policies increase the diversity of gifted students?

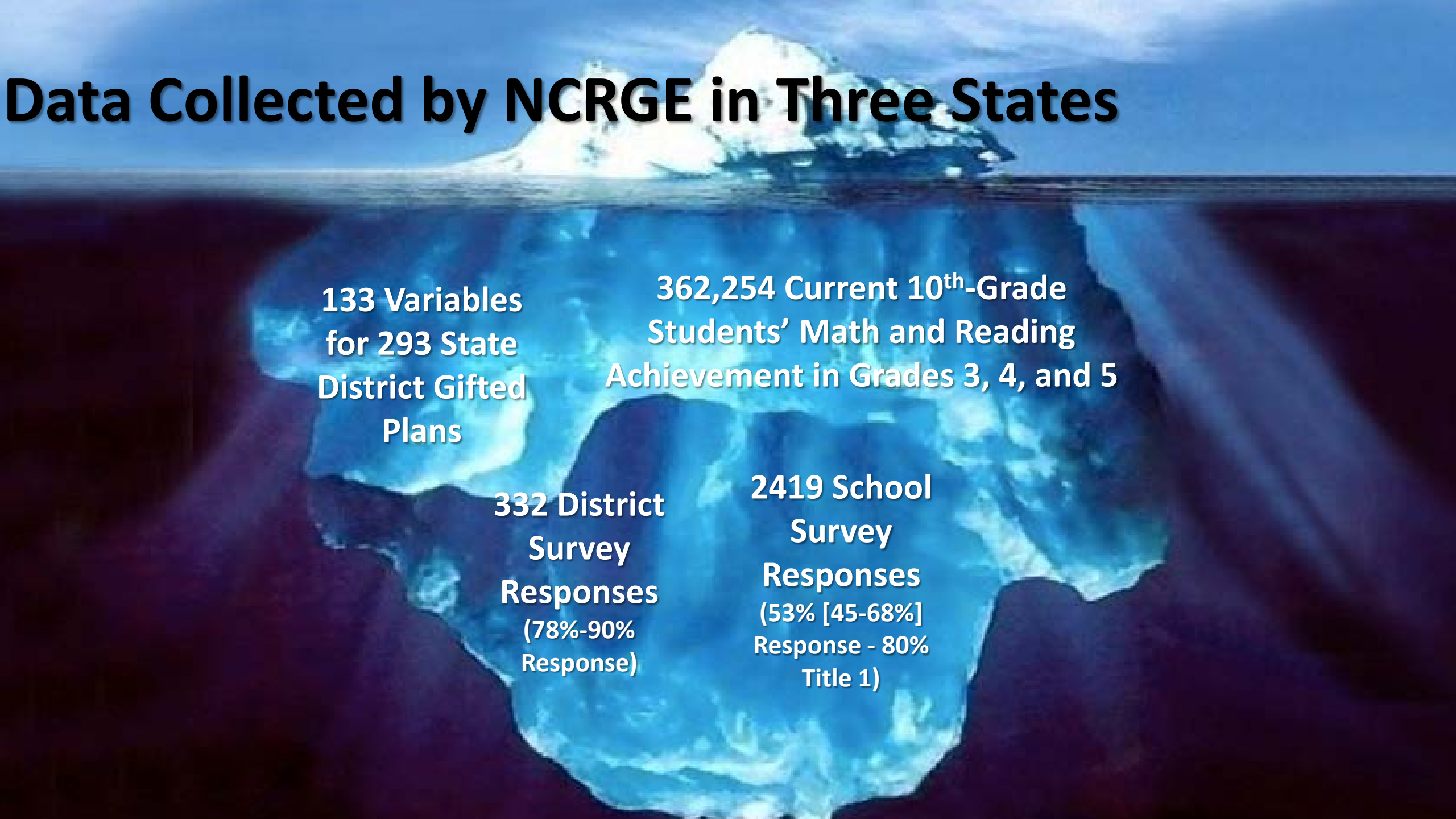
Outline

1. How do districts modify identification criteria and practices to address underrepresentation?
    - District survey and student data from three states with gifted education mandates
    - Percent of districts that use any modification policies
    - Different types of modification policies used by districts
2. How extensive is the problem of underrepresentation?
    - Under-representation without controls for academic achievement
    - Under-representation with controls for academic achievement
3. Can modification policies increase the diversity of gifted students?
    - Methods
    - Effects of modification policies on underrepresentation

Research Question #1

How much do districts use policies that modify gifted identification processes for underserved populations?

Data Collected by NCRGE in Three States



We Examine District Survey and Student Data

- District Survey of all districts in three states conducted in 2014/15. We asked both general and specific questions about modification practices
- Longitudinal student level administrative data for all of the 2011-12 3rd grade cohort from three states. Longitudinal data from these students from 3rd, 4th, and 5th grades. Includes variables on identification as gifted, Free and Reduced Price Lunch (FRPL) status, ELL status, race ethnicity, and academic achievement for three academic years from 2011/12, 12/13, and 13/14.
- Sample Sizes after list wise deletion

	State 1	State 2	State 3
Students	74,922	53,641	131,435
Schools	1,026	922	1,791
Districts	97	114	49

District Survey Questions: General Modification Policy

- Does your district modify the identification process when evaluating students from underserved populations?
  - No, we use the same assessment and evaluation process to identify students as gifted, regardless of their background.
  - Yes, we do modify the evaluation process for students from underserved populations.

District Survey Questions: Specific Modification Policies

- In what ways do you modify the evaluation process for students from underserved populations?
  1. We evaluate English language learners in their native language.
  2. We use nonverbal assessments to identify underserved students.
  3. We are more flexible about the scores that are necessary for identification as gifted for students from underserved populations.
  4. We use a "talent pool approach" to identify and/or serve potentially gifted students prior to more formal identification.
  5. We give underserved students "extra consideration" during the identification process.
  6. We use different weighting of the identification data.

Types of Modification Used by Districts in Three States (percent of districts)

	State 1	State 2	State 3
Modification – Any	26%	24%	71%
Type of Modification			
1) Evaluate ELL in Native Language	6%	9%	38%
2) Non-verbal assessment	16%	21%	51%
3) More flexible about ID scores for Underserved Pop.	17%	7%	62%
4) Use a "talent pool approach"	8%	19%	11%
5) Give "extra consideration" during ID process	11%	10%	20%
6) Use different weighting of the ID data	2%	2%	42%

Take home messages…

1. **Only ¼ of districts in two states use any type of modification policy, ¾ of districts in the third states use modification policies**
2. **Non-verbal assessments and more flexibly about identification scores for underserved populations are the two most popular policies**
3. **State 2 makes notable use of a talent pool approach**

Research Question #2

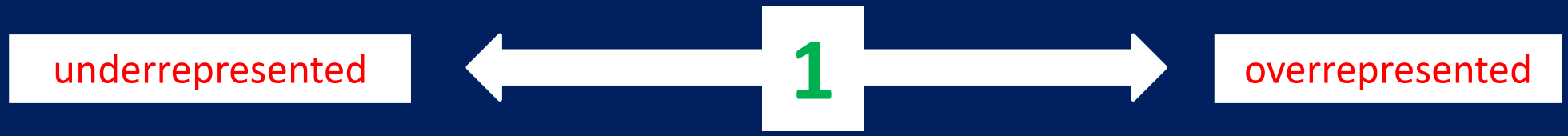
How extensive is the problem of underrepresentation?

How Extensive is the Problem?

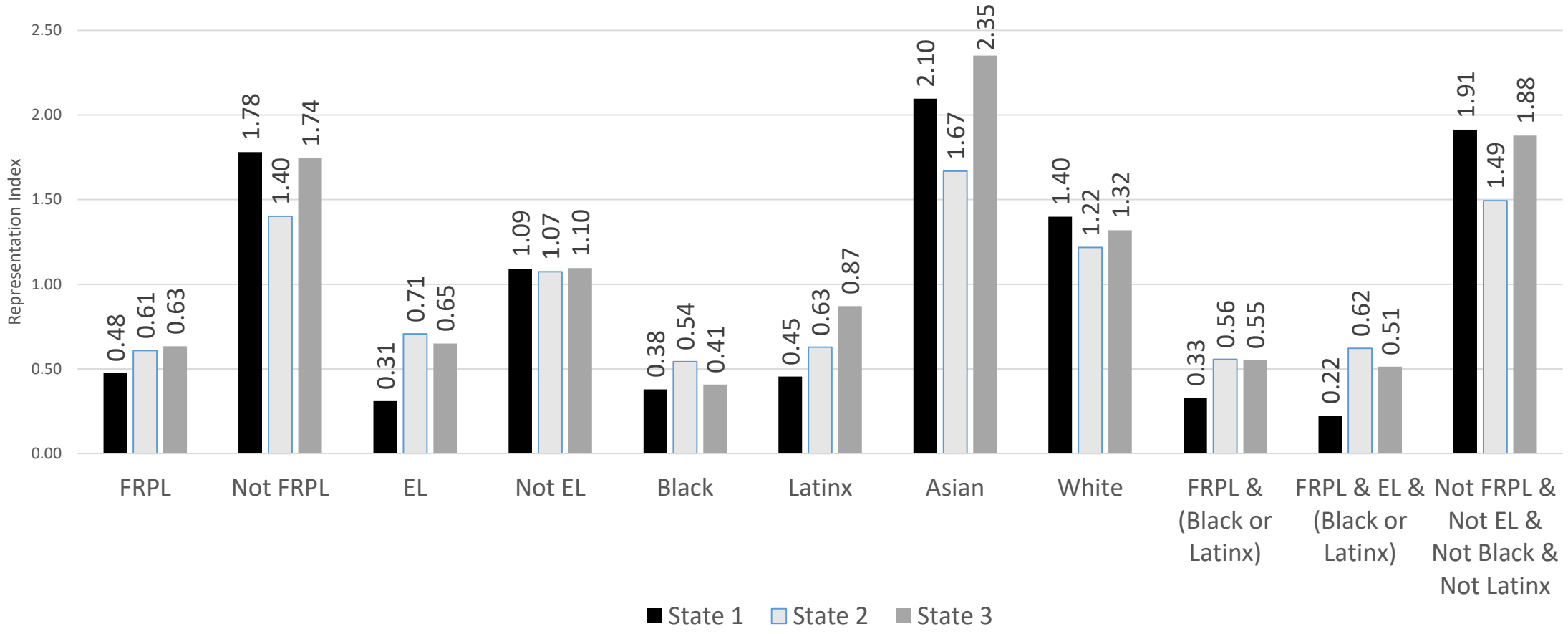
Percent of Sub-populations Identified as Gifted			
State (and overall % gifted)	State 1 (18.7%)	State 2 (11.5%)	State 3 (10.7%)
% of FRPL-eligible Identified	8.2%	6.2%	6.6%
% of African American Identified	6.5%	5.6%	4.2%
% of Latinx Identified	8.0%	6.5%	9.1%
% of EL Identified	5.5%	7.4%	6.3%
% of White Identified	24.6%	12.8%	13.8%
% of Asian Identified	36.7%	16.7%	24.9%
% FRPL, and Black or Latinx	6.4%	6.0%	5.9%
% Not FRPL, Not EL, and Not Black or Latinx	37.0%	15.0%	20.2%

Representation Index

RI: We calculated each group's representation index by dividing the proportion of the subgroup that were identified as gifted by the proportion of gifted students among all students in the state.



Representation Index in Three States



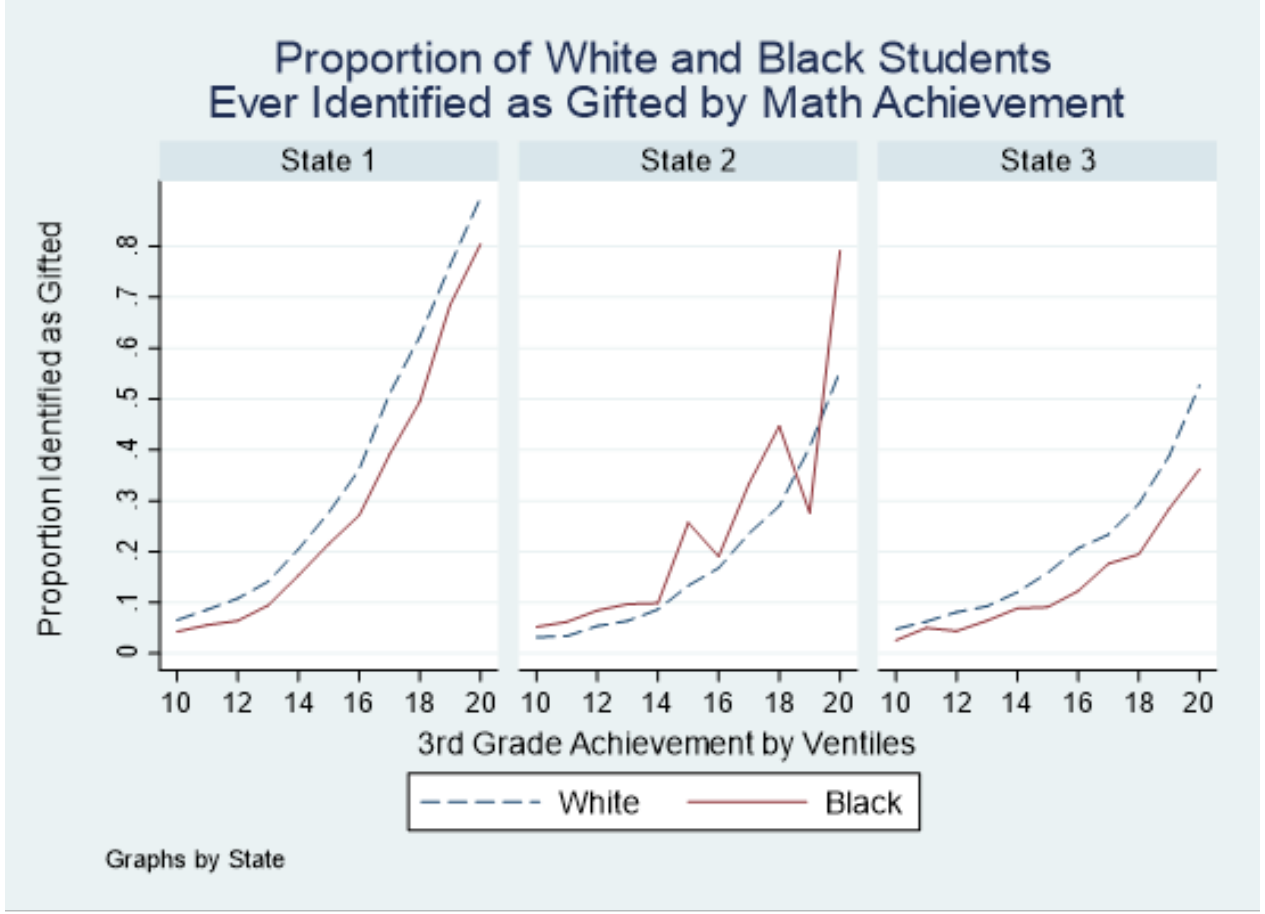
Take home message…

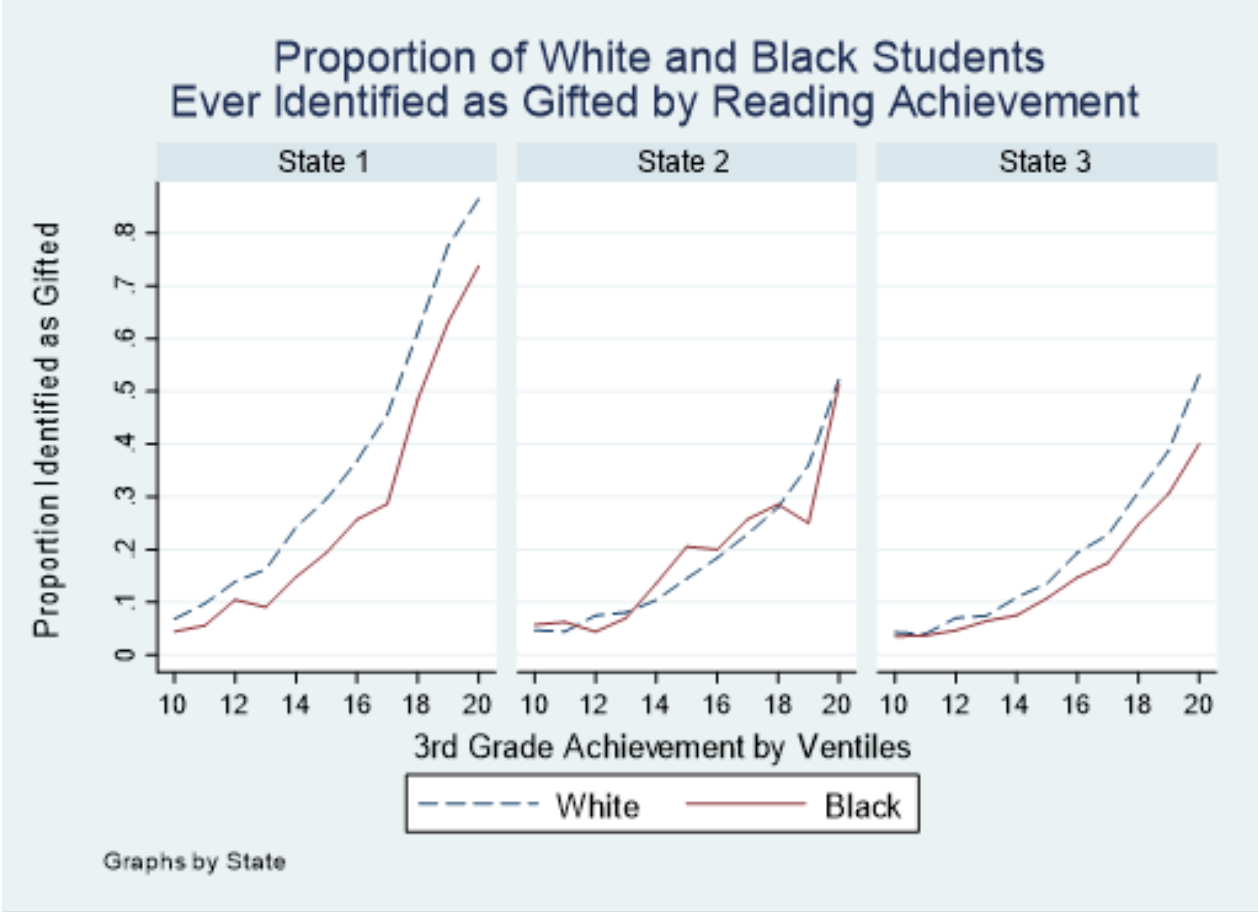
Underserved populations are not being identified at the same rates

One question…

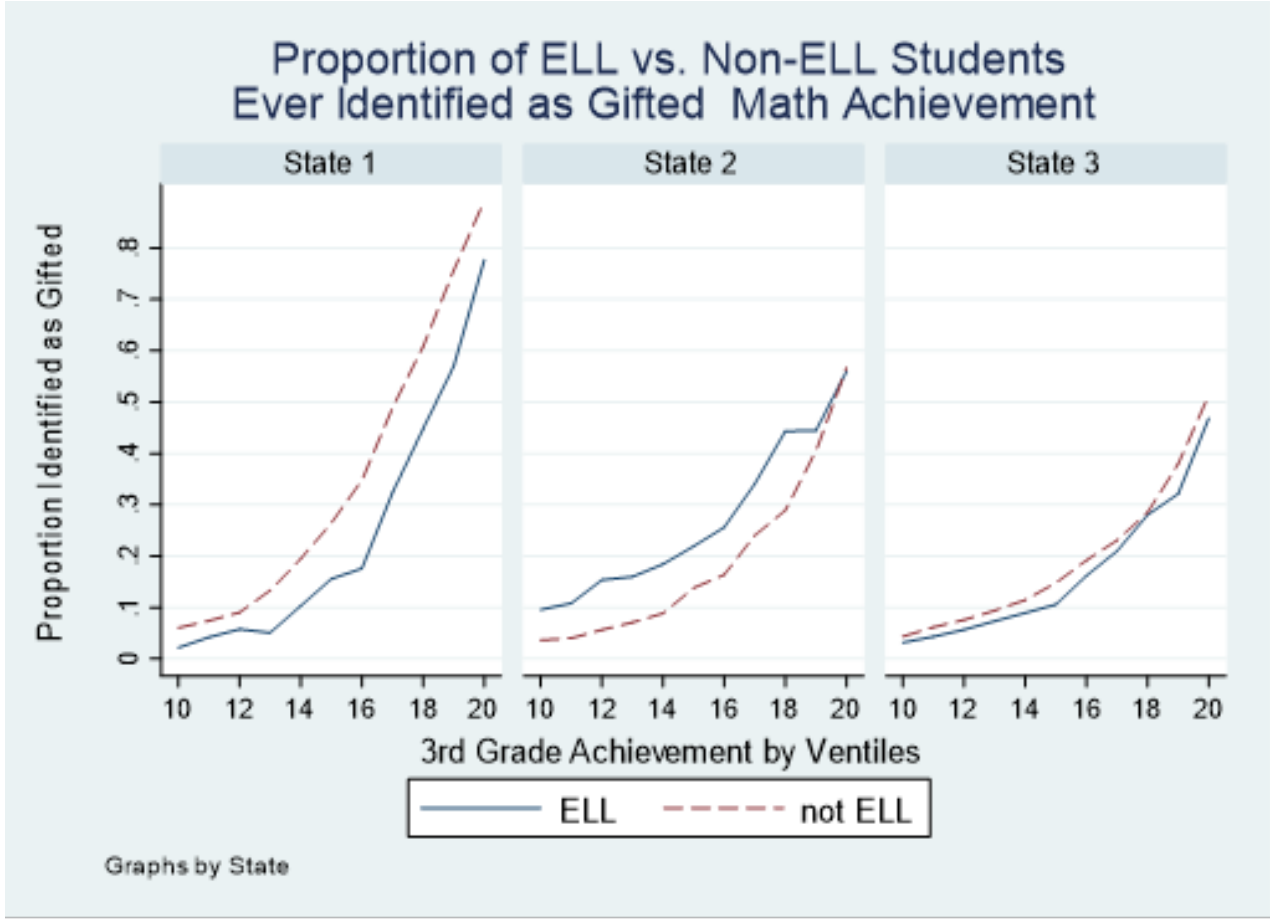
Do disparities in identification still exist after controlling for academic achievement?

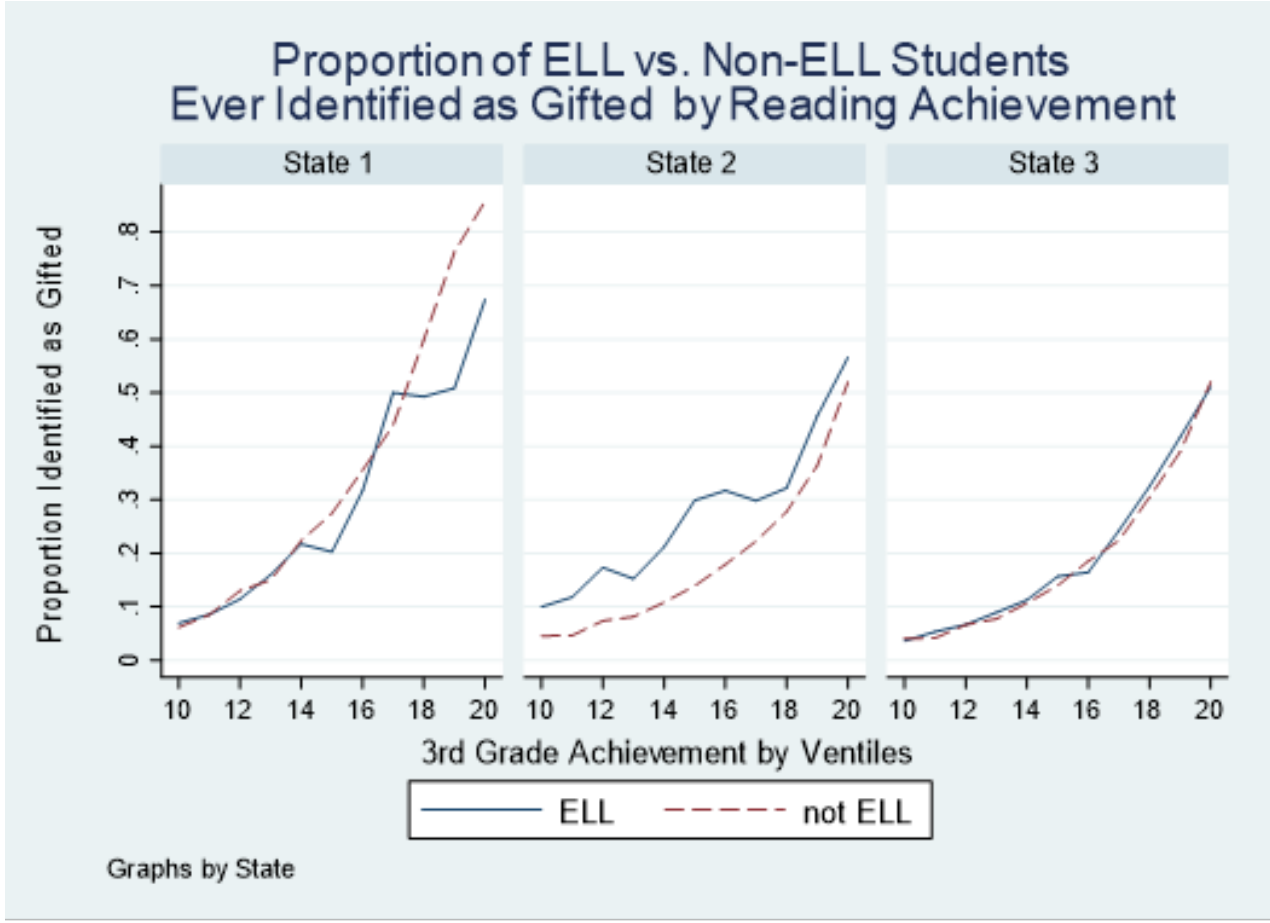
Proportion of White and Black Students Identified as Gifted by 3rd grade



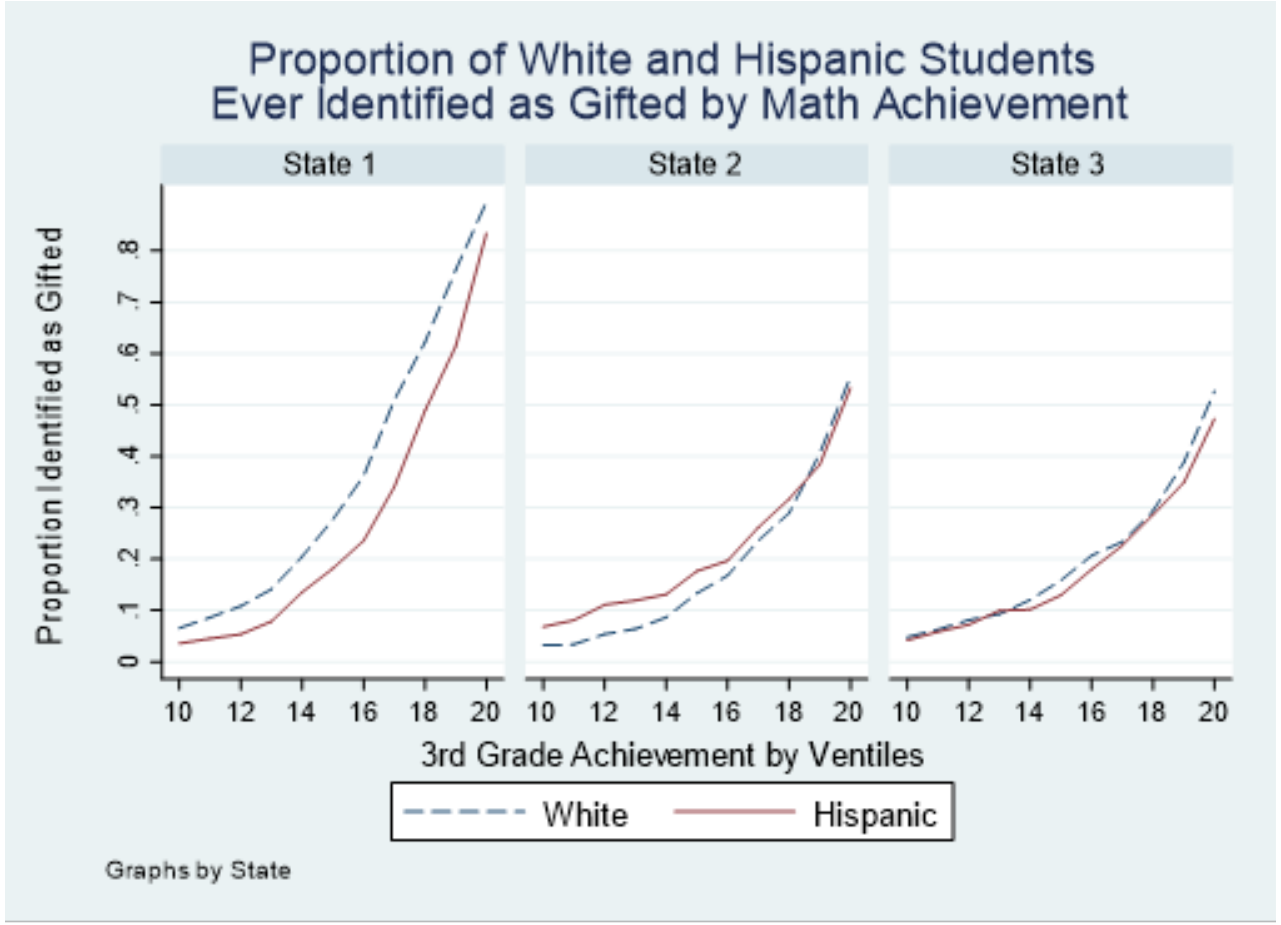


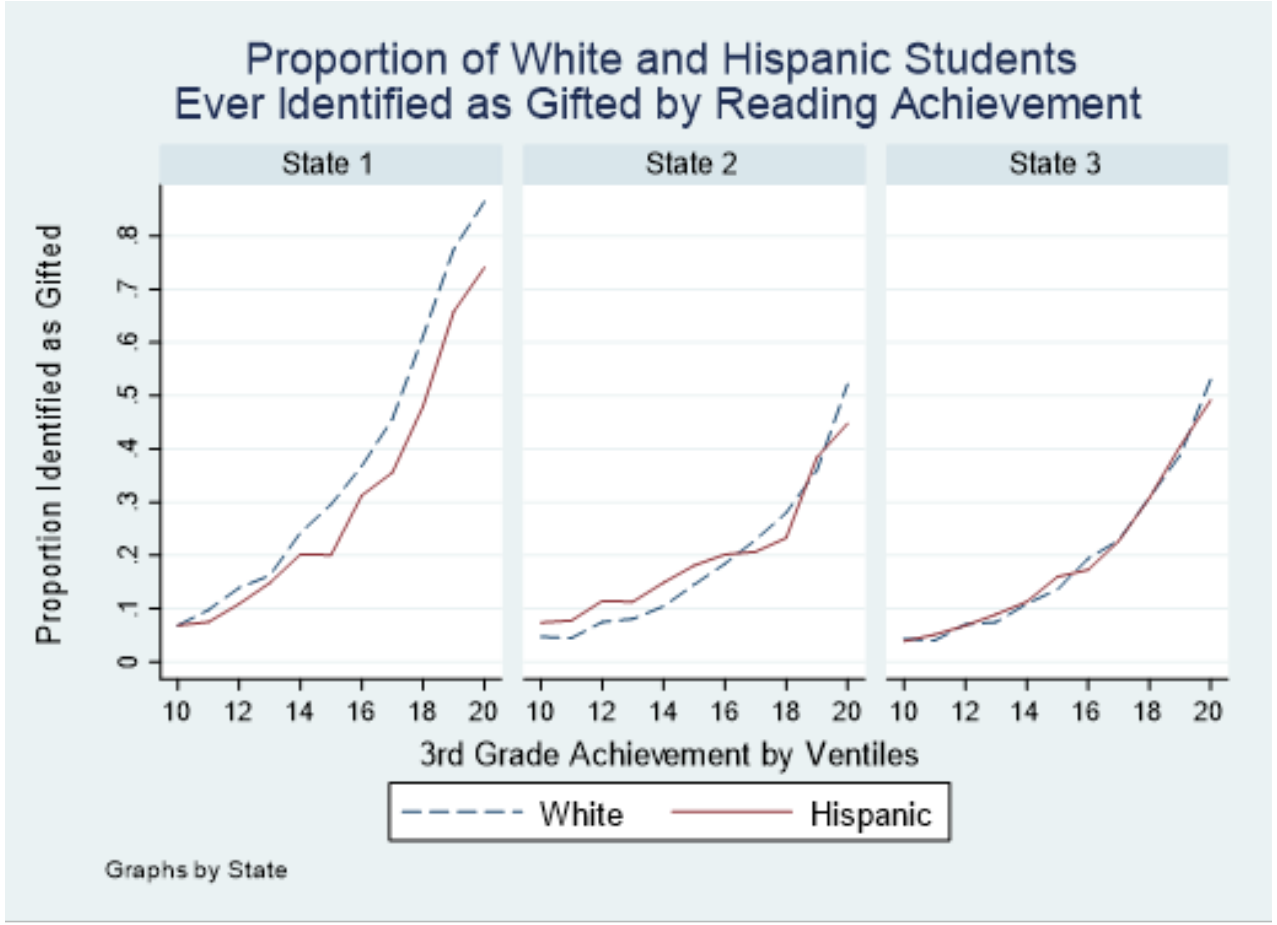
Proportion of EL and Non-EL Students Identified as Gifted by 3rd grade



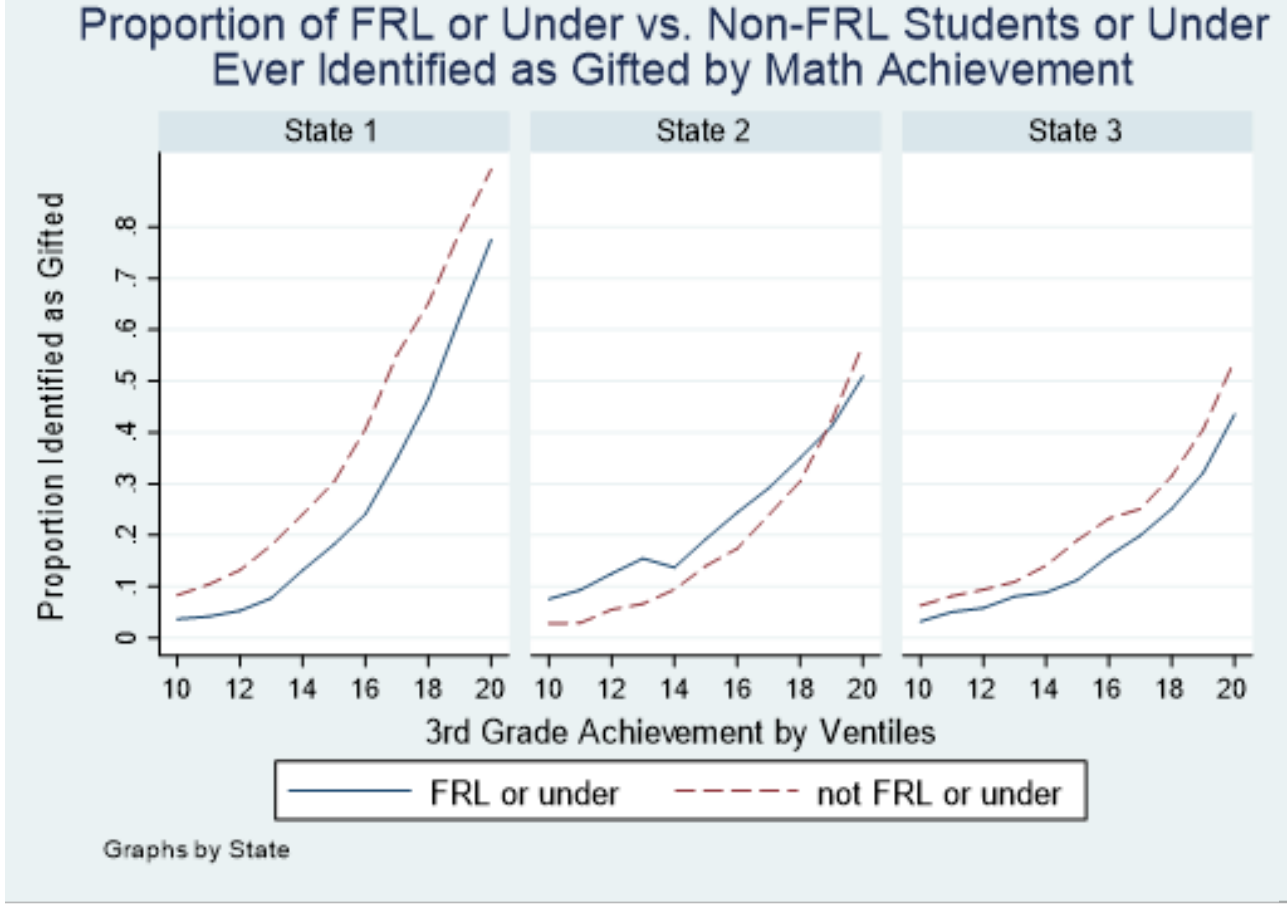


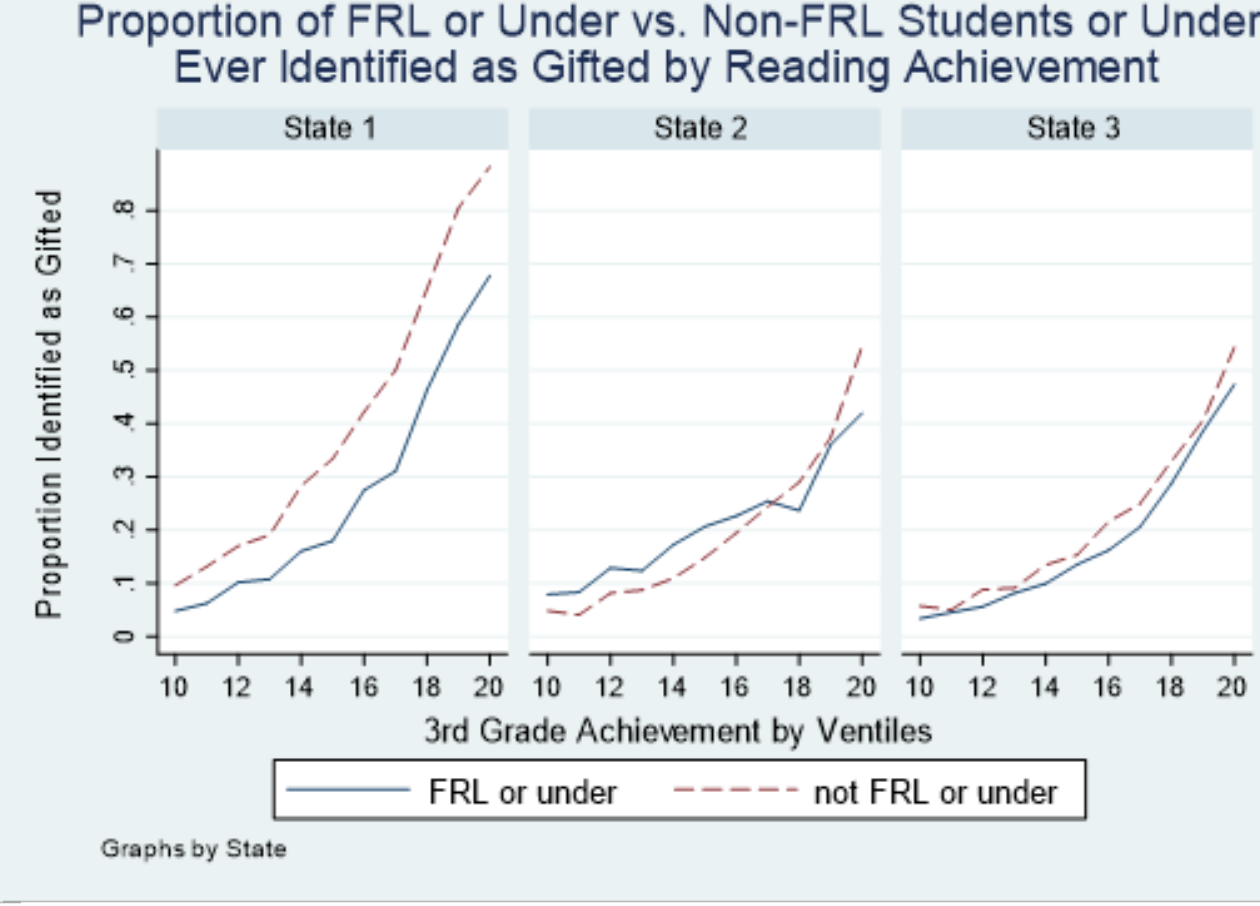
Proportion of White and Latino Students Identified as Gifted by 3rd grade



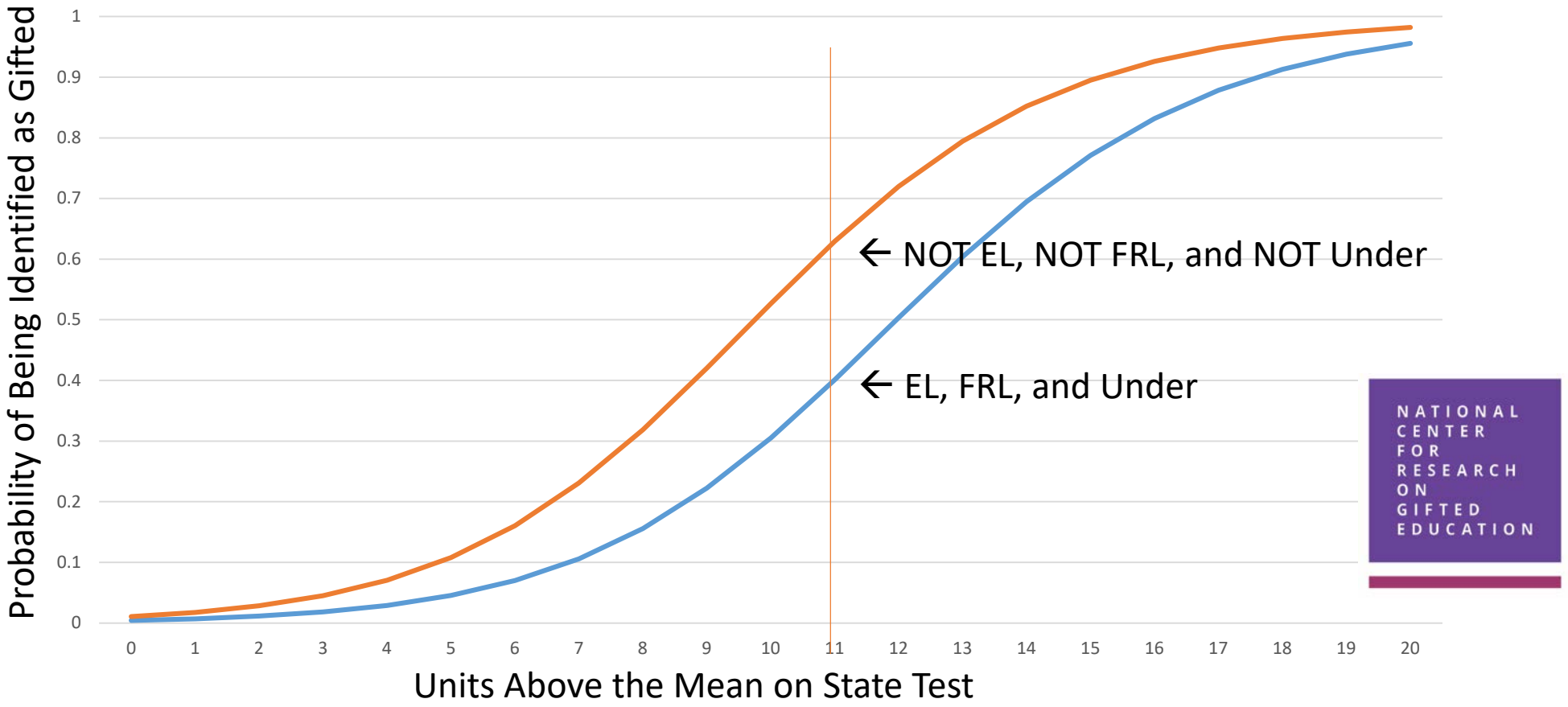


Proportion of FRL and non-FRL Students Identified as Gifted by 3rd grade

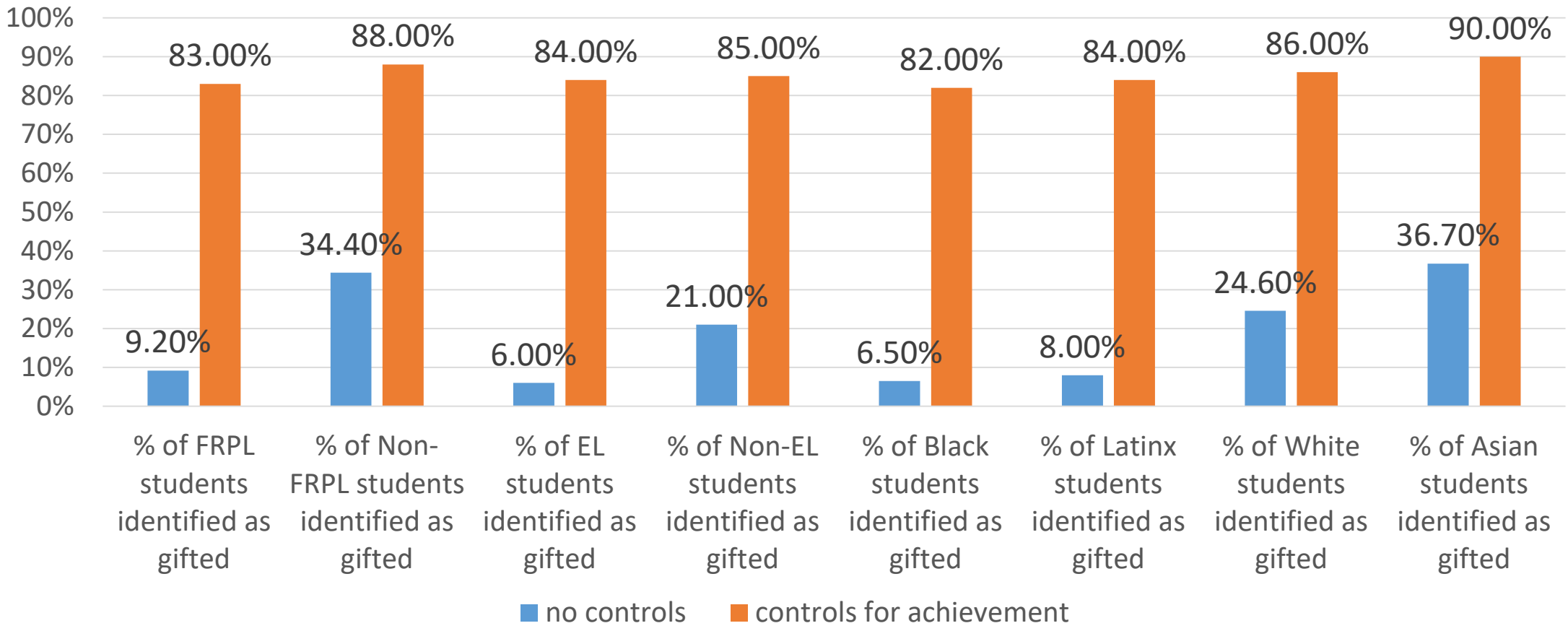




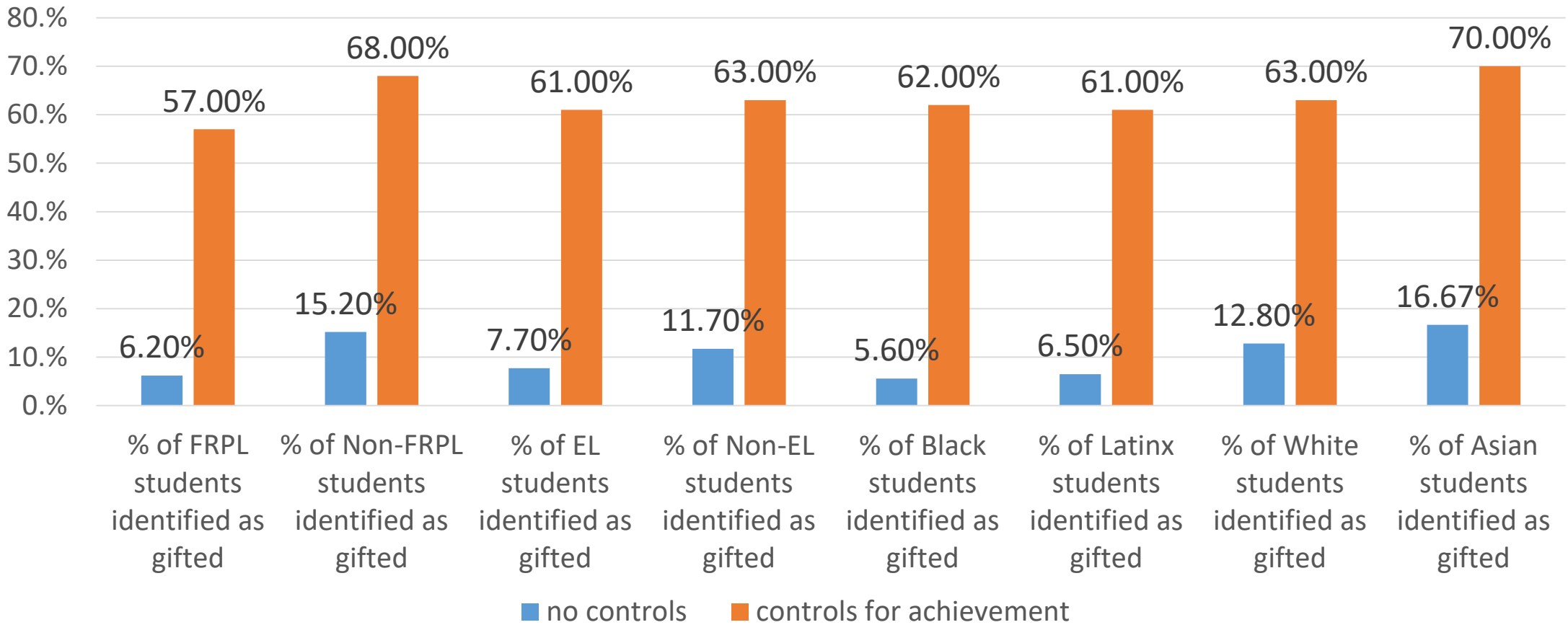
Probability of identification as gifted for reference students and students who are EL, Free and Reduced Lunch, and Underserved after controlling for Reading and Math scores and school SES and school percentage of gifted students



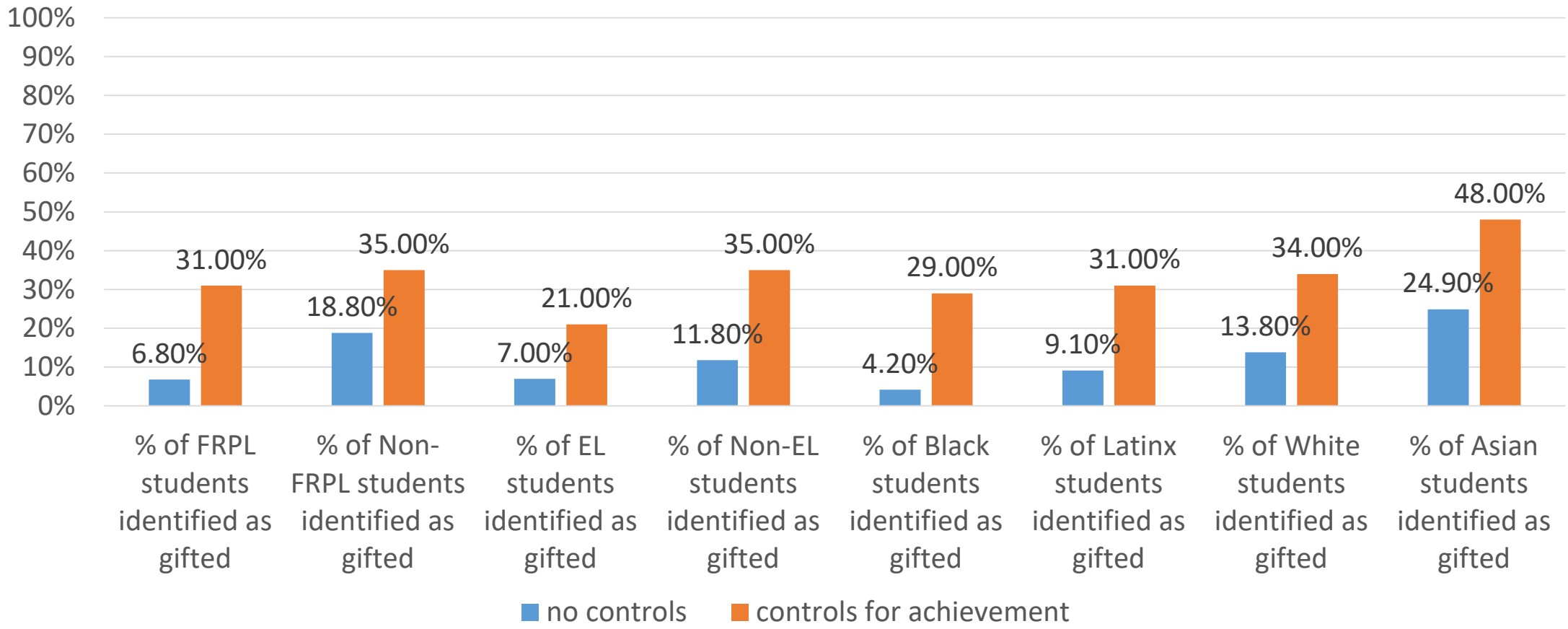
State 1: Comparison of inequalities in identification with and without controls for achievement (+1.5 S.D.)



State 2: Comparison of 1nequalities in identification with and without controls for achievement (+1.5 S.D.)



State 3: Comparison of inequalities in identification with and without controls for achievement (+1.5 S.D.)



How extensive is the problem of underrepresentation?

- Notable underrepresentation of students in poverty, ELL students, Black and Latino students in gifted programs in all three states. Representation index from .31 to .87. (A representation index of one means equal representation.)
- State 2's racial/ethnic inequality in identification is notable in that underrepresentation appears to be largely accounted for after controlling for 3rd grade student academic achievement.
- State 1 and State 3 have a lower rate of underrepresentation even after controlling for academic achievement.

Take home message…

- **In States 1 and 3, Underserved populations are not being identified at the same rates even after controlling for student achievement.**
- **In State 2, disparities in gifted identification achievement are strongly correlated with disparities in early academic achievement.**

Research Question #3

Can modification policies increase the diversity of gifted students?

Statistical Methods and Variables

- **Method: T**hree-level logistic multi-level model using HLM
- **Dependent Variable:** Gifted identification any time from 3rd-5th
- **Independent and Control Variables:**
  - Level 1 Variables (Student Level)
    - Free or Reduced Price Lunch (FRPL) status any time from 3rd-5th, English Learner (ELL) status any time from 3rd-5th, race/ethnicity (Latino, Black, Asian, Other, White(omitted)), math achievement (1), reading achievement (1), school mobility any time from 3rd -5th.
  - Level 2 Variables (School Level)
    - Controls: percent gifted (1), percent Black or Latino (1), percent ELL(1), percent FRPL (1), and whether the school is a charter school
  - Level 3 Variables (District Level)
    - District Policies about Modification
    - Controls: percent gifted (2), percent Black or Latino (2), percent ELL(2), percent FRPL (2),
- Notes: 1= group centered, 2=grand mean centered
- **CAUTIOUS LEVEL OF STATISTICAL SIGNIFICANCE (p-value=.01, i.e. false positive in potential 1/100 samples)**
- **IMPORTANT CAVEAT: THESE ARE STUDIES OF CORRELATION NOT CAUSATION**

Research Question #3, part 1

Is there a statistically significant correlation between any type of modification the diversity of gifted students?

Is there a statistically significant correlation between any type of Modification and the rates of identification for:

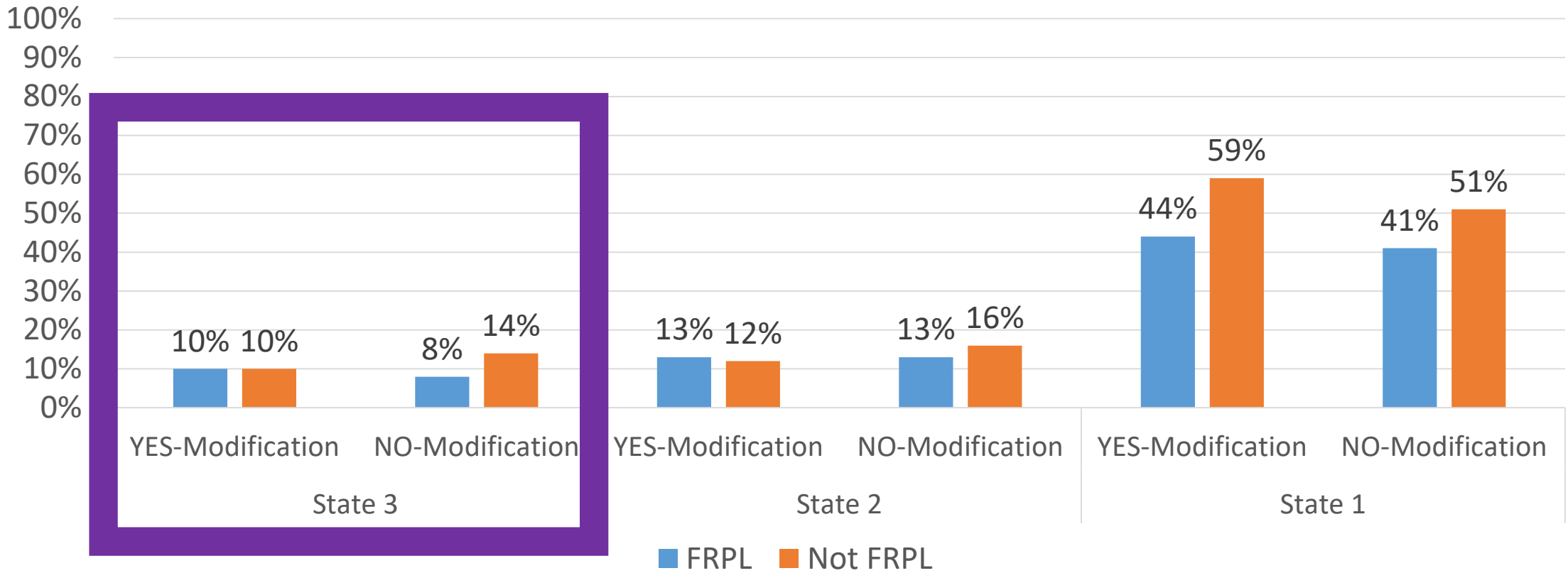
- Free and Reduced-Price Lunch Students?
- English Learner Students?
- Black Students?
- Latinx Students?

Is there a statistically significant correlation between any type of Modification and the rates of identification for:

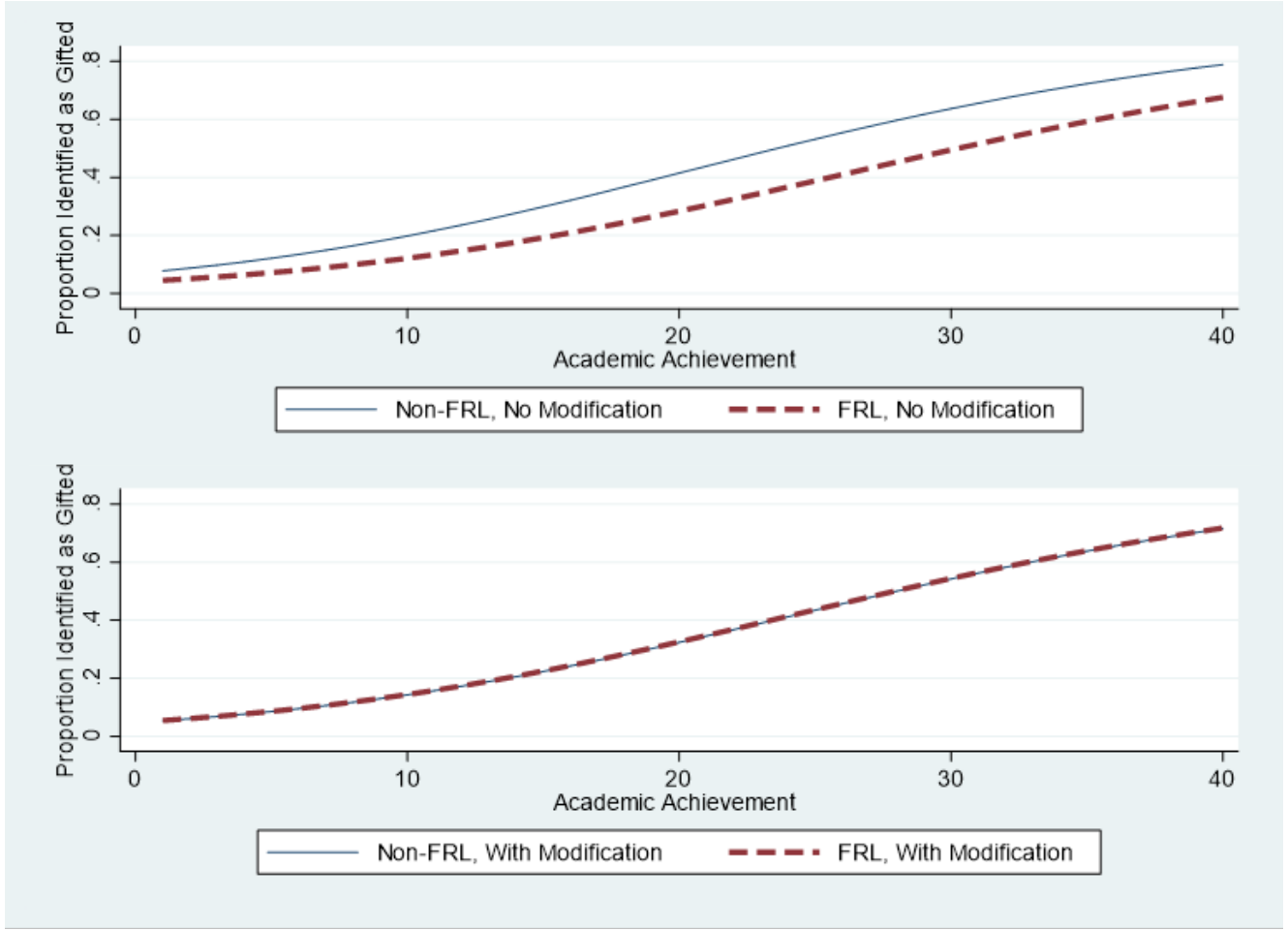
- Free and Reduced-Price Lunch Students?
  YES
- English Learner Students?
  NO
- Black Students?
  NO
- Latinx Students?
  NO

Effect of Districts with Modification Policies on the FRPL vs. Not FRPL Gap in the Percent of Students Identified as Gifted

(Statistically Significant Findings in a Box)



Probability of Identification as Gifted for Free and Reduced Price Lunch (FRPL) and non-FRPL White Students in Districts with no Modification and with Modification in State 3



Take home message…

- **Only districts in State 3 that use modification show increased FRPL/non-FRPL equity**

Research Question #3, part 2

Do different types of modification policies have different effects on the diversity of gifted students?

Do different types of modification policies have different effects on the diversity of gifted students?

	State 1	State 2	State 3
Modification – Any	26%	24%	71%
Type of Modification			
1) Evaluate ELL in Native Language	6%	9%	38%
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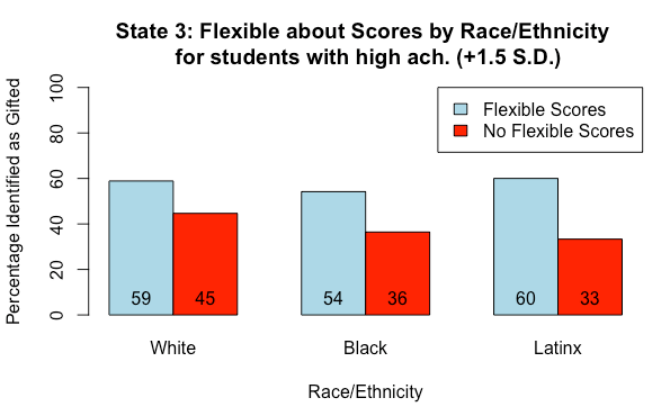
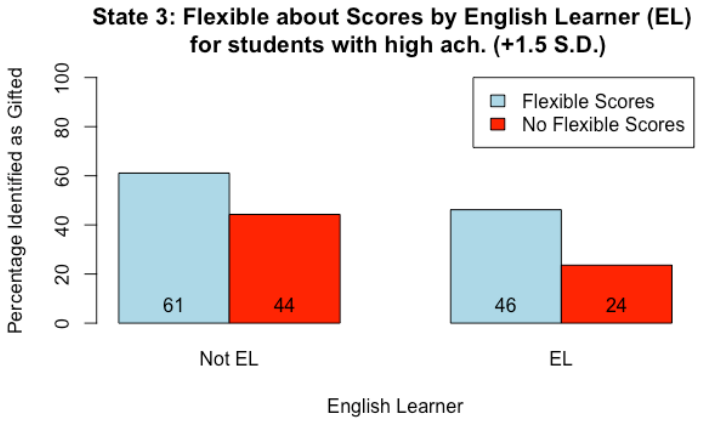
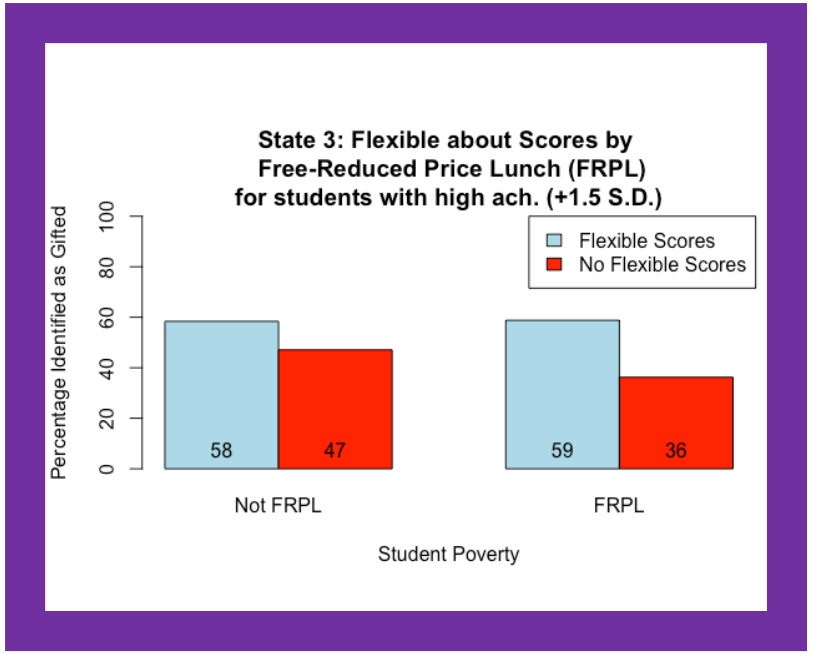
Flexibility about scores used for identification

Can flexibility about scores increase the diversity of gifted students?

Effect of **Flexible Identification Scores for Identification** for High Ability Students on the Diversity of Gifted Students in State 3







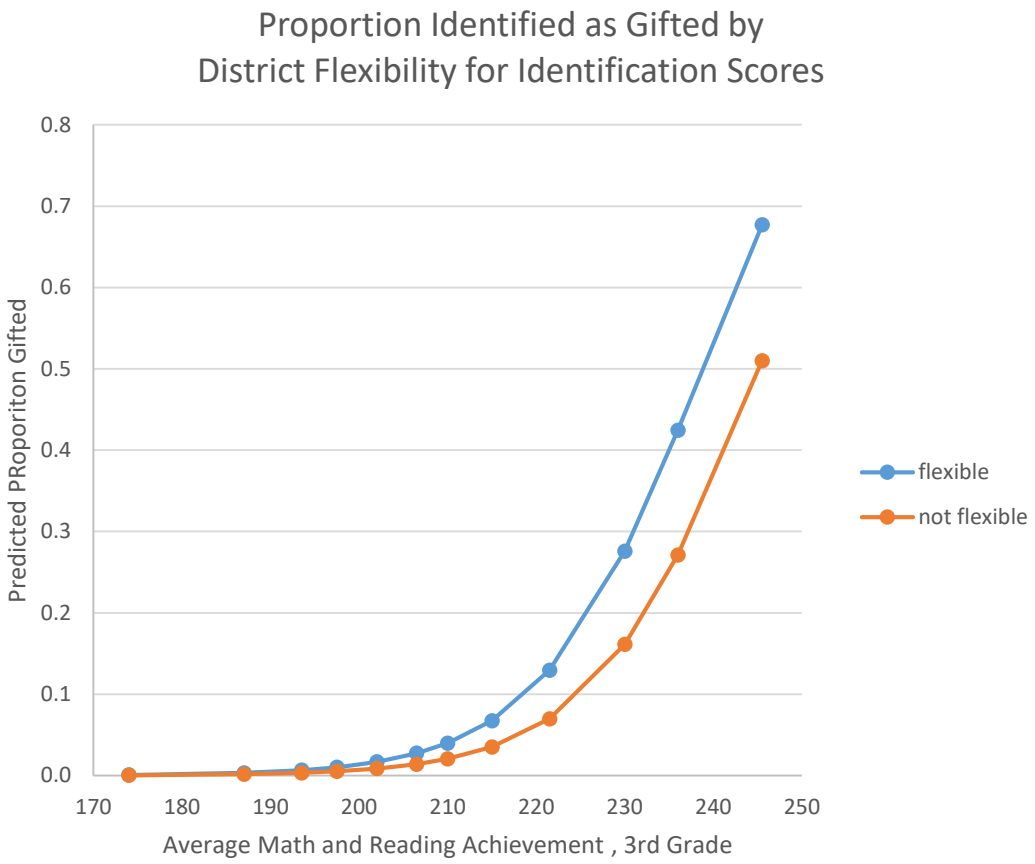
Statistically Significant Findings (See Graphs in Purple Boxes)

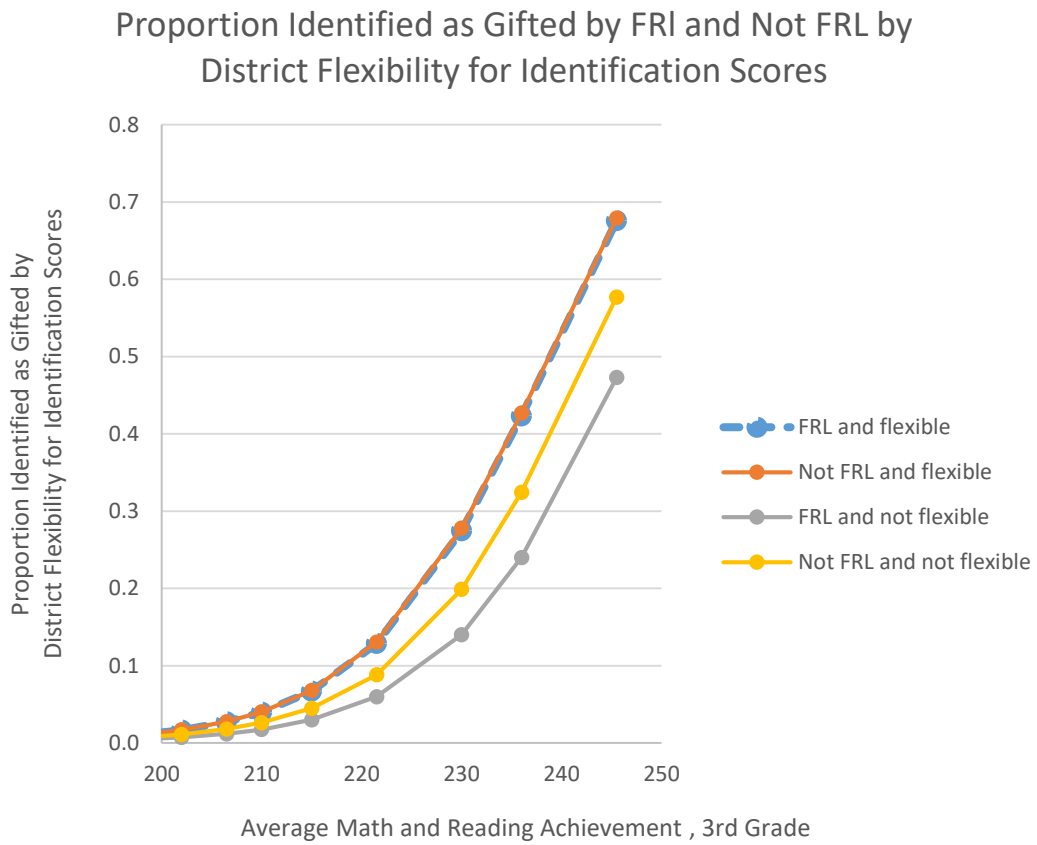
- Flexible scores decrease the FRPL/non-FRPL gap in identification rates (i.e. increase FRPL diversity)

Not Statistically Significant Findings

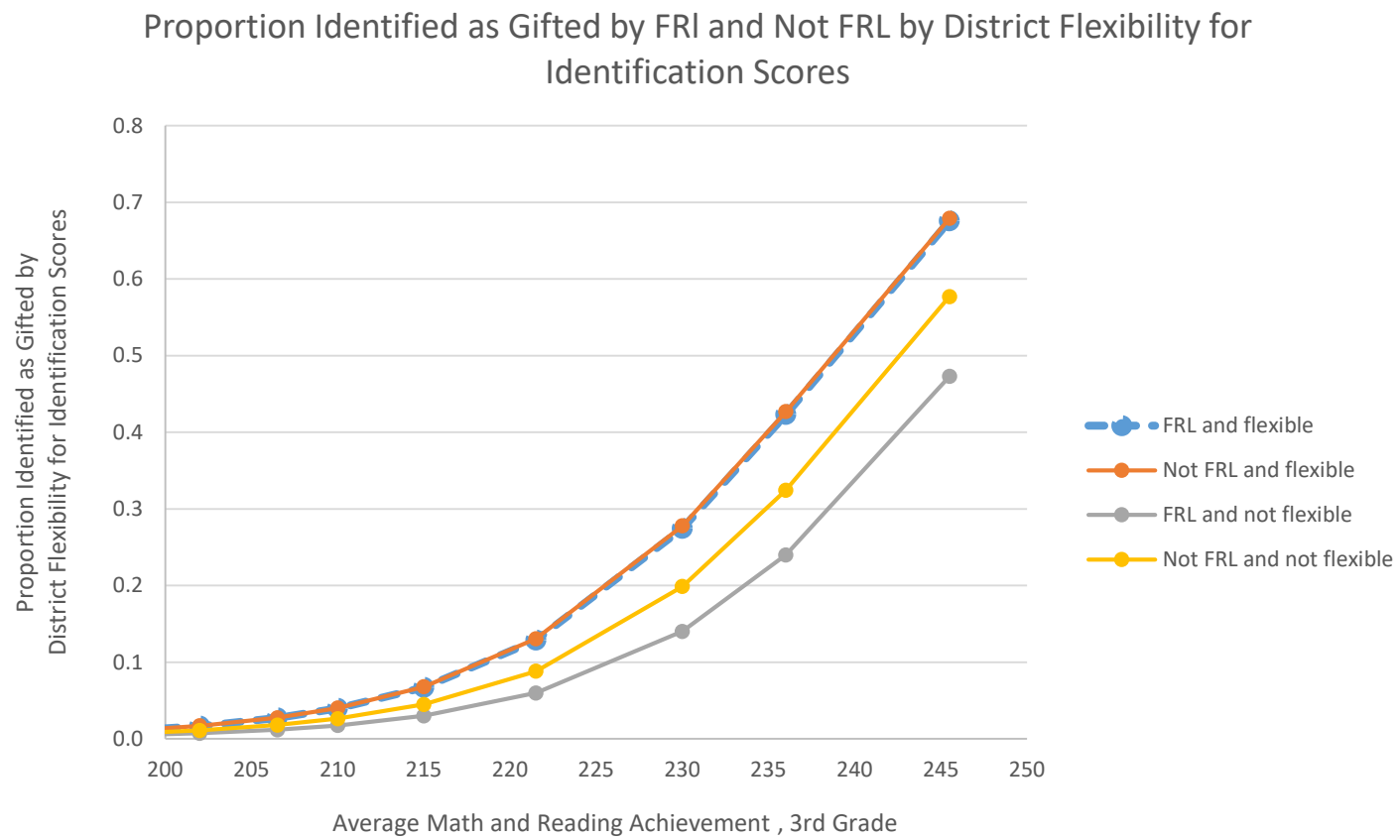
- No statistically significant correlation between flexible scores and the the racial/ethnic gaps in identification rates
- No statistically significant correlation between flexible scores and the the EL/non-EL gap in identification rates

Interaction of Flexibility Policy by Free Reduced-Price Lunch (FRPL) in State 3

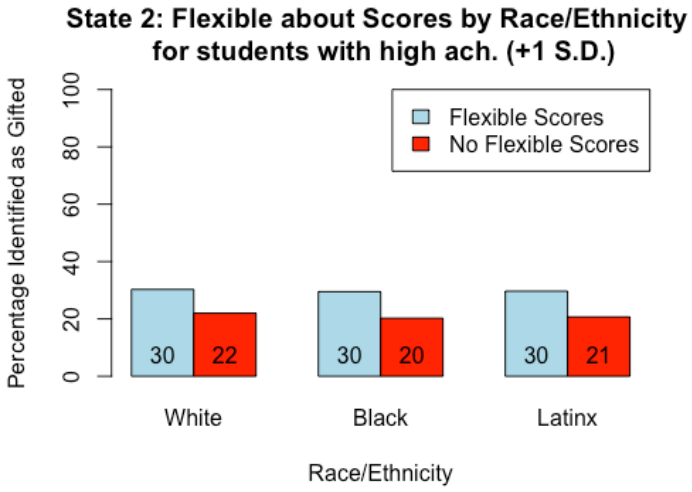


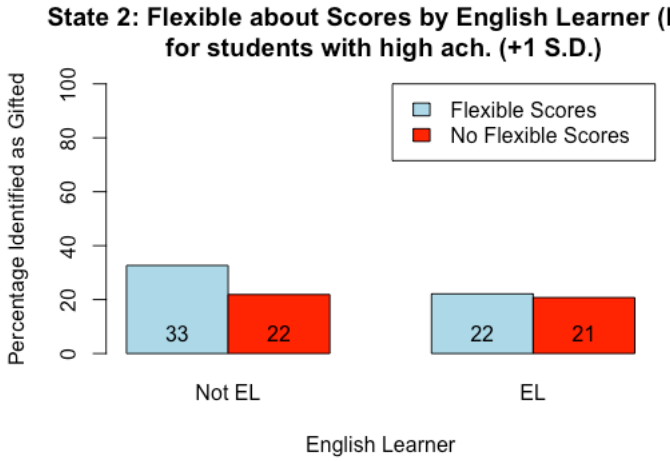


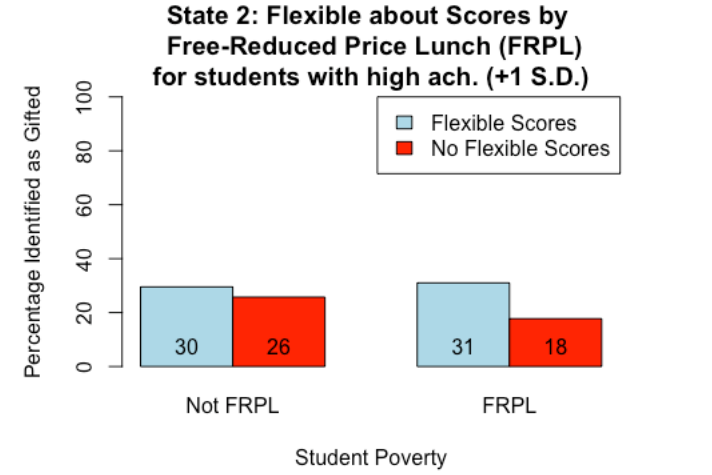
Interaction of Flexibility Policy by Free Reduced-Price Lunch (FRPL) in State 3



Effect of **Flexible Identification Scores for Identification** for High Ability Students on the Diversity of Gifted Students in State 2







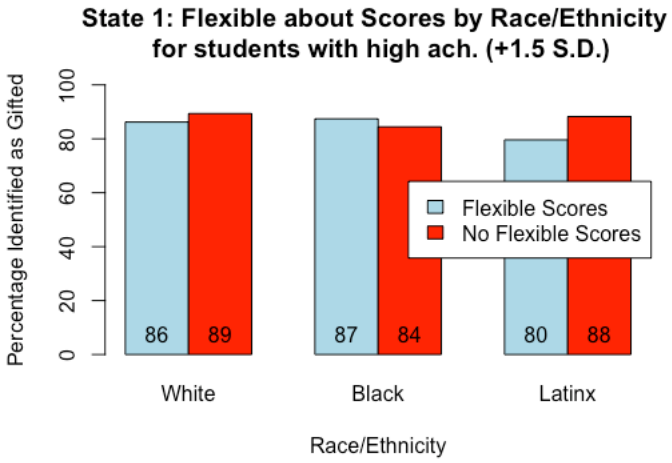
Statistically Significant Findings (See Graphs in Purple Box)

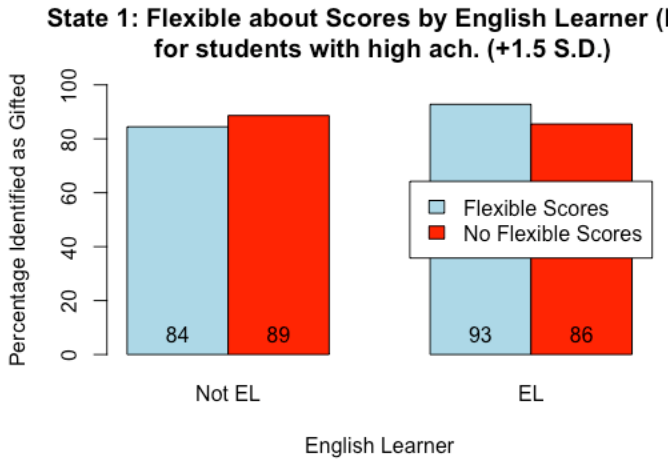
- Flexible scores decrease the FRPL/non-FRPL gap in identification rates

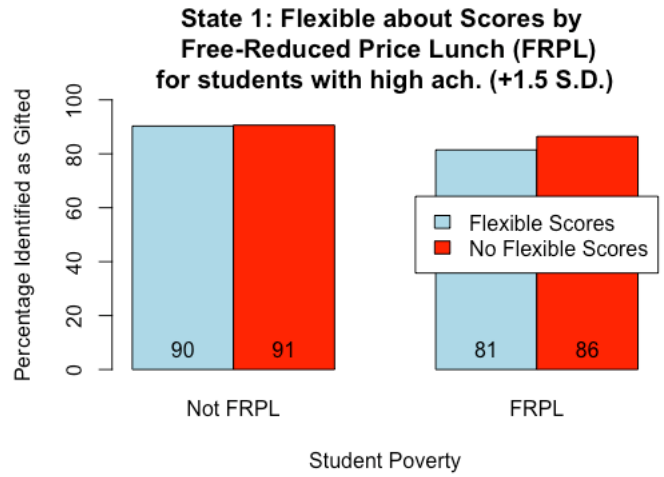
Not Statistically Significant Findings

- Flexibility in Scores has no statistically significant correlation with the racial/ethnic gaps in identification rates
- Flexibility in Scores has no statistically significant correlation with the EL/non-EL gap in identification rates

Effect of **Flexible Identification Scores for Identification** for High Ability Students on the Diversity of Gifted Students in State 1







Not Statistically Significant Findings

- Non-verbal tests have no statistically significant correlation with the racial/ethnic gaps in identification rates
- Non-verbal tests have no statistically significant correlation with the FRPL/non-FRPL gap in identification rates
- Non-verbal tests have no statistically significant correlation with the EL/non-EL gap in identification rates

Flexibility about Scores used for identification

State 3:

- Statistically Significant Findings (See Graphs in Purple Boxes)
  - Flexible scores decrease the FRPL/non-FRPL gap in identification rates (i.e. increase FRPL diversity)
- Not Statistically Significant Findings
  - Flexibility in Scores has no statistically significant correlation with the racial/ethnic gaps in identification rates
  - Flexibility in Scores has no statistically significant correlation with the EL/non-EL gap in identification rates

State 2:

- Statistically Significant Findings (See Graphs in Purple Box)
  - Flexible scores decrease the FRPL/non-FRPL gap in identification rates (i.e. increase FRPL diversity)
- Not Statistically Significant Findings
  - Flexibility in Scores has no statistically significant correlation with the racial/ethnic gaps in identification rates
  - Flexibility in Scores has no statistically significant correlation with the EL/non-EL gap in identification rates

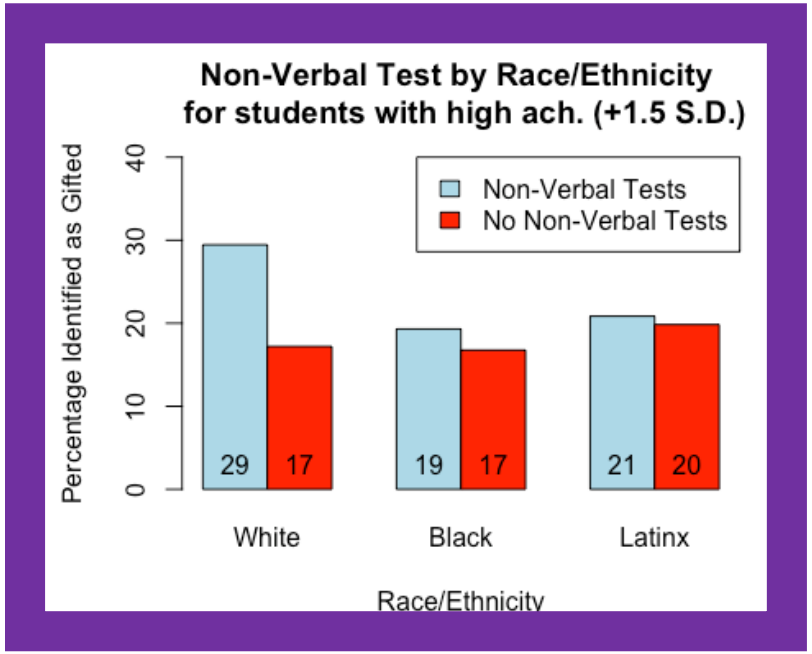
State 1:

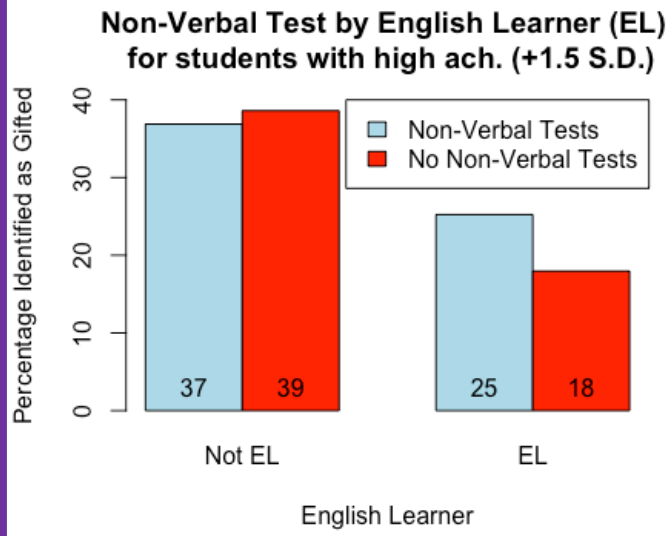
- No statistically significant findings

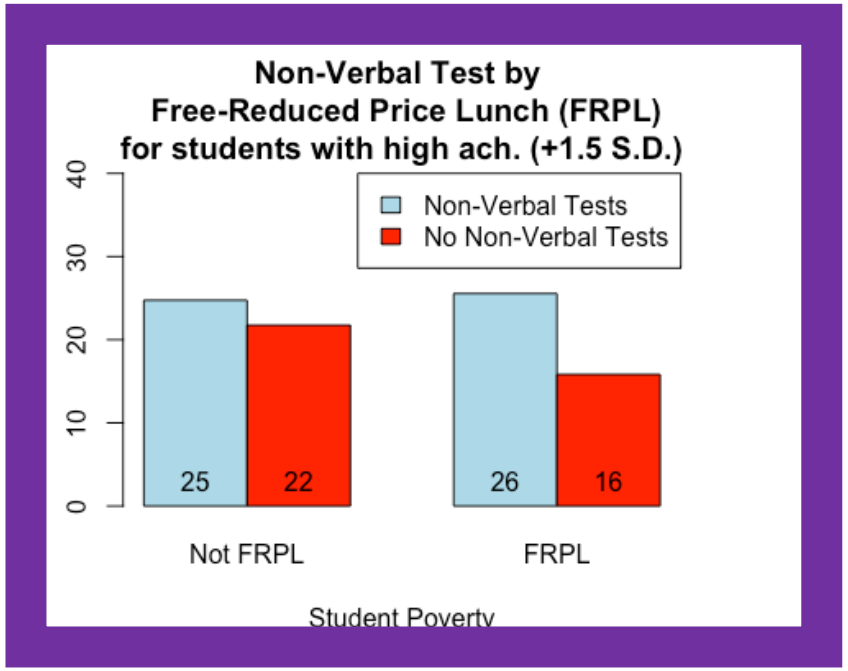
Non-Verbal Tests used for identification

Can the use of Non-Verbal Tests increase the diversity of gifted students?

Effect of **Non-Verbal Tests** for High Ability Students on the Diversity of Gifted Students in State 3







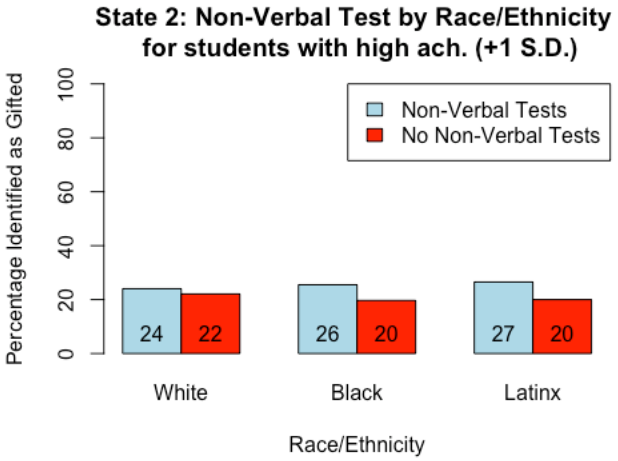
Statistically Significant Findings (See figures with a purple box)

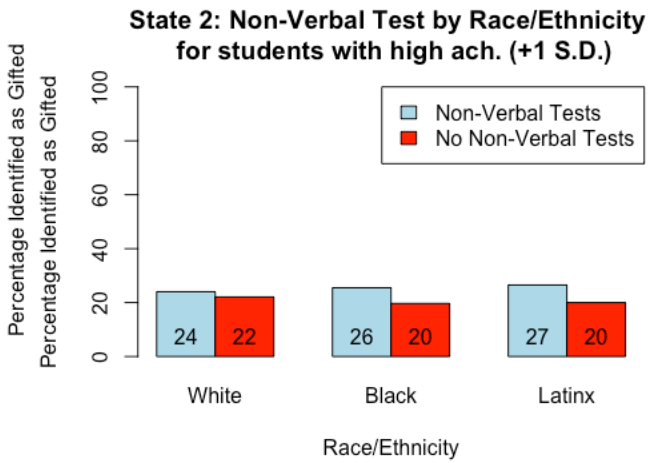
- Non-verbal tests increase the white/black and white/latinx gap in identification rates
- Non-verbal tests decrease the FRPL/non-FRPL gap in identification rates

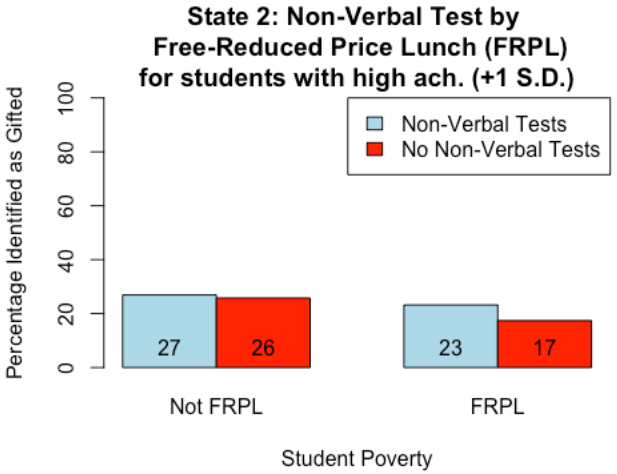
Not Statistically Significant Findings

- Non-verbal tests have no statistically significant correlation with the EL/non-EL gap in identification rates

Effect of **Non-Verbal Tests** for High Ability Students on the Diversity of Gifted Students in State 2

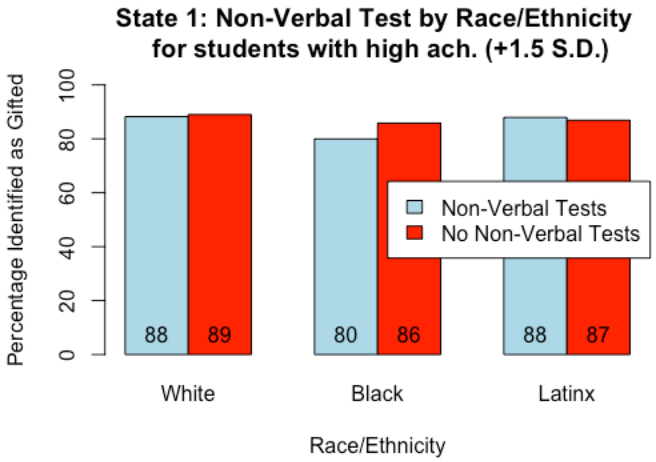


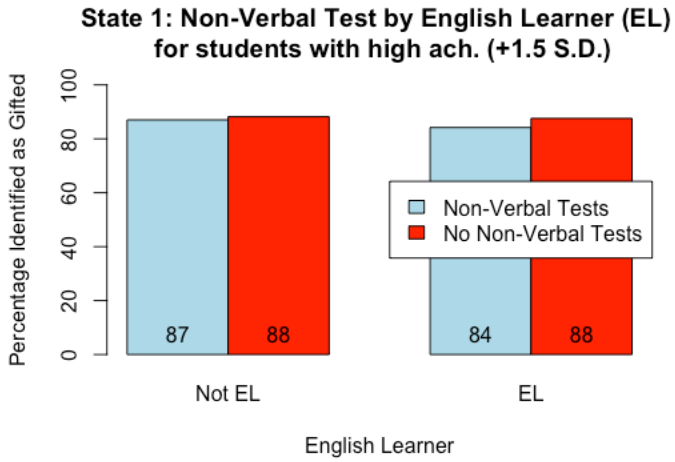


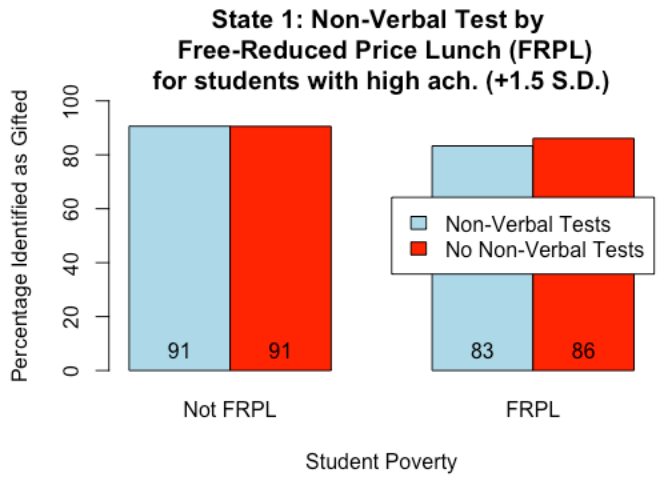


No statistically significant correlations with rates of underrepresentation

Effect of **Non-Verbal Tests** for High Ability Students on the Diversity of Gifted Students in State 1







No statistically significant correlations with rates of underrepresentation

Non-Verbal Tests used for identification

State 3:

- **Statistically Significant Findings**
  - **Non-verbal tests increase the white/black and latinx/white gaps in identification rates (i.e. decreases racial/ethnic diversity)**
  - **Non-verbal tests decrease the FRPL/non-FRPL gap in identification rates (i.e. increases FRPL diversity)**
- **Not Statistically Significant Findings**
  - **Non-verbal tests have no statistically significant correlation with the EL/non-EL gap in identification**

State 2:

- **No statistically significant correlations with rates of underrepresentation**

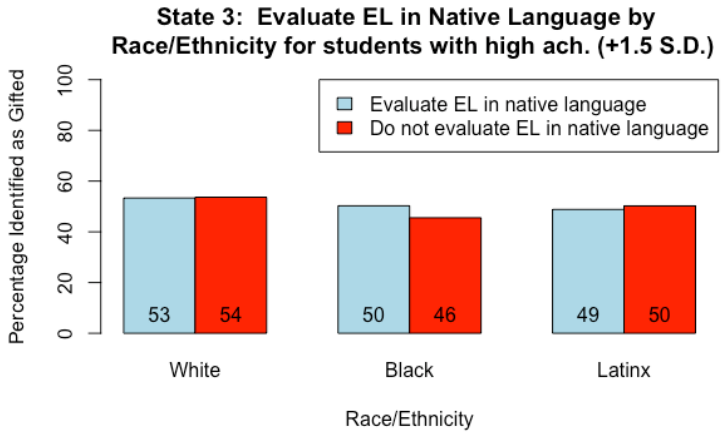
State 1:

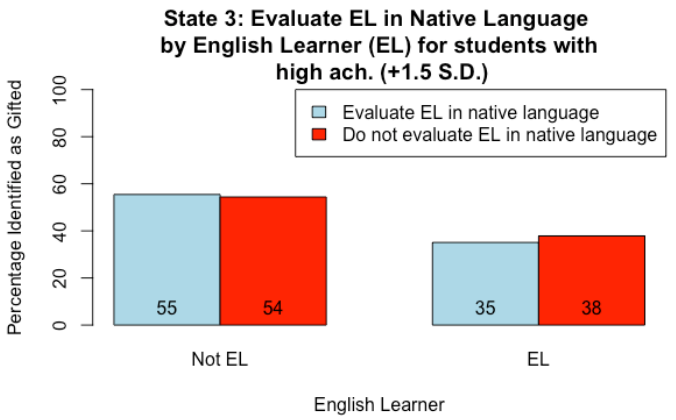
- **No statistically significant correlations with rates of underrepresentation**

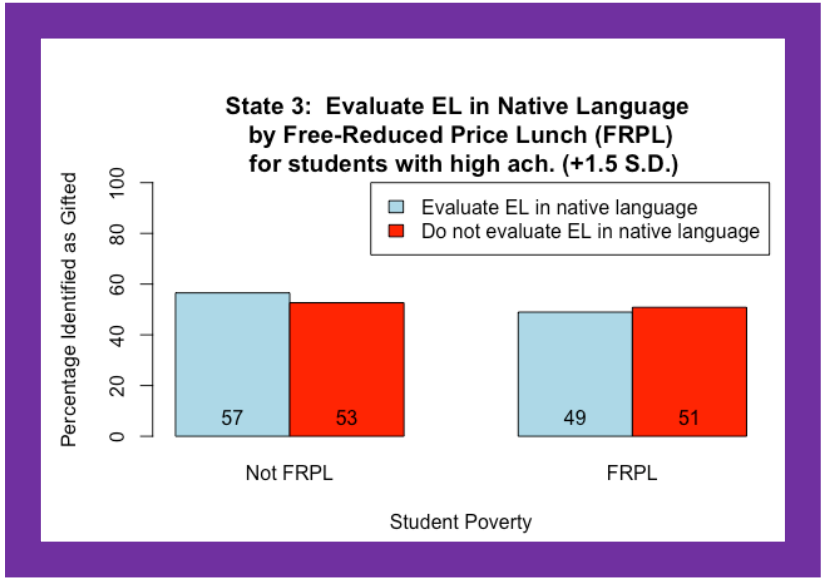
Evaluate EL students in their native language

Can evaluating EL students in their native language increase the diversity of gifted students?

Effect of **Evaluating EL students in their native language** for High Ability Students on the Diversity of Gifted Students in State 3







Statistically Significant Findings (See figures with a purple box)

- Evaluating EL students in native language increases the FRPL/non FRPL gap in identification rates (i.e. FRPL diversity decreases)

Not Statistically Significant Findings

- Evaluate EL in native language has no statistically significant correlation with the racial/ethnic gaps in identification rates
- Evaluate EL in native language has no statistically significant correlation with the EL/non-EL gap in identification rates

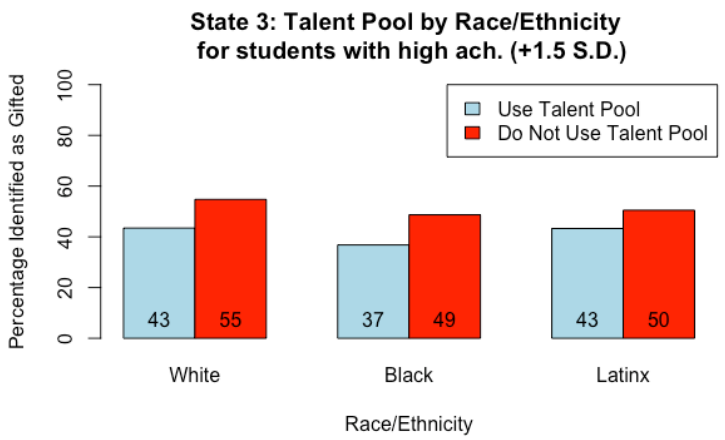
Evaluate EL students in their native language

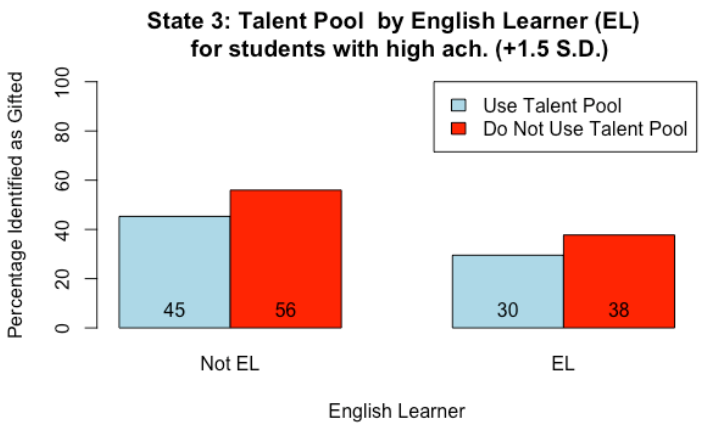
1. In State 3:
   - Only statistically significant correlation was an increase in FRPL/non-FRPL disparities in identification rates (i.e. less FRPL diversity)
2. In State 2:
   - No statistically significant correlations with rates of underrepresentation
3. In State 1:
   - No statistically significant correlations with rates of underrepresentation

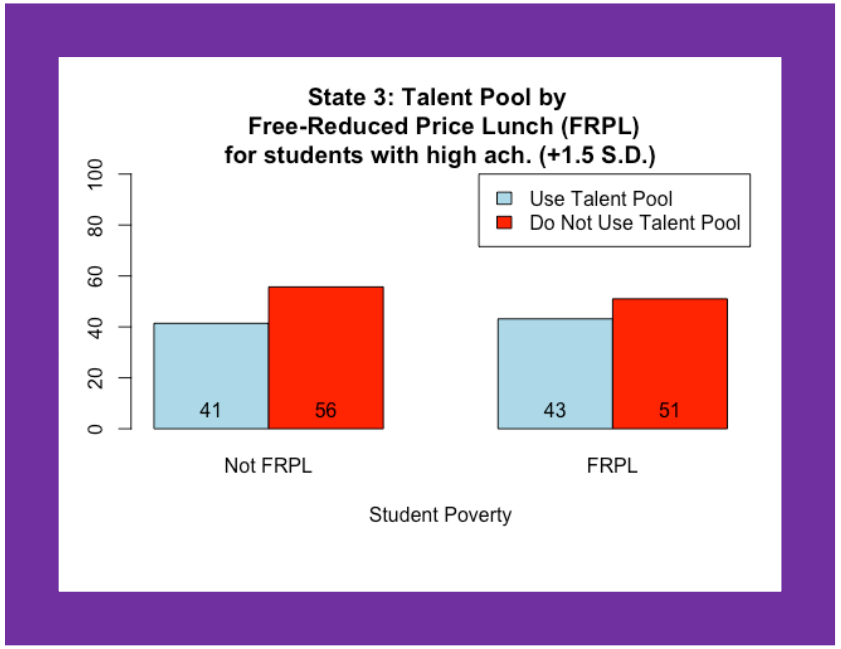
Use a Talent Pool Approach

Can the talent pool approach increase the diversity of gifted students?

Effect of **Talent Pool Approach** for High Ability Students on the Diversity of Gifted Students in State 3







Statistically Significant Findings (See figures with a purple box)

- Use of talent Pool <u>decreases</u> the FRPL/non0FRPL gap in identification rates

Not Statistically Significant Findings

- Use of talent pool has no statistically significant correlation with the racial/ethnic gap in identification rates
- Use of talent pool has no statistically significant correlation with the EL/non-EL gap in identification rates

Use a Talent Pool Approach

State 3:

- **Only statistically significant correlation was a decrease in FRPL/non-FRPL disparities in identification rates (i.e. increased FRPL diversity)**

State 2:

- **No statistically significant correlations with rates of underrepresentation**

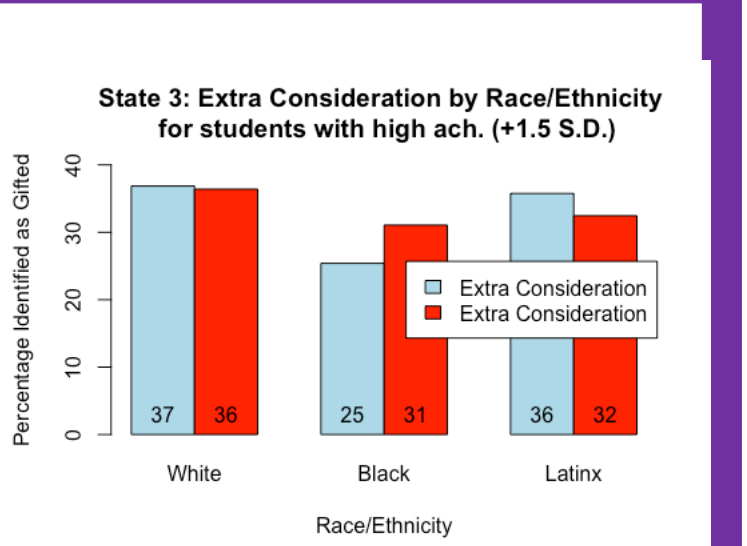
State 1:

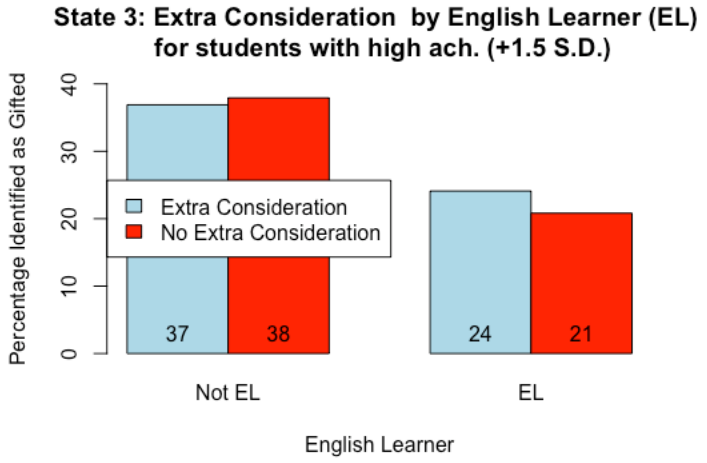
- **No statistically significant correlations with rates of underrepresentation**

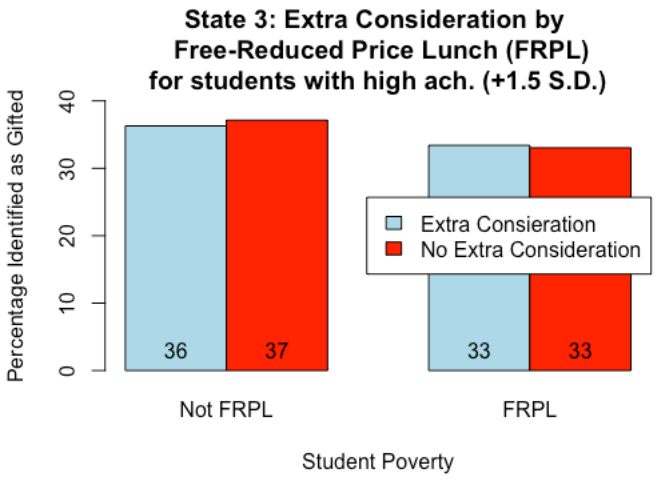
Give Extra Consideration during the ID process

Can the use of extra consideration during the ID process increase the diversity of gifted students?

Effect of **Extra Consideration** for High Ability Students on the Diversity of Gifted Students in State 3







Statistically Significant Findings (See figures with a purple box)

- Extra-consideration <u>increases</u> the white/black gap in identification rates (i.e. decreases black/white diversity)

Not Statistically Significant Findings

- Extra-consideration has no statistically significant correlation with the FRPL/non-FRPL gap in identification rates
- Extra-consideration has no statistically significant correlation with the EL/non-EL gap in identification rates
- Extra-consideration has no statistically significant correlation with the latinx/white gap in identification rates

Give Extra Consideration during the ID process

State 3:

- **Only statistically significant correlation was an increase in Black/white disparities in identification rates (i.e. less Black/white diversity)**

State 2:

- **No statistically significant correlations with rates of underrepresentation**

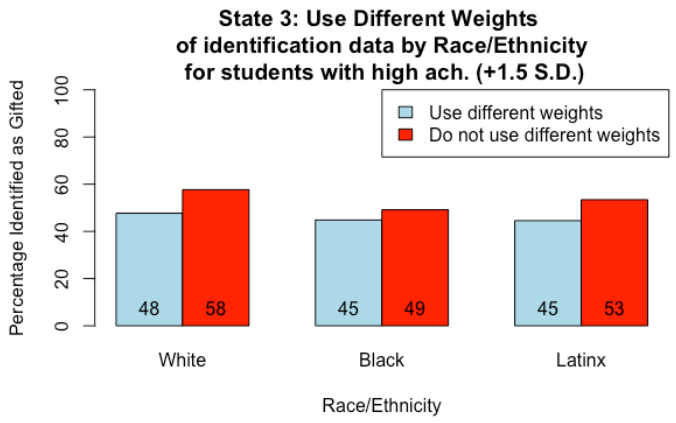
State 1:

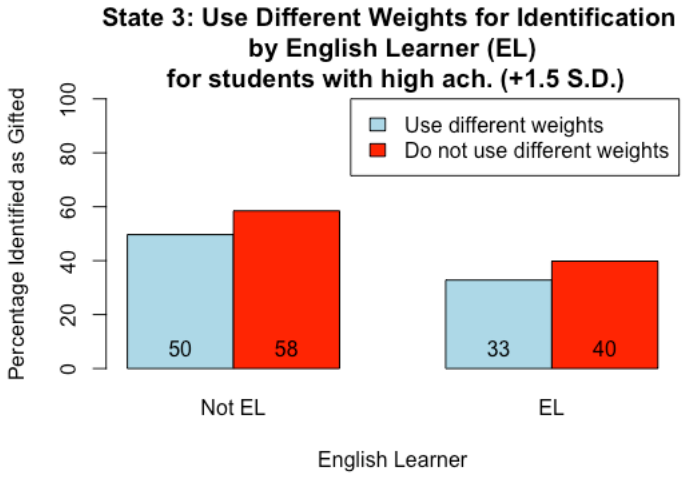
- **No statistically significant correlations with rates of underrepresentation**

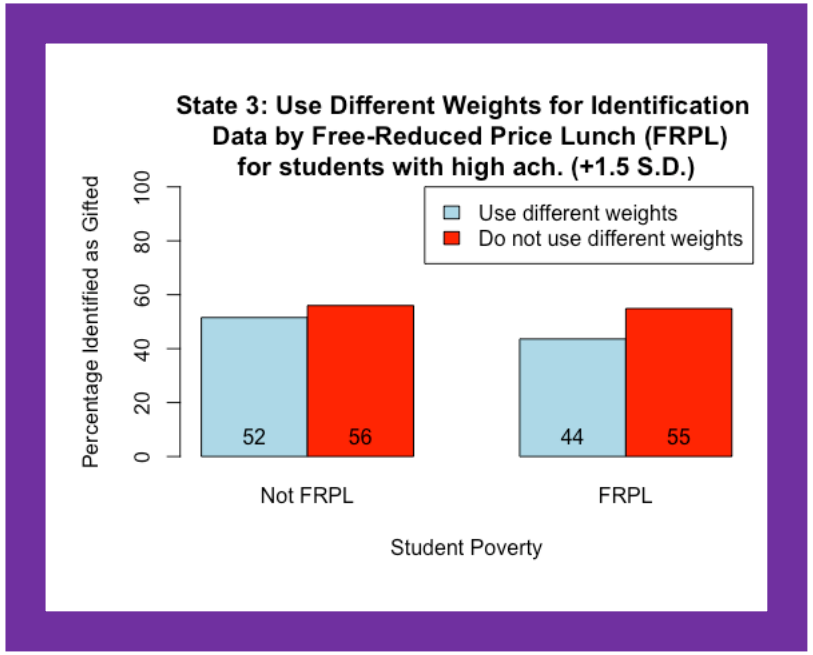
Use Different Weights of Identification Data

Can the use of different weights increase the diversity of gifted students?

Effect of **using different weights of identification data** for High Ability Students on the Diversity of Gifted Students in State 3



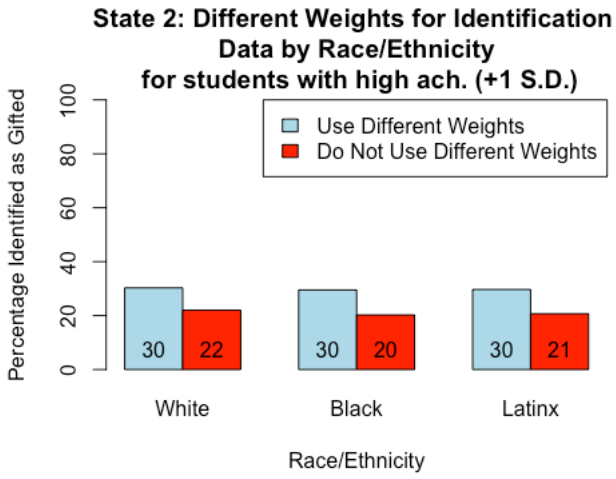


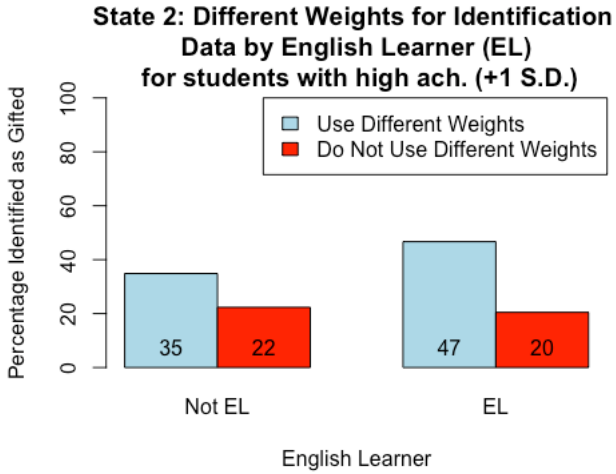


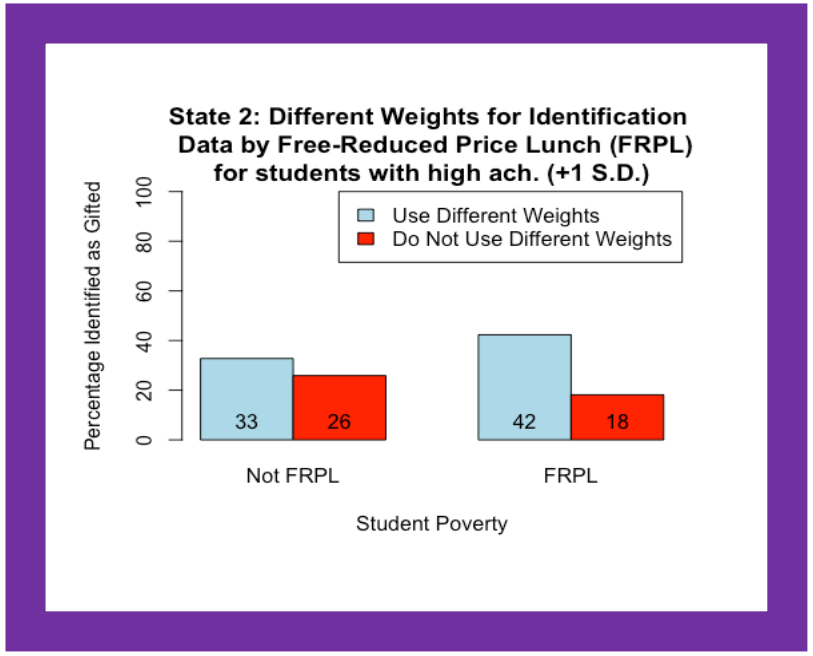
Statistically Significant Findings (See figures with a purple box)

- Only statistically significant correlation was an <u>increase</u> in FRPL/non-FRPL disparities in identification rates (i.e. decrease in FRPL diversity)

Effect of **using different weights of identification data** for High Ability Students on the Diversity of Gifted Students in State 2







Statistically Significant Findings (See figures with a purple box)

- Only statistically significant correlation was a decrease in FRPL/non-FRPL disparities in identification rates (i.e. increase FRPL diversity)

Use Different Weights of Identification Data

State 3:

- **Only statistically significant correlation was an increase in FRPL/non-FRPL disparities in identification rates**

State 2:

- **Only statistically significant correlation was a decrease in FRPL/non-FRPL disparities in identification rates**

State 1:

- **No statistically significant correlations with rates of underrepresentation**

Key Findings:

How extensive is the problem of underrepresentation?

- Notable underrepresentation of students in poverty, ELL students, Black and Latino students in gifted programs in all three states. Representation Index from .31 to .87. (A Representation Index of one means equal representation.)
- State 2 is notable in that underrepresentation appears to be largely accounted for after controlling for 3rd grade student achievement

Key Findings: Can modification policies increase the diversity of gifted students?

Types of Modification Used by Districts in Three States (percent of districts)

	State 1	State 2	State 3
Modification – Any	26%	24%	71%
Type of Modification			
1) Evaluate ELL in Native Language	6%	9%	38%
2) Non-verbal assessment	16%	21%	51%
3) More flexible about ID scores for Underserved Pop.	17%	7%	62%
4) Use a "talent pool approach"	8%	19%	11%
5) Give "extra consideration" during ID process	11%	10%	20%
6) Use different weighting of the ID data	2%	2%	42%

- Notable differences in modification policies in all three states
- Different effects on diversity from different modification policies
  - **More flexibility about ID scores for underserved students increases the proportion of FRPL in states 2 and 3,**
  - Contradictory Results for the use of non-verbal tests:
    - Non-verbal tests decreased the proportion of Black and Latinx students identified in States 3 (i.e. decreases racial/ethnic diversity)
    - non-verbal tests increase the proportion of FRL students in State 3. (increase FRPL diversity)
  - Contradictory Results for the use of different weights: decreases FRPL diversity in State 3 and increases FRPL diversity in State 2
  - Use of talent pool only increases FRPL diversity in State 3
  - Testing in native language only decreases FRPL diversity in State 3
  - For most states and under represented groups, almost no statistically significant effects of a talent pool approach, giving "extra consideration" during the ID process, and alternative weighting, and testing in the EL language