

# **Research on Promising Practices for Identifying Gifted Students from Underserved Populations**

Presentation by **Daniel Long** and **E. Jean Gubbins**

Panel Led by **D. Betsy McCoach**

Panel Members: **Don Ambrose, Dante Dixon, Marcia Gentry, Laura Giuliano, & Matt Makel**



**NCRGE's First Five Years:  
Results, Reflections, and Recommendations**

Funded by the Institute of Education Sciences, U.S. Department of Education PR/Award #R305C140018



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# Outline

1. How extensive is the problem of underrepresentation in three states?
2. District Level Practices: The use and effectiveness of district policies to address underrepresentation
3. School Level Practices: Effective policies to address under representation of EL students

# Data and Sample

- Data:

- Qualitative study of English Learner (EL) identification in 16 schools including 14 elementary schools and 2 middle schools
- Longitudinal Student Level 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, FRPL status, EL status, race/ethnicity, and academic achievement for three academic years from 2011/12, 12/13, and 13/14.
- District Survey of all districts in three states conducted in 2014/15

- Sample Sizes after list wise deletion

|           | State 1     |                             | State 2     |                             | State 3     |                             |
|-----------|-------------|-----------------------------|-------------|-----------------------------|-------------|-----------------------------|
|           | Full Sample | District Survey Respondents | Full Sample | District Survey Respondents | Full Sample | District Survey Respondents |
| Students  | 95,587      | 74,922                      | 58,154      | 53,641                      | 168,184     | 131,435                     |
| Schools   | 1,293       | 1,026                       | 1025        | 922                         | 2,235       | 1,791                       |
| Districts | 115         | 97                          | 180         | 114                         | 73          | 49                          |



# 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<br>(18.7%) | State 2<br>(11.5%) | State 3<br>(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

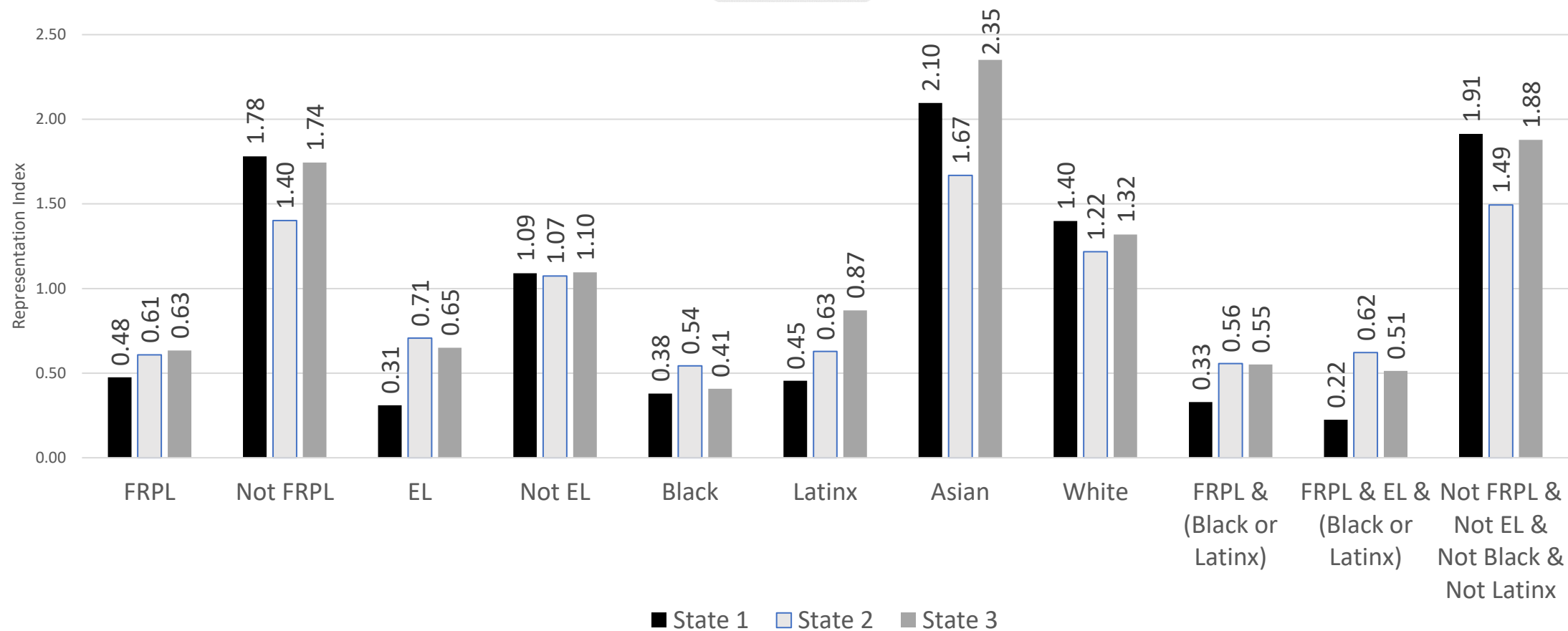
RI: We calculated each group's representation index by dividing the proportion of the subgroup that were identified as gifted by the proportion of gifted students among all students in the state.

underrepresented



overrepresented

# Representation Index in Three States





**Take home message...**

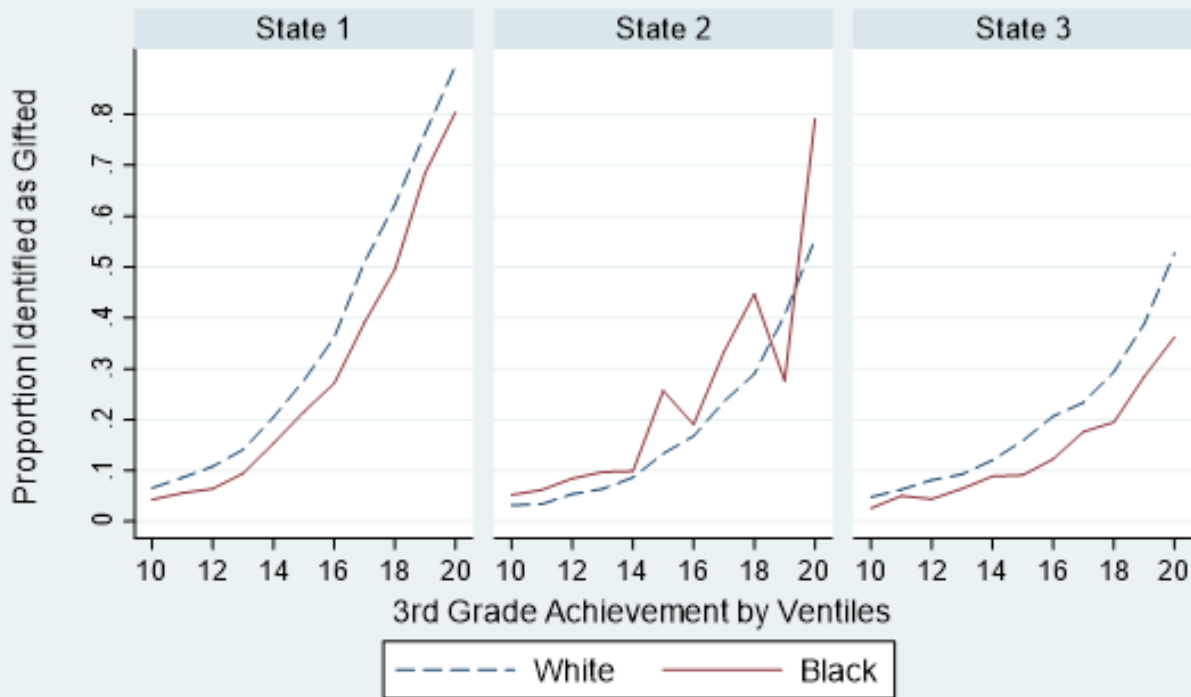
**Underserved populations  
are not being identified  
at the same rates.**

**One question...**

**Do disparities in  
identification still exist  
after controlling for  
academic ability?**

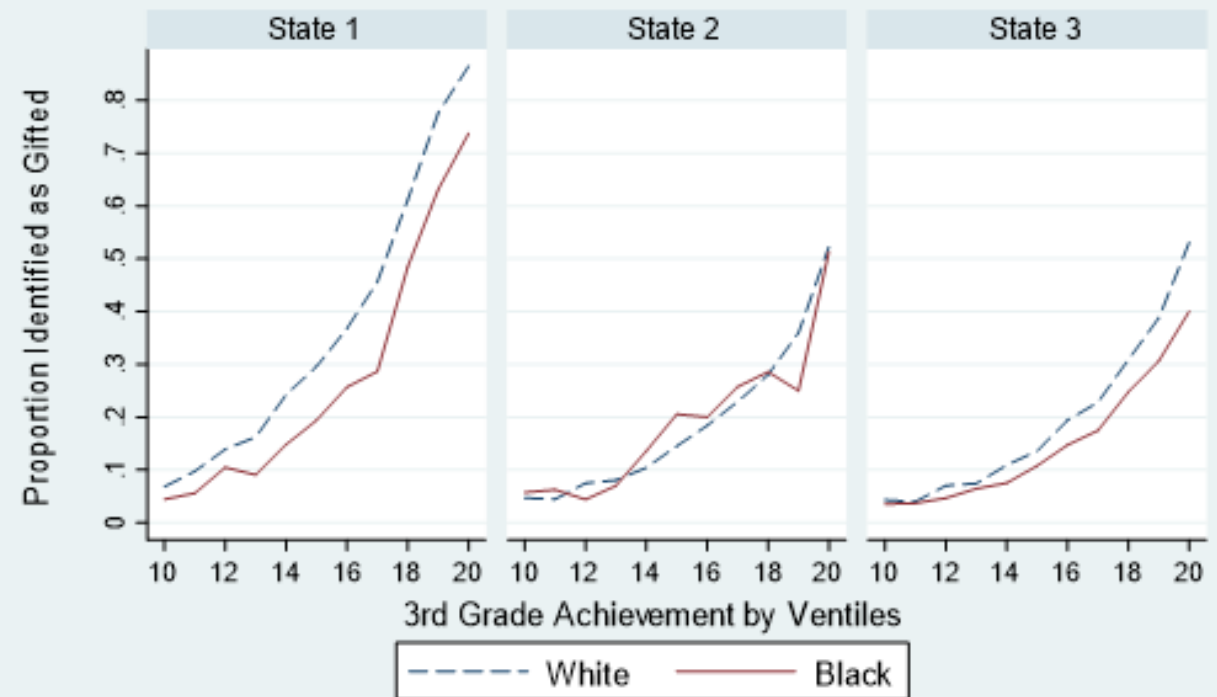
# Proportion of White and Black Students Identified as Gifted by 3rd grade

## Proportion of White and Black Students Ever Identified as Gifted by Math Achievement



Graphs by State

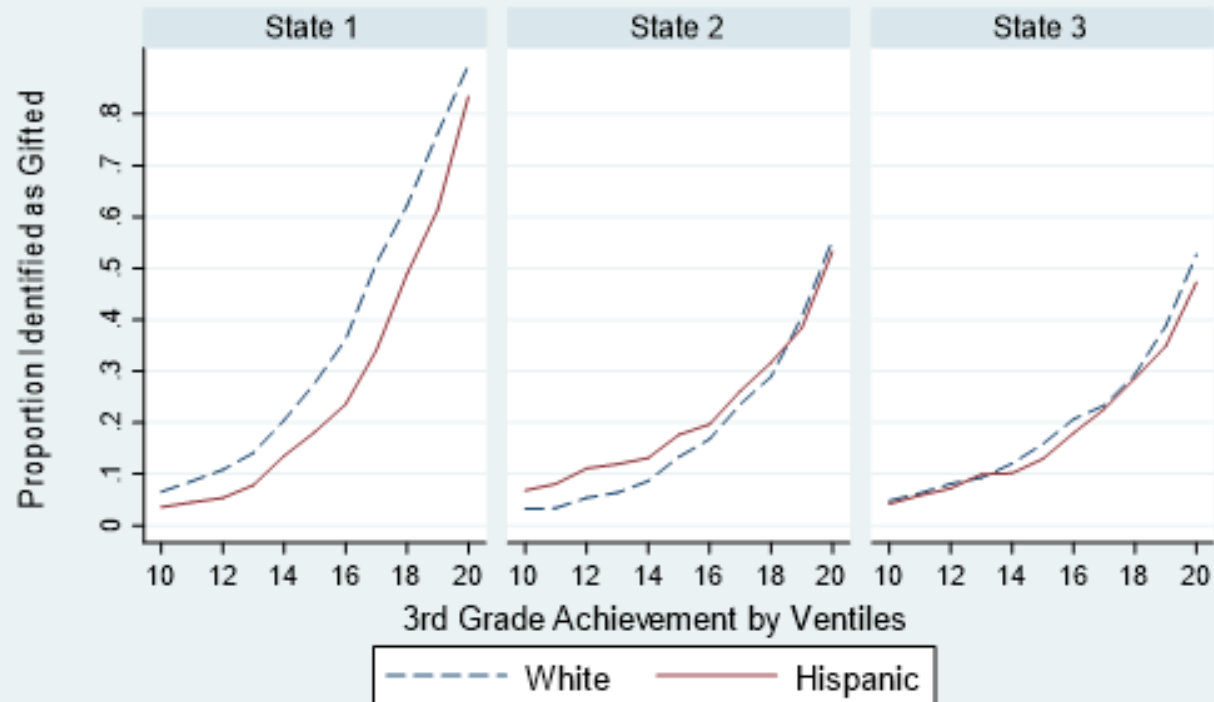
## Proportion of White and Black Students Ever Identified as Gifted by Reading Achievement



Graphs by State

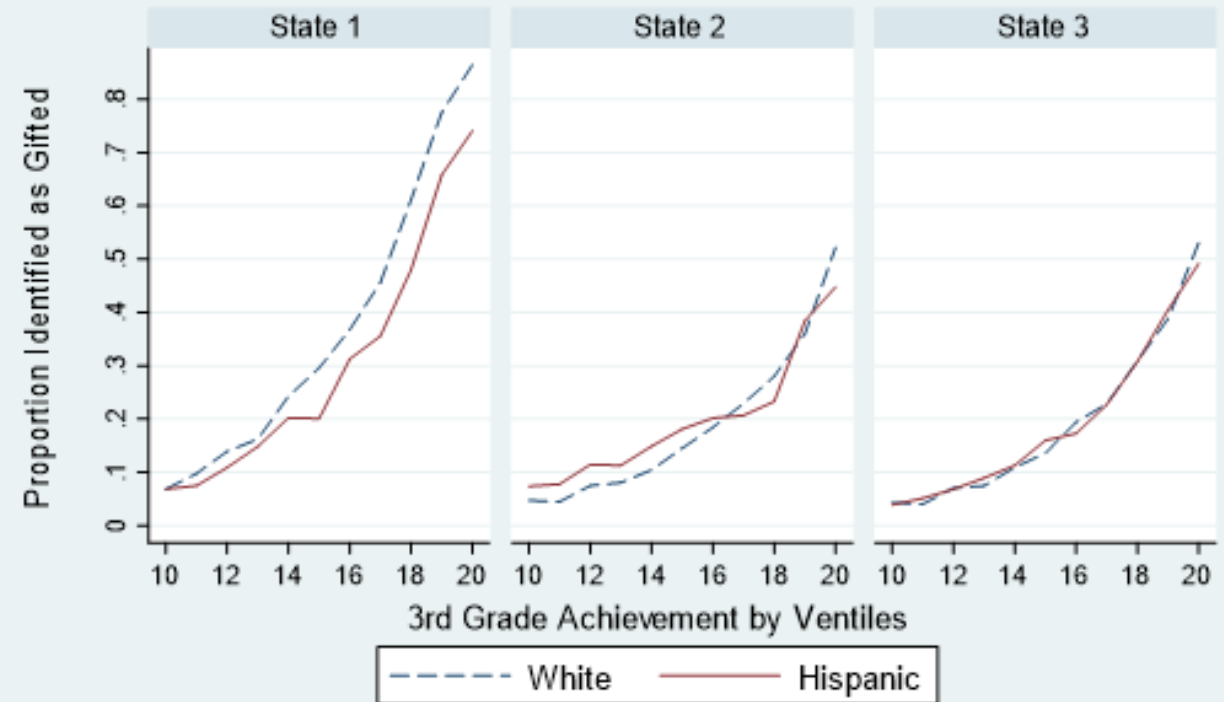
# Proportion of White and Latinx Students Identified as Gifted by 3rd grade

## Proportion of White and Hispanic Students Ever Identified as Gifted by Math Achievement



Graphs by State

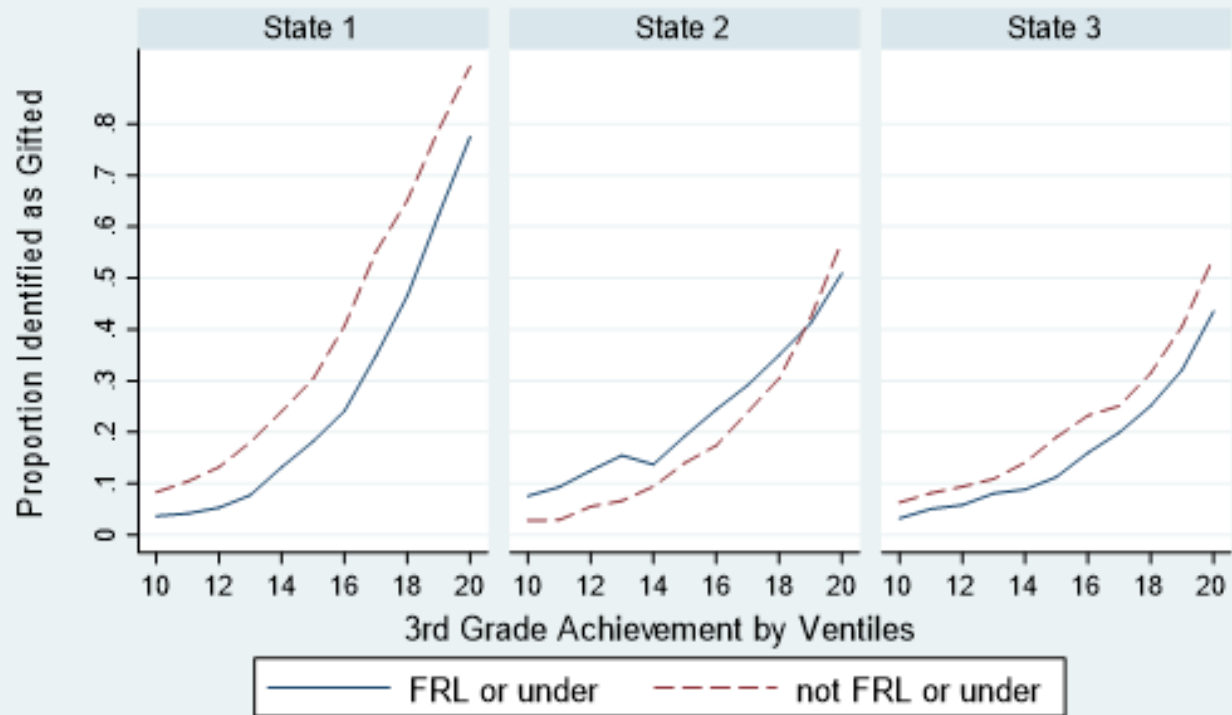
## Proportion of White and Hispanic Students Ever Identified as Gifted by Reading Achievement



Graphs by State

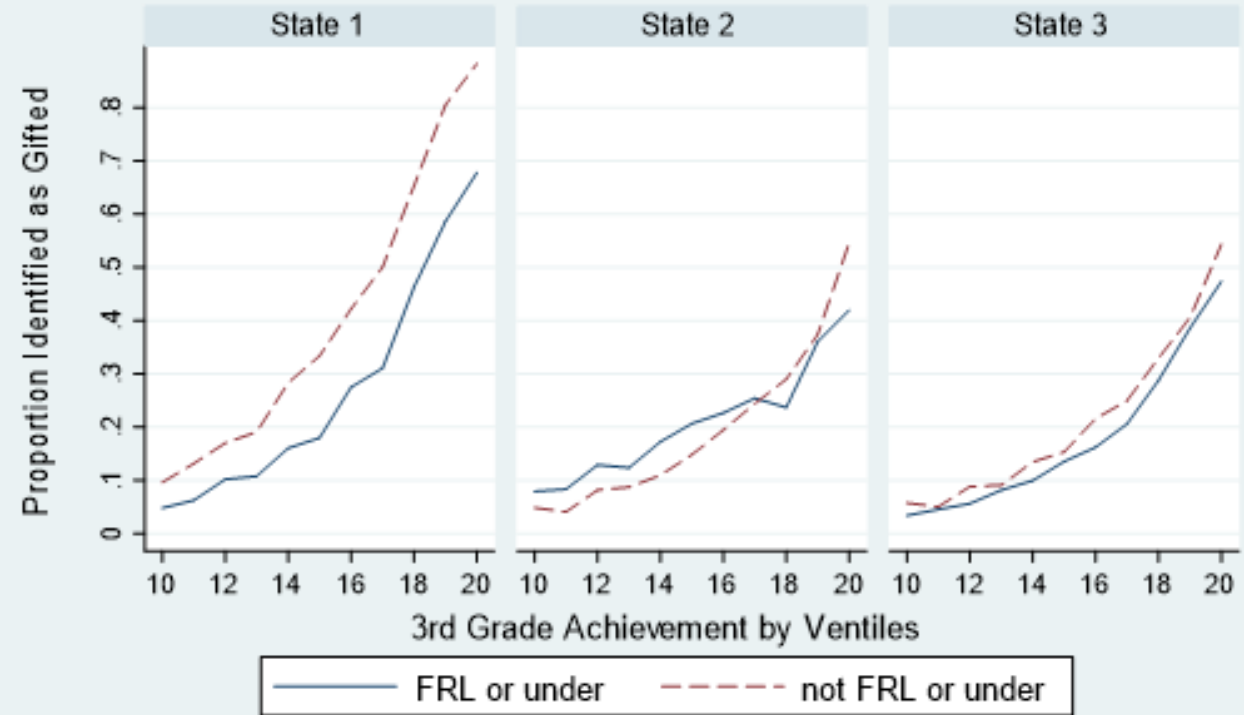
# Proportion of FRL and non-FRL Students Identified as Gifted by 3rd grade

Proportion of FRL or Under vs. Non-FRL Students or Under Ever Identified as Gifted by Math Achievement



Graphs by State

Proportion of FRL or Under vs. Non-FRL Students or Under Ever Identified as Gifted by Reading Achievement



Graphs by State

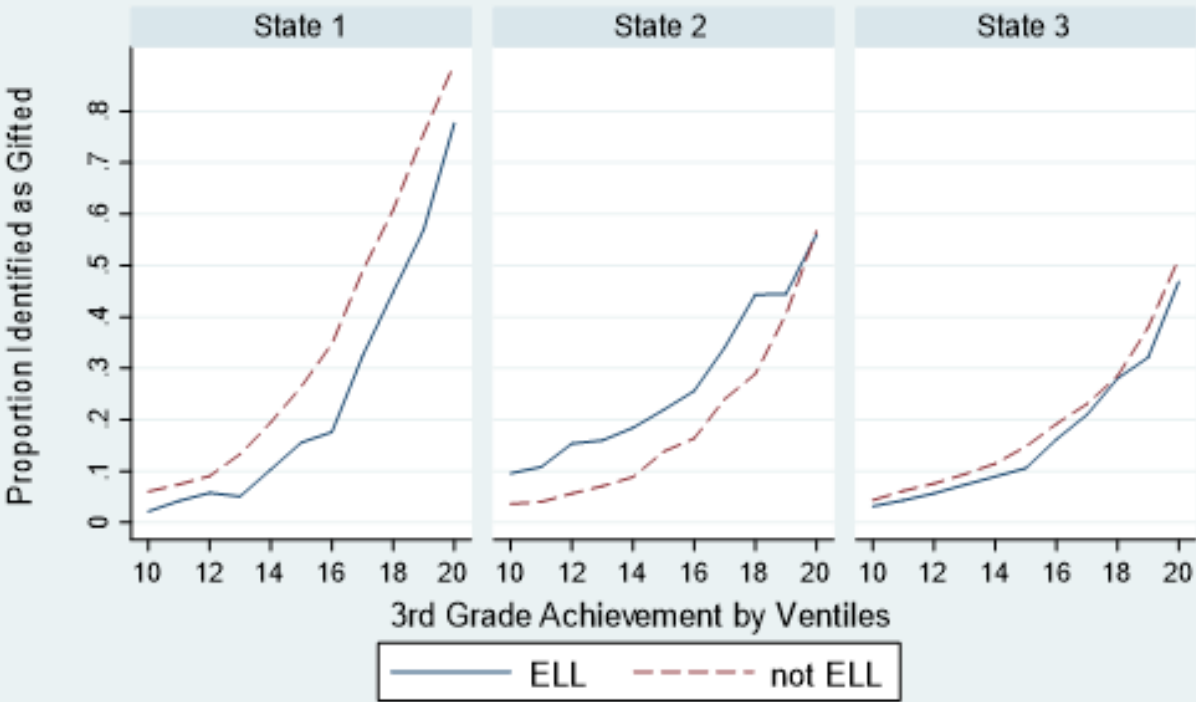


## NCRGE's First Five Years: Results, Reflections, and Recommendations

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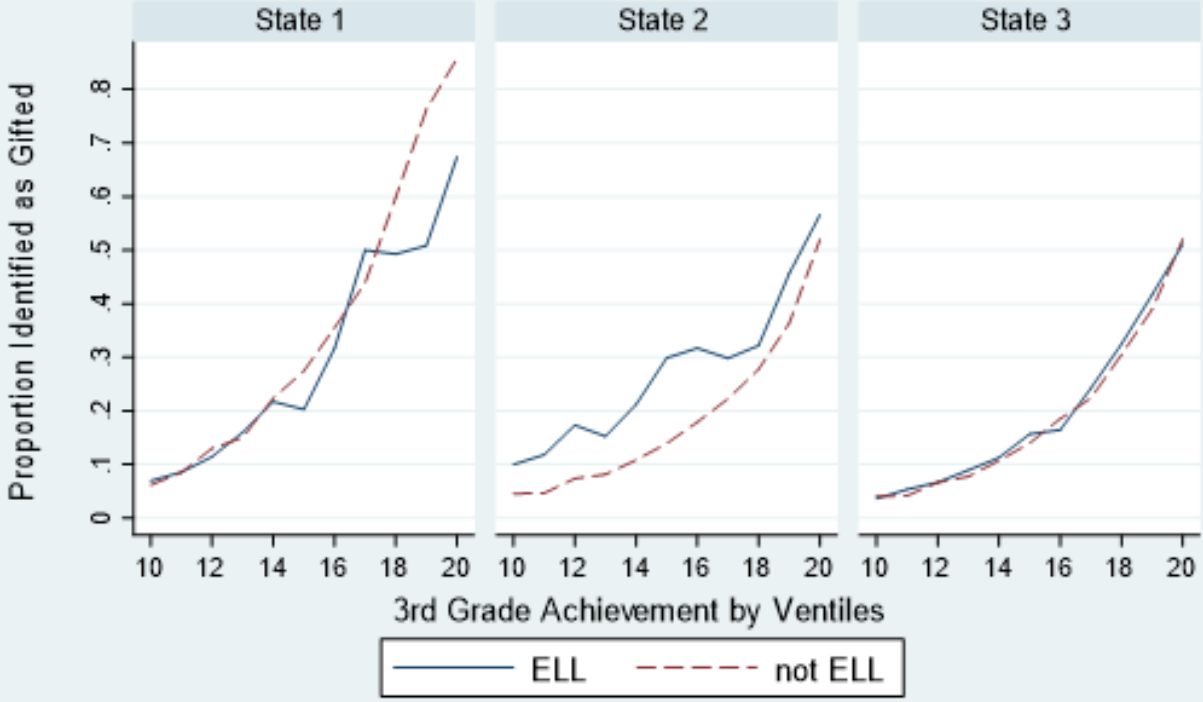
# Proportion of EL and Non-EL Students Identified as Gifted by 3rd grade

Proportion of ELL vs. Non-ELL Students Ever Identified as Gifted Math Achievement



Graphs by State

Proportion of ELL vs. Non-ELL Students Ever Identified as Gifted by Reading Achievement



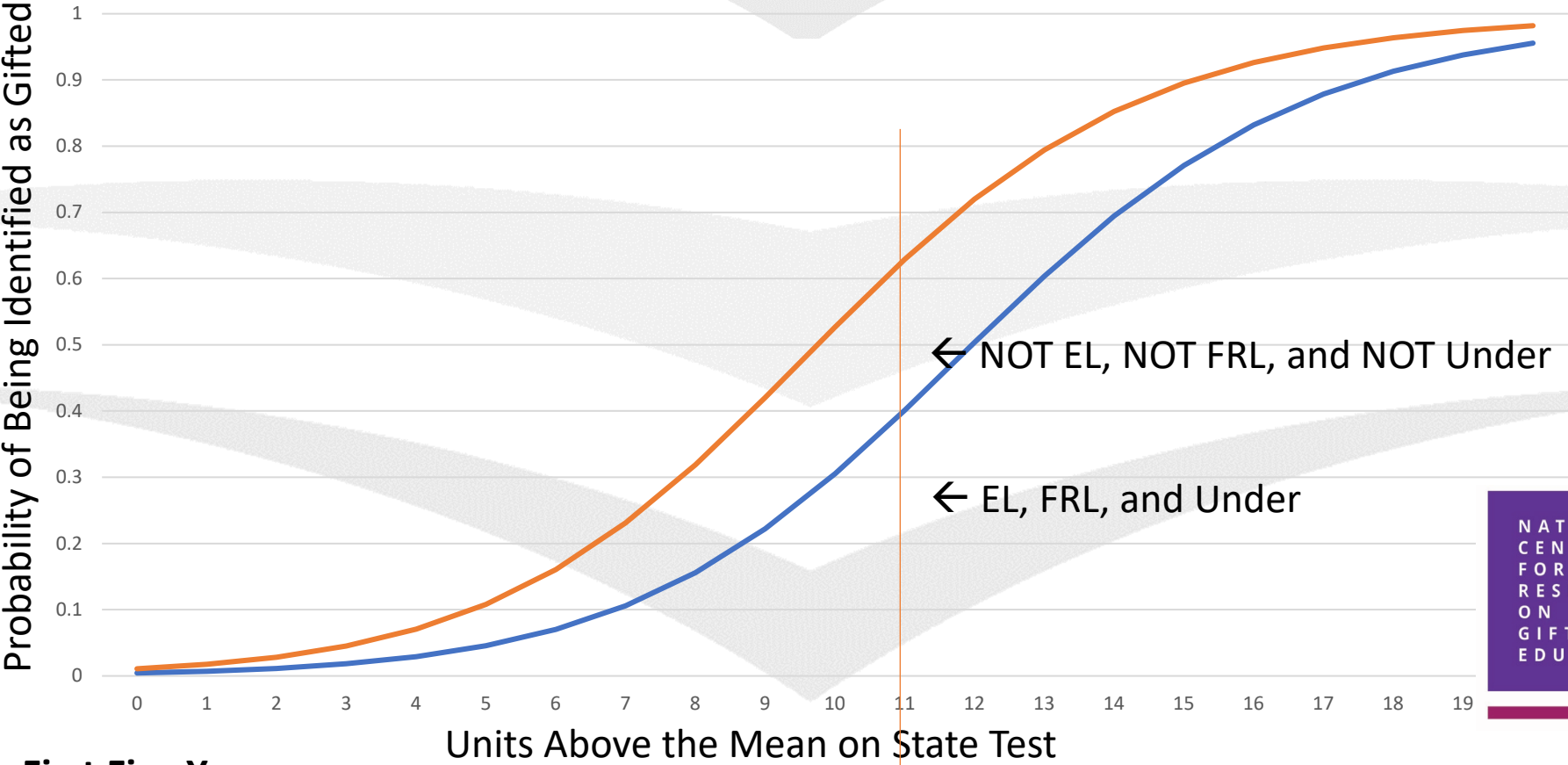
Graphs by State



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# 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



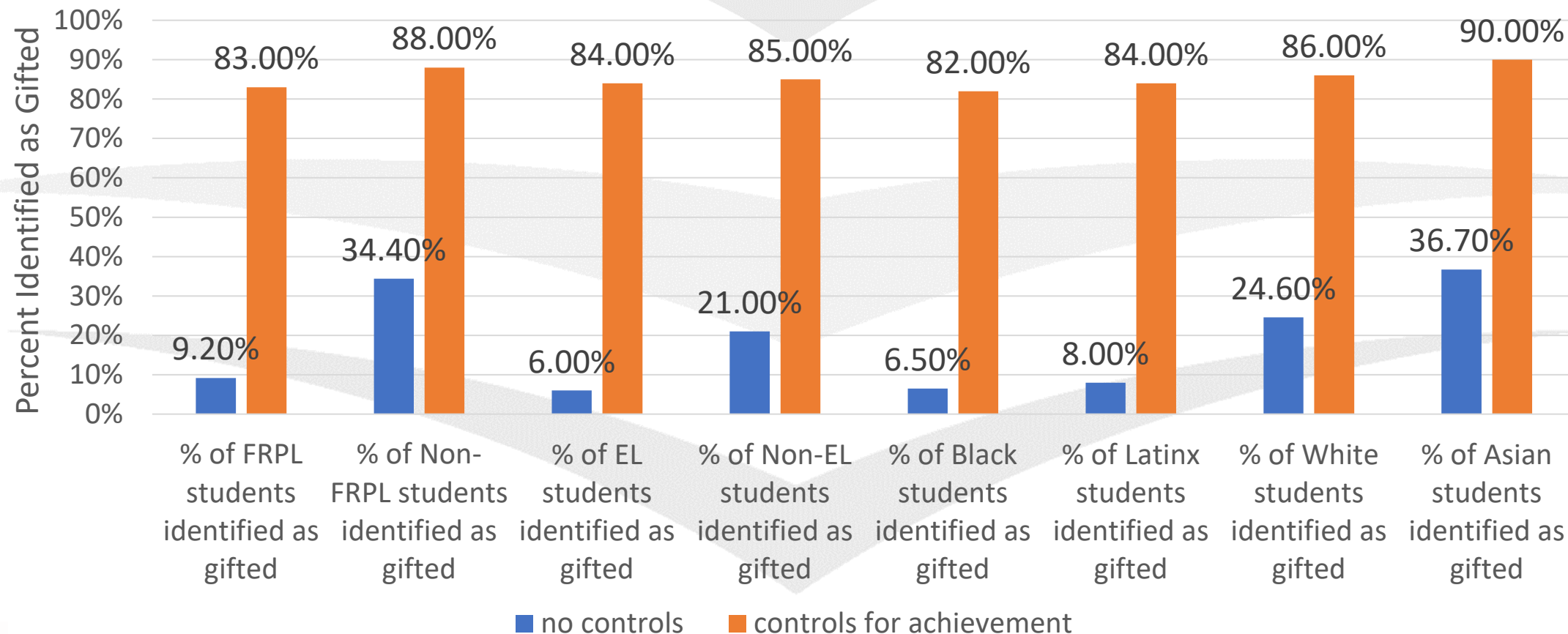
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## NCRGE's First Five Years: Results, Reflections, and Recommendations

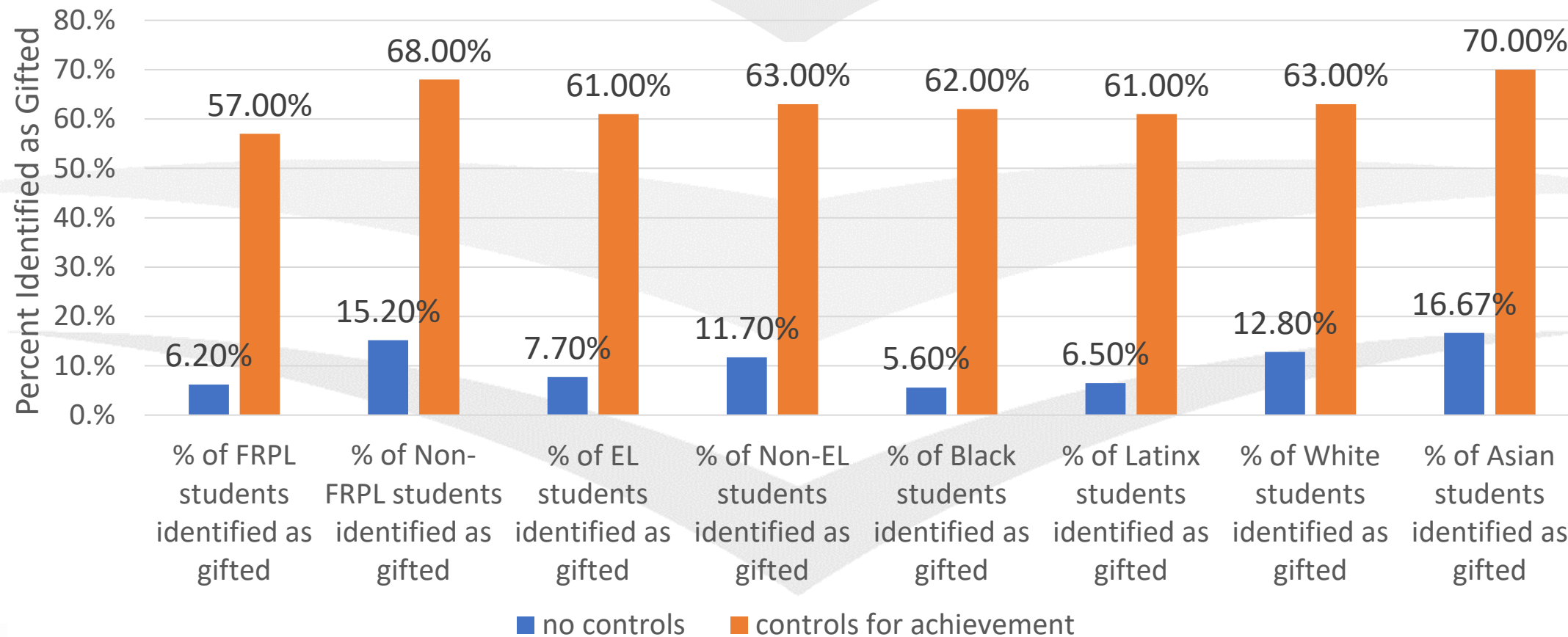
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# State 1: Comparison of Inequalities in Identification with and without controls for achievement (+1.5 S.D.)

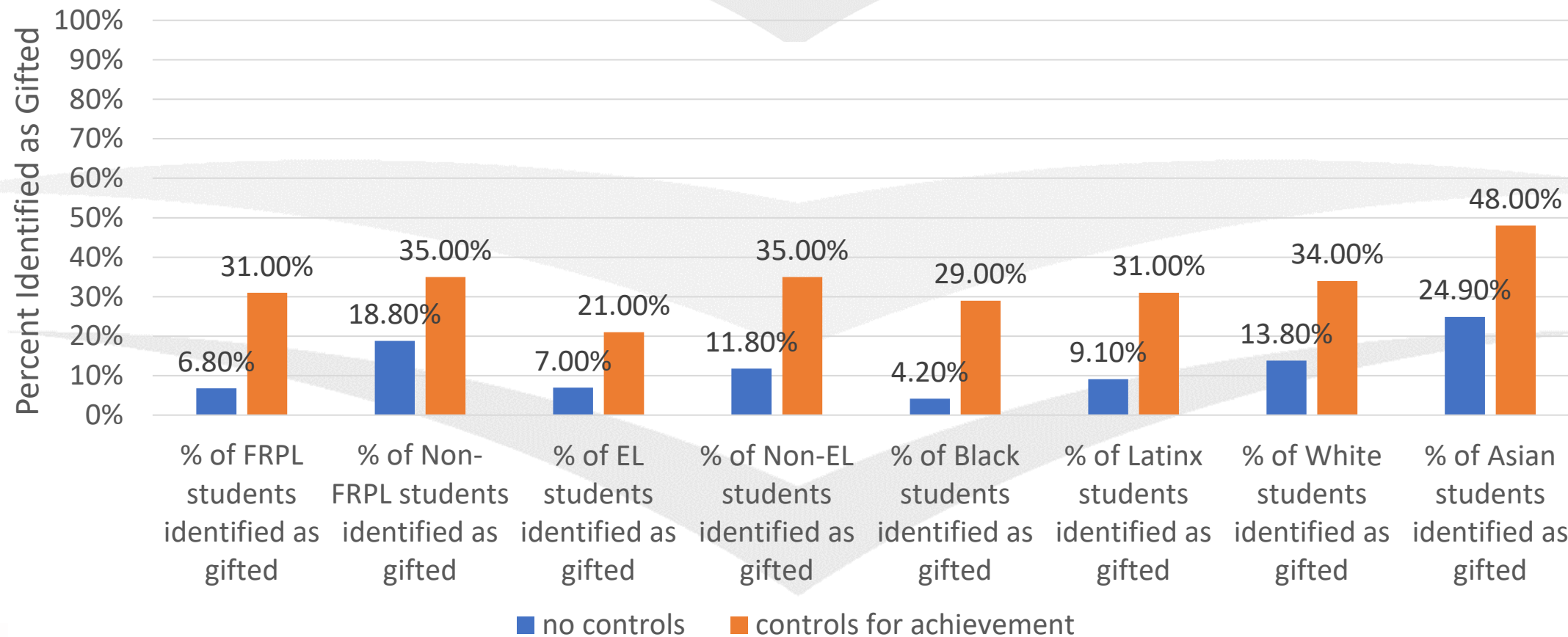




# State 2: Comparison of Inequalities in Identification with and without controls for achievement (+1.5 S.D.)



# 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, EL 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 ability.
- State 1 and State 3 have a lower rate of underrepresentation even after controlling for ability.

# 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 are strongly correlated with disparities in early academic achievement.

# District Level Policies: Use and Effectiveness of District Policies

What district policies are used to identify giftedness?

# What district policies are used to identify giftedness?

| <b><u>Structure of Identification</u></b>                   | State 1 | State 2 | State 3 |
|-------------------------------------------------------------|---------|---------|---------|
| Universal identification                                    | 81%     | 94%     | 22%     |
| Modify identification for underrepresented groups           | 26%     | 23%     | 65%     |
| Program to identify underrepresented groups                 | 39%     | 32%     | 16%     |
| <b><u>Tools for Identification</u></b>                      |         |         |         |
| Parents can nominate                                        | 77%     | 89%     | 88%     |
| Teachers can nominate                                       | 91%     | 95%     | 96%     |
| Use cognitive tests                                         | 95%     | 94%     | 90%     |
| Use non-verbal tests                                        | 45%     | 68%     | 41%     |
| Use creativity tests                                        | 4%      | 44%     | 10%     |
| <b><u>Decision process for identification</u></b>           |         |         |         |
| Committee of teachers and administrators decide             | 64%     | 74%     | 31%     |
| Use a matrix to decide                                      | 51%     | 23%     | 35%     |
| Use cut scores to decide                                    | 57%     | 54%     | 86%     |
| <b><u>Revisit the identification process</u></b>            |         |         |         |
| Non-identified students are reassessed at regular intervals | 60%     | 54%     | 16%     |
| Non-identified students are reassessed upon request         | 47%     | 54%     | 84%     |
| Identified students are reassessed at regular intervals     | 10%     | 31%     | 2%      |
| Identified students are reassessed upon request             | 10%     | 11%     | 4%      |

# District Level Practices: Use of District Policies

- There is extensive use of cognitive tests, teacher nominations, and parent nominations to identify gifted students.
- Limited use of policies to address underrepresentation in most states
  - Some districts use universal screening, modification, and non-verbal tests.
  - Very few districts offer programs to identify and recruit potentially gifted students.
  - Very few districts reassess students once they have been identified.

# Effectiveness of District Policies: Statistical Methods and Variables

- **Method:** Three-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 (EL) status any time from 3rd-5th, race/ethnicity (Latino, Black, Asian, Other, White (omitted)), math achievement (1), reading achievement (1), and school mobility any time from 3rd-5th.
  - Level 2 Variables (School Level)
    - Controls: percentage gifted (1), percentage Black or Latino (1), percentage EL (1), percentage FRPL (1), and whether the school is a charter school
  - Level 3 Variables (District Level)
    - District Policies about Modification
    - Controls: percentage gifted (2), percentage Black or Latino (2), percentage EL (2), percentage 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**



# Effect of Identification Policies in Three States

(+ = reduce underidentification, Sig. = Statistically Significant, N.S. = Not Statistically Significant)

|                                                             | State 1    |                 |               | State 2         |           |                                | State 3         |           |                               |
|-------------------------------------------------------------|------------|-----------------|---------------|-----------------|-----------|--------------------------------|-----------------|-----------|-------------------------------|
| <b>Structure of Identification</b>                          | FRL Equity | EL Equity       | Racial Equity | FRL Equity      | EL Equity | Racial Equity                  | FRL Equity      | EL Equity | Racial Equity                 |
| Universal identification                                    | N.S.       | N.S.            | N.S.          | N.S.            | N.S.      | <b>Sig. (+)<br/>for Latinx</b> | N.S.            | N.S.      | N.S.                          |
| Modify identification for underrepresented groups           | N.S.       | N.S.            | N.S.          | N.S.            | N.S.      | N.S.                           | <b>Sig. (+)</b> | N.S.      | N.S.                          |
| Program to identify underrepresented groups                 | N.S.       | N.S.            | N.S.          | N.S.            | N.S.      | N.S.                           | N.S.            | N.S.      | N.S.                          |
| <b>Tools for Identification</b>                             |            |                 |               |                 |           |                                |                 |           |                               |
| Parents can nominate                                        | N.S.       | N.S.            | N.S.          | <b>Sig. (-)</b> | N.S.      | N.S.                           | <b>Sig. (+)</b> | N.S.      | N.S.                          |
| Use non-verbal tests                                        | N.S.       | N.S.            | N.S.          | N.S.            | N.S.      | N.S.                           | <b>Sig. (-)</b> | N.S.      | N.S.                          |
| Use creativity tests                                        | N.S.       | N.S.            | N.S.          | N.S.            | N.S.      | N.S.                           | N.S.            | N.S.      | N.S.                          |
| <b>Decision process for identification</b>                  |            |                 |               |                 |           |                                |                 |           |                               |
| Committee of teachers and administrators decide             | N.S.       | N.S.            | N.S.          | N.S.            | N.S.      | N.S.                           | N.S.            | N.S.      | N.S.                          |
| Use a matrix to decide                                      | N.S.       | <b>Sig. (-)</b> | N.S.          | <b>Sig. (-)</b> | N.S.      | N.S.                           | N.S.            | N.S.      | N.S.                          |
| Use cut scores to decide                                    | N.S.       | <b>Sig. (-)</b> | N.S.          | N.S.            | N.S.      | N.S.                           | N.S.            | N.S.      | N.S.                          |
| <b>Revisit the identification process</b>                   |            |                 |               |                 |           |                                |                 |           |                               |
| Non-identified students are reassessed at regular intervals | N.S.       | N.S.            | N.S.          | N.S.            | N.S.      | <b>Sig. (-)<br/>for Latinx</b> | <b>Sig. (+)</b> | N.S.      | N.S.                          |
| Non-identified students are reassessed upon request         | N.S.       | N.S.            | N.S.          | N.S.            | N.S.      | <b>Sig. (-)<br/>For Latinx</b> | <b>Sig. (+)</b> | N.S.      | <b>Sig. (-)<br/>for Black</b> |

## Results, Reflections, and Recommendations

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# Next, we will examine four policies in more detail

(+ = reduce underidentification, Sig. = Statistically Significant, N.S. = Not Statistically Significant)

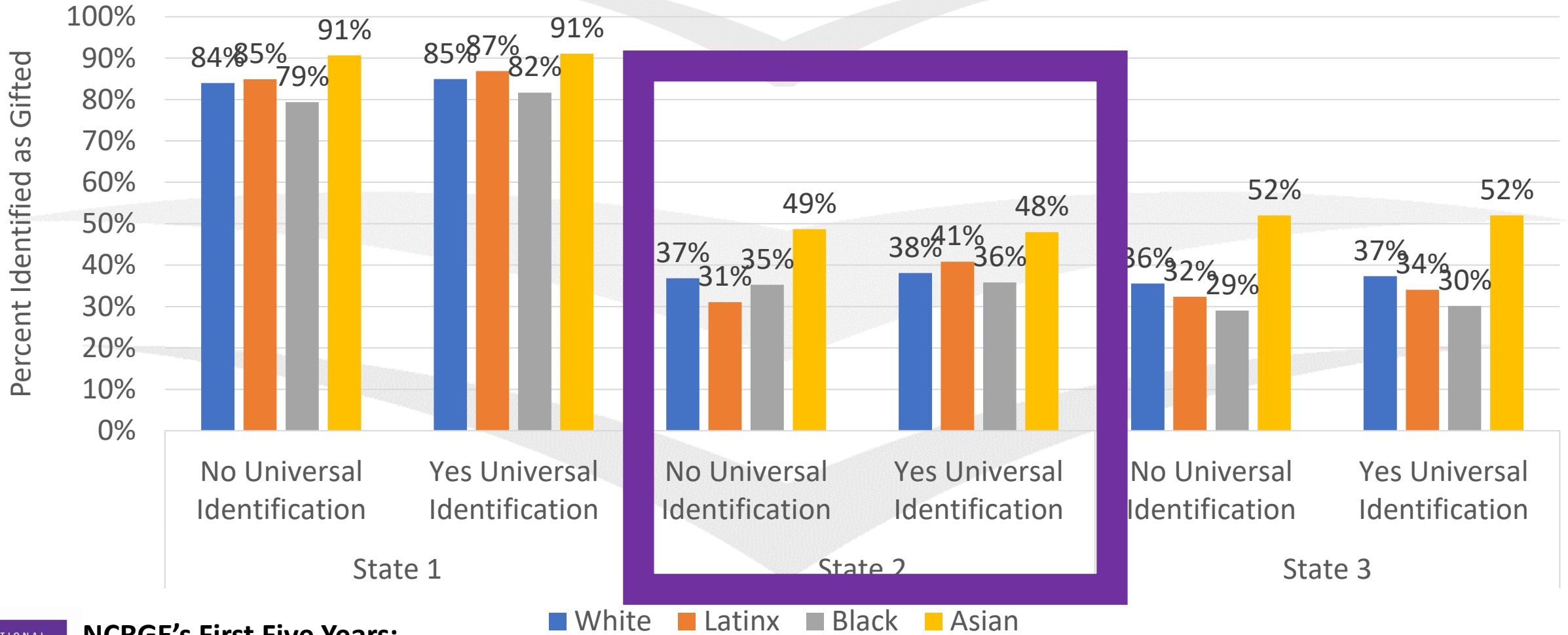
|                                                             | State 1    |                |               | State 2        |           |                            | State 3         |           |                          |
|-------------------------------------------------------------|------------|----------------|---------------|----------------|-----------|----------------------------|-----------------|-----------|--------------------------|
| <b>Structure of Identification</b>                          | FRL Equity | EL Equity      | Racial Equity | FRL Equity     | EL Equity | Racial Equity              | FRL Equity      | EL Equity | Racial Equity            |
| Universal identification                                    | N.S.       | N.S.           | N.S.          | N.S.           | N.S.      | <b>Sig. (+) for Latinx</b> | N.S.            | N.S.      | N.S.                     |
| Modify identification for underrepresented groups           | N.S.       | N.S.           | N.S.          | N.S.           | N.S.      | N.S.                       | <b>Sig. (+)</b> | N.S.      | N.S.                     |
| Program to identify underrepresented groups                 | N.S.       | N.S.           | N.S.          | N.S.           | N.S.      | N.S.                       | N.S.            | N.S.      | N.S.                     |
| <b>Tools for Identification</b>                             |            |                |               |                |           |                            |                 |           |                          |
| Parents can nominate                                        | N.S.       | N.S.           | N.S.          | <b>Sig.(-)</b> | N.S.      | N.S.                       | <b>Sig.(+)</b>  | N.S.      | N.S.                     |
| Use non-verbal tests                                        | N.S.       | N.S.           | N.S.          | N.S.           | N.S.      | N.S.                       | <b>Sig.(-)</b>  | N.S.      | N.S.                     |
| Use creativity tests                                        | N.S.       | N.S.           | N.S.          | N.S.           | N.S.      | N.S.                       | N.S.            | N.S.      | N.S.                     |
| <b>Decision process for identification</b>                  |            |                |               |                |           |                            |                 |           |                          |
| Committee of teachers and administrators decide             | N.S.       | N.S.           | N.S.          | N.S.           | N.S.      | N.S.                       | N.S.            | N.S.      | N.S.                     |
| Use a matrix to decide                                      | N.S.       | <b>Sig.(-)</b> | N.S.          | <b>Sig.(-)</b> | N.S.      | N.S.                       | N.S.            | N.S.      | N.S.                     |
| Use cut scores to decide                                    | N.S.       | <b>Sig.(-)</b> | N.S.          | N.S.           | N.S.      | N.S.                       | N.S.            | N.S.      | N.S.                     |
| <b>Revisit the identification process</b>                   |            |                |               |                |           |                            |                 |           |                          |
| Non-identified students are reassessed at regular intervals | N.S.       | N.S.           | N.S.          | N.S.           | N.S.      | <b>Sig.(-) for Latinx</b>  | <b>Sig.(+)</b>  | N.S.      | N.S.                     |
| Non-identified students are reassessed upon request         | N.S.       | N.S.           | N.S.          | N.S.           | N.S.      | <b>Sig.(-) For Latinx</b>  | <b>Sig.(+)</b>  | N.S.      | <b>Sig.(-) for Black</b> |

## Next, we will examine four policies in more detail:

|                                         | State 1    |           |               | State 2        |           |                                    | State 3        |           |               |
|-----------------------------------------|------------|-----------|---------------|----------------|-----------|------------------------------------|----------------|-----------|---------------|
|                                         | FRL Equity | EL Equity | Racial Equity | FRL Equity     | EL Equity | Racial Equity                      | FRL Equity     | EL Equity | Racial Equity |
| Universal Identification                | N.S.       | N.S.      | N.S.          | N.S.           | N.S.      | <b>Sig. (+)<br/>for<br/>Latinx</b> | N.S.           | N.S.      | N.S.          |
| Modification of Identification Policies | N.S.       | N.S.      | N.S.          | N.S.           | N.S.      | N.S.                               | <b>Sig.(+)</b> | N.S.      | N.S.          |
| Parent Nomination                       | N.S.       | N.S.      | N.S.          | <b>Sig.(-)</b> | N.S.      | N.S.                               | <b>Sig.(+)</b> | N.S.      | N.S.          |
| Use of Non-Verbal Tests                 | N.S.       | N.S.      | N.S.          | N.S.           | N.S.      | N.S.                               | <b>Sig.(-)</b> | N.S.      | N.S.          |

# Effect of Districts with Universal Identification on the Racial/Ethnic Gap in the Percent of Students Identified as Gifted

(Statistically Significant Findings in a Box)

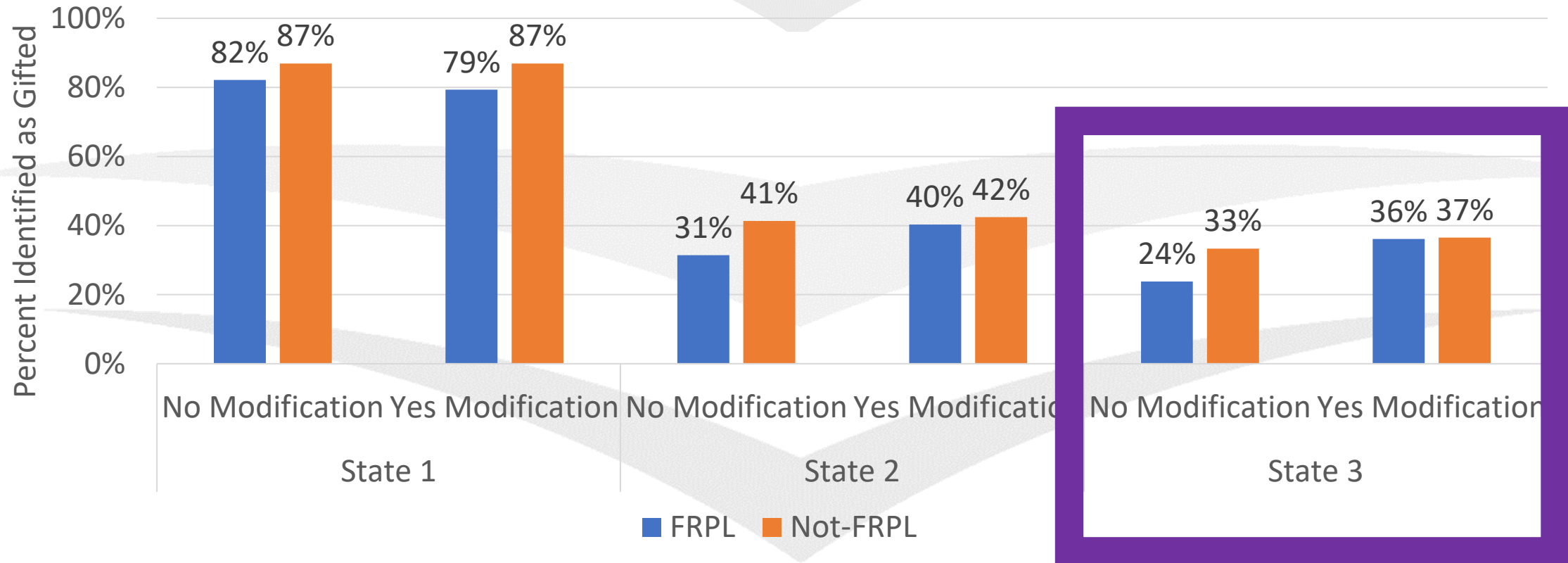


# Take home message...

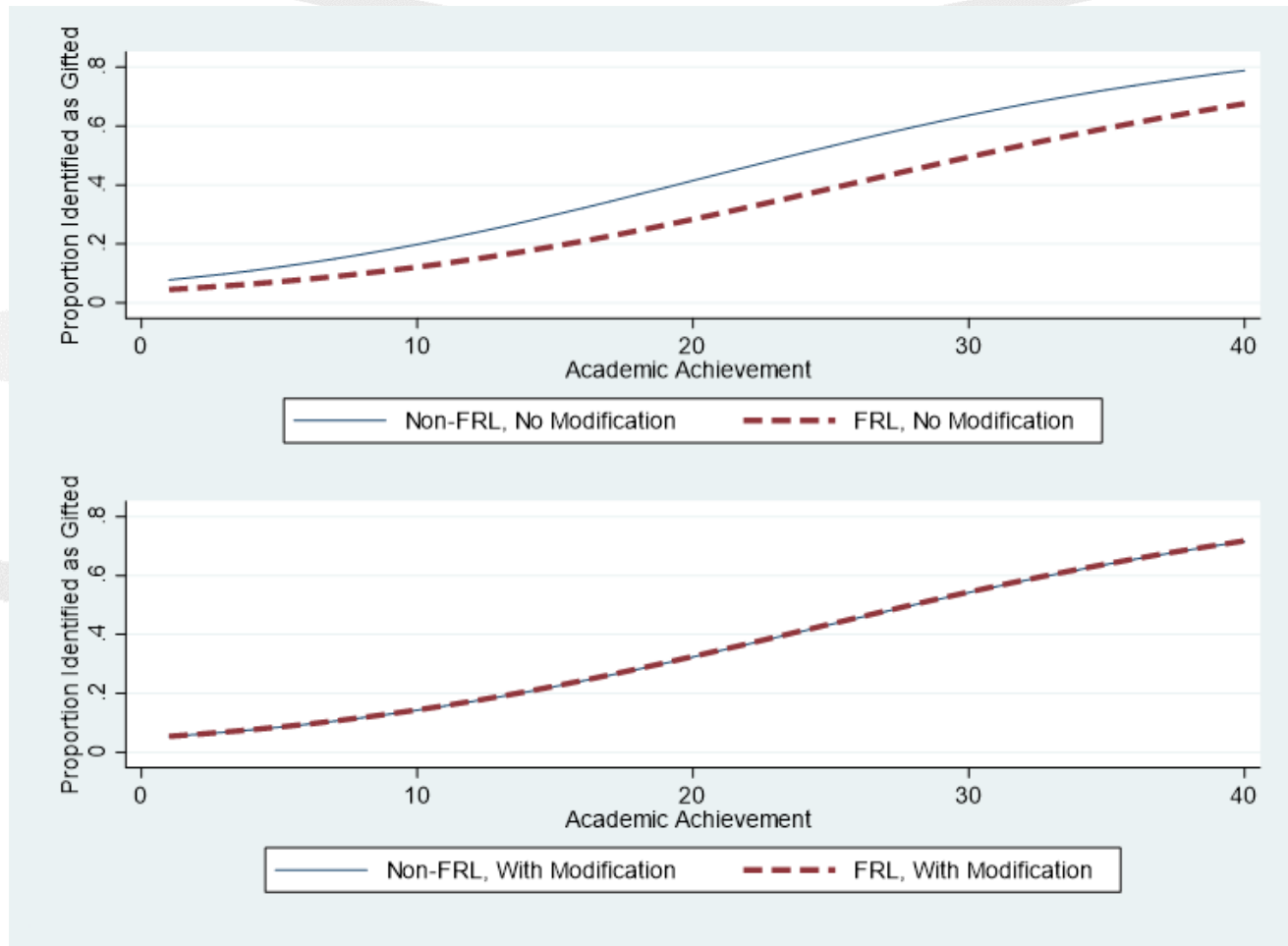
- **Districts in State 2 that use Universal Identification policies show increased Latinx/white equity**

# 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

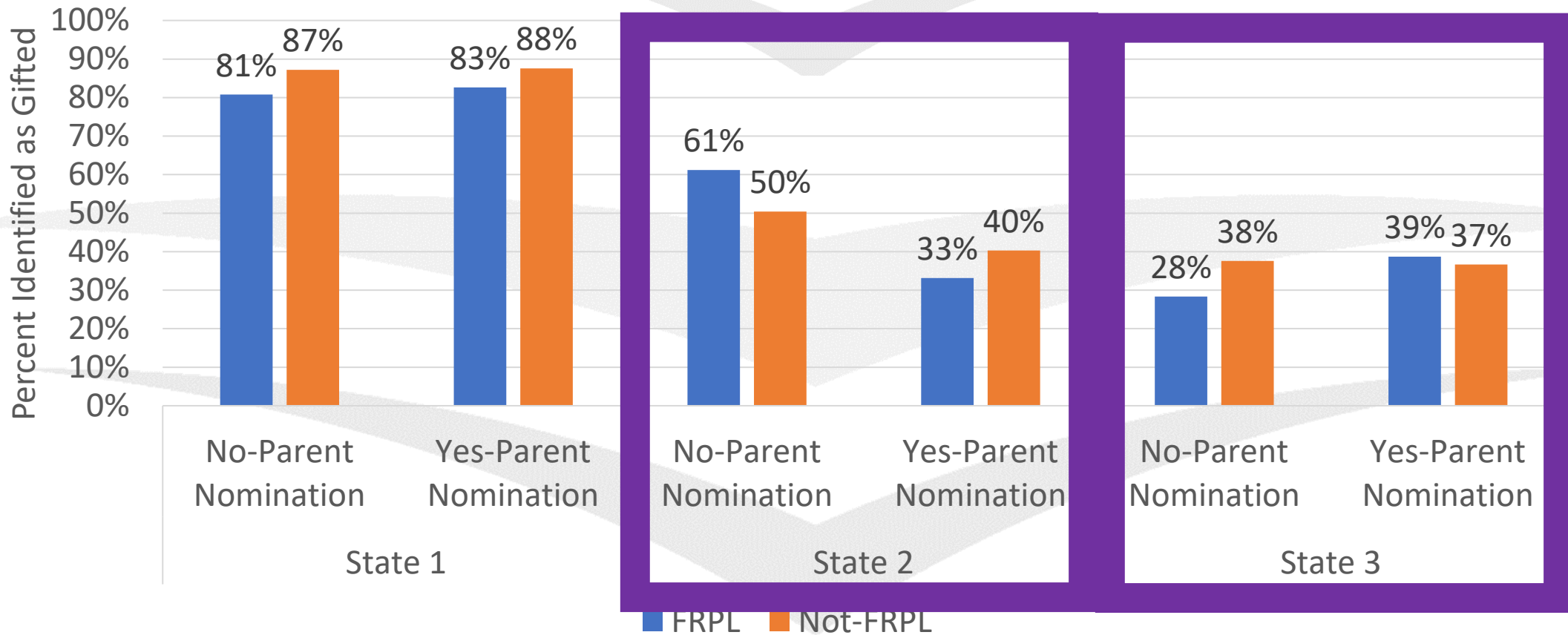


# Take home message...

- **Districts in State 3 that use modification show increased FRPL/non-FRPL equity.**



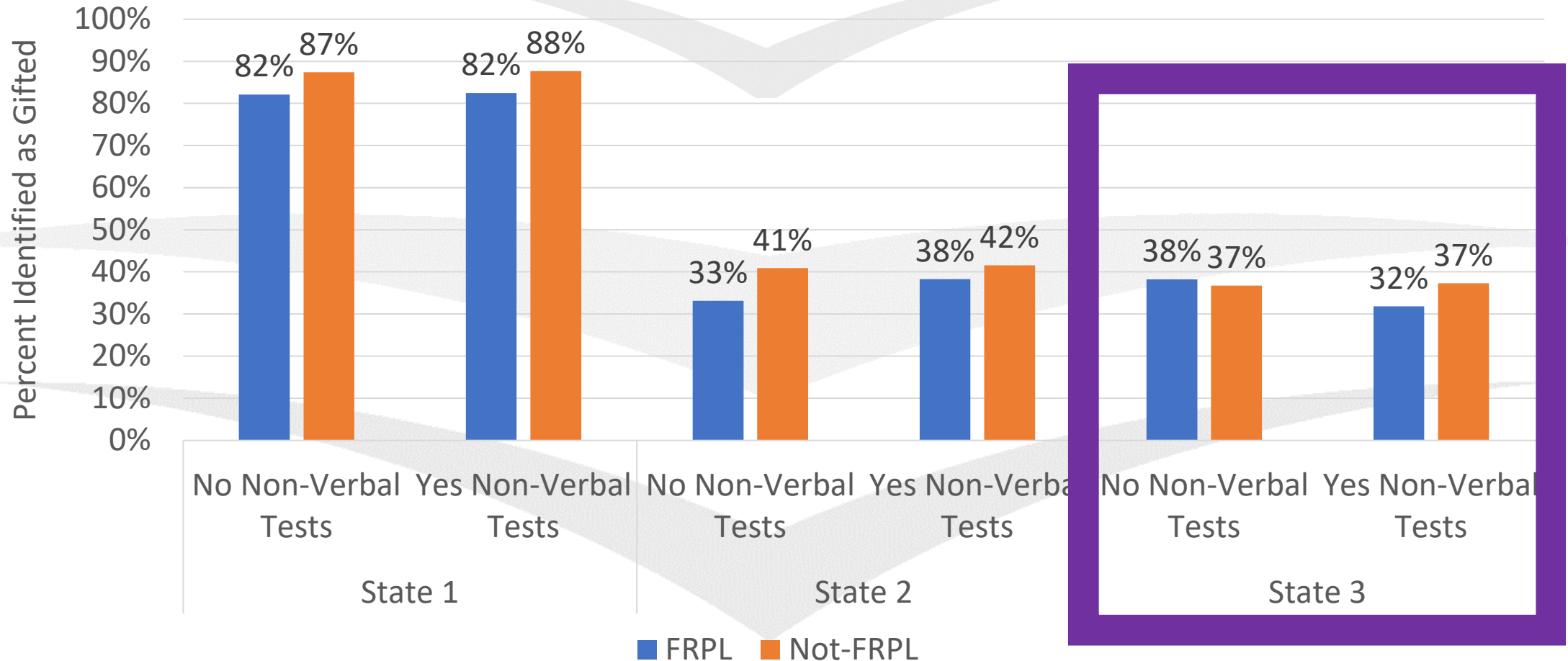
Effect of Districts with Parent Nomination Policies on the FRPL vs. Not FRPL Gap in the Percent of Students Identified as Gifted  
 (Statistically Significant Findings in a Box)



## Take home message...

- **Districts in State 2 that use Parent Nomination policies show decreased FRPL/Not-FRPL equity.**
- **Districts in State 3 that use Parent Nomination polices show increased FRPL/Not-FRPL equity.**

Effect of Districts that use **Non-Verbal Test for Identification** on the FRPL vs. Not FRPL Gap in the Percent of Students Identified as Gifted  
(Statistically Significant Findings in a Box)



## Take home message...

- **Districts in State 3 that use non-verbal tests show decreased FRPL/Not-FRPL equity.**

# Take home message: Different Effects by States and Policy

|                                         | State 1    |           |               | State 2        |           |                                    | State 3        |           |               |
|-----------------------------------------|------------|-----------|---------------|----------------|-----------|------------------------------------|----------------|-----------|---------------|
|                                         | FRL Equity | EL Equity | Racial Equity | FRL Equity     | EL Equity | Racial Equity                      | FRL Equity     | EL Equity | Racial Equity |
| Universal Identification                | N.S.       | N.S.      | N.S.          | N.S.           | N.S.      | <b>Sig. (+)<br/>for<br/>Latinx</b> | N.S.           | N.S.      | N.S.          |
| Modification of Identification Policies | N.S.       | N.S.      | N.S.          | N.S.           | N.S.      | N.S.                               | <b>Sig.(+)</b> | N.S.      | N.S.          |
| Parent Nomination                       | N.S.       | N.S.      | N.S.          | <b>Sig.(-)</b> | N.S.      | N.S.                               | <b>Sig.(+)</b> | N.S.      | N.S.          |
| Use of Non-Verbal Tests                 | N.S.       | N.S.      | N.S.          | N.S.           | N.S.      | N.S.                               | <b>Sig.(-)</b> | N.S.      | N.S.          |



## NCRGE's First Five Years: Results, Reflections, and Recommendations

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# District Level Practices: Effectiveness of District Policies

- Very few district policies influence rates of under-identification.
- Practices such as universal screening and nonverbal tests do not appear to be panaceas for removing the identification gap. In some states, the use of matrices and cut scores increases inequality. Mixed effects of re-identification.
- Modification in one state shows promise of reducing under-identification



In sum...



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# Large problem with underrepresentation

- Underserved populations are not being identified at the same rate as non-underserved students, even after controlling for student achievement.
- EL, free or reduced-price lunch, and Latinx and Black students are less likely to be identified as gifted, even if they have the same reading and mathematics achievement as students who are not from these groups, in two out of three states.
- However, 3rd grade academic achievement is directly related to identification gaps in identification of gifted students in one state.



# District Level Practices: Use and Effectiveness of District Policies

- There is extensive use of cognitive tests, teacher nominations, and parent nominations to identify gifted students.
- Limited use of policies to address underrepresentation in most states
  - Some districts use universal screening, modification, and non-verbal tests.
  - Very few districts offer programs to identify and recruit potentially gifted students.
  - Very few districts reassess students once they have been identified.
- Very few district policies influence rates of under-identification.
- Practices such as universal screening and nonverbal tests do not appear to be panaceas for removing the identification gap. In some states, the use of matrices and cut scores increase inequality. Mixed effects of re-identification.
- Modification in one state shows promise of reducing under-identification

# School Level Practices: Effective policies to address EL underrepresentation

- We conducted a qualitative study of EL gifted identification in 16 schools.

# Improving the Identification of Gifted English Learners (ELs)



**NCRGE's First Five Years:  
Results, Reflections, and Recommendations**

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- **Adopt Universal Screening Procedures**
- **Create Alternative Pathways to Identification**
- **Establish a Web of Communication**
- **View Professional Development as a Lever for Change**

# Adopt Universal Screening Procedures

1. Universal screening
2. Culturally sensitive assessments
3. Speed of English language acquisition
4. Reliable and valid nonverbal ability assessments
5. Supplement with other identification tools

# Create Alternative Pathways to Identification

6. Native language ability and achievement assessments
7. Multilingual school psychologists
8. Preparation programs
9. Talent pool list of students

# Establish a Web of Communication

10. Identification committee

11. Intentional outreach to the school community

12. Collaboration within and across specializations/departments

# View Professional Development as a Lever for Change

13. Professional development opportunities for school personnel
14. Systematic analysis district and school demographics
15. Teaching corps