

# Pacific Islander and Native Hawaiian Students' Reading Achievement in Hawai'i

Malkeet Singh  
Education Northwest

Hugh H. Dunn  
University of Hawaii at Mānoa



# Research Questions

- From grades 3 to 5, what is the reading achievement gap for Native Hawaiian students and Pacific Islander students in comparison to their white peers?
- From grades 3 to 5, what is the reading achievement gap for Pacific Islander students in comparison to their Native Hawaiian peers?



# What We Know:

## Reading Proficiency in the Elementary Grades

- Academic performance in the early years is strongly associated with future school outcomes
- Children's reading growth trajectories are established early and the gap between strong and weak readers becomes increasingly difficult to close
- One in six children who are not reading proficiently by end of grade 3, do not graduate from high school on time



# Key Provisions of Every Student Succeeds Act (ESSA)

- Advances equity by upholding critical protections for America's disadvantaged and high-need students
- Ensures vital information is provided to educators, students, and communities through annual statewide assessments that measure students' progress toward those high standards
- Maintains an expectation that there will be accountability to effect positive change in our lowest-performing schools, where groups of students are not making progress



# Smarter Balanced Assessment (SBA)

- Hawaii Department of Education's (HIDOE) statewide English Language Arts/Literacy (ELA) and mathematics assessment
- Annually measures academic achievement and growth over time for all students, grades 3–8 and 11, and separately for each subgroup of students
- Achievement Levels

Proficient

- Level 4 - Exceeded
- Level 3 - Met

Not  
Proficient

- Level 3 – Nearly Met
- Level 1 – Not Met



# Model A: Native Hawaiians and Pacific Islanders Considered as Similar Groups

$$\text{Level 1 } Y_{ij} = \beta_{0j} + \beta_{1j}\text{SES}_i + \beta_{2j}\text{SPED}_i + \beta_{3j}\text{Asian}_i + \beta_{4j}\text{Filipino}_i + \\ \beta_{5j}\text{Hawaiian}_i \\ + \beta_{6j}\text{PI}_i + \beta_{7j}\text{Other}_i + r_{ij}$$

$$\text{Level 2 } \beta_{0j} = \gamma_{00} + \gamma_{01}\text{SchSES} + \mu_{0j} \\ \beta_{1j} = \gamma_{10} + \mu_{1j} \\ \beta_{2j} = \gamma_{20} \\ \beta_{3j} = \gamma_{30} \\ \beta_{4j} = \gamma_{40} \\ \beta_{5j} = \gamma_{50} \\ \beta_{6j} = \gamma_{60} \\ \beta_{7j} = \gamma_{70}$$

$$\text{Reduced } Y_{ij} = \gamma_{00} + \gamma_{10}\text{SES}_i + \gamma_{20}\text{SPED} + \gamma_{30}\text{Asian}_i + \gamma_{40}\text{Filipino}_i \\ + \gamma_{50}\text{Hawn}_i \\ + \gamma_{60}\text{PI}_i + \gamma_{70}\text{Other}_i + \gamma_{01}\text{SchSES}_j + \mu_{0j} + \mu_{1j}\text{SES}_i + r_{ij}$$

Where  $i$  =  $i$ th student,  $j$  =  $j$ th school,  $Y_{ij}$  = ELA reading score of the  $i$ th student from the  $j$ th school



# Model B: Native Hawaiian and Pacific Islanders as separate groups

$$\begin{aligned} \text{Level 1 } Y_{ij} = & \beta_{0j} + \beta_{1j}\text{SES}_i + \beta_{2j}\text{SPED}_i + \beta_{3j}\text{Asian}_i + \beta_{4j}\text{Filipino}_i + \\ & \beta_{5j}\text{Hawaiian}_i \\ & + \beta_{6j}\text{PI}_i + \beta_{7j}\text{Other}_i + r_{ij} \end{aligned}$$

$$\text{Level 2 } \beta_{0j} = \gamma_{00} + \gamma_{01}\text{SchSES} + \mu_{0j}$$

$$\beta_{1j} = \gamma_{10} + \mu_{1j}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

$$\beta_{4j} = \gamma_{40}$$

$$\beta_{5j} = \gamma_{50}$$

$$\beta_{6j} = \gamma_{60}$$

$$\beta_{7j} = \gamma_{70}$$

$$\begin{aligned} \text{Reduced } Y_{ij} = & \gamma_{00} + \gamma_{10}\text{SES}_i + \gamma_{20}\text{SPED} + \gamma_{30}\text{Asian}_i + \gamma_{40}\text{Filipino}_i \\ & + \gamma_{50}\text{Hawn}_i \\ & + \gamma_{60}\text{PI}_i + \gamma_{70}\text{Other}_i + \gamma_{01}\text{SchSES}_j + \mu_{0j} + \mu_{1j}\text{SES}_i + r_{ij} \end{aligned}$$

where  $i$  =  $i$ th student,  $j$  =  $j$ th school,  $Y_{ij}$  = ELA reading score of the  $i$ th student from the  $j$ th school



# Results

## Results of the Multilevel Model Predicting Grade 3, 4, and 5 Students' ELA Performance

	Grade 3		Grade 4		Grade 5	
Variable	Model A coefficient	Model B coefficient	Model A coefficient	Model B coefficient	Model A coefficient	Model B coefficient
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<b>Student-level variables</b>						
SES (Free or reduced-price lunch)	-30.39*** (1.79)	-29.99*** (1.79)	-31.03*** (1.67)	-30.42*** (1.65)	-31.07*** (1.69)	-30.68*** (1.71)
SPED (Individualized Education Program)	-95.81*** (2.36)	-96.37*** (2.36)	-106.92*** (2.36)	-107.92*** (2.36)	-111.74*** (2.31)	-112.19*** (2.31)
Asian	-2.37n.s. (2.28)	-2.50n.s. (2.28)	-4.18n.s. (2.49)	-4.33n.s. (2.49)	-4.27n.s. (2.49)	-4.44n.s. (2.49)
Filipino	-15.20*** (2.14)	-15.85*** (2.14)	-18.29*** (2.35)	-18.96*** (2.35)	-19.19*** (2.37)	-19.87*** (2.37)
Hawaiian	-37.51*** (2.00)	-33.49*** (2.10)	-40.92*** (2.17)	-36.77*** (2.25)	-43.85*** (2.18)	-40.61*** (2.25)
PI (Pacific Islander)		-48.77*** (2.89)		-54.49*** (2.94)		-55.28*** (2.98)
	22.22***	22.44	27.25***	27.52***	26.20***	26.48***



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# Implications of Findings

- Two responses to the significant and persistent gaps across the elementary grades
  - Reinforce the misguided stereotypical views about disadvantaged subgroups
    - Results in children falling further behind
  - Compel discussions about causes and appropriate interventions Achievement gaps reflect the gaps in resources and learning opportunities
    - Requisite supports and resources are needed to achieve educational parity for disadvantaged subgroups

