



Promoting Resilience and Recovery in Educational Settings

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Overview

- Purpose of Education
- The Situation Pre-pandemic
- Headwinds and Tailwinds
- Some Effects of the Pandemic
- Immediate Responses and Cautionary Tales
- Evidence-Based Practices
- Psychosocial Factors I Study: Time Constructs and Cultural Identities
- Concluding Remarks
- Questions



WHAT IS THE PURPOSE OF SCHOOLING?

Beyond the three Rs: Academic

- Behavioral competence
- Social competence
- Emotional regulation

Education


- Is one of and maybe the most important socializing mechanisms in our society.
- Is supposed to be the great equalizer.
- Is supposed to open-up possibilities for the future.

Preparing children and youth to be competent adults and productive citizens.

◦ **WHAT IS THE PURPOSE OF EDUCATION?**

Kehle & Bray (2011, p. 3)

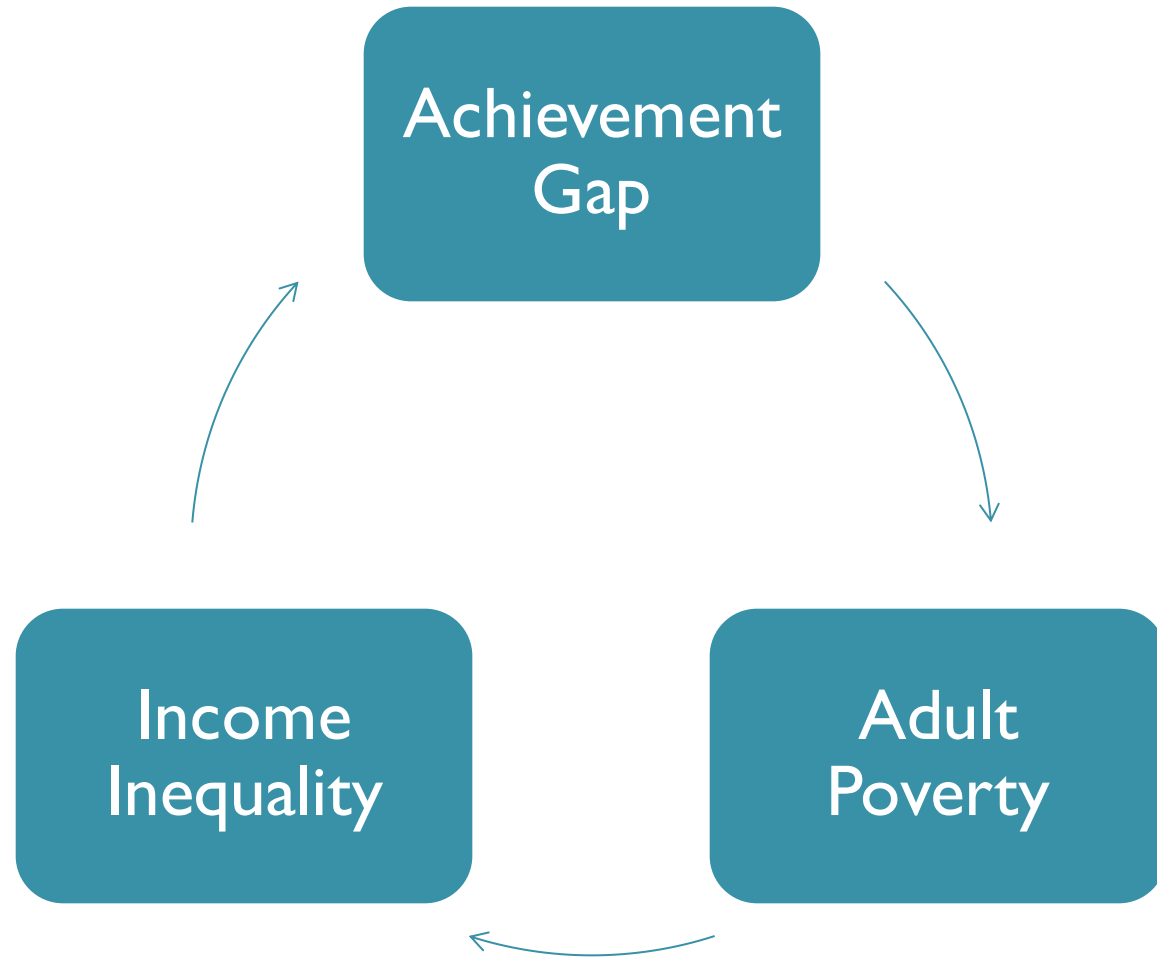
- “An obvious, but rarely publicly discussed, observation is that children are not appreciably better educated nor better behaved than they were 50 years ago.”

- 
- For education to live up to the goal of preparing competent adults and productive citizens, “we need committed teachers, effective teaching strategies, motivated learners, supportive families, and well-resourced schools.”
 - “All of these factors are affected by the behavioral, social, and emotional well-being of students, teachers, and families, and the values and operationalized commitments of school districts, communities, and state and federal policy makers.”
 - Worrell, Hughes, & Dixson (2020, p. 2; *The Cambridge Handbook of Applied School Psych*)



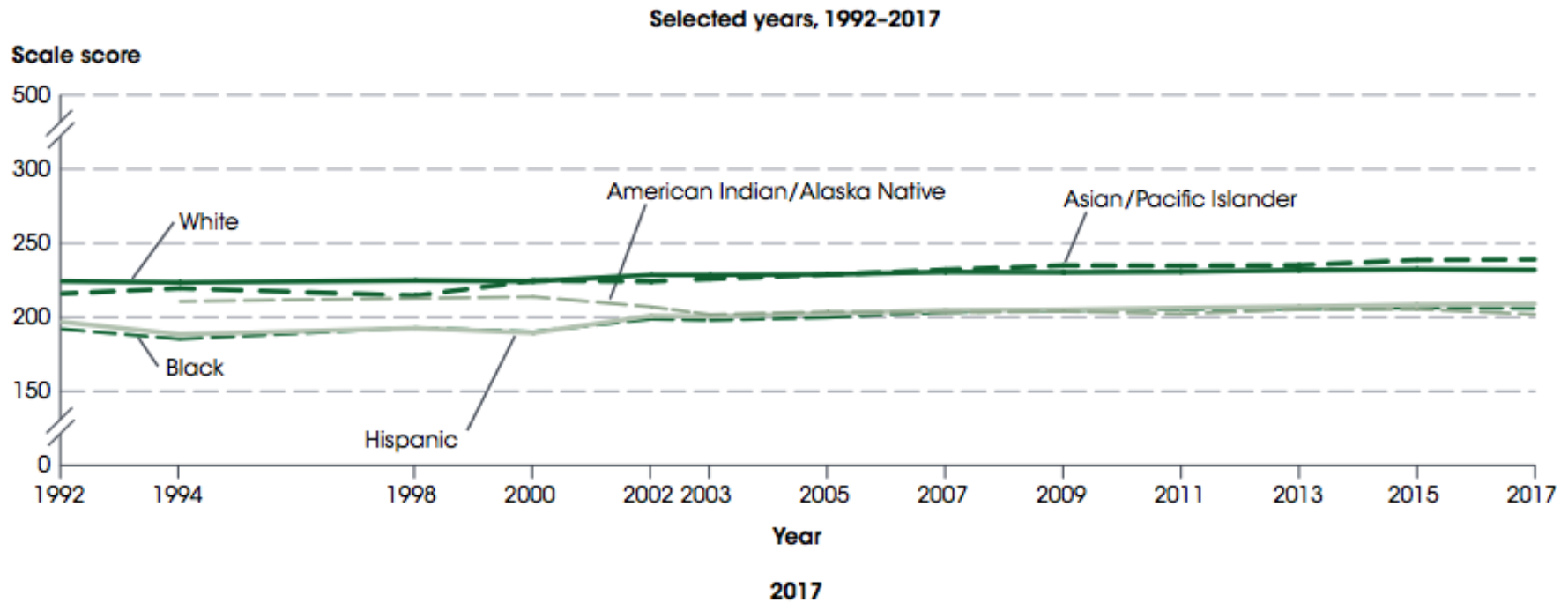
THE SITUATION PRE- PANDEMIC

Education's Perennial Problem

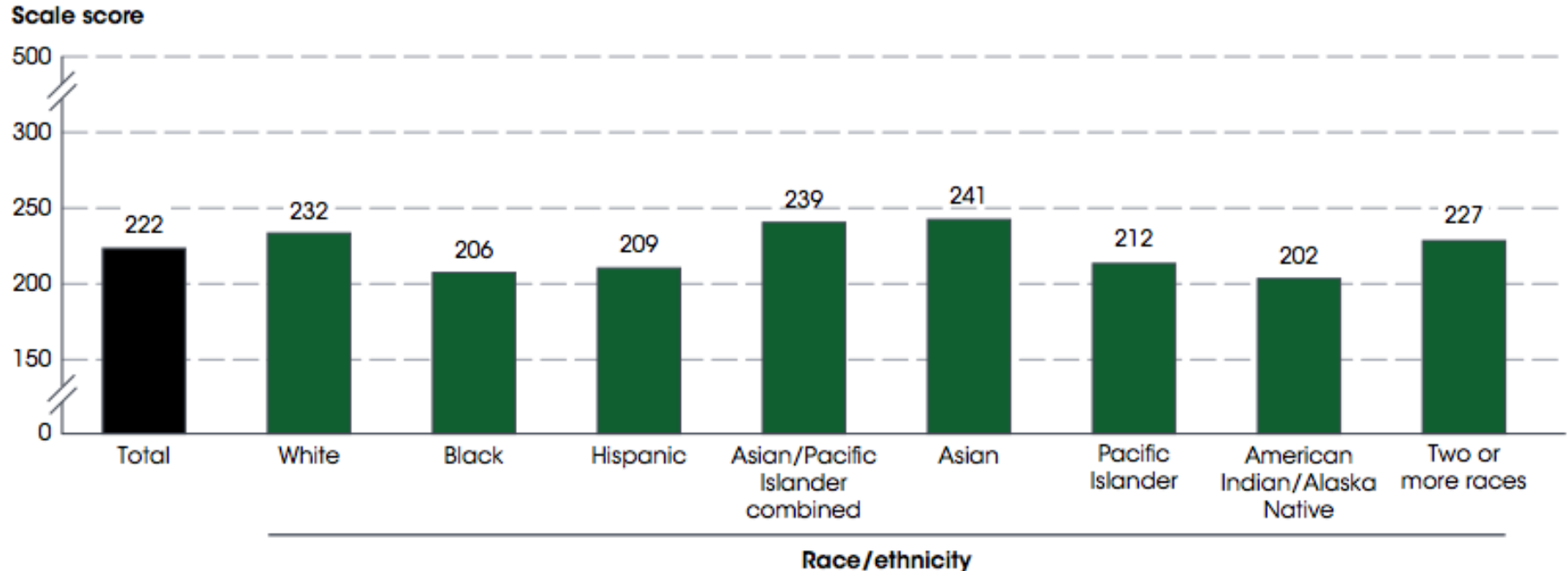


Reading Scores by Ethnicity 1992 - 2017

Figure 3. Average National Assessment of Educational Progress (NAEP) reading scale scores of 4th-grade students, by selected characteristics: Selected years, 1992-2017

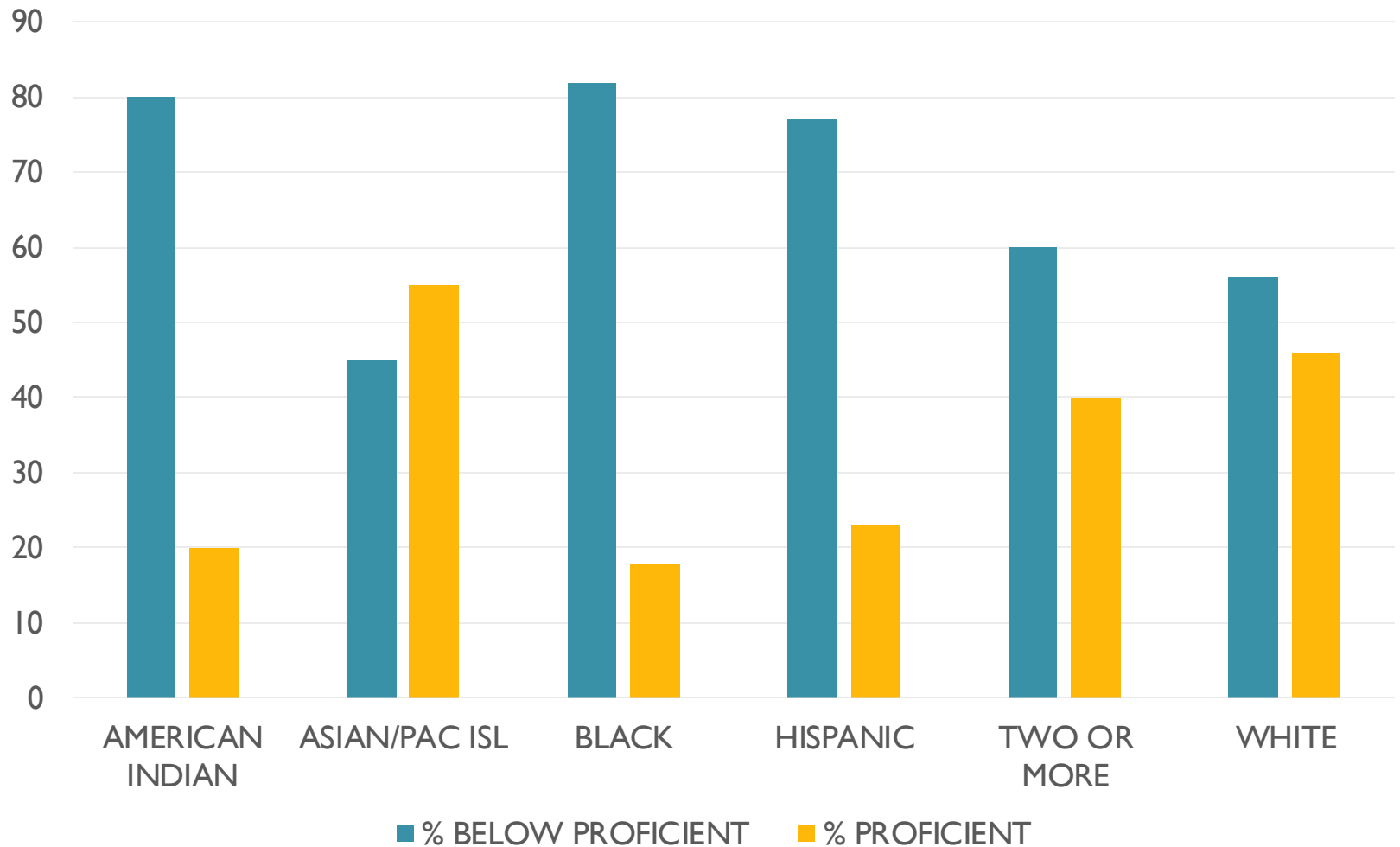


2017 Reading Scores: 4th Grade

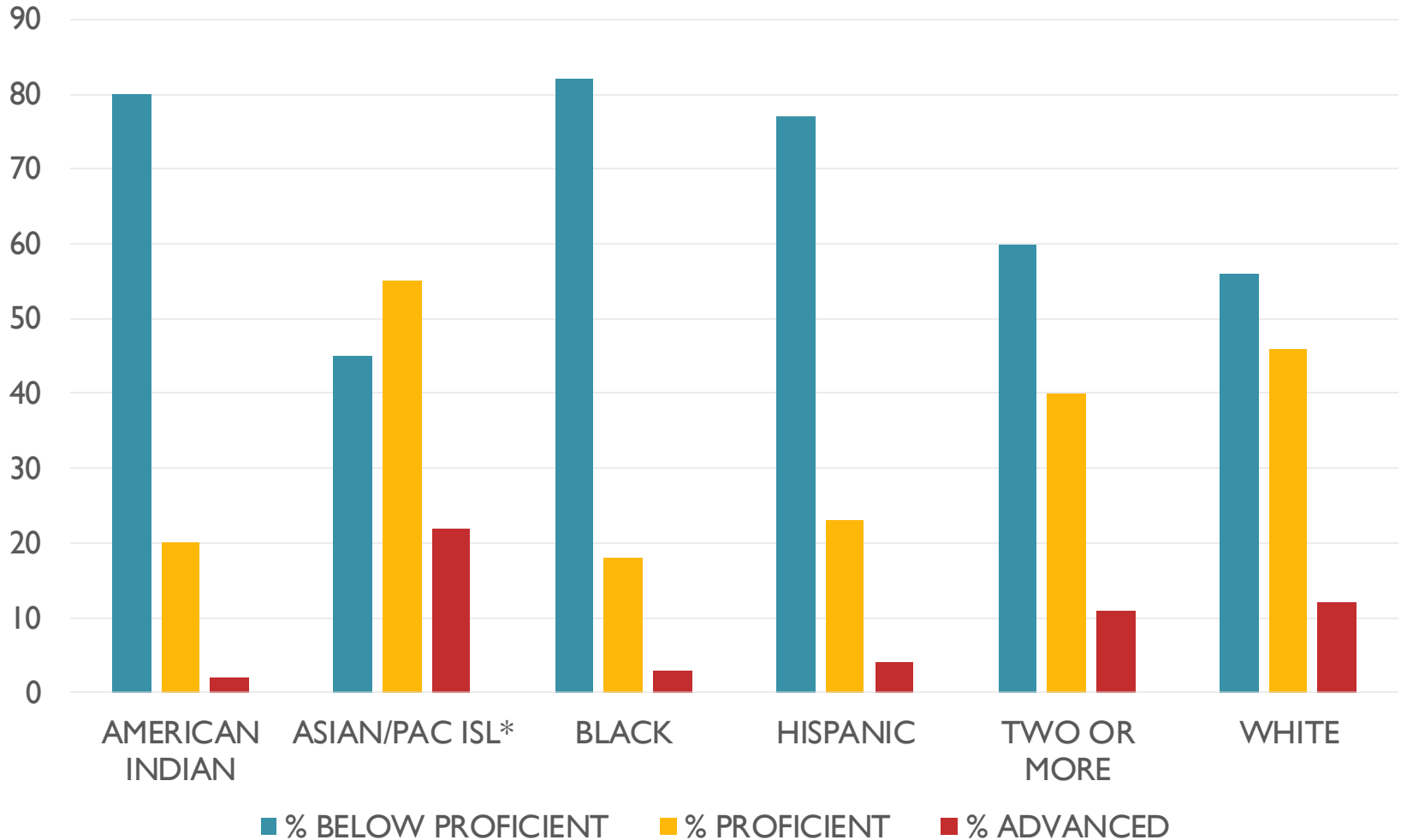


2017

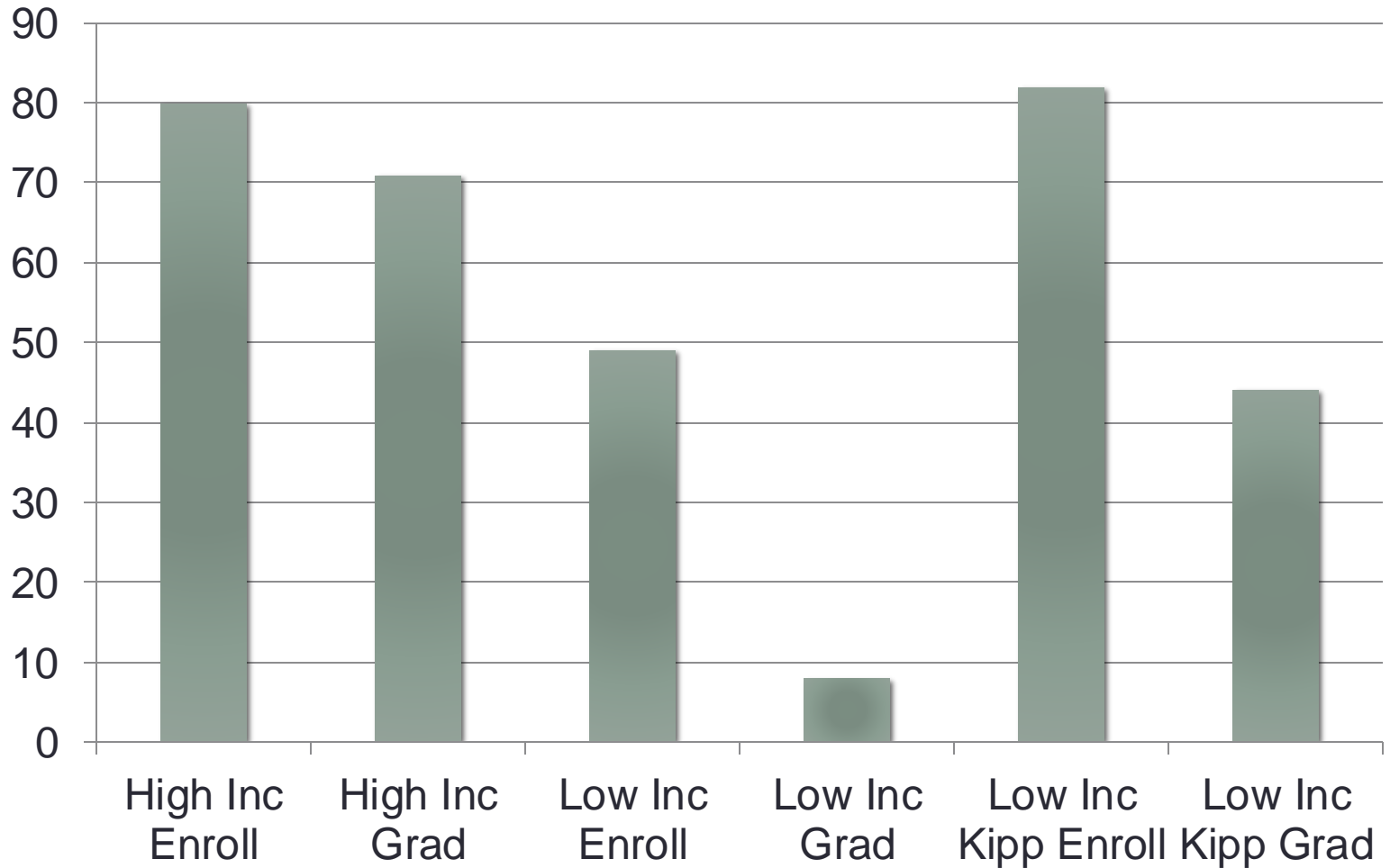
4th Graders Scoring **Below Proficient** in Reading (2019) by Ethnicity/Race



4th Graders Proficiency Levels in Reading by Ethnicity/Race

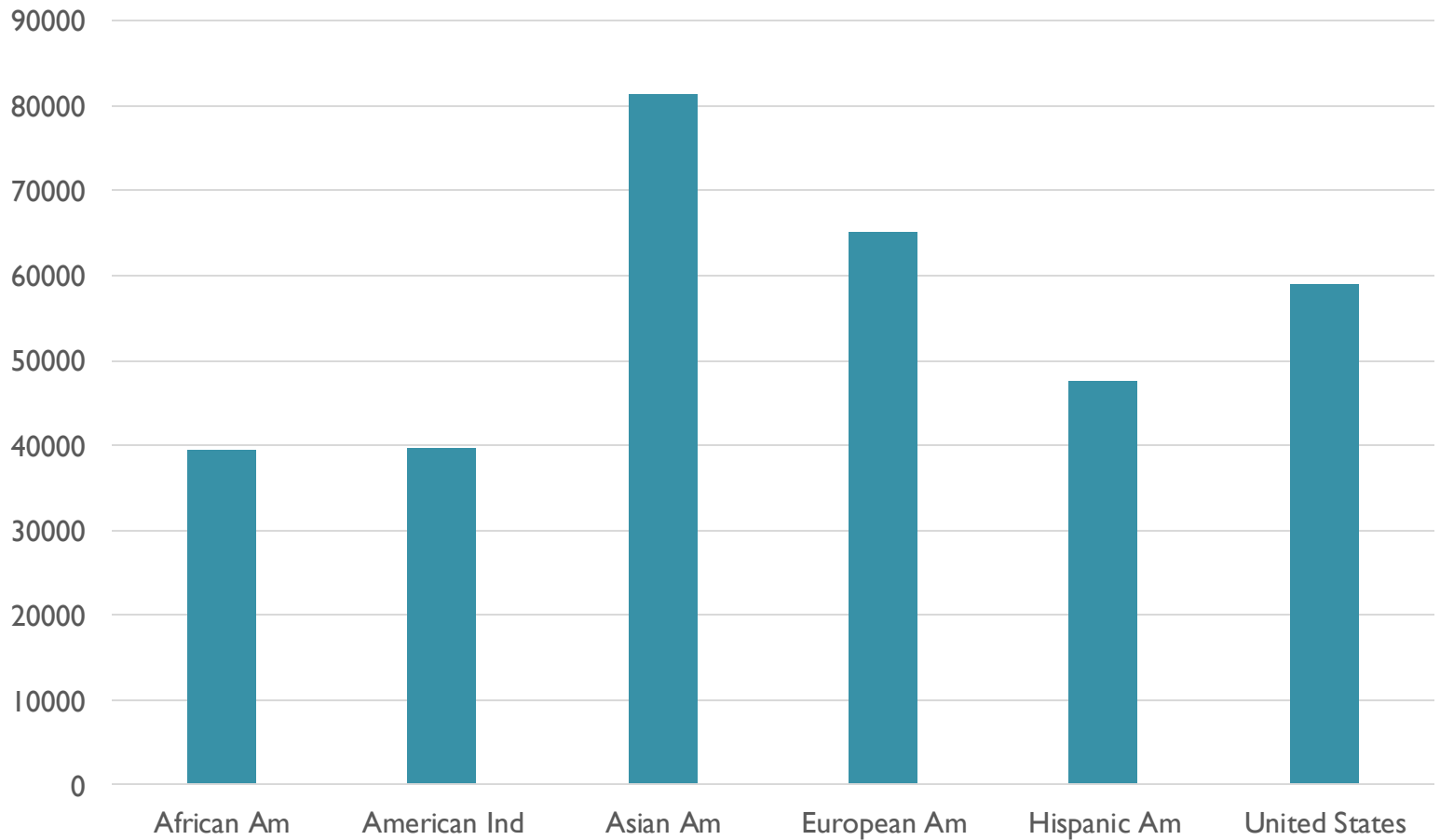


College Enrollment and Graduation Rates by Income Level



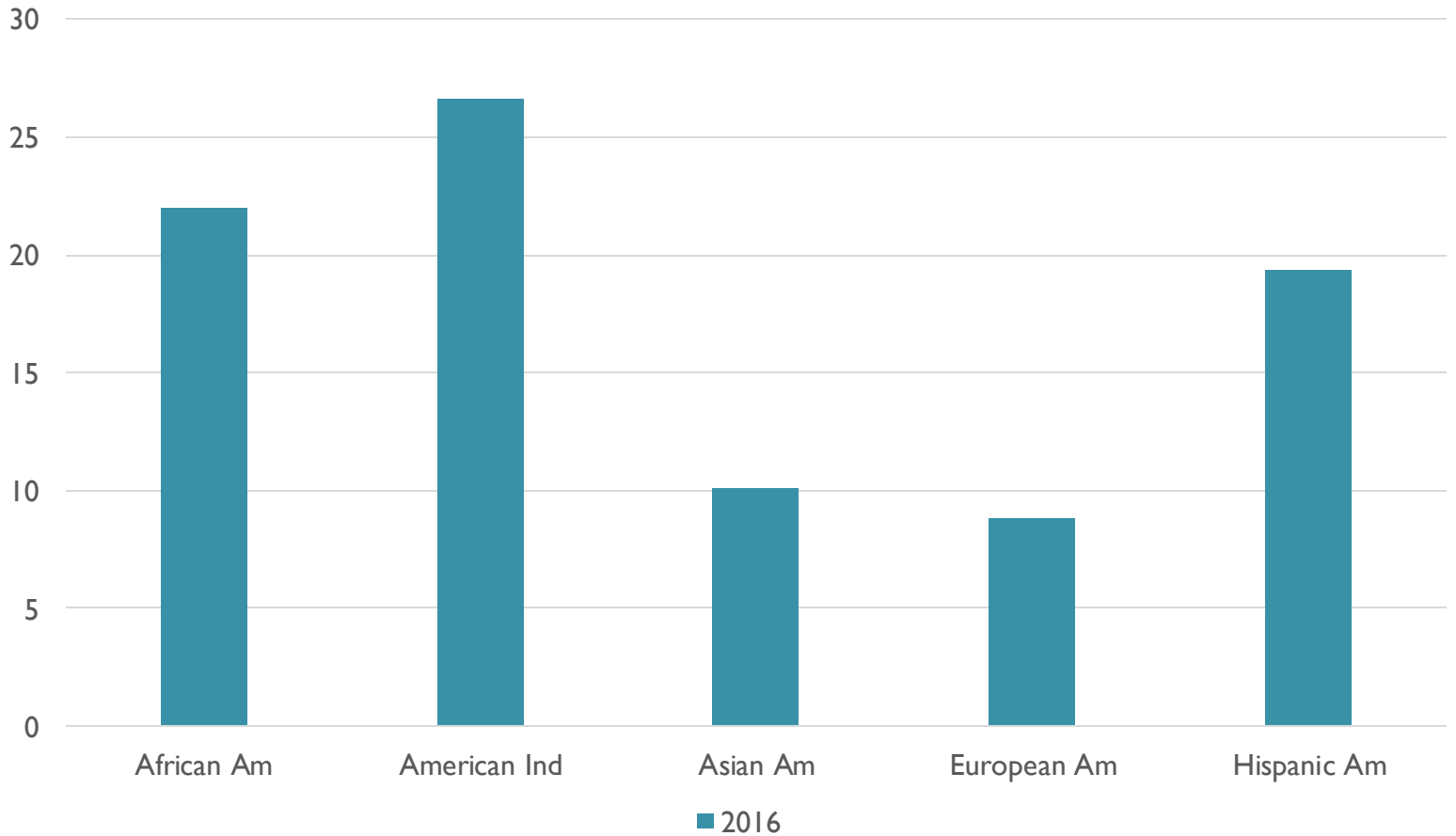
Median U.S. Incomes

2016

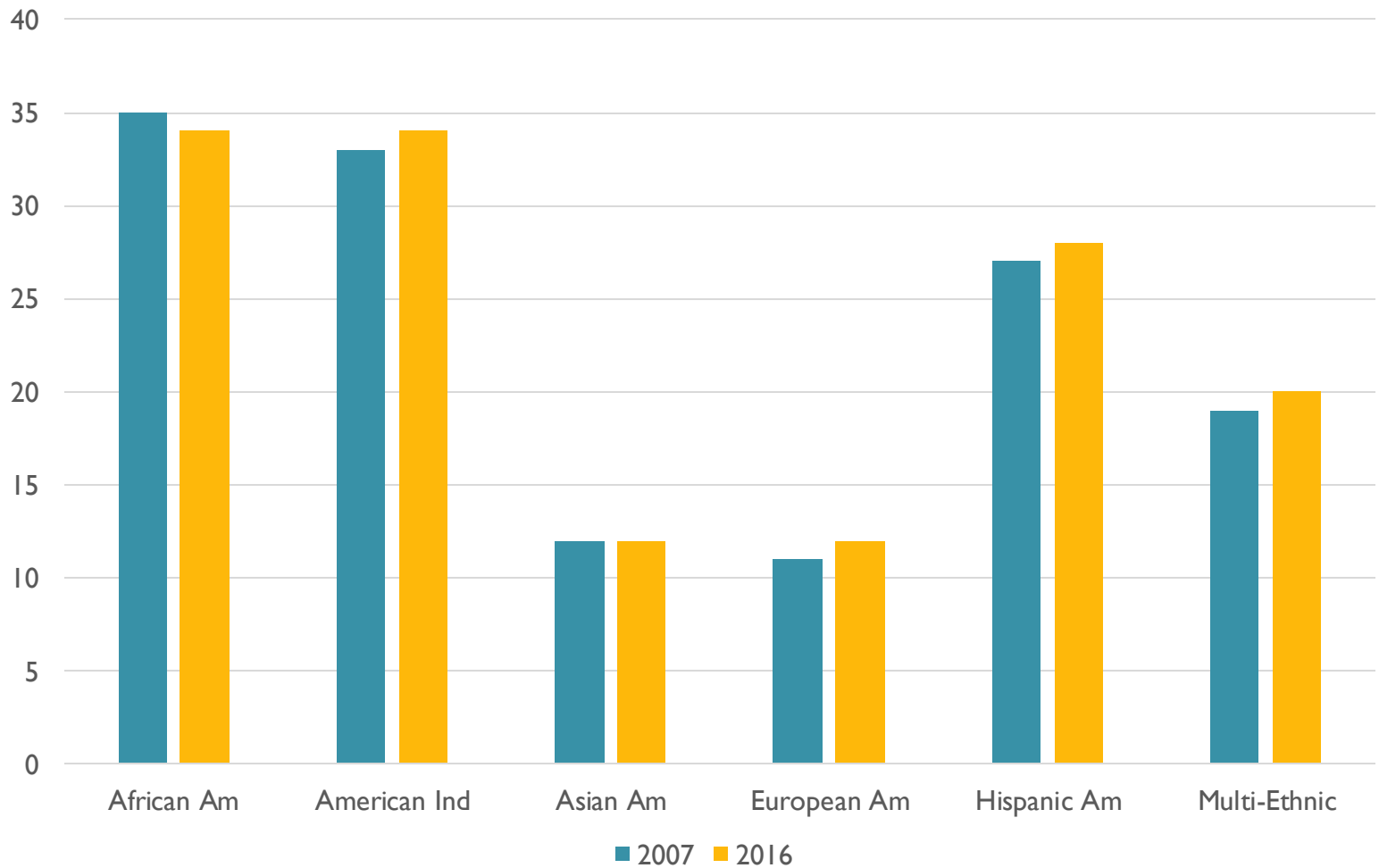


% of Individuals Living in Poverty

2016



% of Children Living in Poverty



Who Attends Elite Colleges (Jonathan Wai, 2014)

| | Elite school (Top 1%) |
|------------------------------|--------------------------------------|
| Federal judges | 40.9% |
| Billionaires | 45.0% |
| Senators | 41.0% |
| House members | 20.6% |
| Fortune 500 CEOs | 38.6% |
| Davos CEOs | 62.6% |
| Davos media | 56.7% |
| Davos academics | 90.1% |
| Davos government & policy | 74.2% |
| Davos overall | 66.1% |
| Powerful men | 85.2% |
| Powerful women | 55.9% |

Forbes
Magazine



Wealth in GDP (Pop.) and Wealth Gap

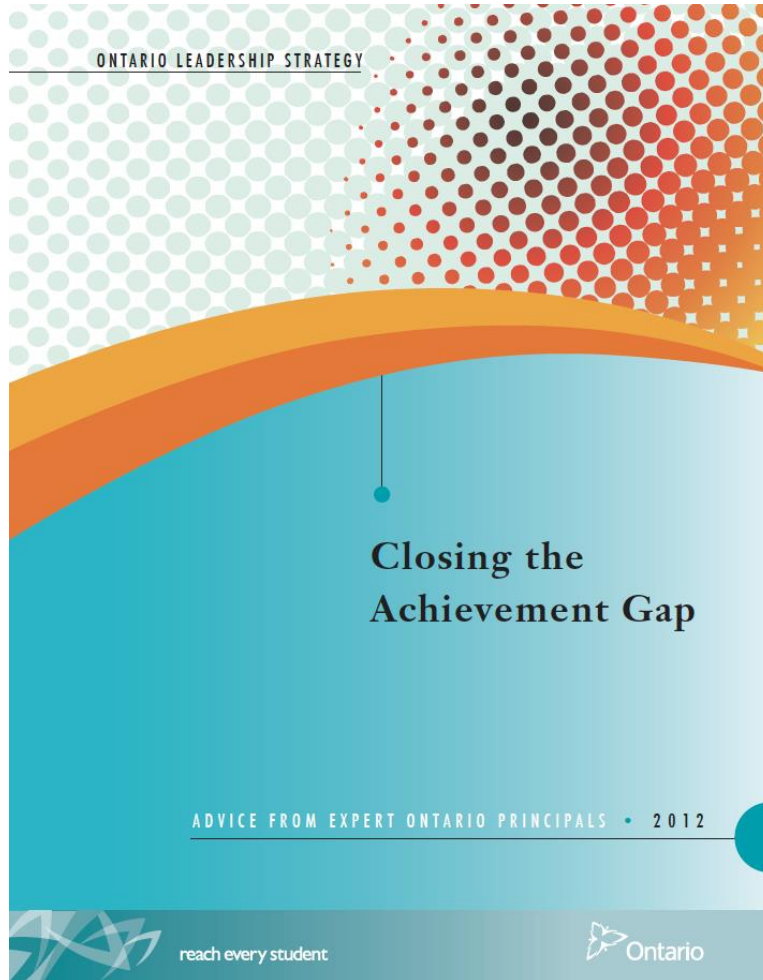
- | | |
|--------------------------|--------------------------|
| 1. Monaco (0.040) | 1. South Africa (60.6) |
| 2. Liechtenstein (0.038) | 2. China (1.42 b) |
| 3. Luxembourg (0.6) | 3. India (1.41 b) |
| 4. Switzerland (8.8) | 4. Costa Rica (5.2) |
| 5. Macau (0.7) | 5. Brazil (216.0) |
| 6. Ireland (5.1) | 6. Mexico (132.1) |
| 7. Norway (5.5) | 7. Chile (19.5) |
| 8. United States (332.4) | 8. Turkey (86.4) |
| 9. Denmark (5.8) | 9. United States (332.4) |
| 10. Singapore (5.6) | 10. Lithuania (2.7) |

Wealth in GDP (Pop.) and Wealth Gap

- | | |
|---------------------------------|---------------------------------|
| 1. Monaco (0.040) | 1. South Africa (60.6) |
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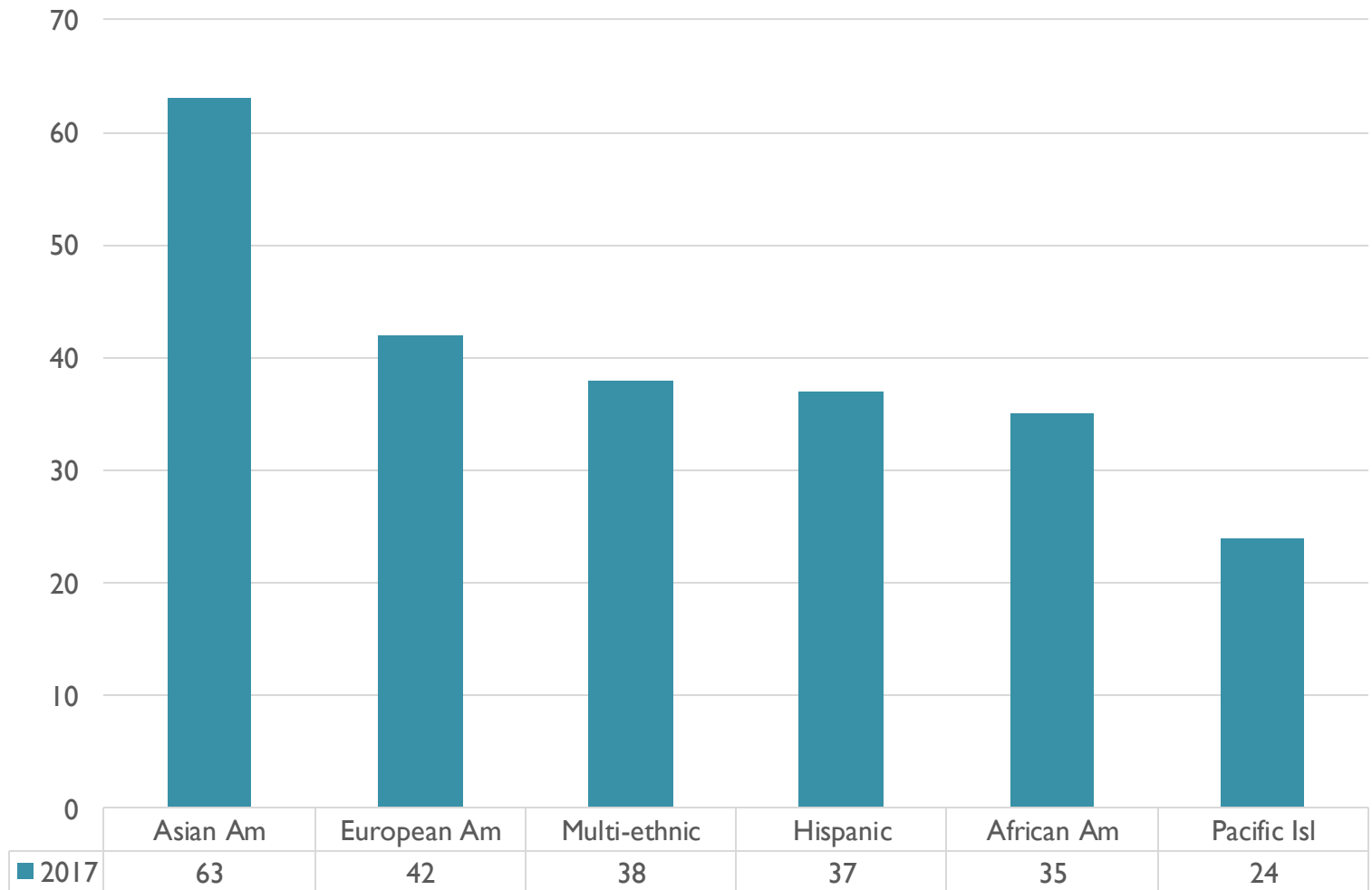
- **In 2019, the wealthiest 10% of American households controlled nearly 75% of household net worth.**

Not Limited to a Single Country

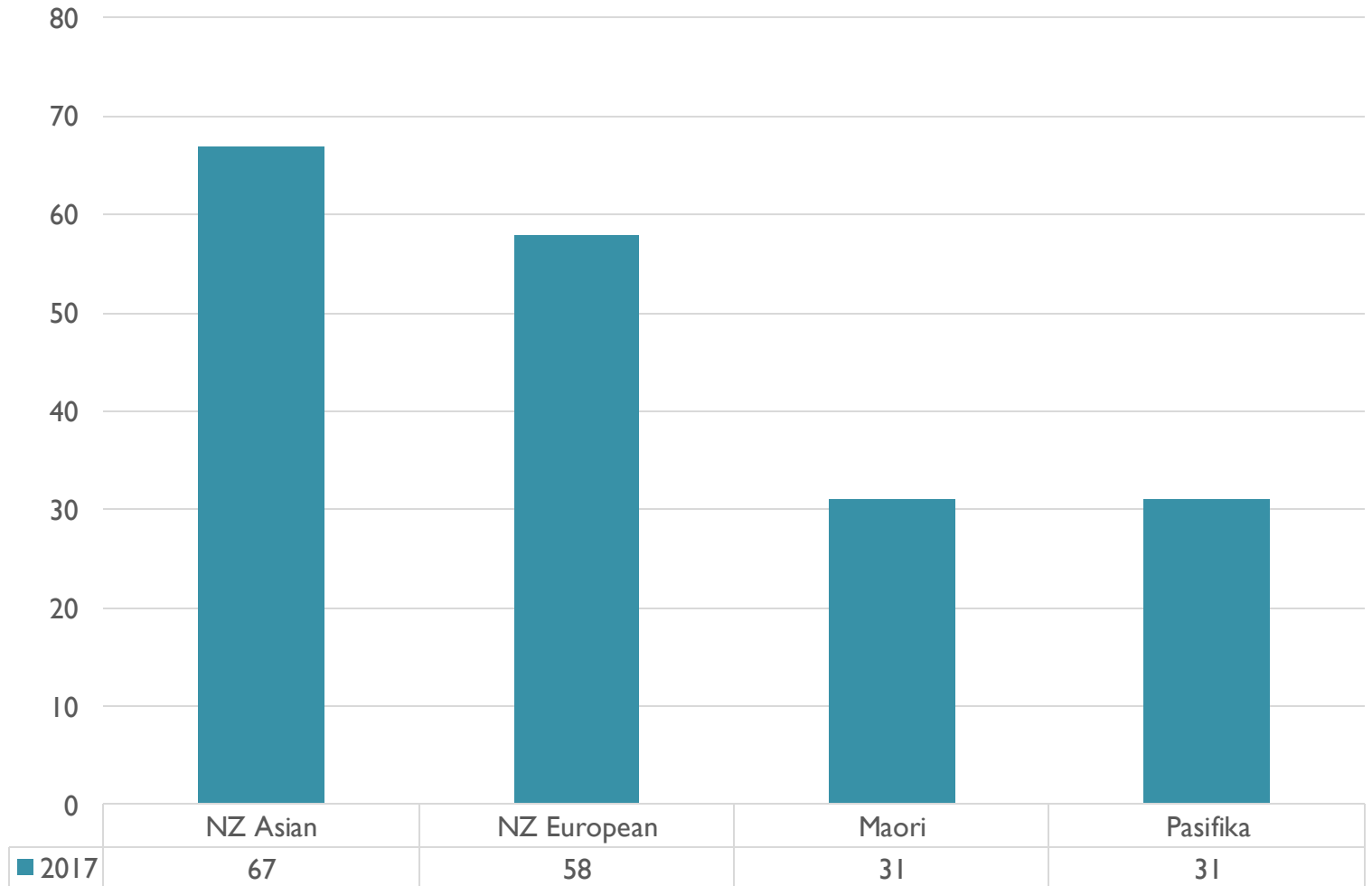


- Explaining the Achievement Gap Between Indigenous and non-Indigenous Students: An Analysis of PISA 2009 Results for Australia and New Zealand
 - Song et al. (2014)

University Enrollment Rates in US

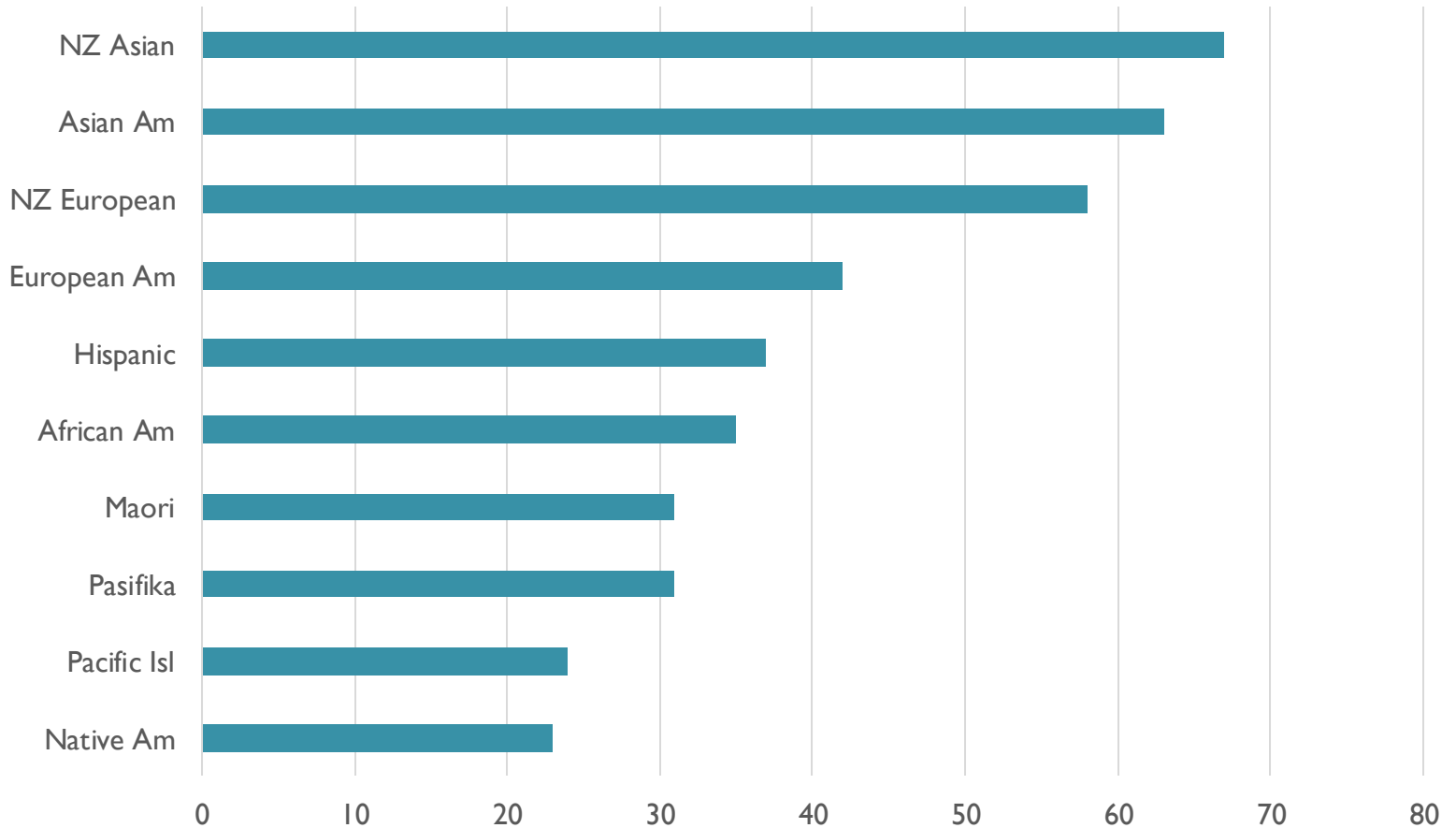


University Enrollment Rates in NZ

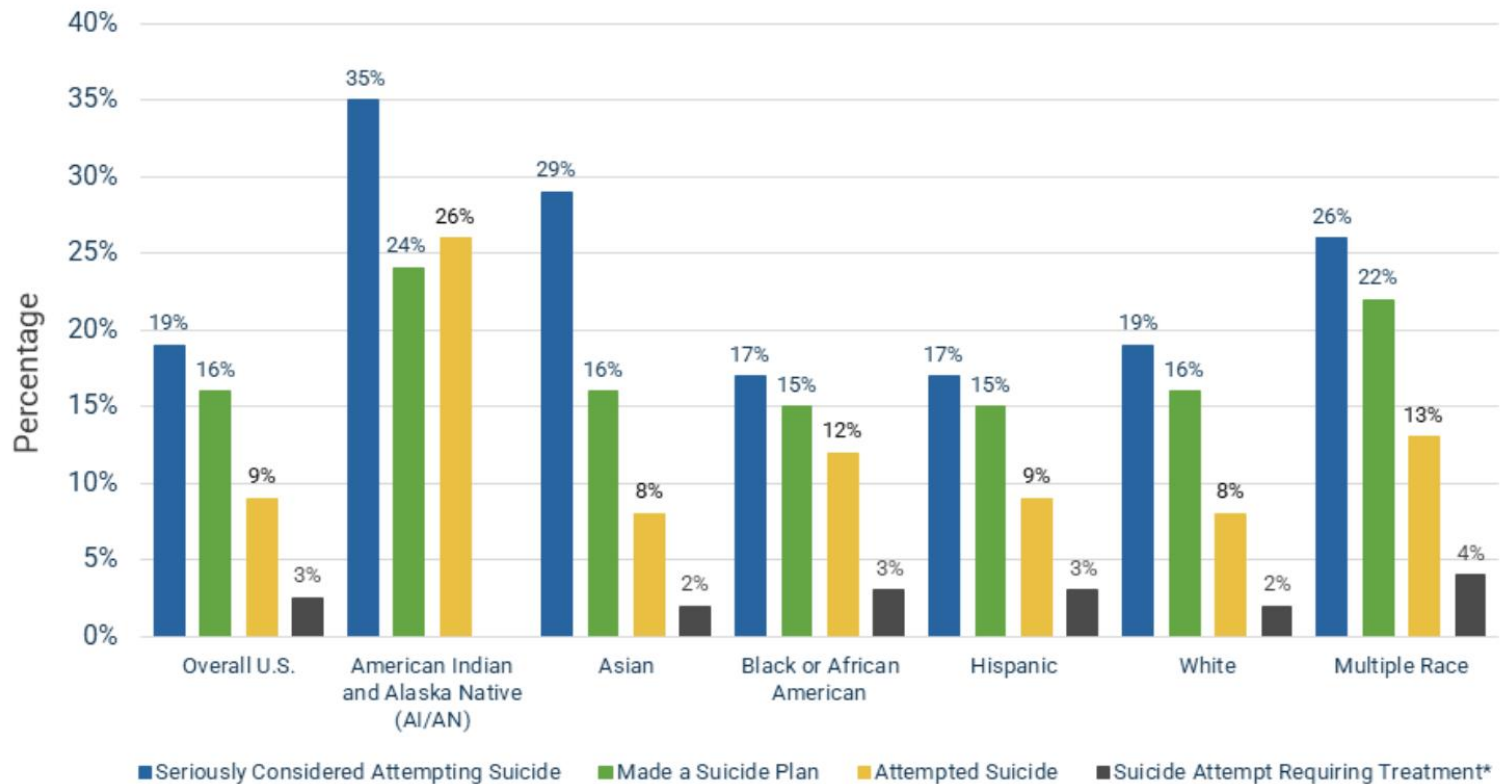


NZ and US University Enrollment

2017

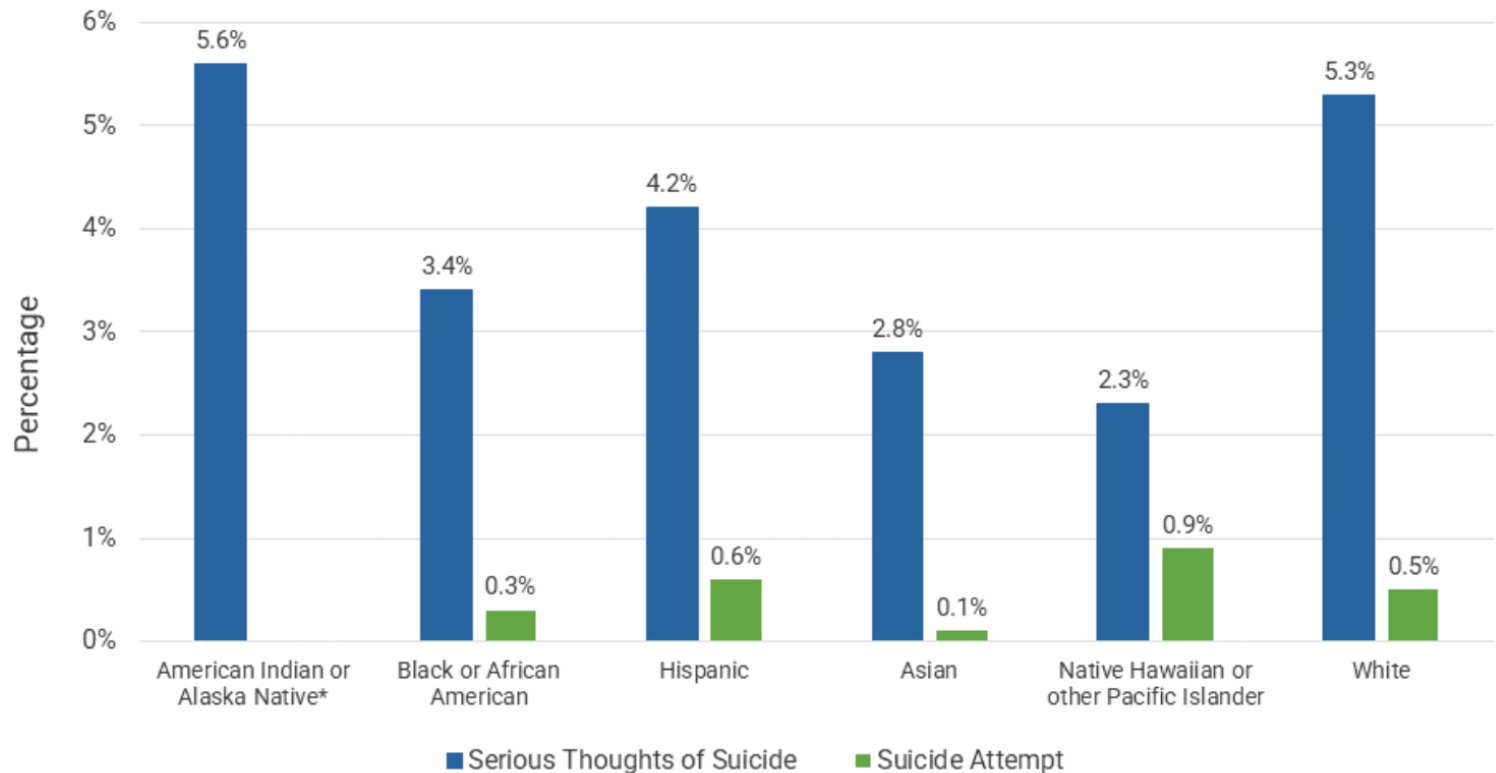


Past-Year Suicidal Thoughts and Behaviors for High School Youth, United States 2019



*Percentage estimates for AI/AN youth who had a past-year suicide attempt that resulted in an injury, poisoning, or overdose that had to be treated by a doctor or nurse were too small to be reliable and are not included in this chart.

Past-Year Suicidal Thoughts and Suicide Attempts for Adults, United States 2020



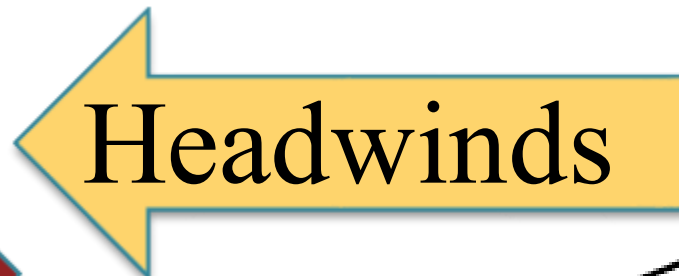
Tailwinds and Headwinds

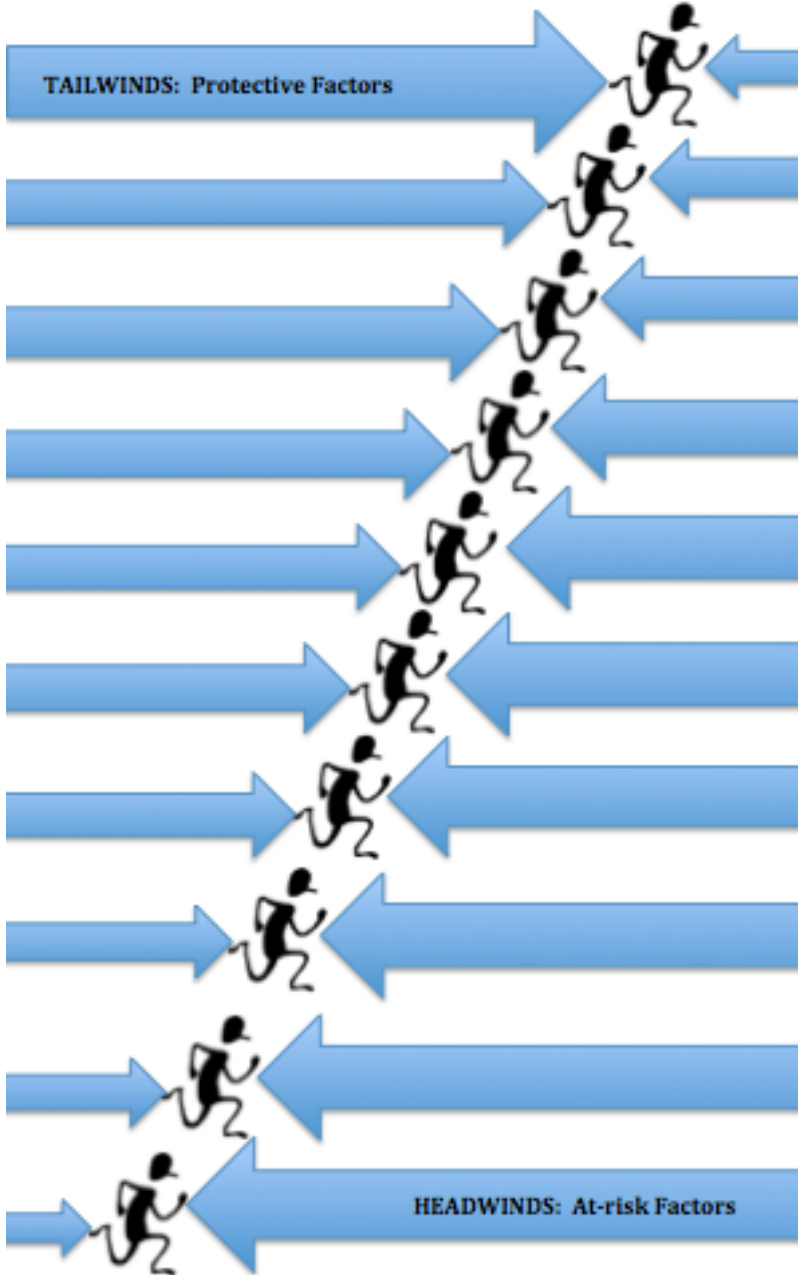
(David Stevens, 2020)

Some Students:



Other Students:





Protective and Risk Factors of Student Performance



Tailwinds (protective factors)

- High Parent Education Level
- Stable housing
- History of academic success
- High attendance rates

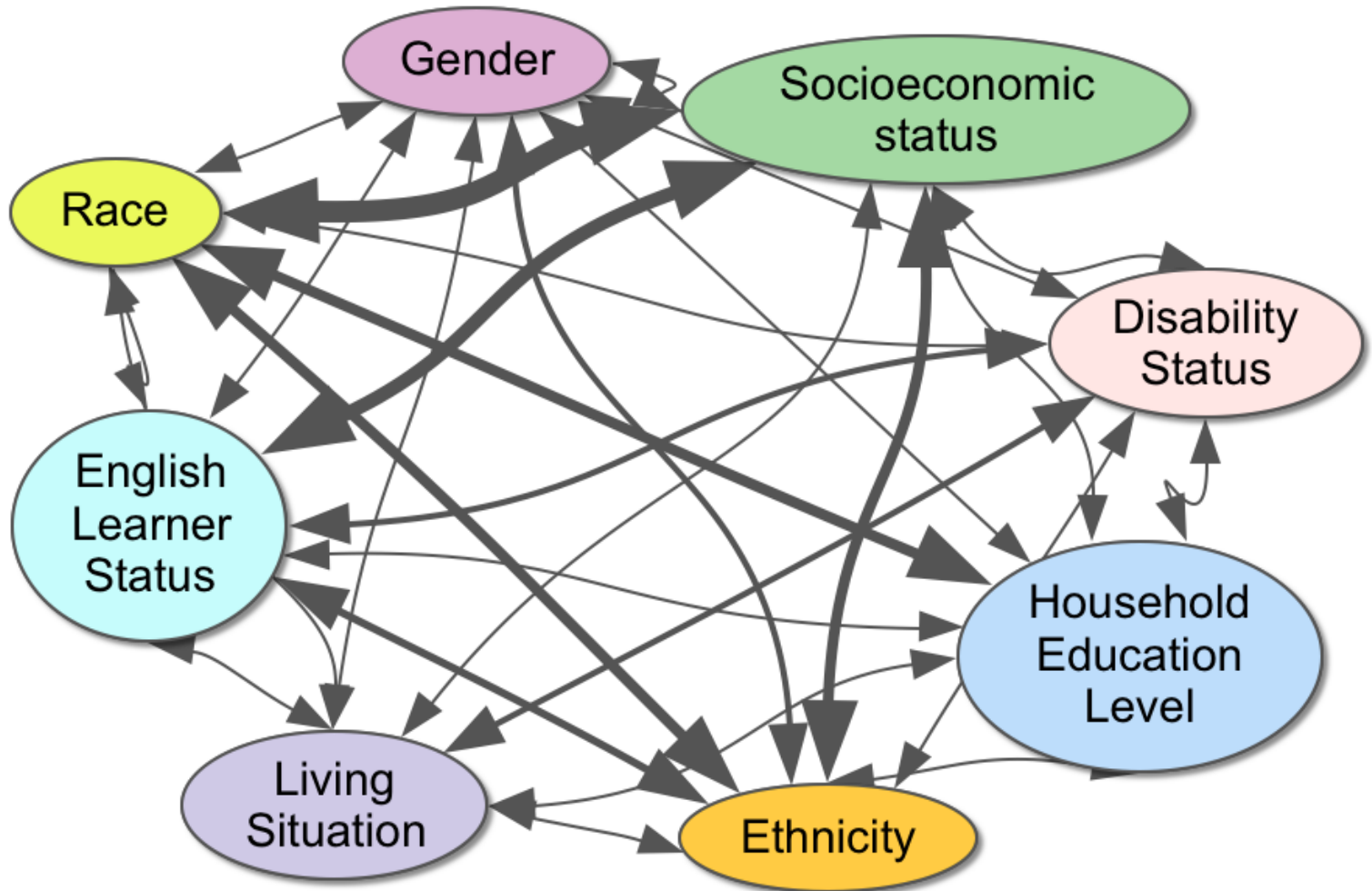


Headwinds (extra challenges)

- English Learner
- Disability
- Socio-economically Disadvantaged
- Low Parent Education Level
- Homeless
- History of academic struggles
- Poor attendance

Many “Issues” Interact

(David Stevens, BUSD)

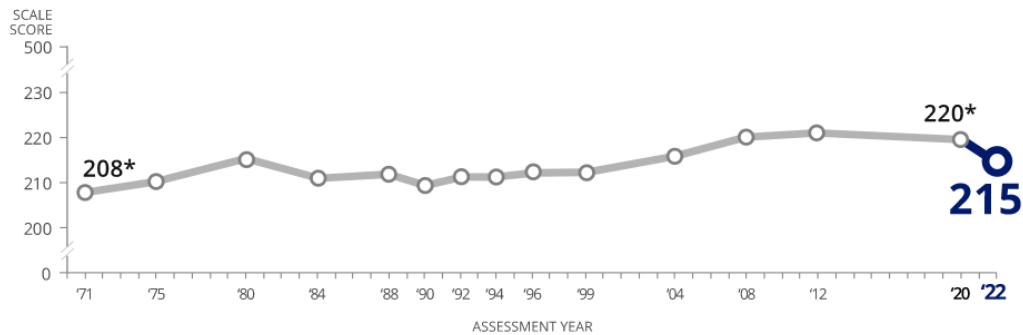




IMPACT OF THE PANDEMIC

Learning Loss I

READING

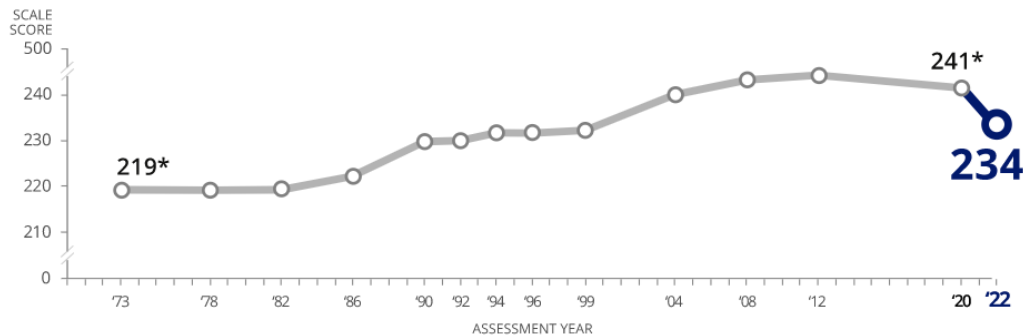


Score change between
2020 and 2022



Largest score drop
in reading
since 1990

MATHEMATICS



Score change between
2020 and 2022



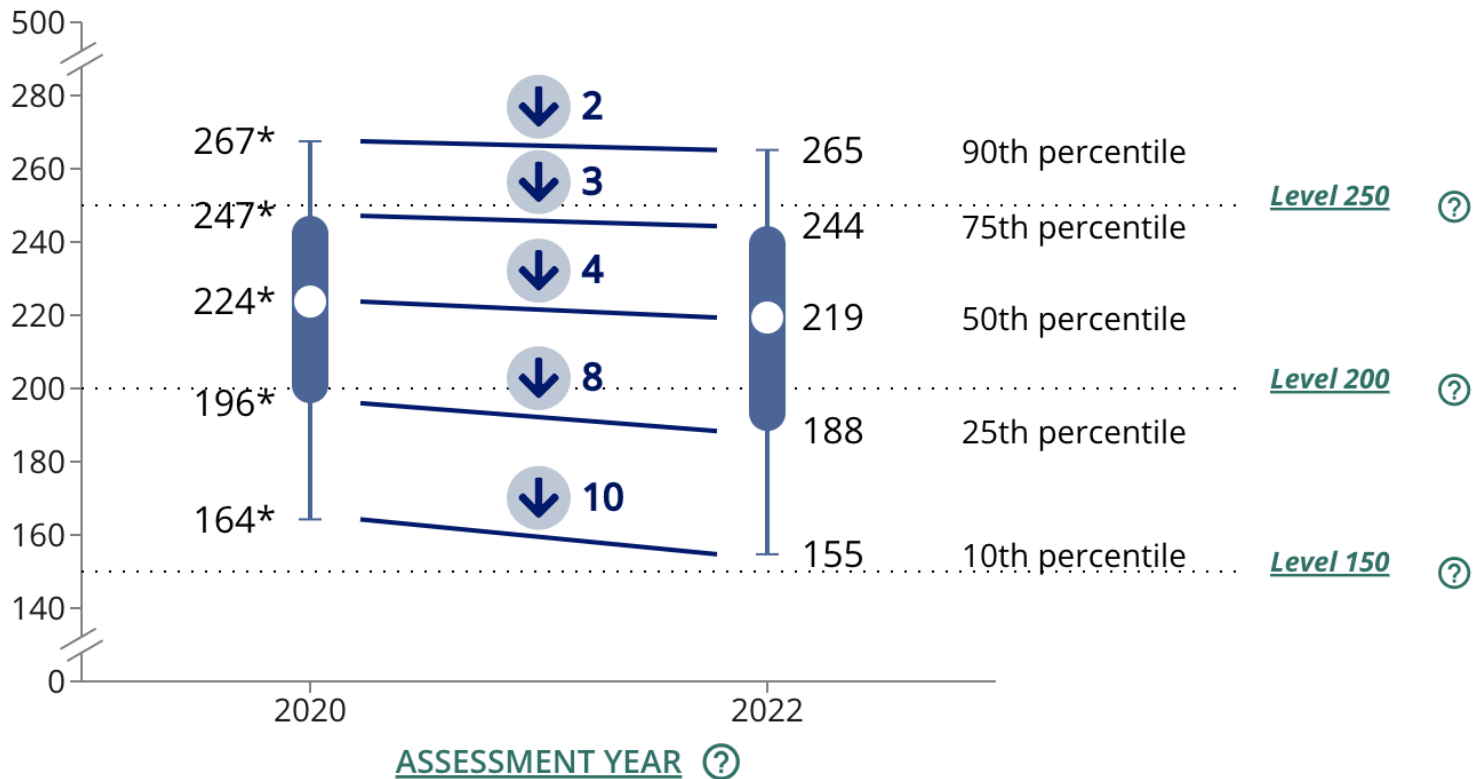
First ever
score drop in
mathematics

* Significantly different ($p < .05$) from 2022.

Learning Loss 2

READING

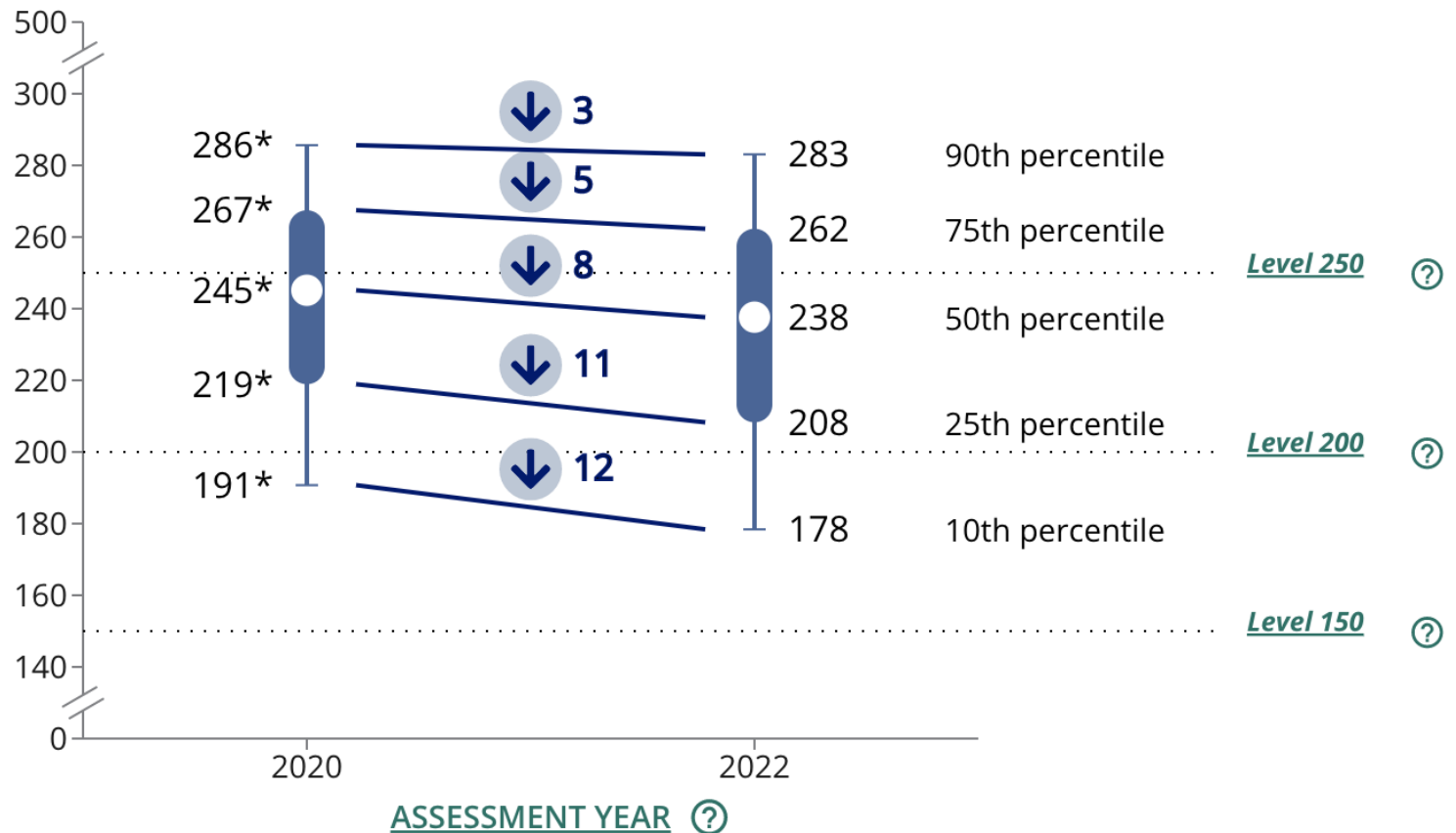
SCALE SCORE ?



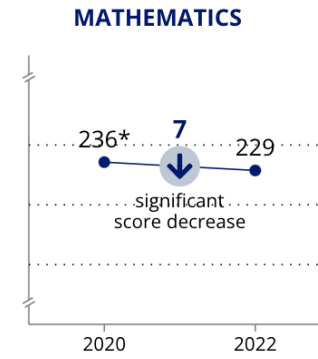
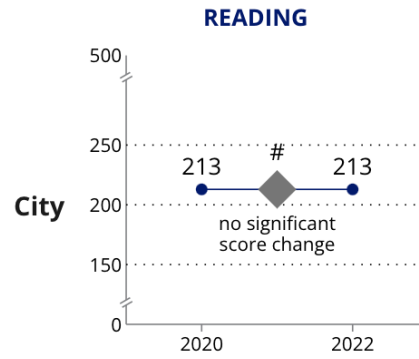
Learning Loss 3

MATHEMATICS

SCALE SCORE ?

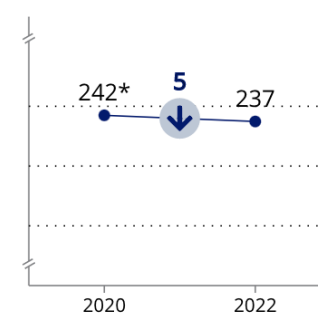
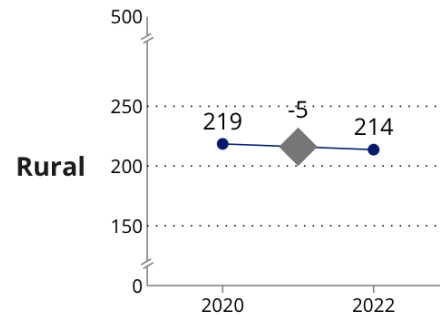
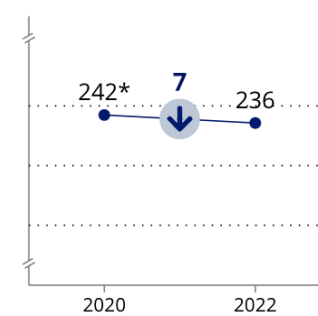
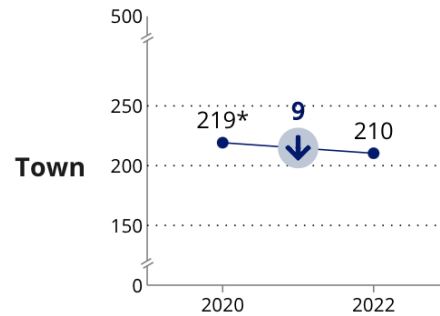
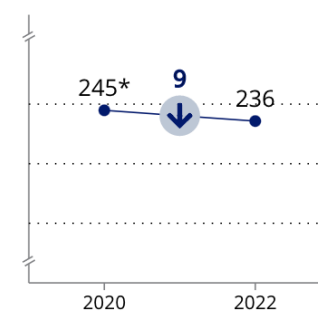
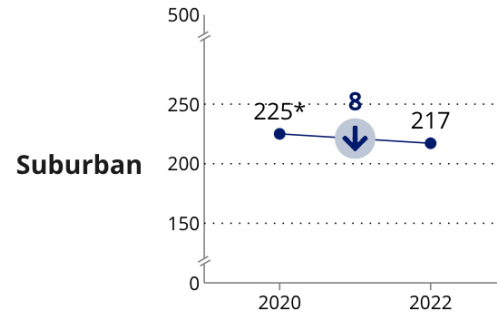


Learning Loss 4



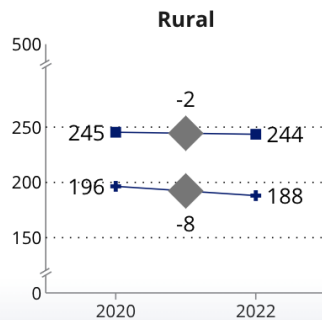
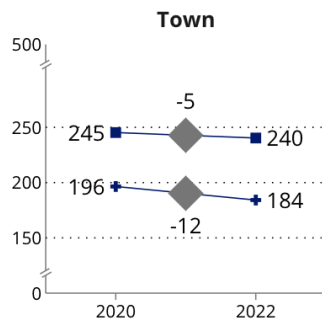
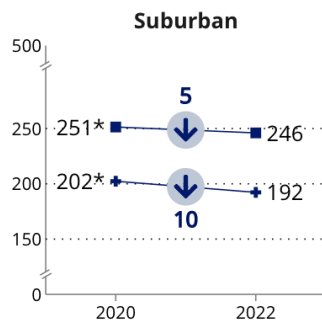
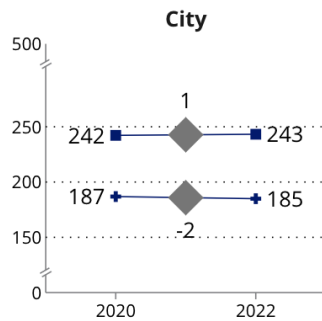
LEGEND

- ◆ No significant change in 2022
- ↓ Score decrease in 2022
- # Rounds to zero.
- * Significantly different ($p < .05$) from 2022.

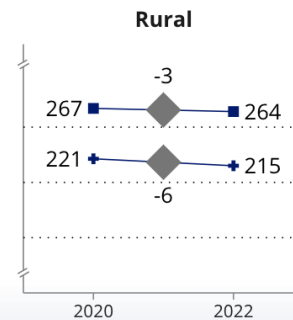
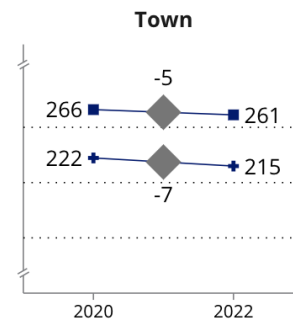
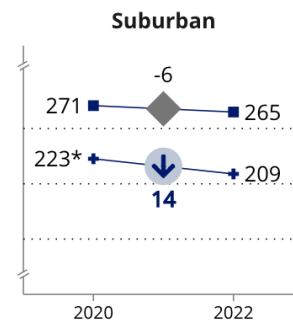
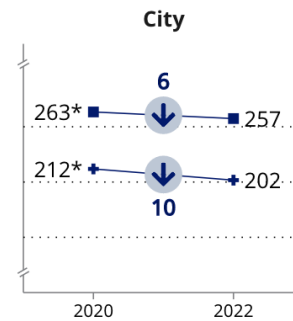


Learning Loss 5

READING



MATHEMATICS



LEGEND

- 75th Percentile
- + 25th Percentile
- ◆ No significant change in 2022
- ↓ Score decrease in 2022
- * Significantly different ($p < .05$) from 2022.

Learning Loss 6

70% of students recalled experiencing remote learning last school year. What **supports** did those students have?

Had a desktop computer, laptop, or tablet all the time ([full question](#))[?]



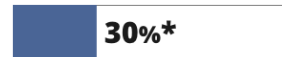
Proportion of **higher-performing students** (at or above 75th percentile)



Had access to high-speed internet some of the time ([full question](#))[?]



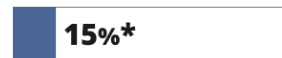
Had a quiet place to work some of the time ([full question](#))[?]



Had their teacher available to help with schoolwork every day or almost every day ([full question](#))[?]



Had someone help them with their schoolwork about once or twice a week ([full question](#))[?]



* Significantly different ($p < .05$) from students performing at or above the 75th percentile.

Learning Loss 8

How **confident** were **all 9-year-old students** in their ability to learn remotely?

Probably or definitely can recognize when they don't understand something they are learning remotely
([full question](#))^②

Proportion of **lower-performing students** (below 25th percentile)



Proportion of **higher-performing students** (at or above 75th percentile)



Probably or definitely can ask for help when they need it while learning remotely ([full question](#))^②



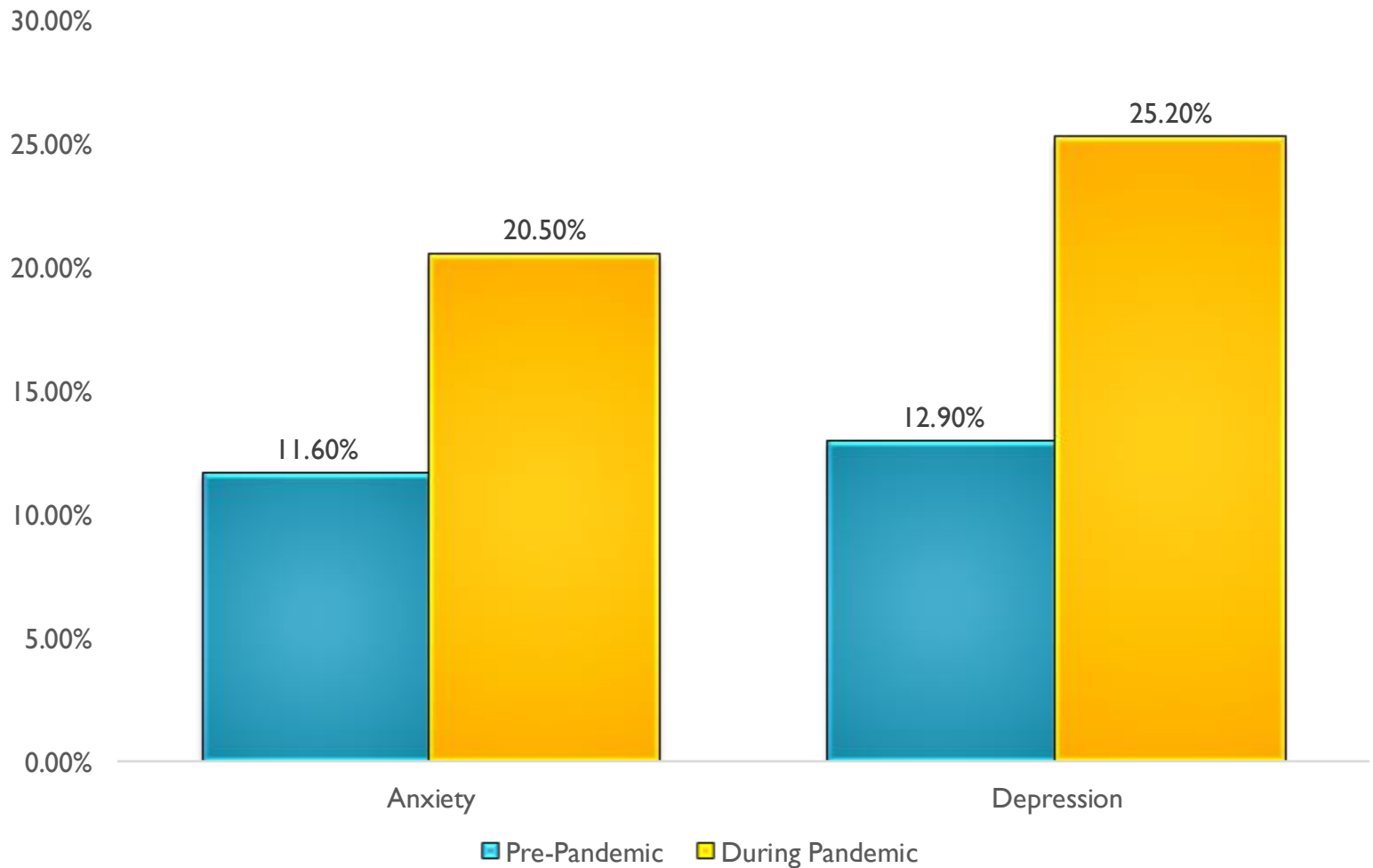
Probably or definitely can find learning resources online while learning remotely
([full question](#))^②



* Significantly different ($p < .05$) from students performing at or above the 75th percentile.

Anxiety and Depression in Youth

Racine et al. (2021. *JAMA Pediatrics*)



Shutdowns Distorted Our Sense of Time

Gupta (2022); Holman et al. (2022)

- Psychologists have confirmed that the pandemic led many people worldwide to experience distortions in their perception of time.
- Two surveys of more than 5,600 people in the US taken during the first six months of the pandemic showed that roughly two-thirds of respondents reported feeling out of sync.
- Individuals who reported greater feelings of time distortion, may be at higher risk of developing mental health problems.



ON TOP OF THE PANDEMIC

Other Stressors

- Effects of Climate Change
- Ongoing mass shootings including in schools
- Increasing concern about civil rights
 - Murder of George Floyd and others
- Increased Political Polarization
 - Attacks on voting rights
 - Attacks on LGBTQ+ rights
 - Book bans are at an all-time high
- Inflation
 - Supply chain issues due to the pandemic
 - The war in Ukraine

APA's Stress in America Poll 2022

Data Collected August 18 to September 2, 2022

- 3,192 Adults
- Interviews conducted in English and Spanish
- Weighted age by gender, ethnicity/race, education level, region, household income, time spent online, country of origin (Asian and Hispanic households), size of household (Gen Zs)

64% OF ADULTS SAID THEY FEEL THEIR RIGHTS ARE UNDER ATTACK



POPULATIONS WITH ELEVATED PROPORTIONS FEELING THIS WAY INCLUDE:

LGBTQIA+



adults with a disability



women



white adults



Black adults



RACIAL CLIMATE IN U.S. A SIGNIFICANT SOURCE OF STRESS

% OF ADULTS WHO REPORTED THE RACIAL CLIMATE AS A SIGNIFICANT SOURCE OF STRESS, BY RACE



Black adults



Latino/a adults



Asian adults



White adults



MONEY, INFLATION A SOURCE OF STRESS FOR MANY U.S. ADULTS



Inflation is a source of stress for **83%** of U.S. adults



% OF ADULTS WHO INDICATED MONEY WAS A SIGNIFICANT SOURCE OF STRESS

57% said that having enough money to pay for things in the present (like rent/mortgage) is their main source of financial stress



43% reported feeling that saving enough money for things in the future is their main source of stress



56% of all adults, during the prior month, have had to make different choices due to a lack of money



Latino/a adults

66%

Black adults

59%

White adults

52%

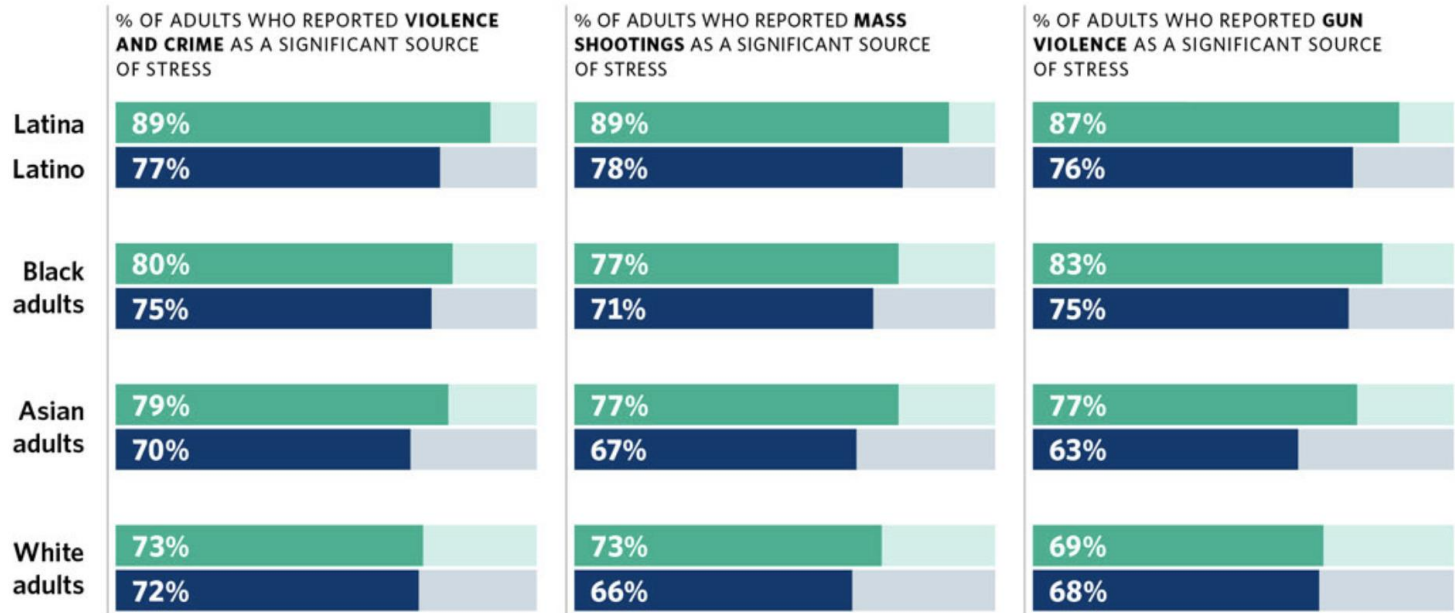
Asian adults

45%

LATINAS MOST LIKELY TO CITE VIOLENCE AND CRIME, MASS SHOOTINGS, GUN VIOLENCE AS SIGNIFICANT SOURCE OF STRESS IN THEIR LIVES



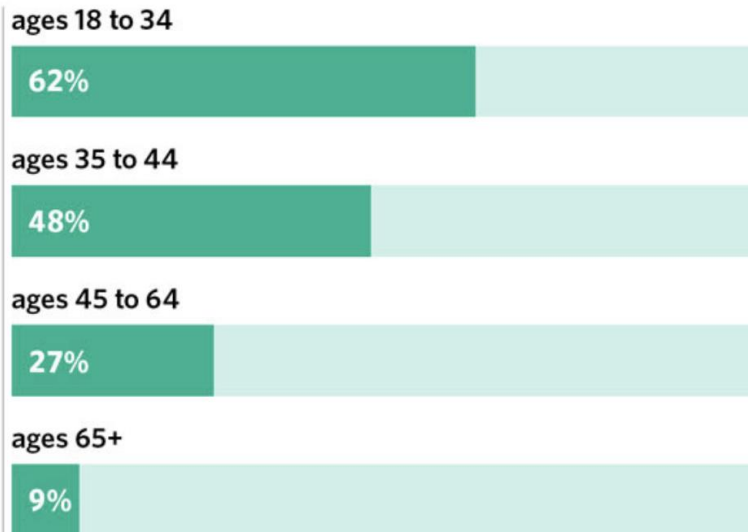
■ WOMEN ■ MEN



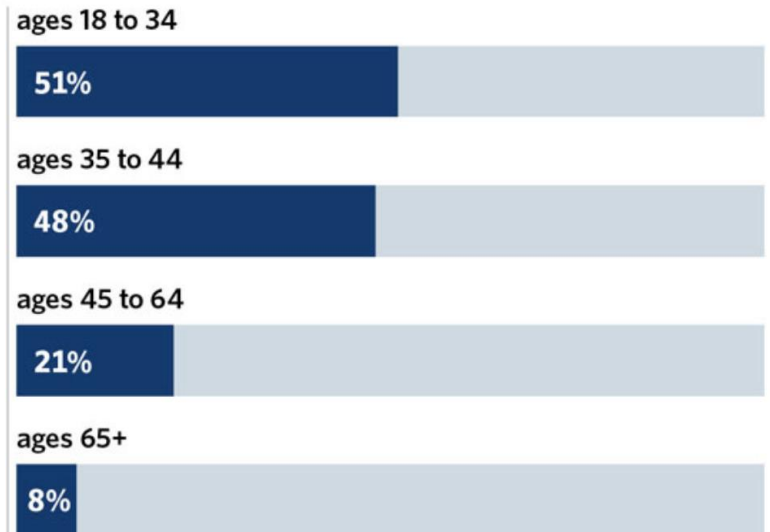
YOUNGER ADULTS FEEL COMPLETELY OVERWHELMED BY STRESS



% OF **WOMEN** WHO SAID MOST DAYS THEY ARE COMPLETELY OVERWHELMED BY STRESS, BY AGE



% OF **MEN** WHO SAID MOST DAYS THEY ARE COMPLETELY OVERWHELMED BY STRESS BY AGE



STRESS AND ITS IMPACT ON ABILITY TO FUNCTION



27% of all adults said that most days they are so stressed they can't function



% REPORTING THEY ARE SO STRESSED THEY CAN'T FUNCTION

46% of those under 35



42% ages 35 to 44



16% ages 45 to 64



4% ages 65+



56% of Black adults under 35



46% white adults under 35



44% Latino/a adults under 35



43% Asian adults under 35





Selected Results from the APA Task Force on Violence Against Educators and School Personnel

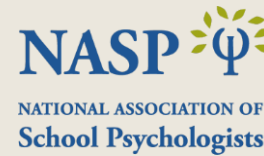
American Psychological Association Taskforce on Violence Against Educators and School Personnel

- v *Susan Dvorak McMahon, Ph.D. (Chair, DePaul University)*
- v *Eric M. Anderman Ph.D. (The Ohio State University)*
- v *Ron Avi Astor Ph.D. (UCLA)*
- v *Dorothy L. Espelage Ph.D. (UNC Chapel Hill)*
- v *Andrew Martinez Ph.D. (Center for Court Innovation, NYC)*
- v *Linda A. Reddy Ph.D. (Rutgers University)*
- v *Frank C. Worrell Ph.D. (UC Berkeley)*

*Partner
Organizations*

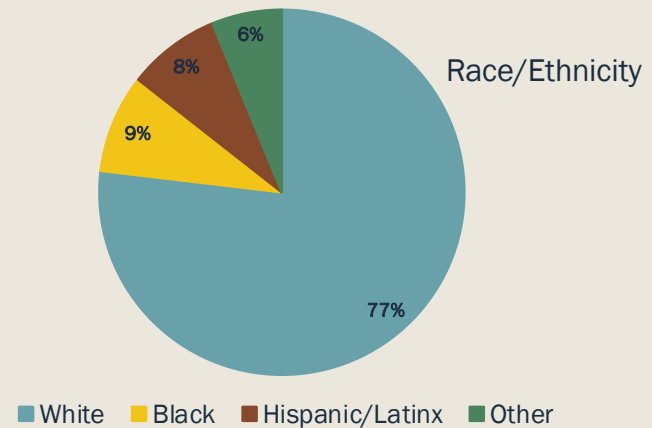
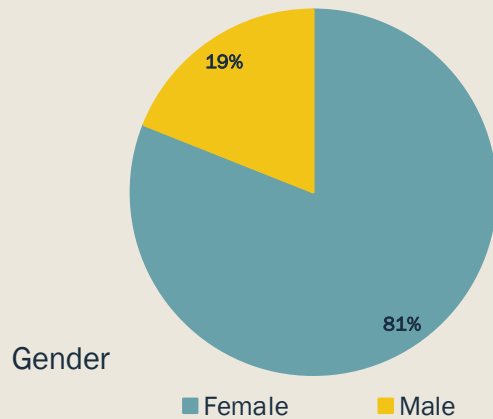


AMERICAN PSYCHOLOGICAL ASSOCIATION



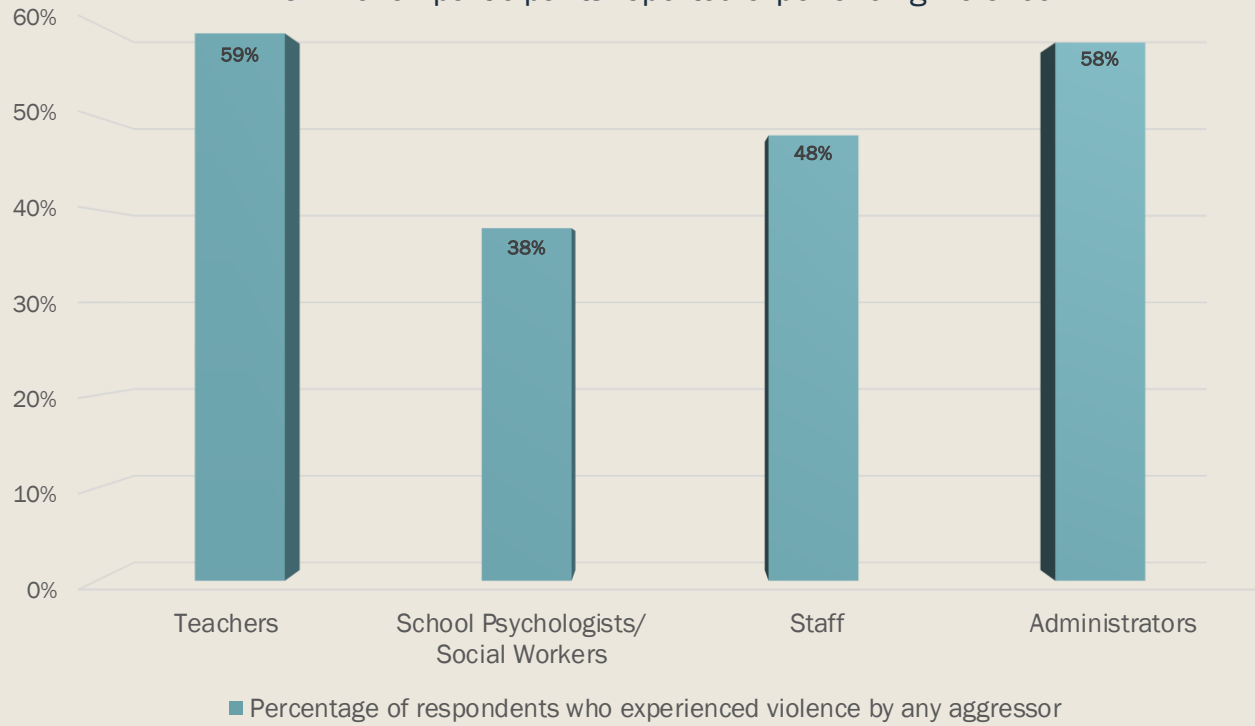
Sample

- v 14,966 study participants
 - v 9370 teachers
 - v 3237 staff
 - v 1499 psychologists & social workers
 - v 860 administrators

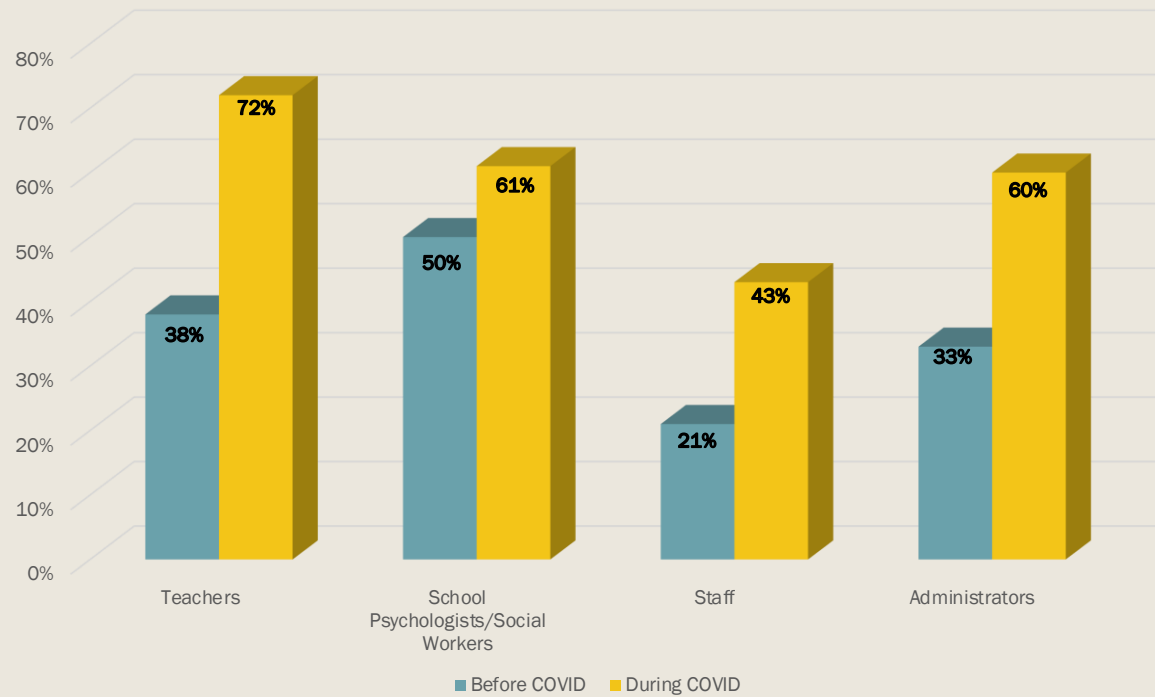


Overall Victimization

54% of all participants reported experiencing violence



“I find my work stressful”



% Frequently or Almost Always



AMERICAN PSYCHOLOGICAL ASSOCIATION

- **Much of the support provided to youth by adults is not available.**

Current Responses

- Government is throwing a lot of money at mental health services in the community, including school districts.
 - No plans, no people, lots of money with no thought about how to spend it.
- The term, “anti-racism,” has taken on enormous significance in almost every sphere: education, workplace, entertainment industry.
 - Attitudes take time to change; disappointment
 - Backlash in the political arena.



 **WHAT CAN WE DO?**

Planning I

- Advocate and plan for a public health approach to societal problems with education as a key component.
- Recognize that there are social determinants of health and mental health, which require societal solutions.

Social Determinants of Health

- Education
- Income and Income Distribution
- Unemployment and Job Security
- Employment and Working Conditions
- Early Childhood Development
- Food Insecurity
- Housing
- Social Exclusion
- Social Safety Net
- Health Services
- Gender, Race, Ethnicity, and Ability Status

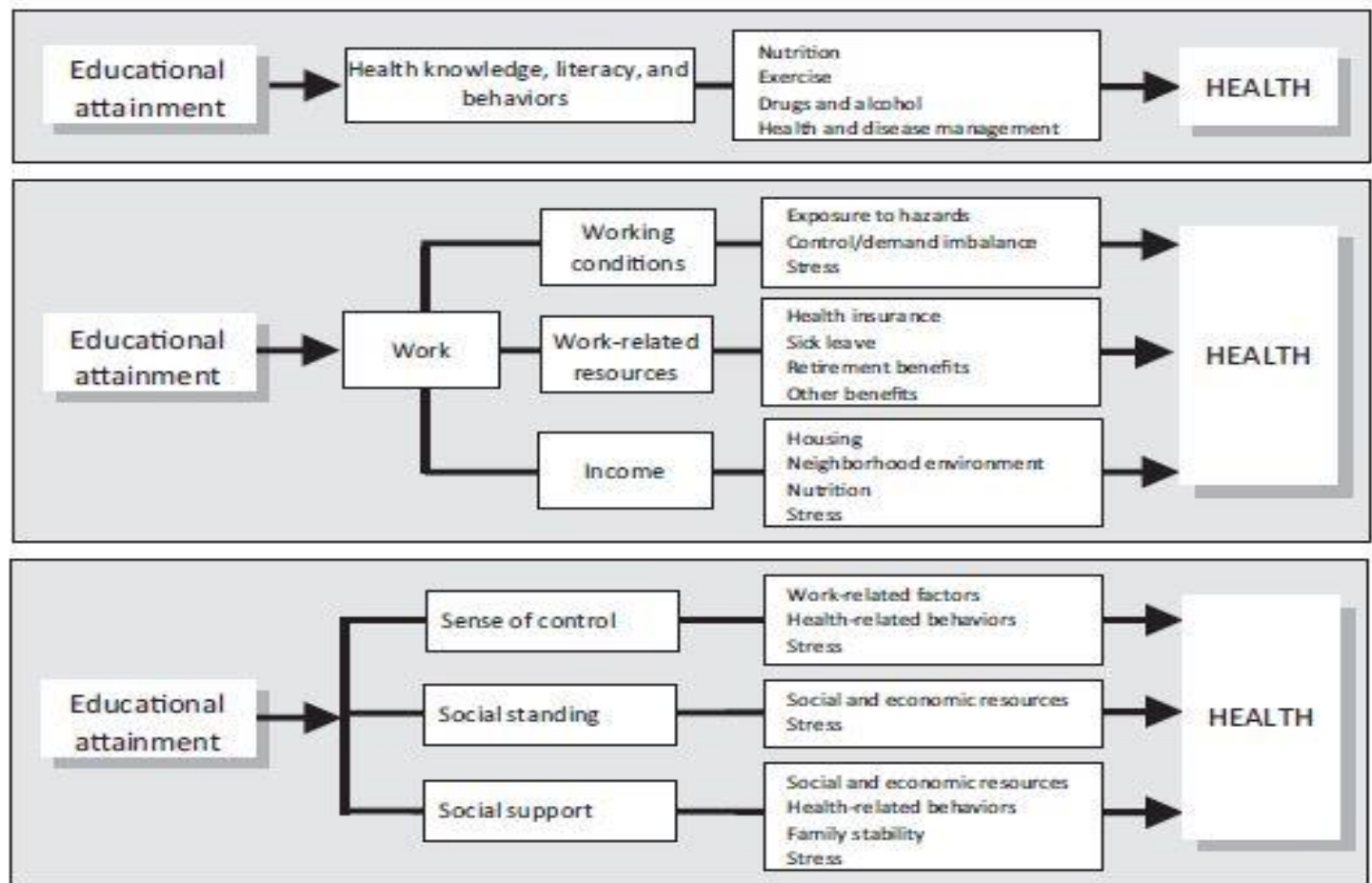
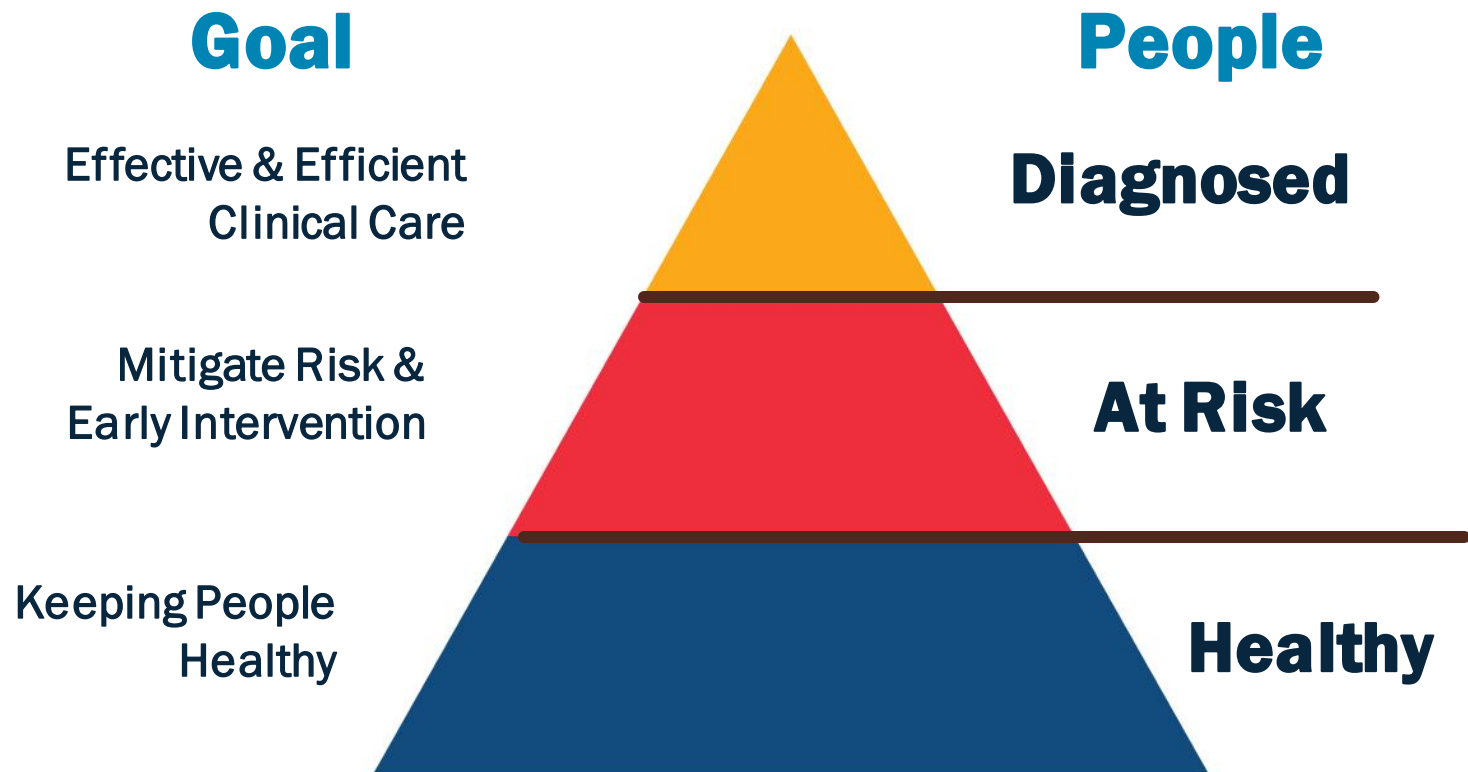


Figure 4
Multiple pathways linking education to health.

Population Health Approach



Planning 2

- Recognize that solutions that are easy are probably not going to work.
- Recognize that plans need to involve the short-, medium-, and longer-term.
- Prioritize interventions and constructs with a preponderance of evidence.
 - Fads are too easily embraced

Access to and Use of Research

- Research is now regularly summarized in the media.
- Researchers often write popular press books about their research.
- The general public and decision makers at many levels have access to research findings in a way that is unprecedented.
- Research findings written for the public (and not for other researchers) inform public policy.



**PSYCHOSOCIAL
CONSTRUCTS ARE NOW
GENERALLY ACCEPTED IN
EDUCATION CIRCLES**

Psychosocial Constructs Defined

- Constructs that affect behavior and cognitions and that are in turn affected by the social context
- “Motivational constructs that are affected by both psychological and social contexts”
 - Dixson et al. (2016, p. 67)

Non-Cognitive or Psychosocial Skills

- Cognitive skills involve conscious intellectual effort, such as thinking, reasoning, or remembering.
- Noncognitive or “soft skills” are related to motivation, integrity, and interpersonal interaction. They **involve intellect**, but more indirectly and less consciously than cognitive skills.
 - ACT

A Few Psychosocial Constructs

Grit

Mindsets

Self-
Concepts

Self-Efficacy

Cultural
Identities

Metacognition

Time
Perspective

Cultural
Mistrust

Stereotype
Threat

Cautionary Tales



GRIT

GROWTH MINDSET

Grit: Duckworth et al. (2007, *JPSP*)

- Grit: “perseverance and passion for accomplishing long-term goals”
 - Duckworth et al., 2007, p. 1087
- Grit Scale (GS) scores: 4% of the variance in success outcomes, on average.
- Individual differences in grit accounted for [statistically] significant incremental variance in success outcomes.
 - Practical significance not invoked
- Future research needed to see how grit relates to self-efficacy and other variables.

Grit: American Radio Works (Media Presentation)

- Duckworth has developed **a test** called the "Grit Scale."
- A person's grit score is **highly predictive** of achievement under challenging circumstances.
- A West Point cadet's grit score was **the best predictor of success** in the rigorous summer training program. **Grit mattered more than intelligence, leadership ability or physical fitness.**
- Scripps National Spelling Bee: the grittiest contestants were the most likely to advance to the finals.

Grit: The Power of Passion and Perseverance

(Duckworth, 2016; Written for public)

- How to succeed in West Point's summer training:
 - "What matters is grit" (p. 10).
- Critical factor (a) in Chicago Public Schools, (b) for adults earning MBAs, PhDs, MDs, and JDs, and (c) in the Green Berets:
 - "Regardless of specific attributes and advantages that help someone succeed in each of these diverse domains of challenge, grit matters in all of them" (p. 12).

Dixson et al. (2016, ANYAS)

Table 3. Hierarchical regressions predicting perceived ability

| Variable | <i>B</i> | β | Adjusted R^2 | ΔR^2 |
|------------------------|----------|---------|----------------|--------------|
| Block 1 | | | | |
| Sex | -0.090 | -0.052 | | |
| Socioeconomic status | 0.073 | 0.092 | | |
| Age | 0.028 | 0.047 | 0.009 | 0.009 |
| Block 2 | | | | |
| Grit-S effort | -0.017 | -0.013 | | |
| Grit-S interest | 0.089 | 0.076 | | |
| Hope | 0.151* | 0.148 | | |
| Academic self-efficacy | 0.221* | 0.172 | 0.087 | 0.078 |

* $P < 0.01$.

Grit-S effort, Short Grit Scale Perseverance of Effort; Grit-S interest, Short Grit Scale Consistency of Interests.

Dixson et al. (2016, ANYAS)

Table 4. Hierarchical regression predicting self-reported GPA

| Variable | <i>B</i> | β | Adjusted R^2 | ΔR^2 |
|------------------------|----------|---------|----------------|--------------|
| Block 1 | | | | |
| Sex | 0.055 | 0.088 | | |
| Socioeconomic status | 0.039* | 0.139 | | |
| Age | 0.006 | 0.027 | 0.022 | 0.022 |
| Block 2 | | | | |
| Perceived ability | 0.030 | 0.085 | 0.027 | 0.005 |
| Block 3 | | | | |
| Grit-S effort | 0.020 | 0.042 | | |
| Grit-S interest | -0.017 | -0.041 | | |
| Hope | 0.037 | 0.104 | | |
| Academic self-efficacy | 0.128* | 0.282 | 0.137 | 0.11 |

* $P < 0.01$.

Grit-S effort, Short Grit Scale Perseverance of Effort; Grit-S interest, Short Grit Scale Consistency of Interests.

Credé et al. (2017, JPSP)

Much Ado About Grit

Table 2

Separate Meta-Analytic Estimates of Grit-Criteria Relations for Peer-Reviewed and Not-Peer-Reviewed Publications

| Criterion | Peer-Reviewed Publications | | | | | | | Not-Peer-Reviewed Publications | | | | | | |
|----------------------|----------------------------|-------|-----------|--------|-------------|-----------|-----------|--------------------------------|-------|-----------|--------|-------------|-----------|-----------|
| | k | N | r_{obs} | ρ | SD_{ρ} | 10% CV | 90% CV | k | N | r_{obs} | ρ | SD_{ρ} | 10% CV | 90% CV |
| Academic Performance | 14 | 6,440 | .15 | .18 | 0.12 | .03 | .34 | 25 | 6,701 | .15 | .17 | 0.09 | .07 | .28 |
| GPA (All Levels) | 14 | 6,440 | .15 | .18 | 0.12 | .03 | .34 | 23 | 6,159 | .13 | .16 | 0.07 | .07 | .25 |
| Undergraduate GPA | 11 | 5,657 | .15 | .17 | 0.12 | .02 | .33 | 19 | 4,869 | .13 | .16 | 0.07 | .07 | .25 |
| High School GPA | 8 | 4,381 | .14 | .17 | 0.15 | -.02 | .36 | 9 | 1,983 | .11 | .14 | 0.10 | .01 | .27 |

Note. k = number of studies, N = number of subjects, r_{obs} = sample size weighted mean observed correlation, ρ = true score correlation, SD_{ρ} = standard deviation of true score correlation, 10%CV and 90%CV = lower and upper bound of 80% credibility intervals. Confidence intervals are not shown here due to space limitations but can be obtained from first author by request.

Credé et al. (2017, p. 492)

- In aggregate our results suggest that interventions designed to enhance grit may only have weak effects on performance and success, that the construct validity of grit is in question, and that the primary utility of the grit construct may lie in the perseverance facet.

Funds Expended on Grit Programs

- 10 million in research funds since 2013 to study and develop programs that foster grit
 - National Science Foundation. (2016).
- Millions of dollars from universities to fund grit-focused programs (University of Chicago, 2016; University of California, Los Angeles, 2015).
 - UCLA. (2015). Welcome to UCLA's GRIT Program!
 - University of Chicago. (2016, February 16). \$100 million initiative enhances commitment to lower-income students.
- Money and time used to make low-income schools *grit focused*
 - Education Trends. (2014, January). The best measure of success and how to teach it.

Sisk et al. (2018; Psych Science)



GROWTH MINDSET

Sisk et al. (2018): Study I

- 129 studies, 162 independent samples, 273 effect sizes, 365,915 students.
- The meta-analytic correlation between growth mind-set and academic achievement was very weak (i.e., $-.10$).

Sisk et al.: Study 2 (Interventions)

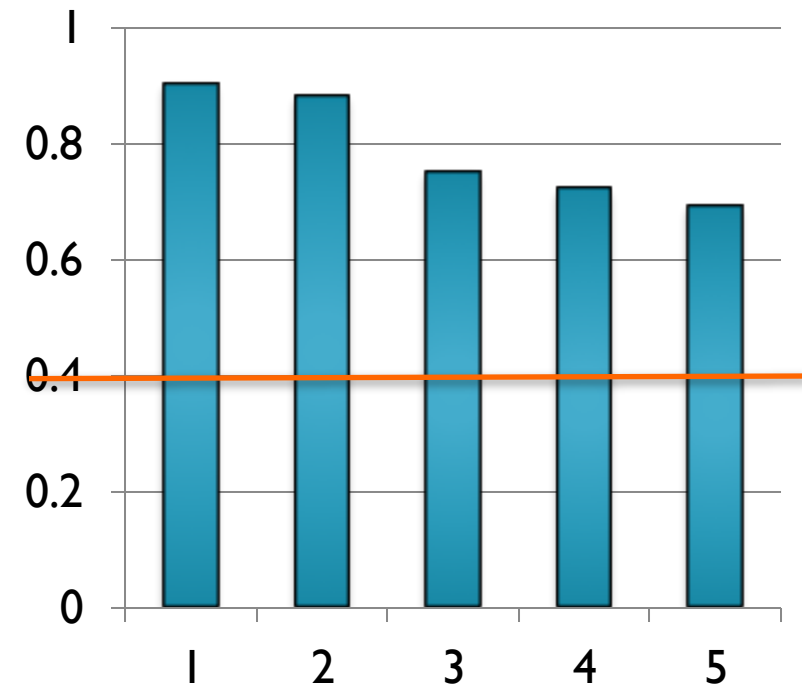
- 29 studies, 38 independent samples, 43 effect sizes, 57,155 students.
- 37 of the 43 effect sizes are not significantly different from zero (i.e., 86%).
- One effect size is significantly different from zero, but negative.
- The meta-analytic average standardized mean difference between treatment and control groups is .08.

Hattie (2006): *Visible Learning*

◦ **INTERVENTIONS WITH
DEMONSTRATED AND
MEANINGFUL
POSITIVE EFFECTS ON
ACHIEVEMENT**

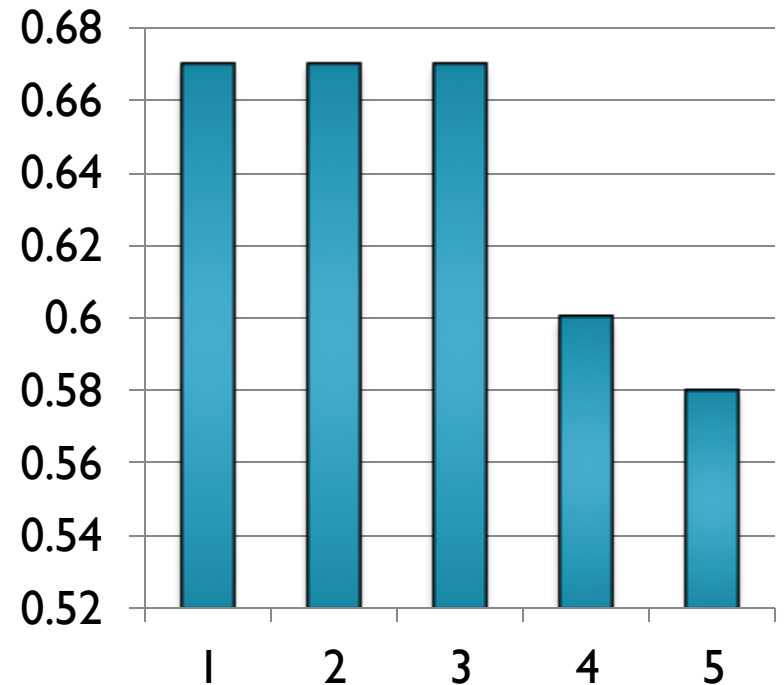
Teaching

1. Formative Evaluation
2. Microteaching
3. Teacher Clarity
4. Teacher-student relationships
5. Teaching meta-cognition



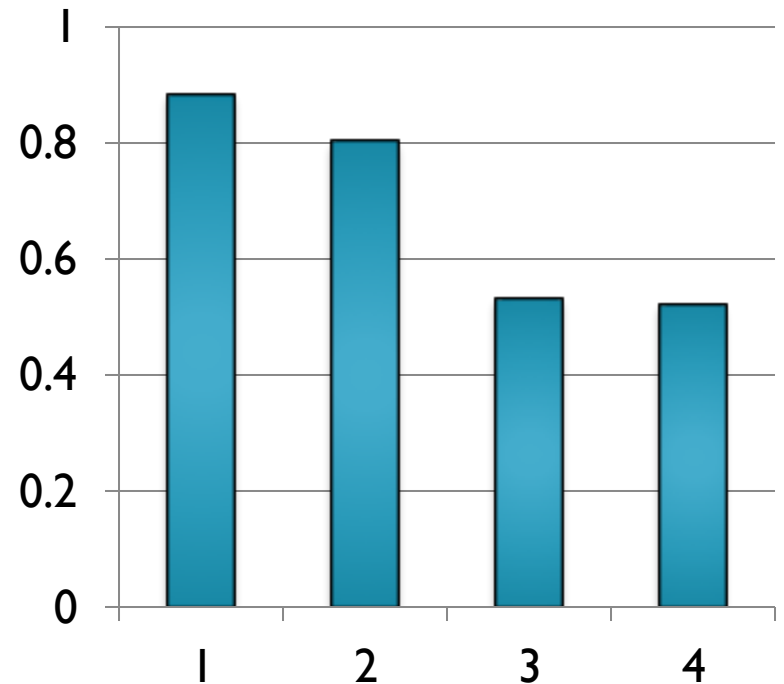
Curricula

1. Vocabulary programs
2. Repeated reading
3. Creativity
4. Phonics
5. Comprehension



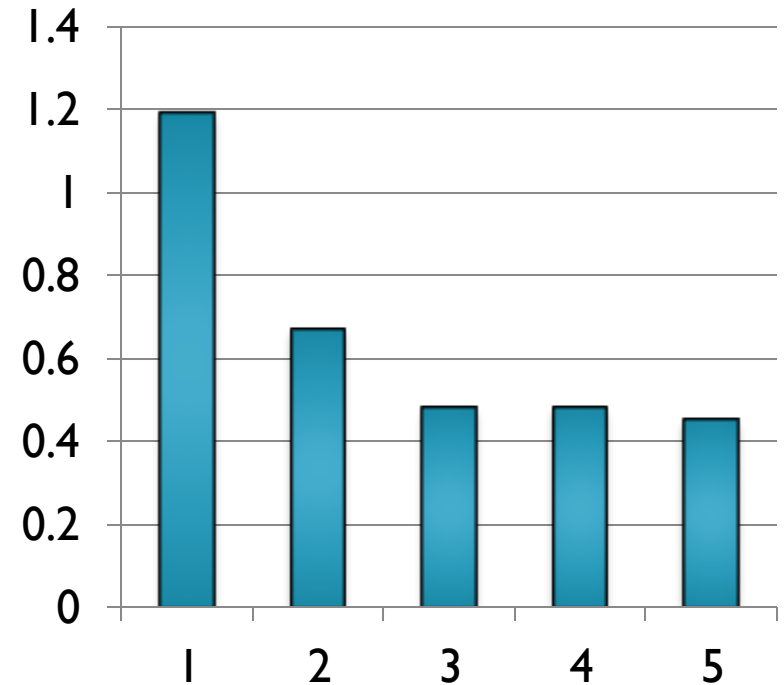
School Level

1. Acceleration
2. Controlling classroom behavior
3. Classroom climate
4. Small group learning

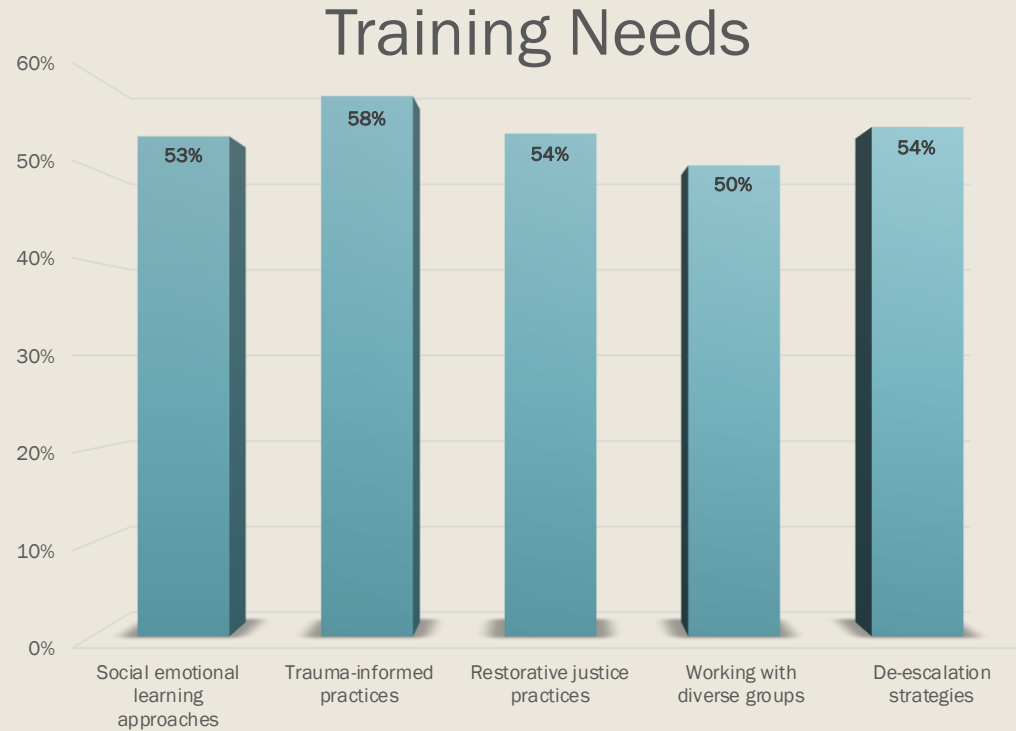


Individual Student

1. Intelligence
2. Prior achievement
3. Persistence/engagement
4. Motivation
5. Preschool



What School Personnel Want



All Stakeholders



AMERICAN PSYCHOLOGICAL ASSOCIATION

Another Cautionary Tale:

Drawing premature conclusions



METACOGNITION

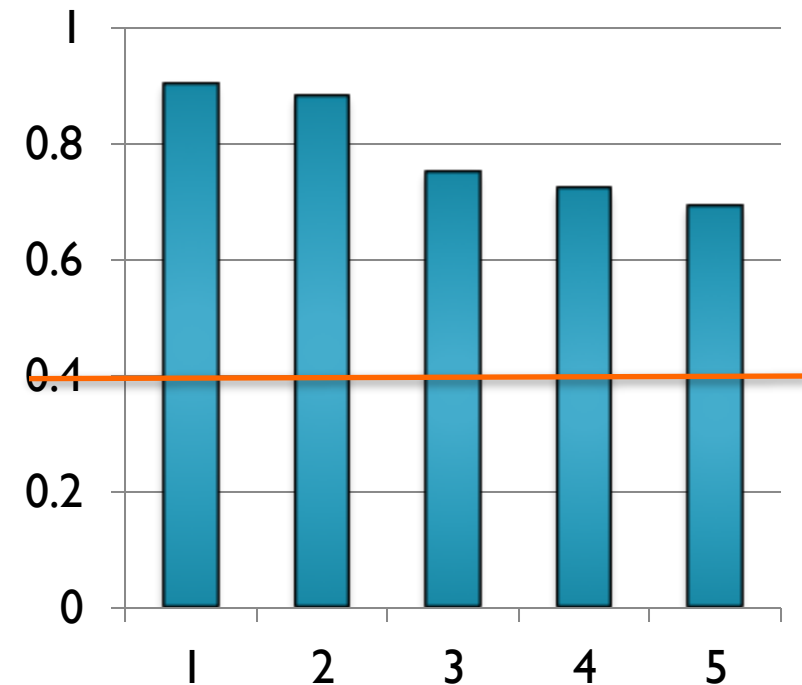
Is metacognition related to achievement?
Is metacognition something we should be teaching?



METACOGNITION

Teaching

1. Formative Evaluation
2. Microteaching
3. Teacher Clarity
4. Teacher-student relationships
5. Teaching meta-cognition



Metacognition I

- Metacognition refers to people's knowledge and regulation of their thinking, learning, and problem-solving processes (Brown, 1987; Flavell, 1979).
- There are 35 years of research demonstrating the importance of metacognition on academic achievement (e.g., De Corte, Greer, & Verschaffel, 1996; Jacobse & Harskamp, 2012).

Metacognition II

- The Junior Metacognition Awareness Inventory (JMAI; Sperling et al. 2002) is a self-report questionnaire that measures both knowledge of cognition and regulation of cognition.
- Sperling et al. (2002) concluded that total JMAI scores ($\alpha = .82$) are not significantly correlated with mathematics problem solving ($r = -.08$) or reading comprehension ($r = .00$).
 - Correlations of .32 and .25 with science GPA and overall GPA in replication (Sperling et al., 2012)

Young and Worrell (2018): Table 1

Table 1. Descriptive Statistics of JMAI Scores and Academic Achievement Variables.

| Subscale | <i>n</i> | <i>M</i> | <i>SD</i> | α [95% CI] | Range |
|-------------------------|----------|----------|-----------|-------------------|-----------|
| JMAI score | | | | | |
| Knowledge ^a | 183 | 4.21 | .66 | .72 [.68, .78] | 1.67-5.00 |
| Regulation ^a | 183 | 3.54 | .71 | .81 [.76, .85] | 1.89-4.78 |
| Total | 183 | 3.91 | .46 | .85 [.81, .88] | 1.83-4.89 |
| Academic achievement | | | | | |
| Mathematics grade | 179 | 3.95 | .20 | | 3.30-4.30 |
| GPA | 179 | 3.89 | .19 | | 2.57-4.00 |
| MDT | 183 | 87.42 | 10.94 | | 44-100 |
| Summer course grade | 183 | 3.57 | .61 | | 1.00-4.30 |

Young and Worrell (2018): Table 3

Table 3. Correlations of Junior Metacognition Awareness Inventory (JMAI) Scores With Achievement Variables ($N = 183$).

| | Achievement | | | |
|---|-----------------|------------------|------|------|
| | MG ^a | GPA ^a | MDT | SCG |
| JMAI total score | .05 | .00 | -.12 | .01 |
| Sperring, Howard, Miller, and Murphy (2002) factors | | | | |
| Knowledge | .04 | -.01 | -.10 | .07 |
| Regulation | .04 | .00 | -.12 | -.04 |
| Current study factors | | | | |
| Knowledge | .03 | .00 | -.07 | .08 |
| Regulation | .04 | .01 | -.13 | -.04 |
| Achievement | | | | |
| Mathematics grade in school (MG) ^a | — | .40* | .20* | .17 |
| Grade point average (GPA) ^a | | — | .29* | .24* |
| Mathematics diagnostic Test (MDT) | | | — | .45* |
| Summer course grade (SCG) | | | | — |

Young and Worrell (2018): Table 6

Table 6. Mean Academic Achievement Scores by Use of Problem-Solving Metacognition.

| | Use of problem-solving metacognition | | | | | | <i>d</i> _{corrected} |
|-----------------------------|--------------------------------------|----------|-----------|----------|----------|-----------|-------------------------------|
| | Low | | | High | | | |
| | <i>n</i> | <i>M</i> | <i>SD</i> | <i>n</i> | <i>M</i> | <i>SD</i> | |
| JMAI score | | | | | | | |
| Knowledge | 17 | 4.13 | .38 | 13 | 4.30 | .66 | .32 |
| Regulation | 17 | 3.72 | .69 | 13 | 3.55 | .72 | -.24 |
| Total | 17 | 3.93 | .46 | 13 | 3.92 | .52 | -.02 |
| Academic achievement | | | | | | | |
| Mathematics grade | 14 | 3.98 | .08 | 13 | 3.97 | .25 | -.05 |
| GPA | 14 | 3.88 | .22 | 13 | 3.93 | .15 | .26 |
| MDT score | 17 | 83.40 | 9.30 | 13 | 88.18 | 8.20 | .53 ^a |
| Summer course grade | 17 | 3.30 | .68 | 13 | 3.64 | .53 | .53 ^a |
| Problem-solving accuracy* | 17 | 0.94 | .66 | 13 | 2.54 | .66 | 2.11 ^b |



PSYCHOSOCIAL CONSTRUCTS I STUDY

Cultural Measures

Ethnic Identity

- Multigroup Ethnic Identity Measure (MEIM)
- Multigroup Ethnic Identity Measure- Revised (MEIM-R)
- Ethnic Identity Scale (EIS)

Racial Identity

- Cross Racial Identity Scale (CRIS)

Ethnic-Racial Identity

- Cross Ethnic-Racial Identity Scale–Youth (CERIS-Y)

MEIM

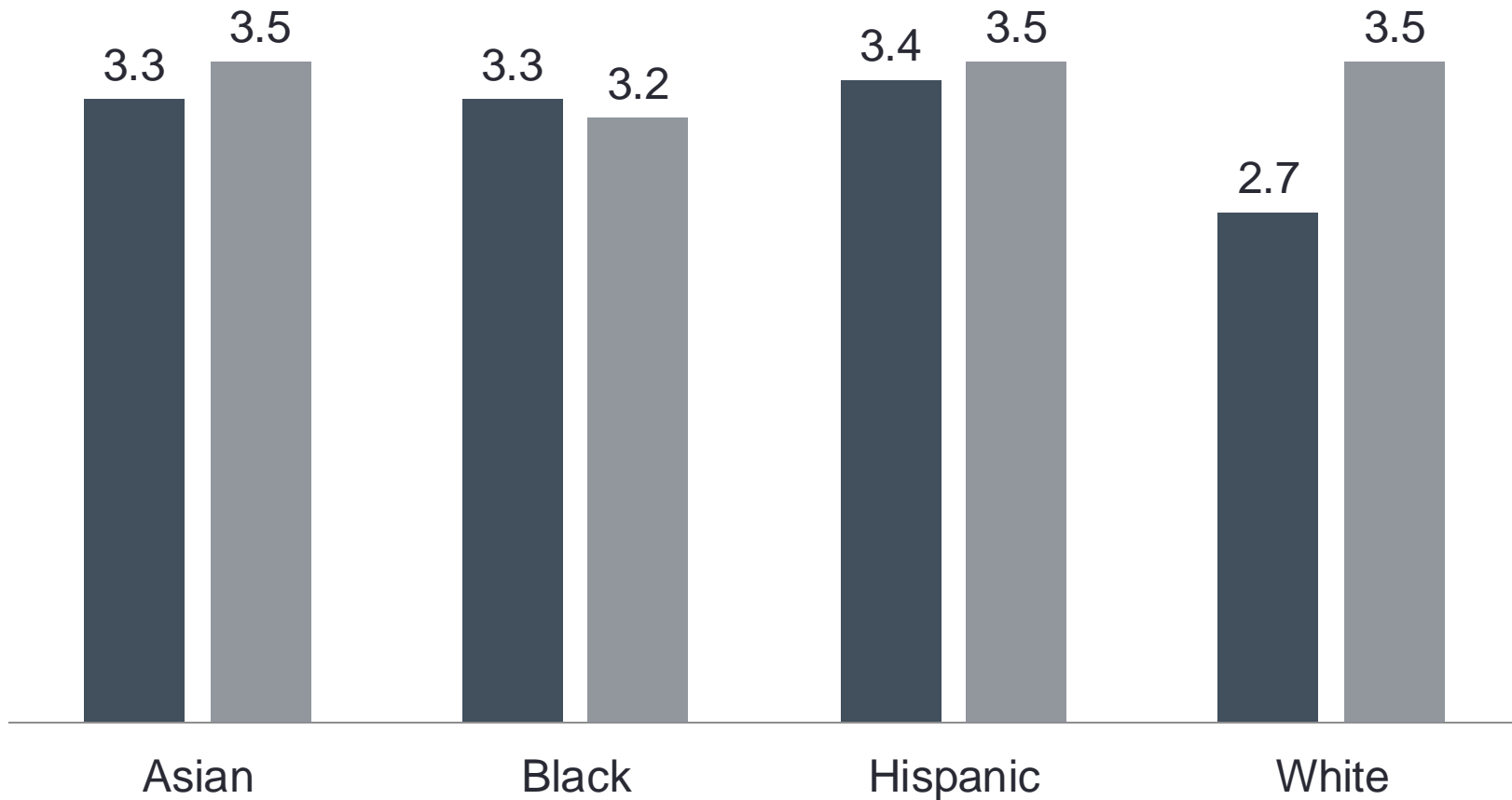
- Ethnic identity
- Other Group Orientation

◦ **WORRELL (2007)**

WORRELL AND WHITE (2009)

Ethnic Identity Means (Worrell, 2007)

■ Ethnic Identity ■ Other Grp Orientation



Betas Predicting School GPA: 2007

| Predictors | African American | Latine | Asian American | European American |
|-------------------------|------------------|--------|----------------|-------------------|
| School rank | -.13 | .33 | .46 | .41 |
| Program rank | .19 | .11 | -.01 | .18 |
| Ethnic Identity | -.42 | .00 | .04 | .00 |
| Other Group Orientation | .41 | .20 | -.04 | .08 |

Betas Predicting Program GPA: 2007

| Predictors | African American | Latine | Asian American | European American |
|-------------------------|------------------|-------------|----------------|-------------------|
| School rank | -.01 | .07 | .08 | .00 |
| Program rank | .50 | .72 | .59 | .60 |
| Ethnic Identity | .19 | -.28 | .07 | -.13 |
| Other Group Orientation | .12 | .06 | .02 | .16 |

Betas Predicting School GPA: 2009

| Predictors | African American | Latine/x | Asian American | European American |
|-------------------------|------------------|-------------|----------------|-------------------|
| Ethnic Identity | -.42 | -.03 | .53 | .24 |
| Other Group Orientation | .43 | .39 | -.33 | .03 |

Black Racial Identity

- Black racial identity refers to a set of attitudes held by individuals of African descent and includes how individuals view (a) themselves as Blacks [**inward**], (b) other individuals of African descent [**outward, same group**], and (c) individuals from other ethnic and racial [cultural] groups [**outward, other groups**].
 - Worrell et al. (2011)

Cross Racial Identity Scale (CRIS)

Assimilation

Miseducation

Self-Hatred

Anti-White

Afrocentric

Multiculturalist
Inclusive

Worrell et al. (2006)

Miller (2008)

Whittaker & Neville (2010)

Worrell et al. (2011)

Chavez-Korell & Vandiver (2012)

◦ Telesford et al. (2013)

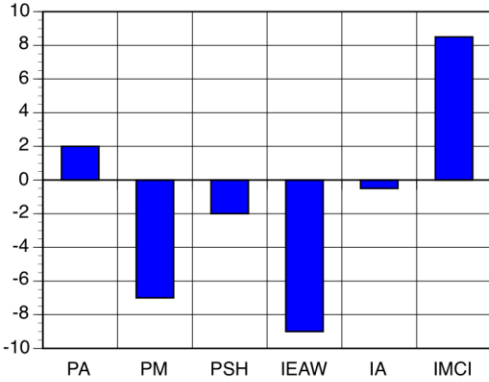
Worrell et al. (2014)

Andretta et al. (2015)

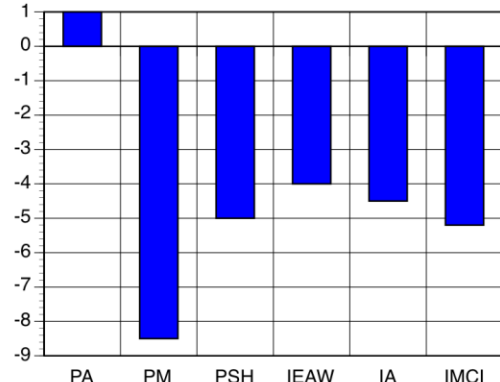
**THERE ARE GENERALIZABLE
RACIAL IDENTITY PROFILES.**

Worrell et al. (2006)

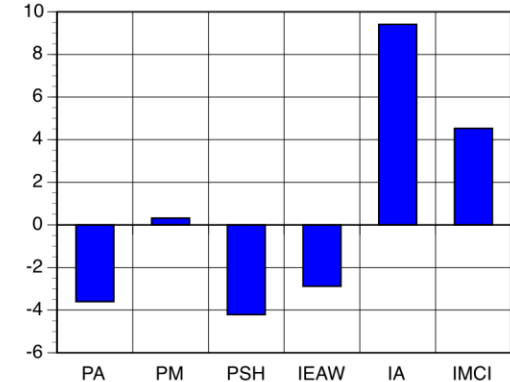
| Sample 1 | Sample 2 | Sample 3 |
|-------------------|-------------------|------------------------|
| Afrocentrics | NOT REPLICATED | NOT REPLICATED |
| Assimilated | Assimilated | Assimilated |
| Low Race Salience | Low Race Salience | Low Race Salience |
| Multiculturalists | Multiculturalists | NOT REPLICATED |
| Immersion | Immersion | Immersion |
| Miseducated | Miseducated | Miseducated |
| | | Identity in Transition |



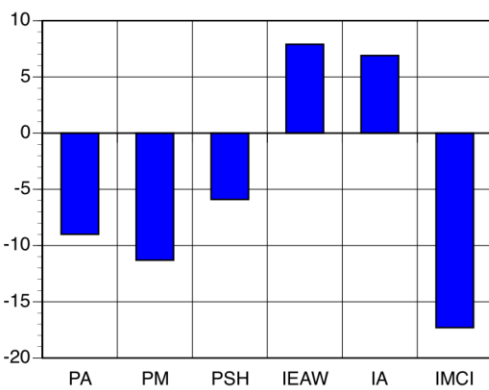
A. Multiculturalist



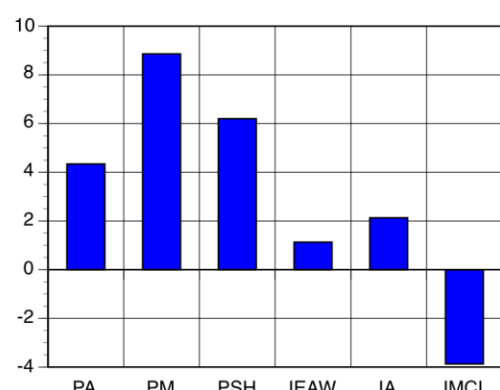
B. Low Race Salience



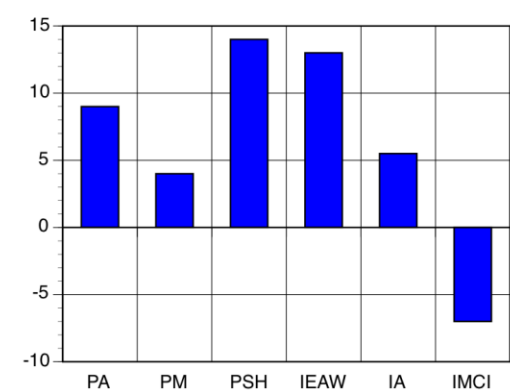
C. Afrocentric Profile



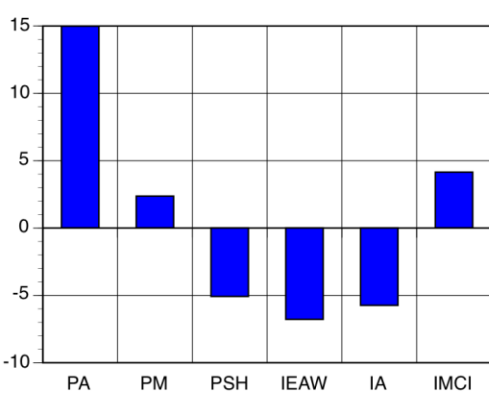
D. Immersion/Anti-White



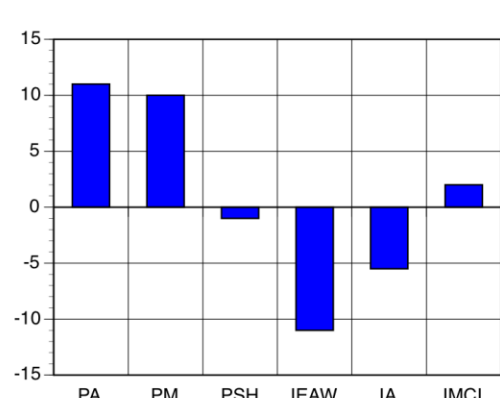
E. Miseducated



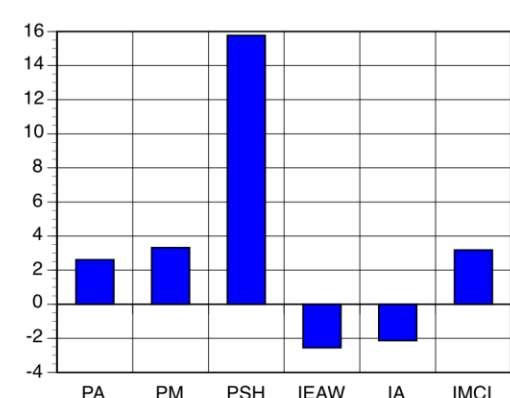
F. Conflicted



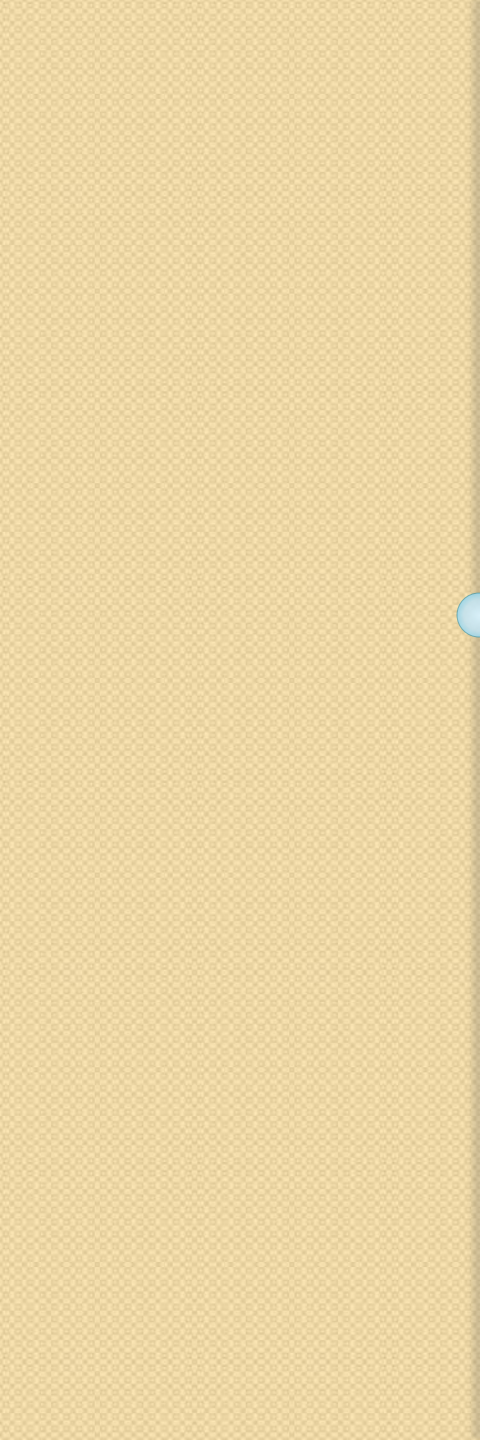
G. Assimilated



G. Assimilated/Miseducated



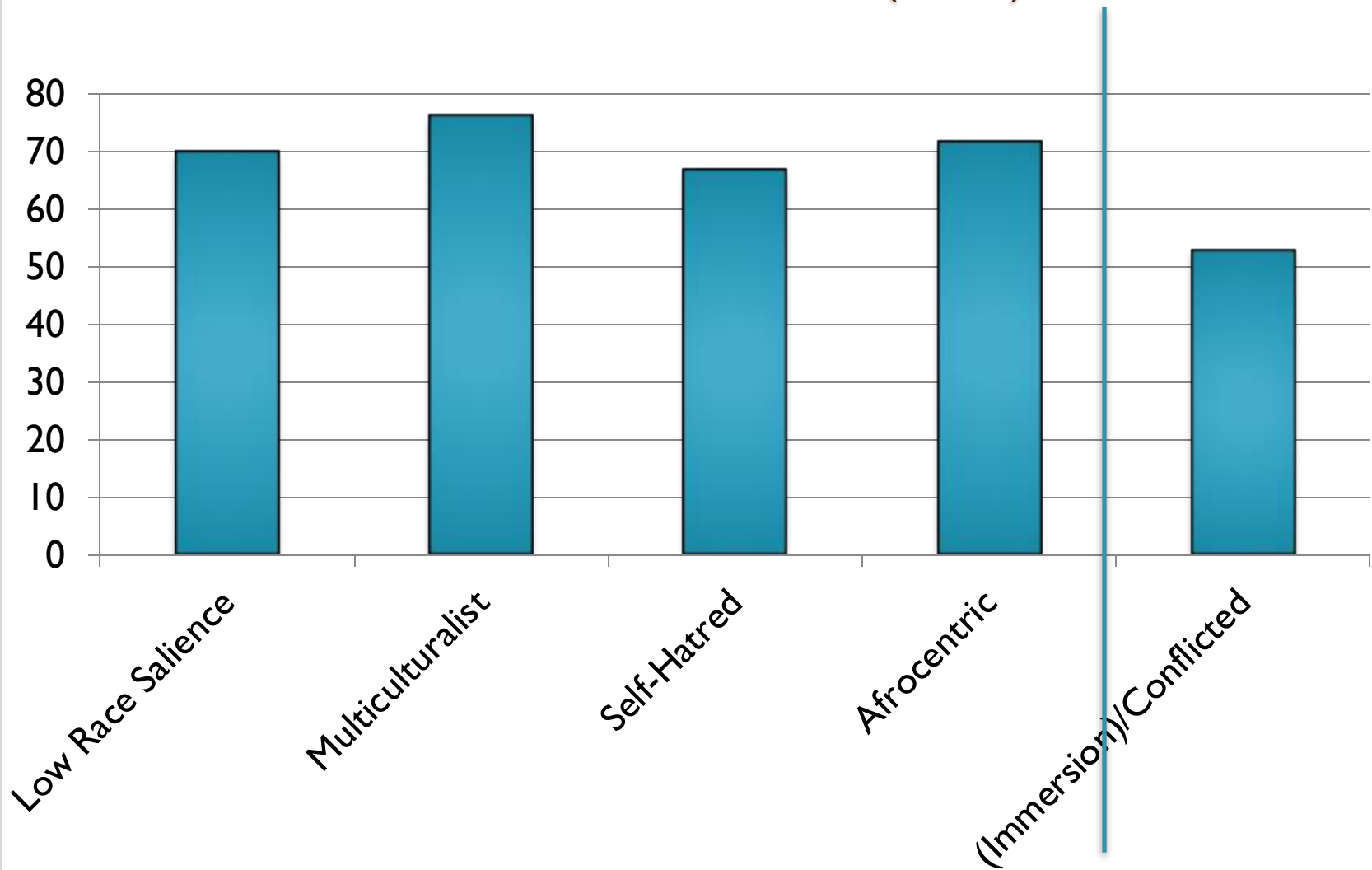
I. Self-Hating



**ARE RACIAL IDENTITY
PROFILES MEANINGFULLY
RELATED TO OTHER
CONSTRUCTS?**

Lack of Psychological Distress

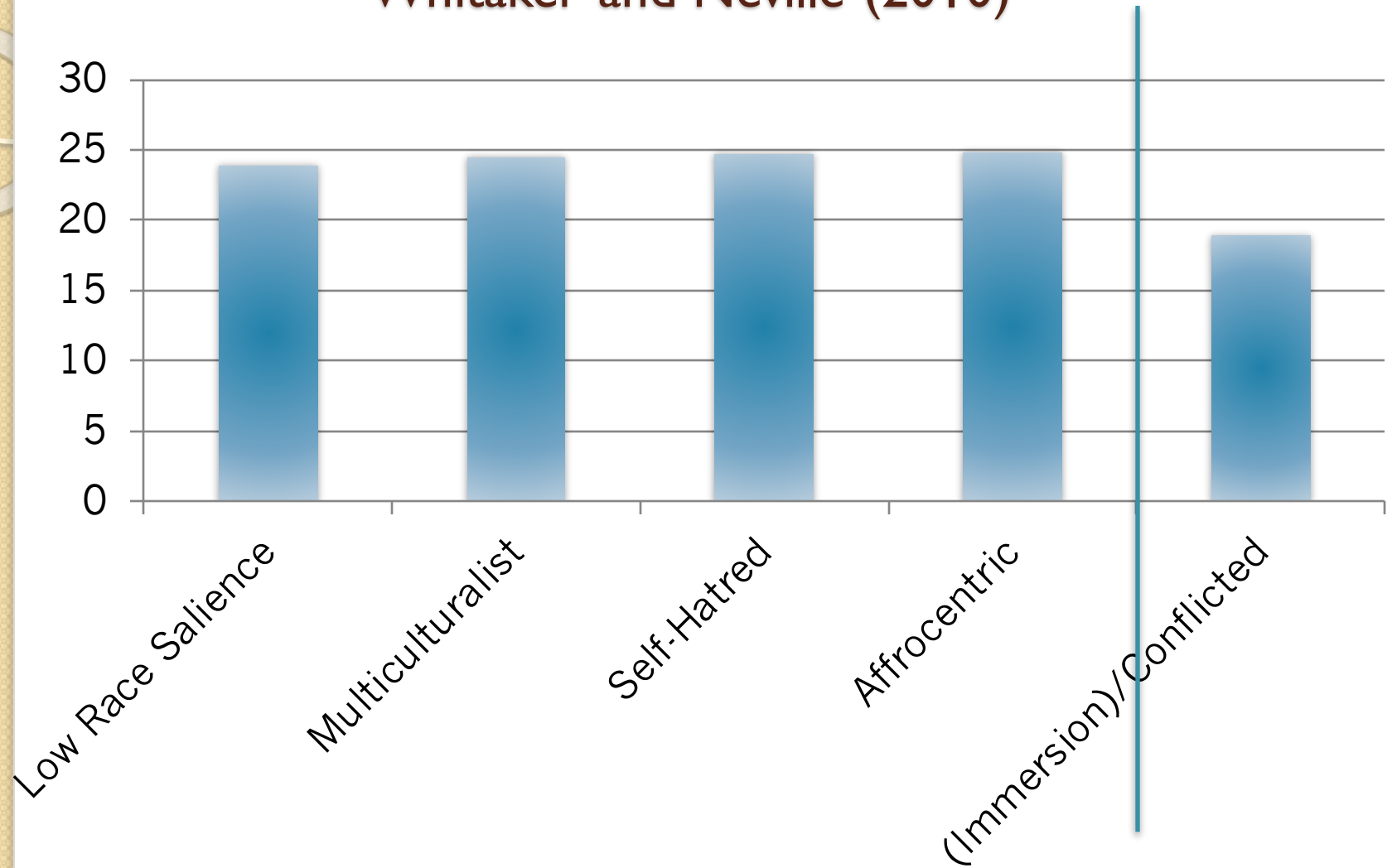
Whittaker and Neville (2010)



$$.94 \leq d \leq 1.73$$

Psychological Well-Being

Whitaker and Neville (2010)



$$.77 \leq d \leq .95$$

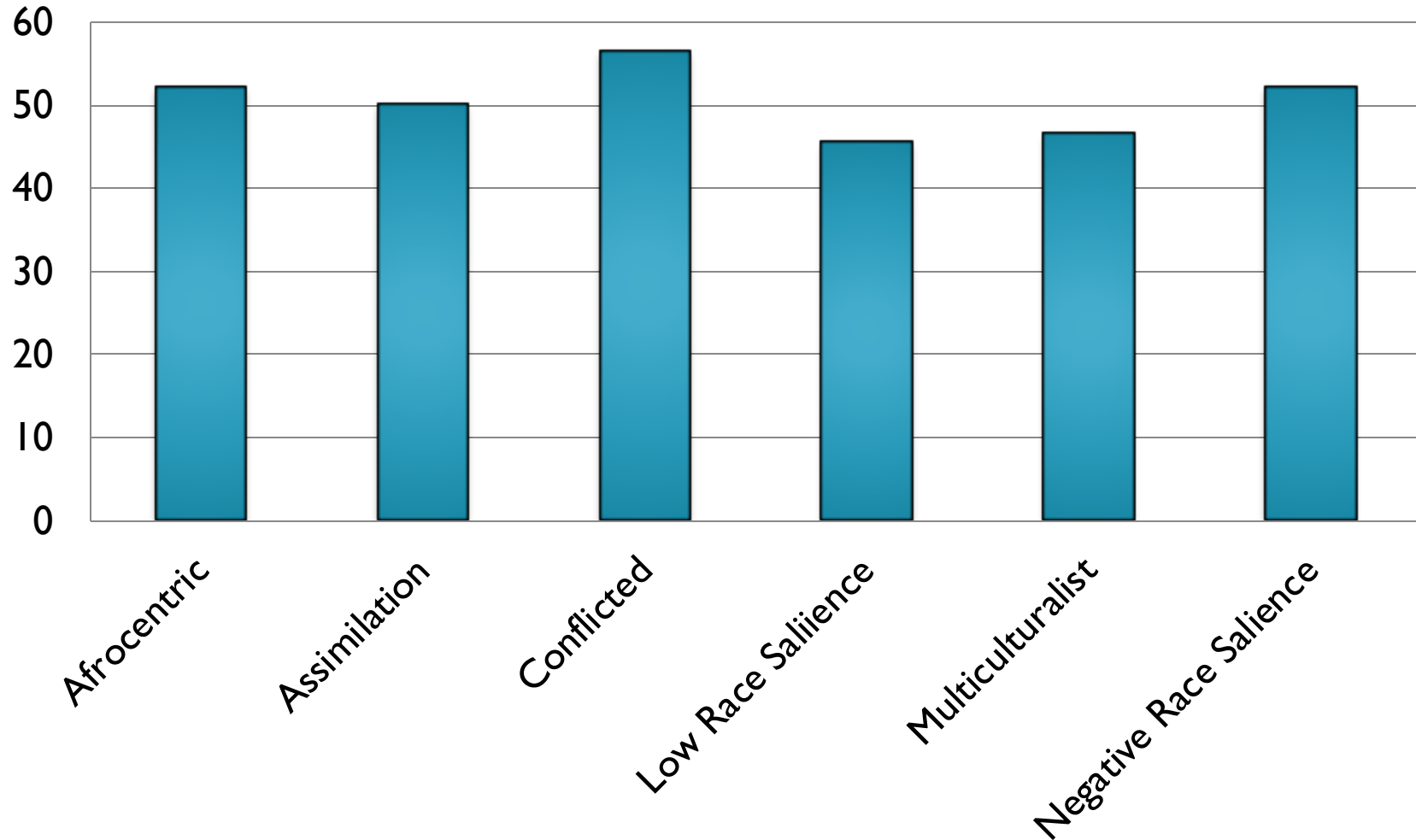
Bivariate Correlations

(Worrell et al., 2011)

| BSI Subscales | PA | PM | PSH | IEAW | IA | IMCI |
|---------------------------|-----|-----|------|------|-----|------|
| Somatization | .03 | .04 | .21* | .15 | .07 | .09 |
| Obsessive–Compulsive | .06 | .01 | .31* | .17 | .09 | .09 |
| Interpersonal Sensitivity | .12 | .06 | .38* | .27* | .10 | .05 |
| Depression | .14 | .06 | .37* | .25* | .10 | .07 |
| Anxiety | .06 | .02 | .30* | .16 | .10 | .12 |
| Hostility | .09 | .04 | .21* | .32* | .06 | .05 |
| Phobic Anxiety | .13 | .11 | .30* | .25* | .18 | .02 |
| Paranoid Ideation | .03 | .11 | .26* | .33* | .16 | –.01 |
| Psychoticism | .18 | .17 | .35* | .26* | .15 | .02 |
| Global Severity Index | .14 | .11 | .39* | .27* | .12 | .10 |

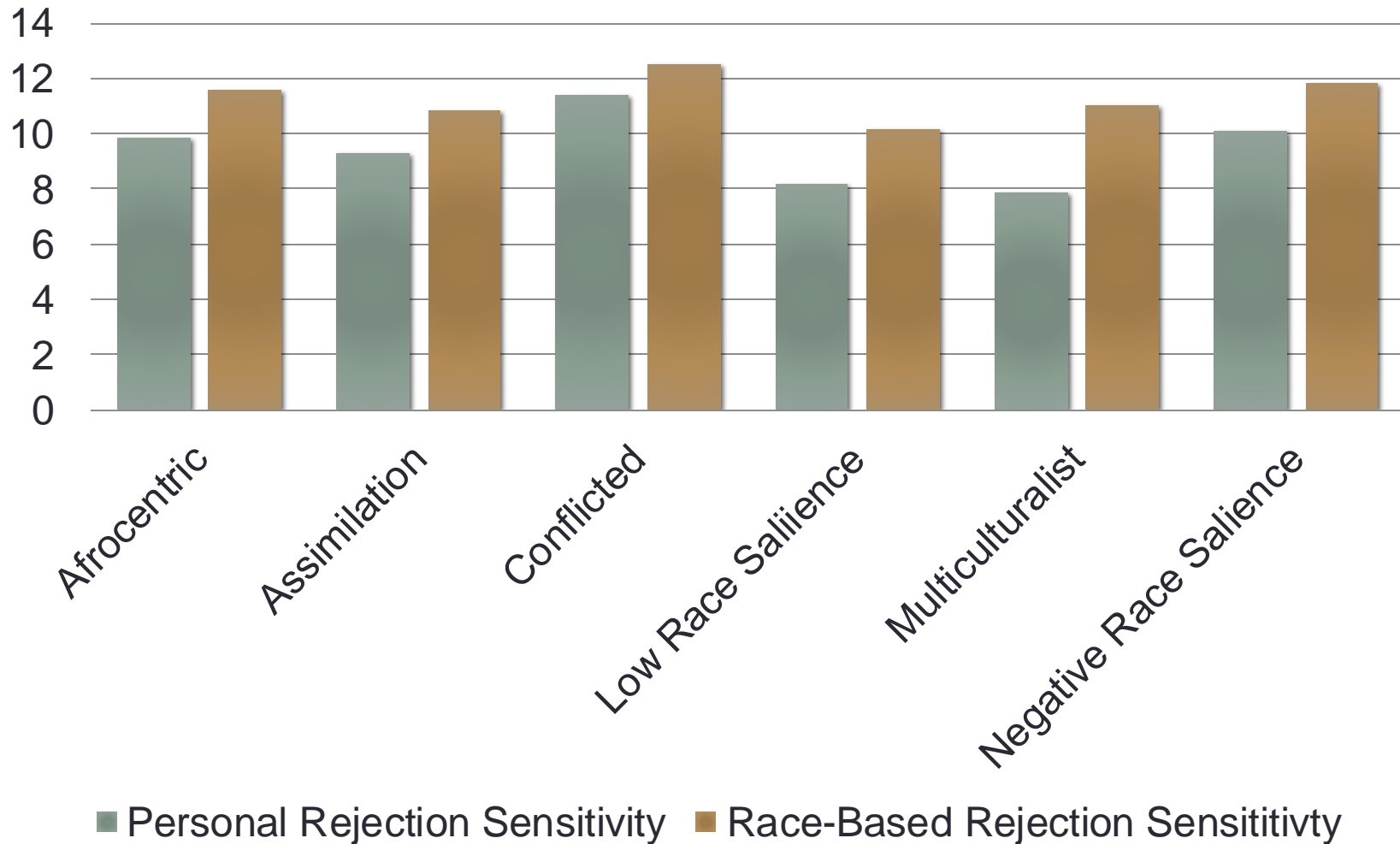
Clusters and BSI Total Score

Telesford et al. (2013)



Clusters and Rejection Sensitivity

Telesford et al. (2013)



Clinical Syndromes on CBSR

(% with scores suggesting intervention needed)

Andretta et al. (2015): Adolescents

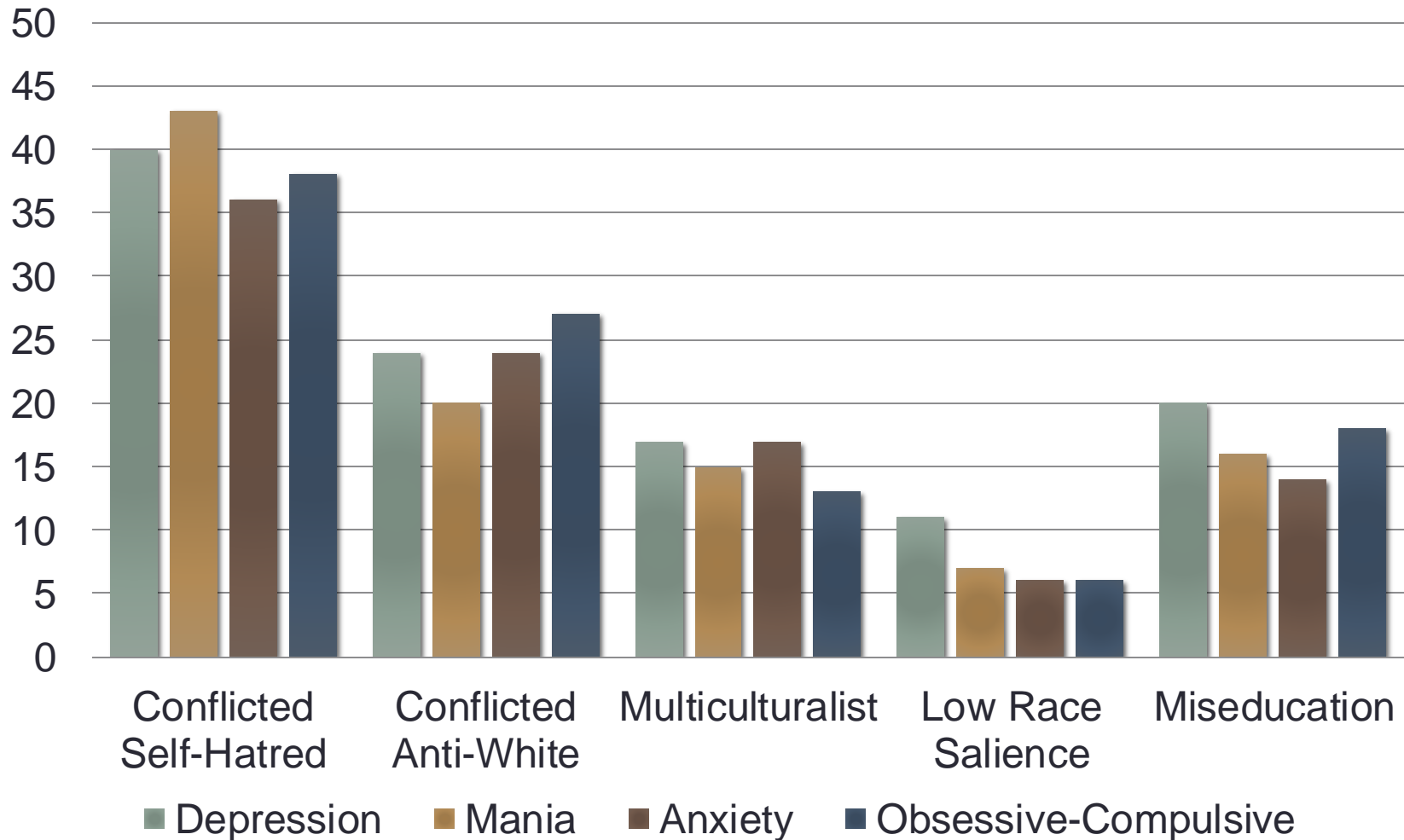


Table 5. CBRIS-SR Scores by Priming Level and Racial Identity Profile.

| | Control | | Priming | | <i>t</i> | <i>df</i> | <i>p</i> | <i>d</i> _{corrected} |
|--------------------------|----------|------------------------|----------|------------------------|----------|-----------|----------|-------------------------------|
| | <i>n</i> | <i>M</i> (<i>SD</i>) | <i>n</i> | <i>M</i> (<i>SD</i>) | | | | |
| Conduct Disorder | | | | | | | | |
| Miseducated | 30 | 4.57 (4.15) | 38 | 5.53 (5.16) | -0.83 | 66 | .41 | 0.20 |
| Multiculturalist | 22 | 3.27 (3.19) | 34 | 3.32 (4.53) | -0.05 | 54 | .96 | 0.01 |
| Low Race Salience | 37 | 2.24 (2.42) | 20 | 3.70 (4.52) | -1.59 | 55 | .12 | 0.44 |
| Oppositional Defiant | | | | | | | | |
| Miseducated | 30 | 8.07 (4.31) | 39 | 8.56 (4.28) | -0.47 | 67 | .64 | 0.11 |
| Multiculturalist | 22 | 7.86 (4.97) | 34 | 7.41 (4.94) | 0.33 | 54 | .74 | -0.09 |
| Low Race Salience | 37 | 4.89 (3.10) | 20 | 7.20 (4.55) | -2.27 | 55 | .03 | 0.62 |
| Major Depressive Episode | | | | | | | | |
| Miseducated | 30 | 9.57 (8.37) | 39 | 8.10 (5.74) | 0.86 | 67 | .39 | -0.21 |
| Multiculturalist | 22 | 6.95 (6.50) | 34 | 8.41 (8.64) | -0.67 | 54 | .50 | 0.19 |
| Low Race Salience | 37 | 4.45 (6.71) | 20 | 7.40 (8.26) | -1.36 | 55 | .18 | 0.41 |
| General Anxiety Disorder | | | | | | | | |
| Miseducated | 30 | 9.37 (7.46) | 39 | 8.38 (6.13) | 0.60 | 67 | .55 | -0.15 |
| Multiculturalist | 22 | 8.04 (7.33) | 34 | 9.26 (10.25) | -0.48 | 54 | .63 | 0.13 |
| Low Race Salience | 37 | 4.67 (6.38) | 20 | 7.30 (7.76) | -1.37 | 55 | .18 | 0.38 |

Cross Ethnic-Racial Identity Scale (CERIS)

Worrell et al. (2020, 2021)

| CRIS (Blacks) | CERIS (Adult and Youth Versions) |
|------------------|-------------------------------------|
| Assimilation | Assimilation |
| Miseducation | Miseducation |
| Self-Hatred | Self-Hatred |
| Anti-White | Anti-Dominant Group |
| Afrocentricity | Ethnocentricity |
| Multiculturalist | Multiculturalist |

Data from New Zealand (CERIS-Y)

◦ **WATSON ET AL. (2020)**

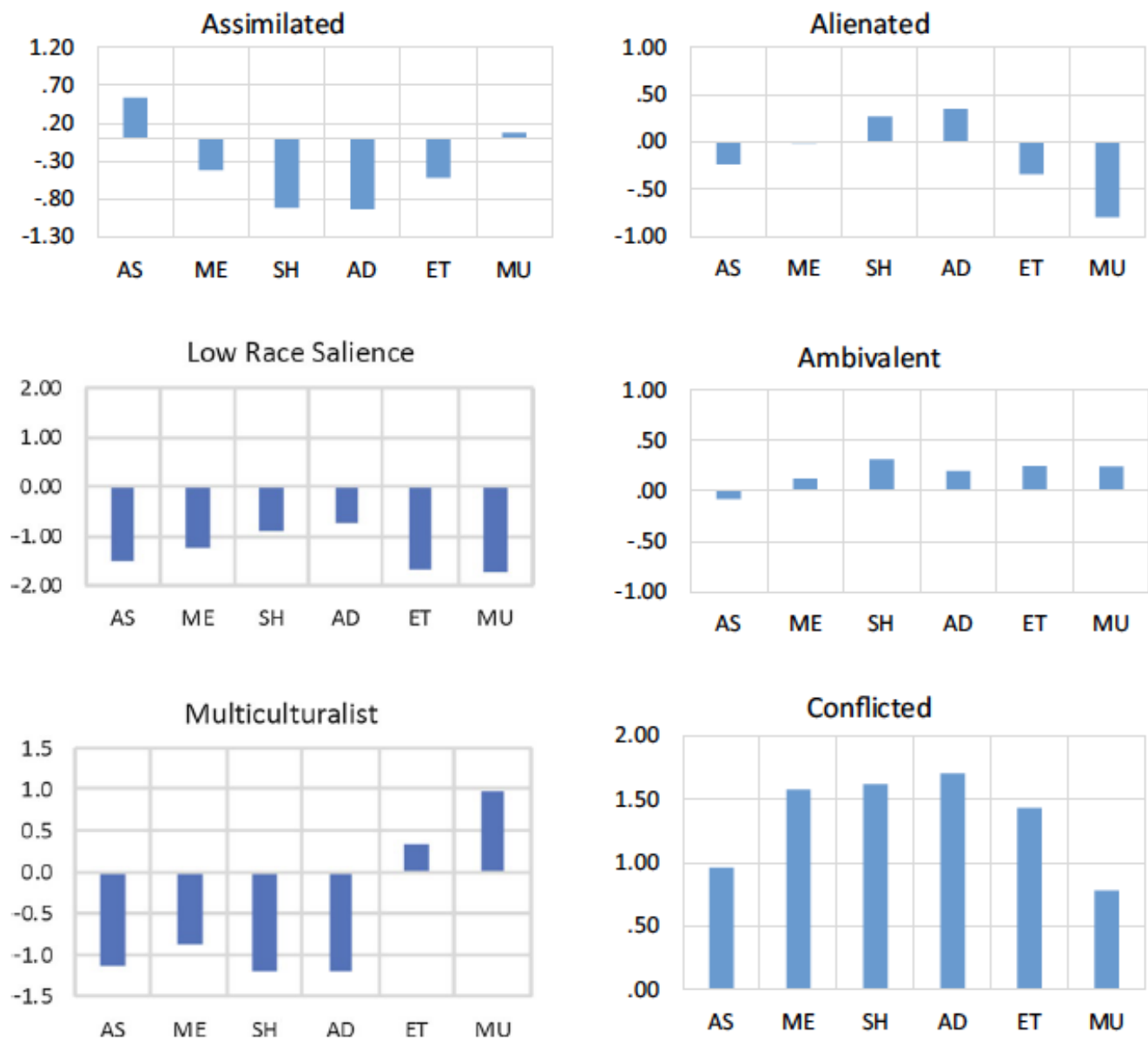


Fig. 1 Ethnic-racial identity profiles in sample. AS=Assimilation; ME=Miseducation; SH=Self-Hatred; AD=Anti-Dominant; ET=Ethnocentricity; MU=Multiculturalist. The profiles are based on z-scores (i.e., mean of zero and standard deviation of 1). Thus, zero represents the mean of the distribution and the profiles are named based on the pattern of scores relative to the mean and other subscales

Adaptive Clusters

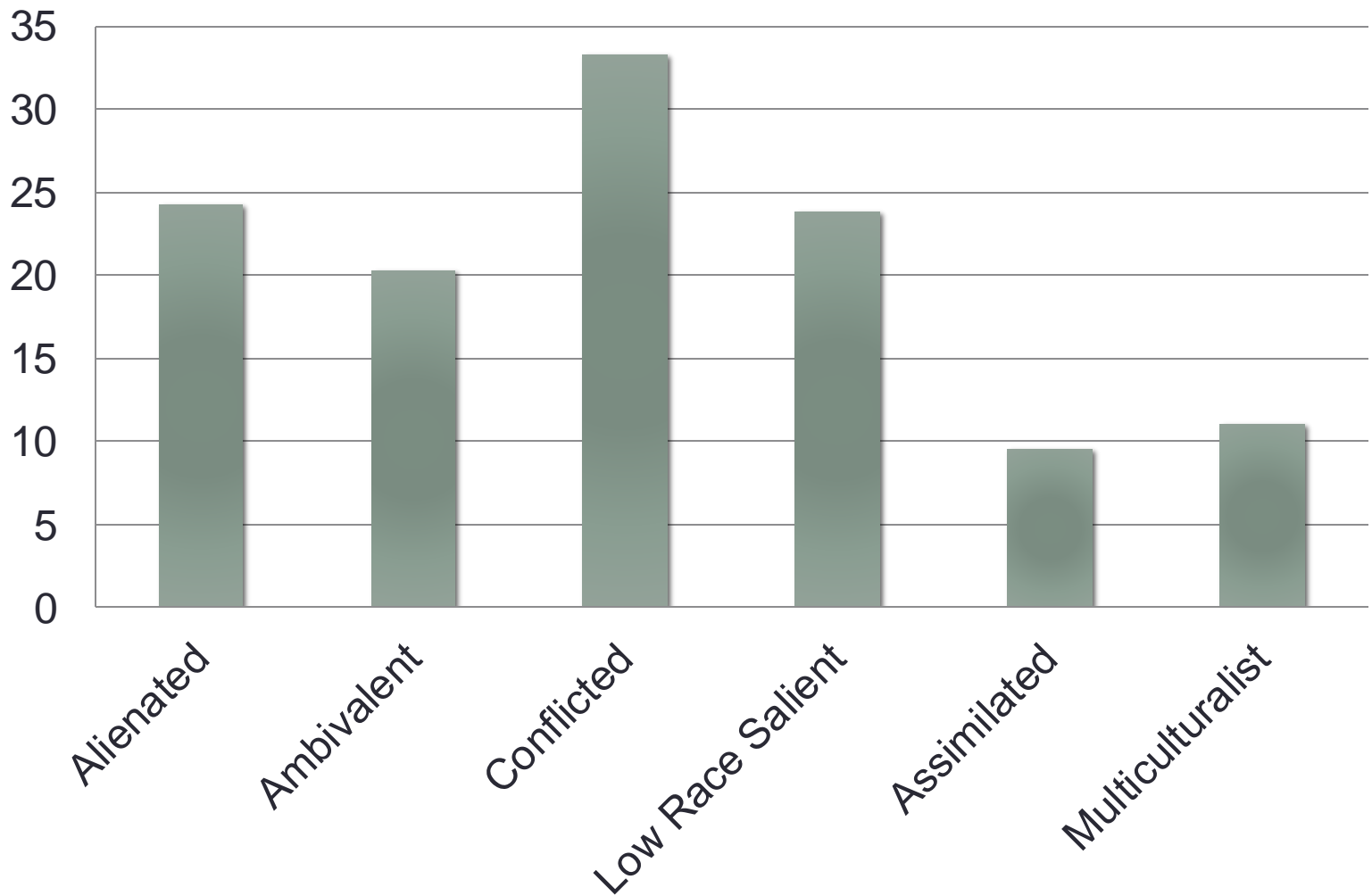
- Multiculturalist*
- Assimilated*
- [Conflicted]
- Low Race Salience
- [Ambivalent]

Maladaptive Clusters

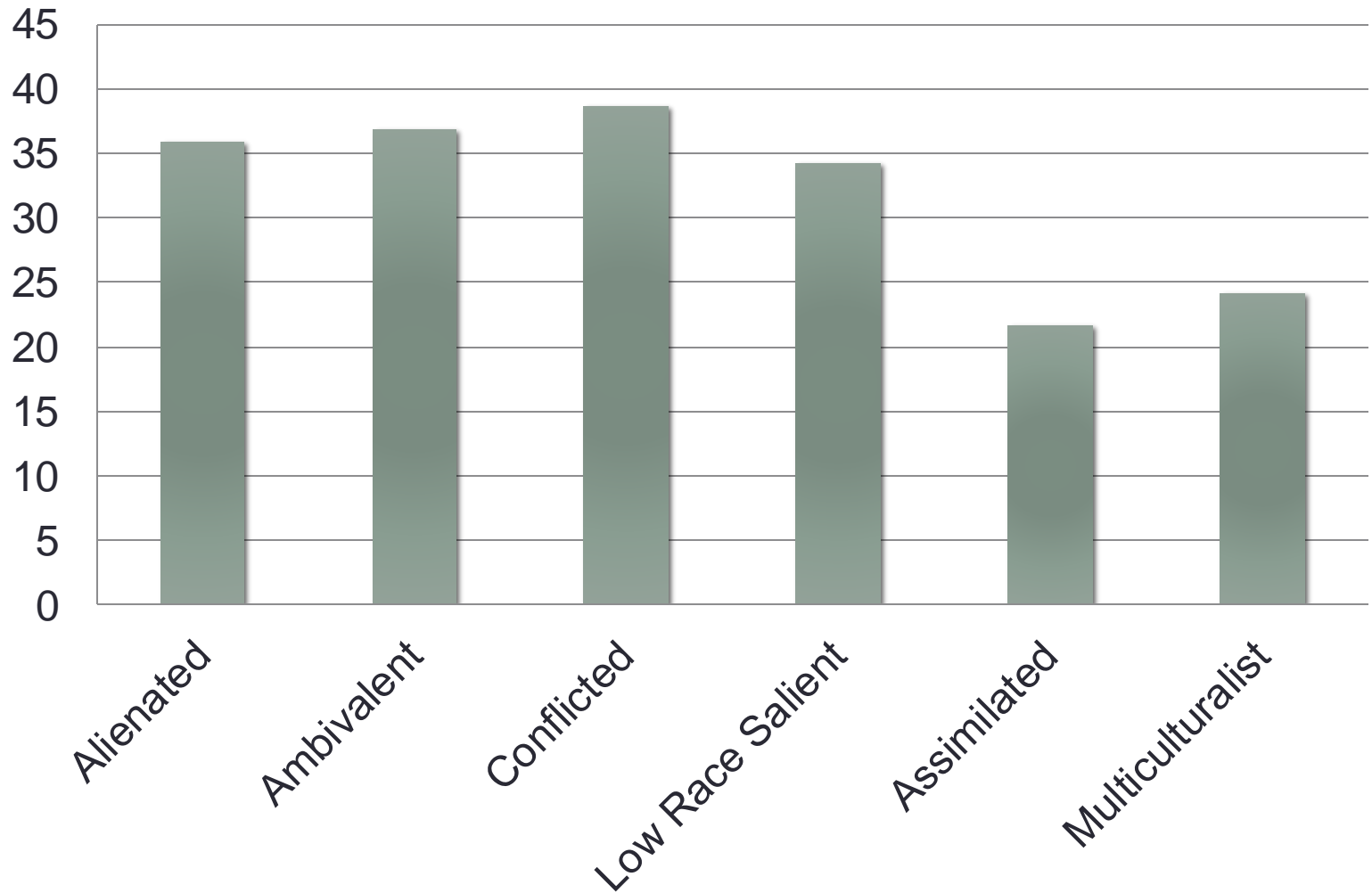
- Alienated*
- Conflicted
- [Low Race Salience]
- [Ambivalent]

Hypotheses

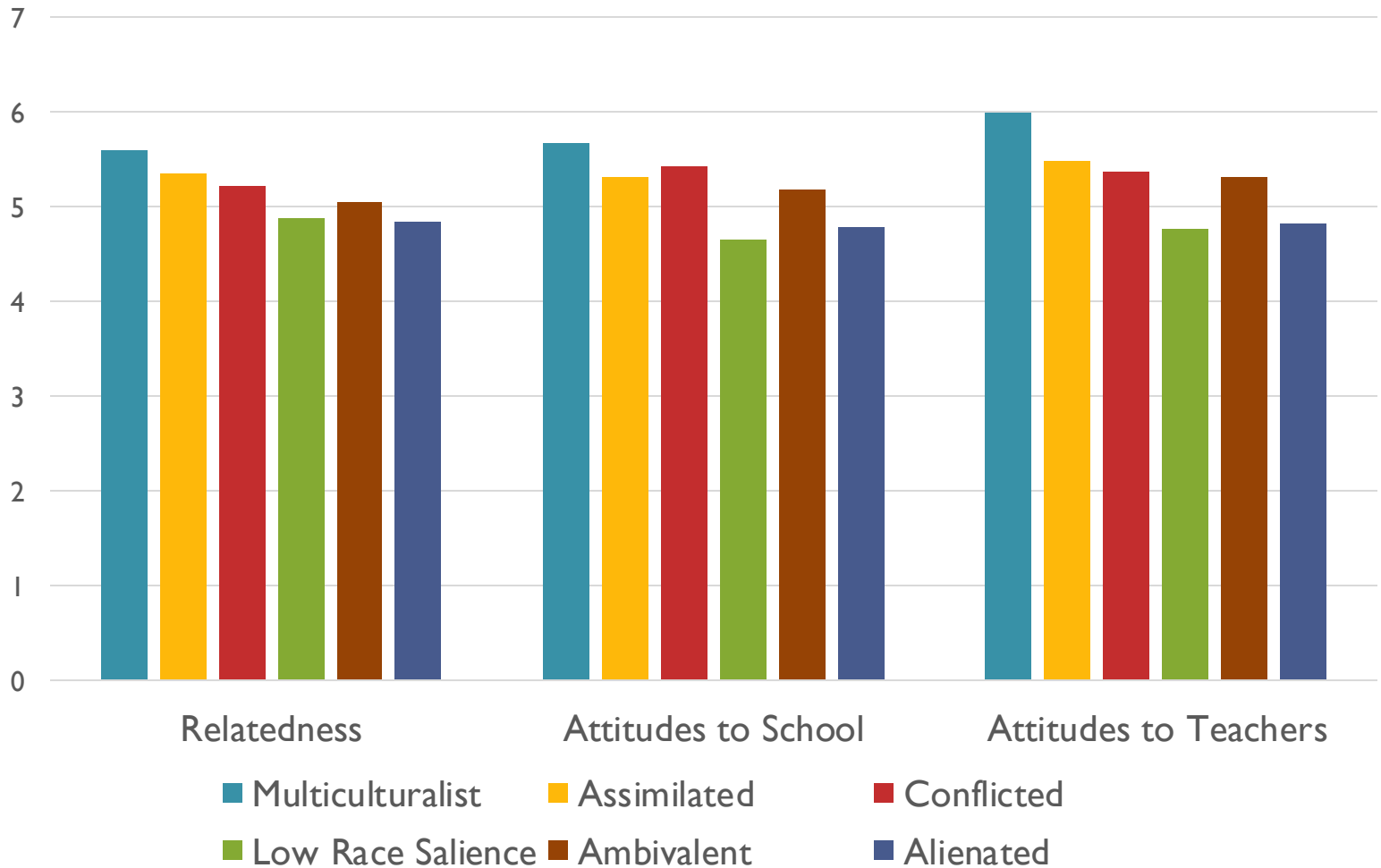
Do You Consider Yourself a Gang Member (% Yes)



Felt Sad or Hopeless Every Day for 2 Weeks (% Yes)



Differences by Cluster

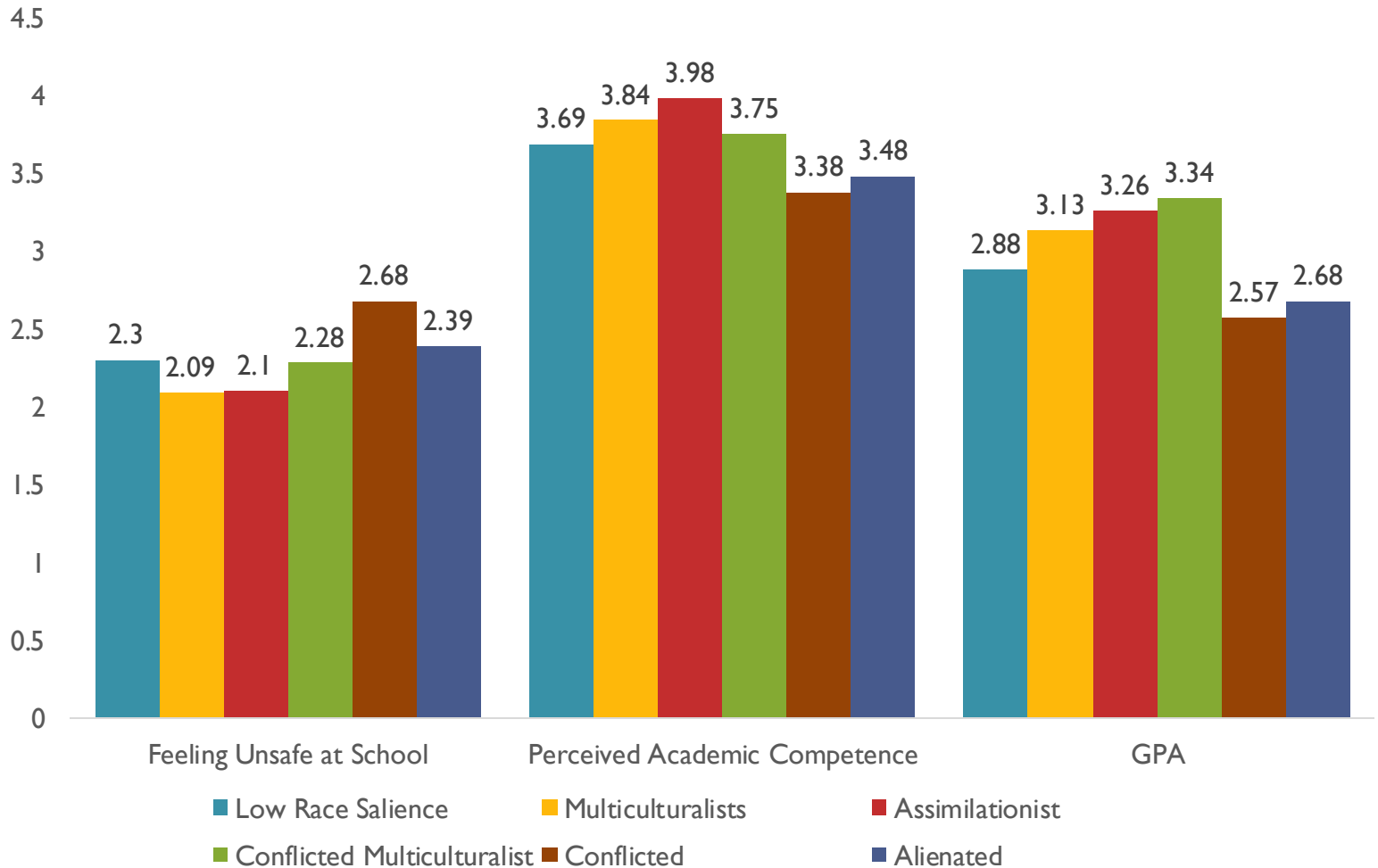


Miller (2022): CERIS-Y in US

Figure 1
Estimated Means of the Six Profile Model



Miller (2022): CERIS-Y in US



Time Constructs

Hope

- The Hope Scale

Time Attitudes

- Adolescent and Adult Time Inventory–Time Attitudes

The Hope Scale



Agency:

Belief that you can accomplish your goals
Strongest correlation is with self-efficacy.



Pathways:

Ability to envision multiple paths to accomplishing goals.

Dixson & Stevens (2018)

117 African American Adolescents

Table 5. Hierarchical Regression Predicting Academic Self-Concept.

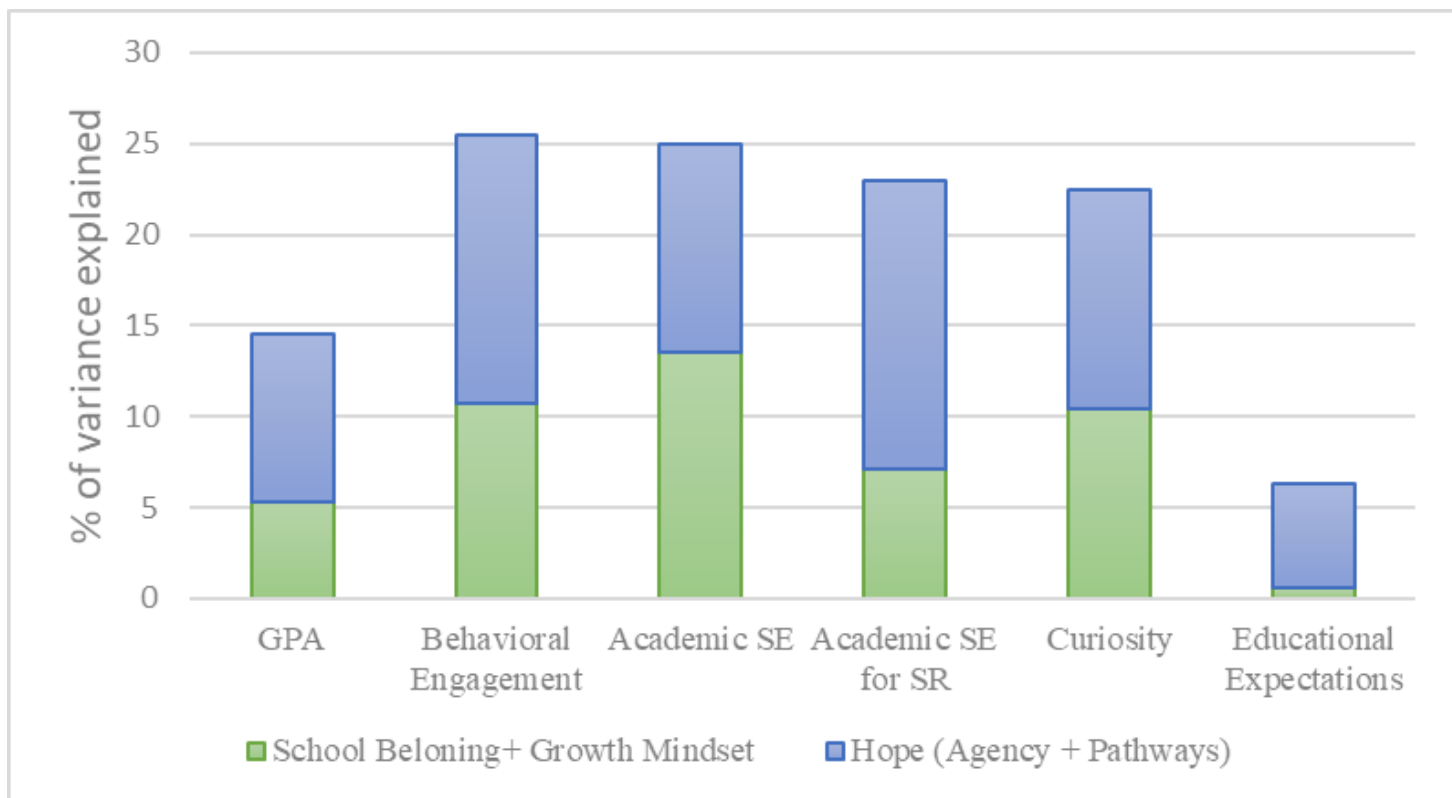
| Model | B | β | p | sr ² | Adjusted R ² | R ² change |
|----------------------------|-------|---------|------|-----------------|-------------------------|-----------------------|
| Block 1 | | | | | .076 | |
| Gender | -.085 | -.063 | .506 | .004 | | |
| Age | .037 | .085 | .353 | .007 | | |
| Parent educational level | .030 | .048 | .629 | .002 | | |
| Standardized math score | .002 | .345** | .008 | .061 | | |
| Standardized English score | .000 | -.014 | .915 | .000 | | |
| Block 2 | | | | | .375 | .299 |
| Gender | .055 | .041 | .609 | .001 | | |
| Age | .057 | .131 | .093 | .016 | | |
| Parent educational level | .024 | .037 | .646 | .001 | | |
| Standardized math score | .001 | .173 | .110 | .014 | | |
| Standardized English score | .000 | .057 | .603 | .002 | | |
| Agency | .202 | .267* | .020 | .031 | | |
| Pathways | .312 | .345** | .002 | .054 | | |

Note. N = 117; sr² = squared semipartial coefficient.

Hope, School Belonging, and Growth Mindset (Dixson, 2020)

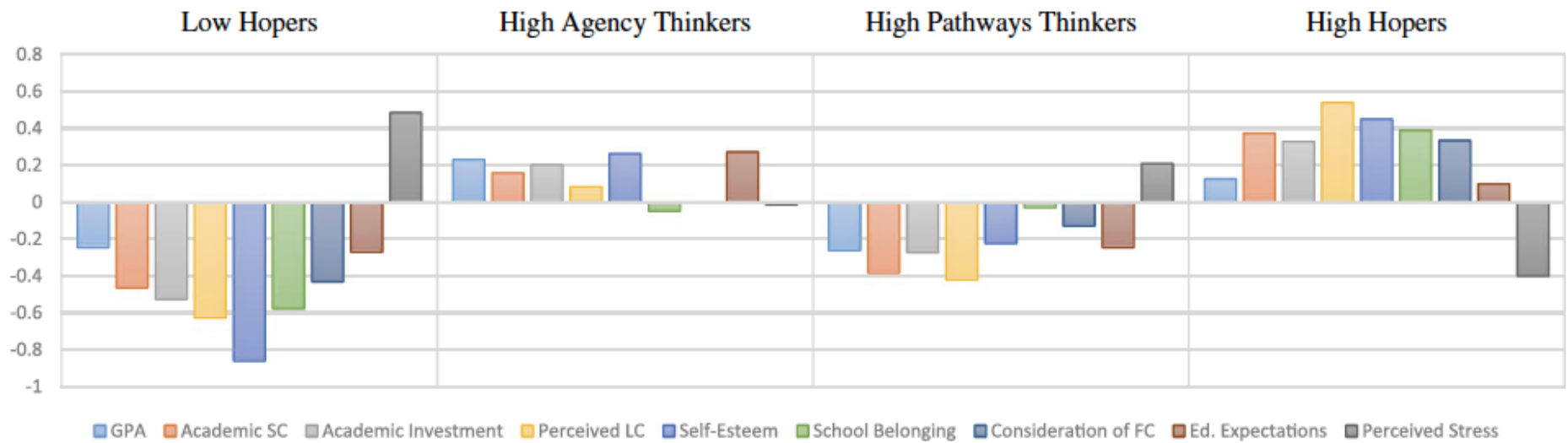
- Sample

- 447 adolescents ($\text{Mean}_{\text{age}} = 15, \text{SD} = 1.28$)



Hope Profiles: Study I

Dixson et al. (2017): 297 Adolescents



Hope Profiles: Study 2a

(Dixon, 2019)

- 447 (53.3% male) high school students ($M_{age} = 16$)

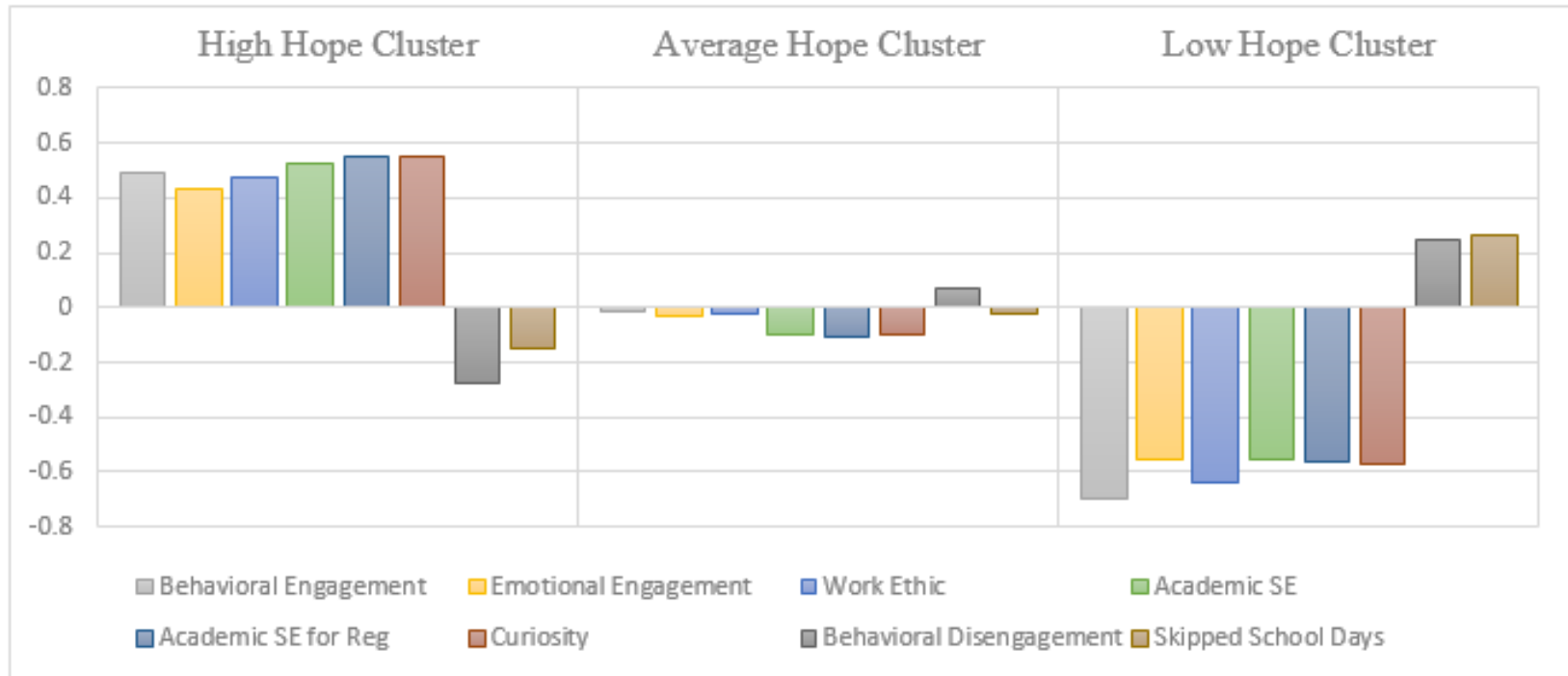


Figure 1. Z Score Differences of Hope Clusters Based on Behavioral Variables in the High School Sample.

Hope Profiles: Study 2b

(Dixon, 2019)

- 375 (70.1% male) college students ($M_{age} = 21$)

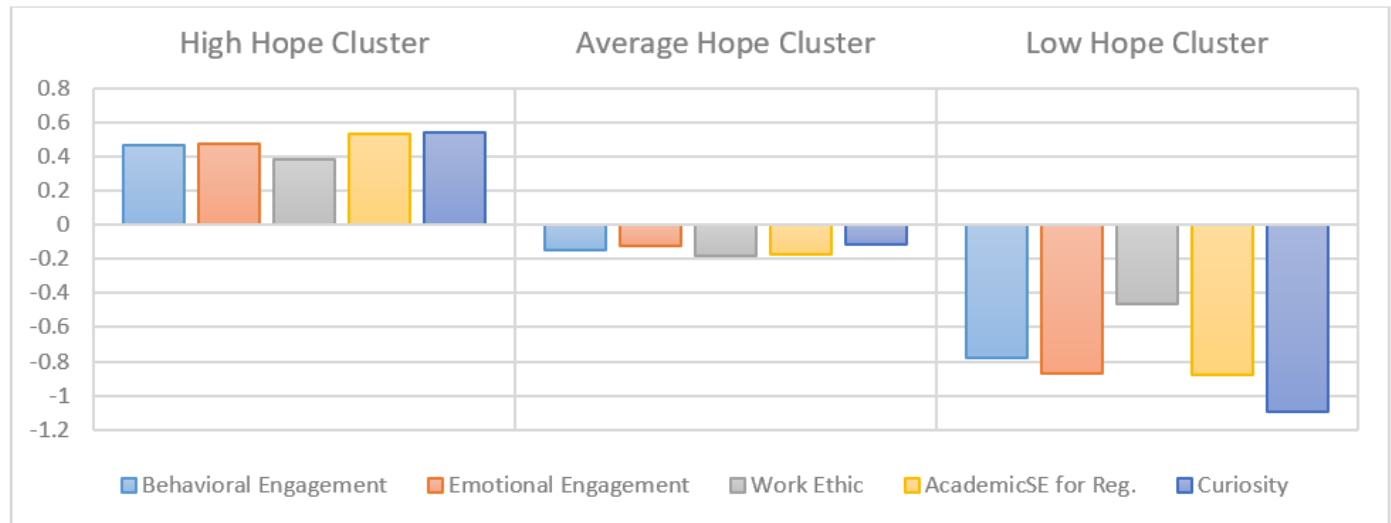


Figure 2. *Z Score Differences of Hope Clusters Based on Behavioral Variables in the College Sample.*

Affect toward the three time periods:

Positive and negative feelings toward the past, present, and future.



TIME ATTITUDES

Six Time Attitudes

Past Positive:

My past is full of happy memories.”

Past Negative:

“My past makes me sad.”

Present Positive:

“I am content with the present.”

Present Negative:

“My current life worries me.”

Future Positive:

“My future makes me smile.”

Future Negative:

“Thinking ahead is pointless.”

AATI is Available in Several Languages

*Presented but not yet published

Albanian

Amharic (Ethiopia)

Chinese*

English

- New Zealand, Nigeria, Northern Ireland, Scotland, Singapore*, United States

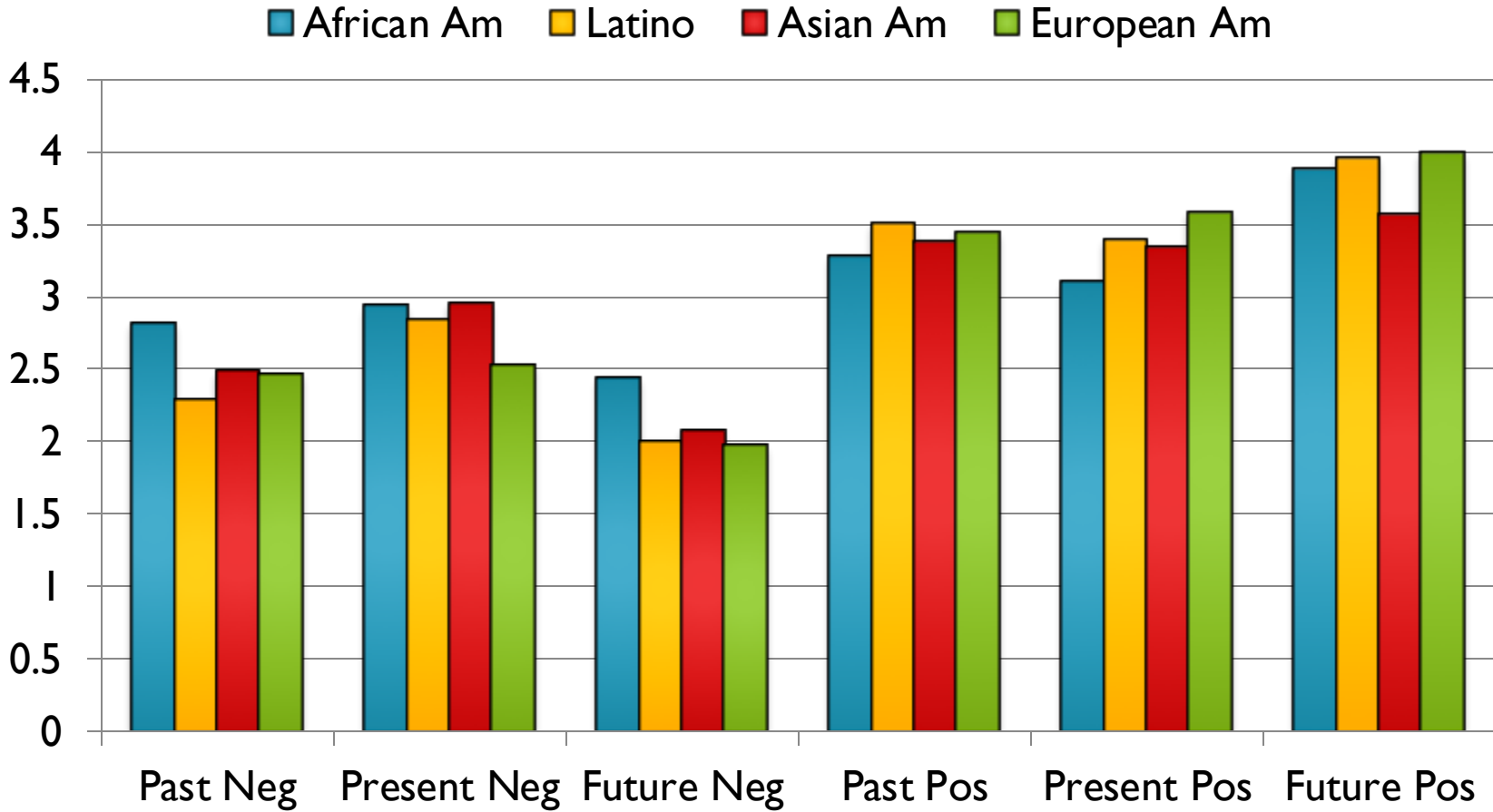
Farsi (Iran)*

German

Italian

- Japanese
- Polish (in press)
- Slovene
- Spanish
 - Peru*, Spain
- Swedish (pilot)
- Rio de la Plata Spanish
 - Uruguay
- Traditional Chinese
 - In preparation
- Turkish

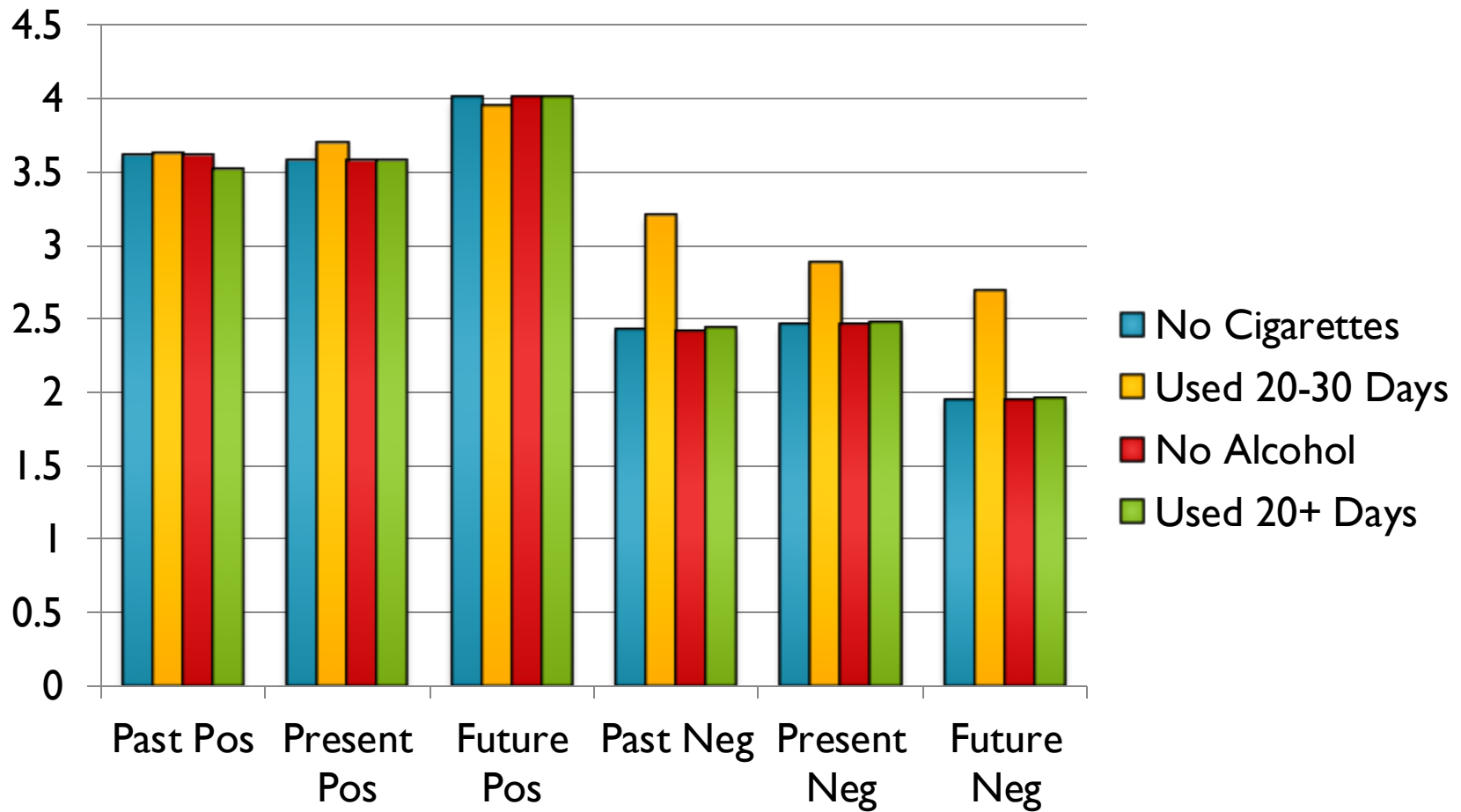
Ethnic Group Differences



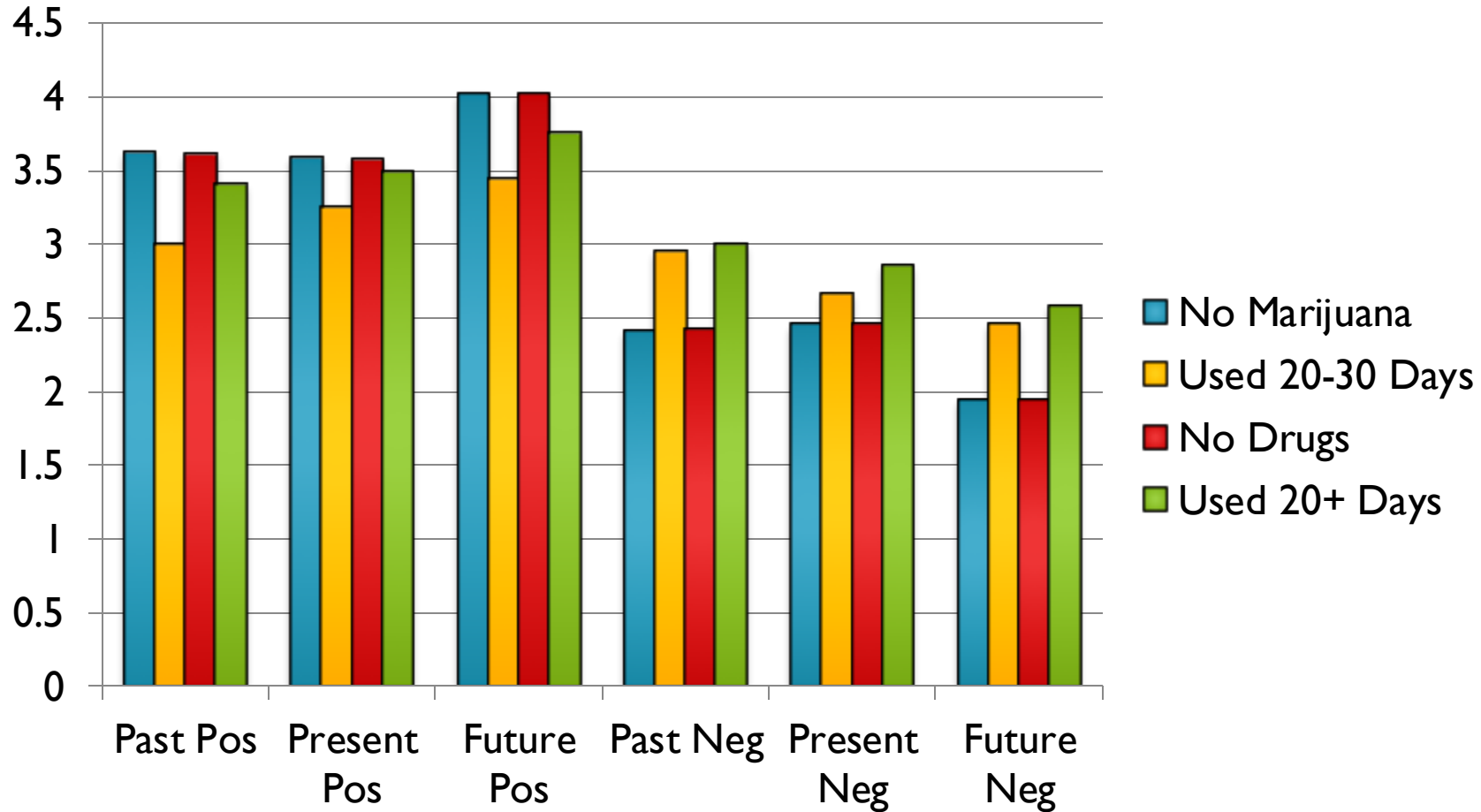
Differences between adolescents
using substances and those not using.

US SAMPLE

Use Cigarettes and Alcohol in School in Last 30 Days ($N = 1,500$)



Use Marijuana and Other Illegal Drugs in School in Last 30 Days ($N = 1,500$)





**PERSON-CENTERED
ANALYSES:**

**CLUSTERS AND LATENT
PROFILES:**

ATI-TA Clusters

| | US 2013, 2014 | New Zealand 2013 | UK 2016-1 | UK 2016-2 | Slovenia (2017) | US In press | Singapore (in prep) |
|---------------------|---------------------|------------------------|--------------|--------------|--------------------|----------------|------------------------|
| Positives (7/7) | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Negatives (7/7) | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Pessimists (7/7) | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Optimists (3/7) | Yes | Yes | No | No | No | No | Yes |
| Ambivalent (3/7) | No | No | Yes | Yes | No | Yes | No |
| Past Negs (3/7) | No | No | Yes | Yes | Yes | No | No |
| Balanced (2/7) | Yes | No | Yes | No | No | No | No |
| Pres Negs (1/7) | No | No | No | No | Yes | No | No |

ATI-TA Latent Profiles

| | Germany 2009 | UK 2017, 2018 | US 2016 | Singapore (in prep) |
|-----------------------------|-----------------|---------------------|------------|------------------------|
| Positives (4/4) | Yes | Yes | Yes | Yes |
| Ambivalent (4/4) | Yes | Yes | Yes | Yes |
| Negatives (3/4) | Yes | Yes | No | Yes |
| Optimists (1/4) | Yes | No | No | No |
| Balanced (2/4) | Yes | No | No | Yes |
| Pessimists (2/4) | Yes | Yes | No | No |
| Conflicted (1/4) | No | No | Yes | No |
| Negative Futures (1/4) | No | Yes | No | No |
| Past Pos/Pres Negs (1/4) | No | No | No | Yes |

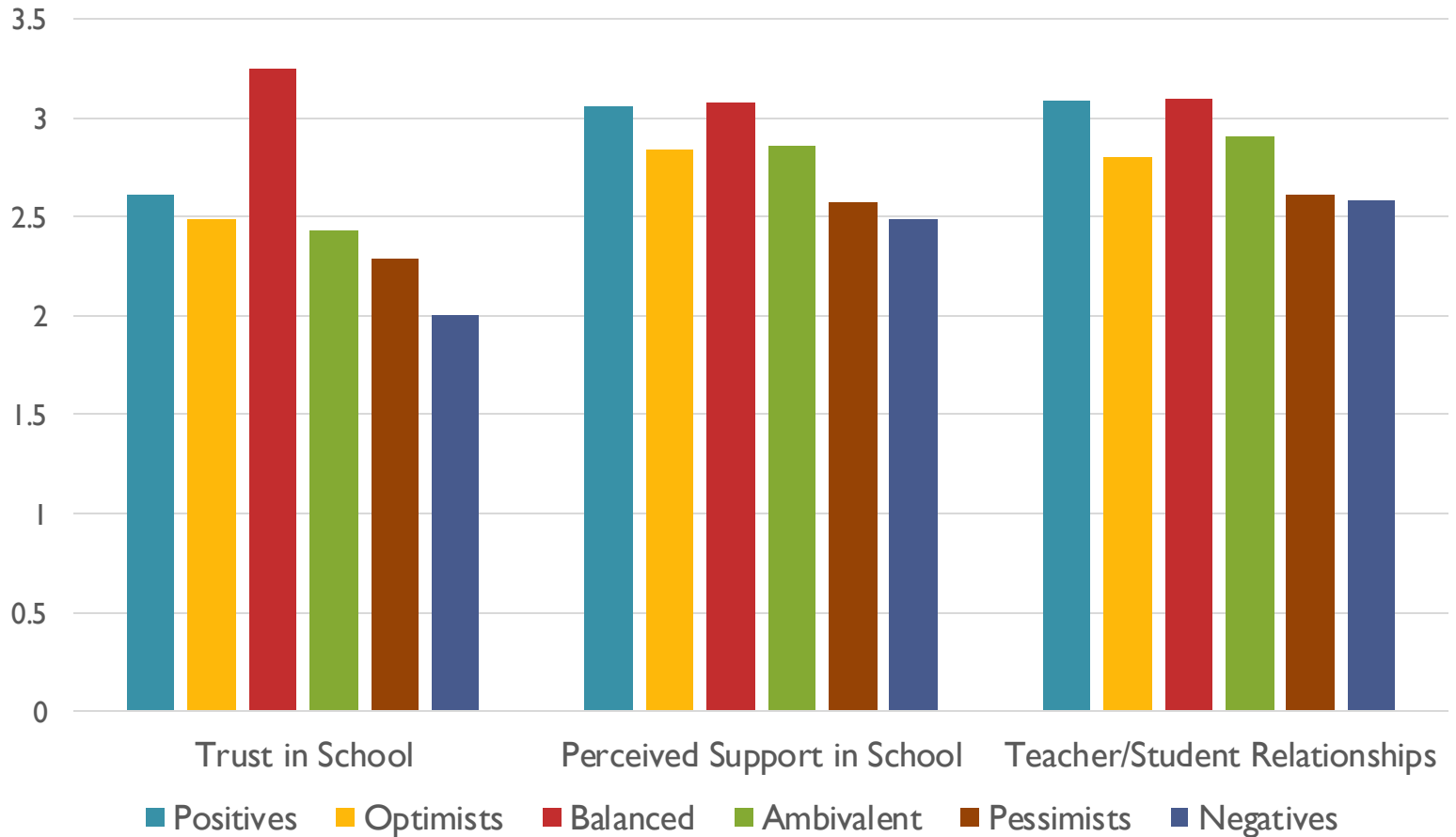


EDUCATION OUTCOMES

Buhl and Linder (2009)

Germany

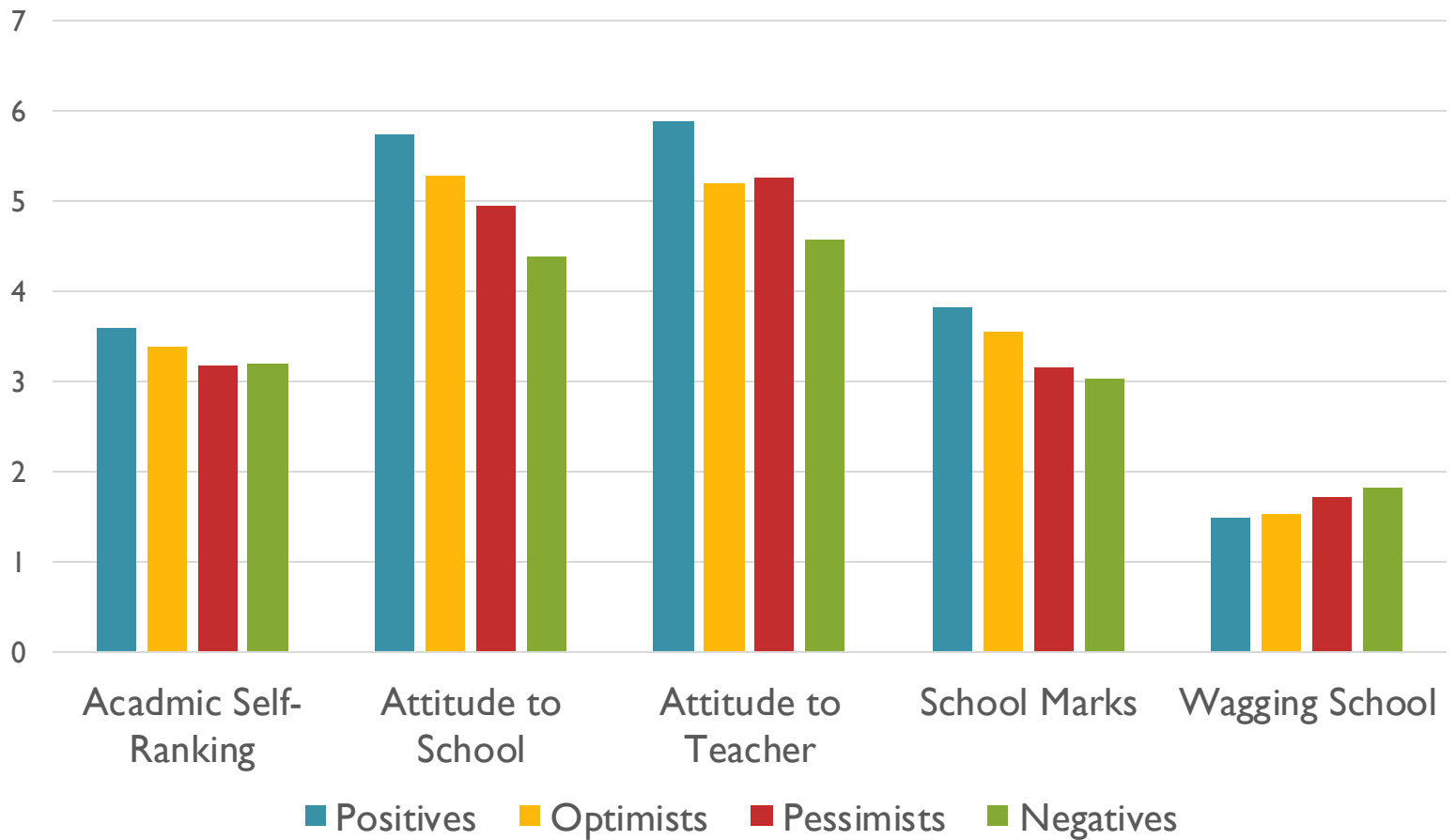
Education Outcomes



Alansari et al. (2013)

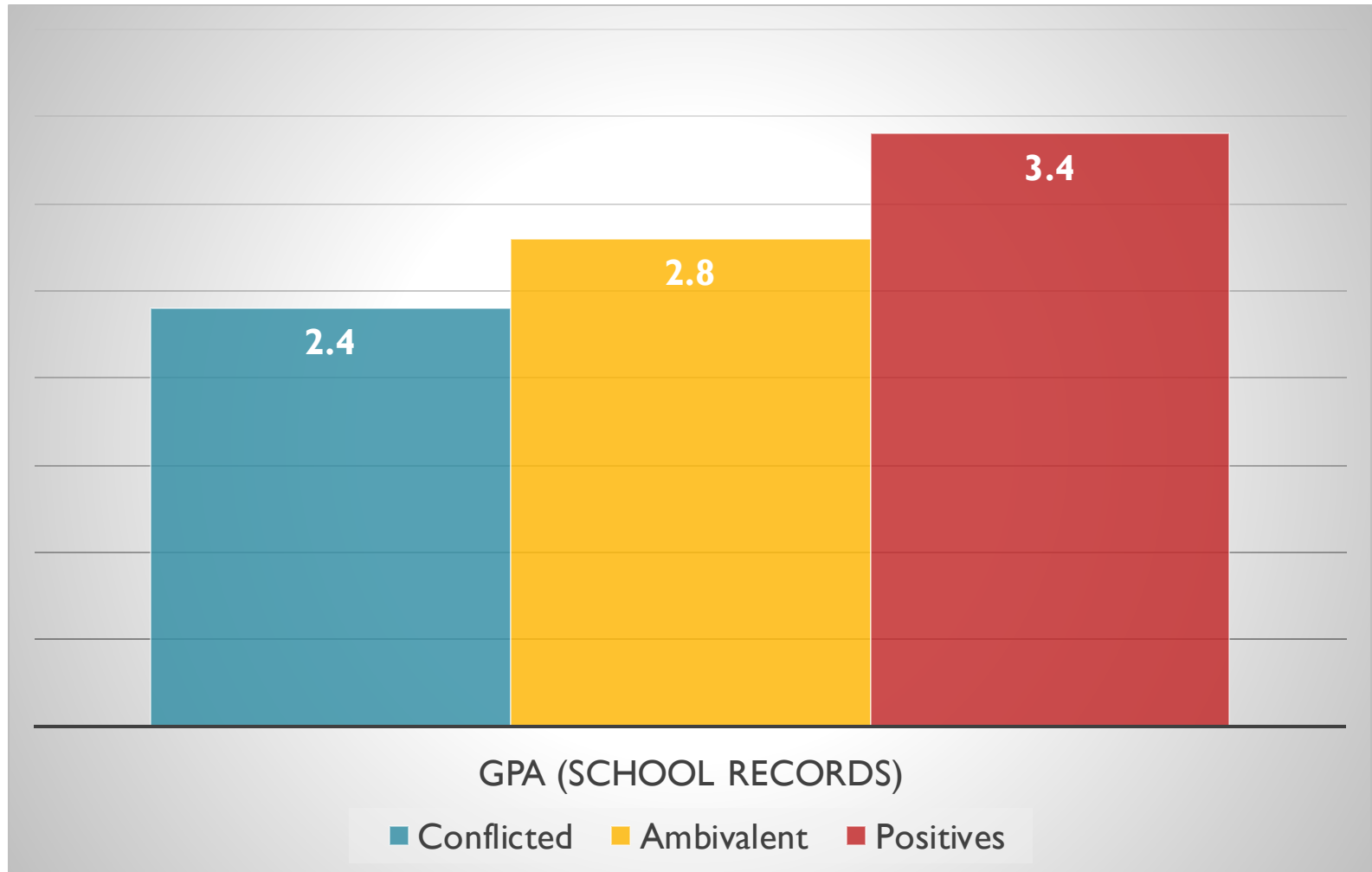
New Zealand

Education



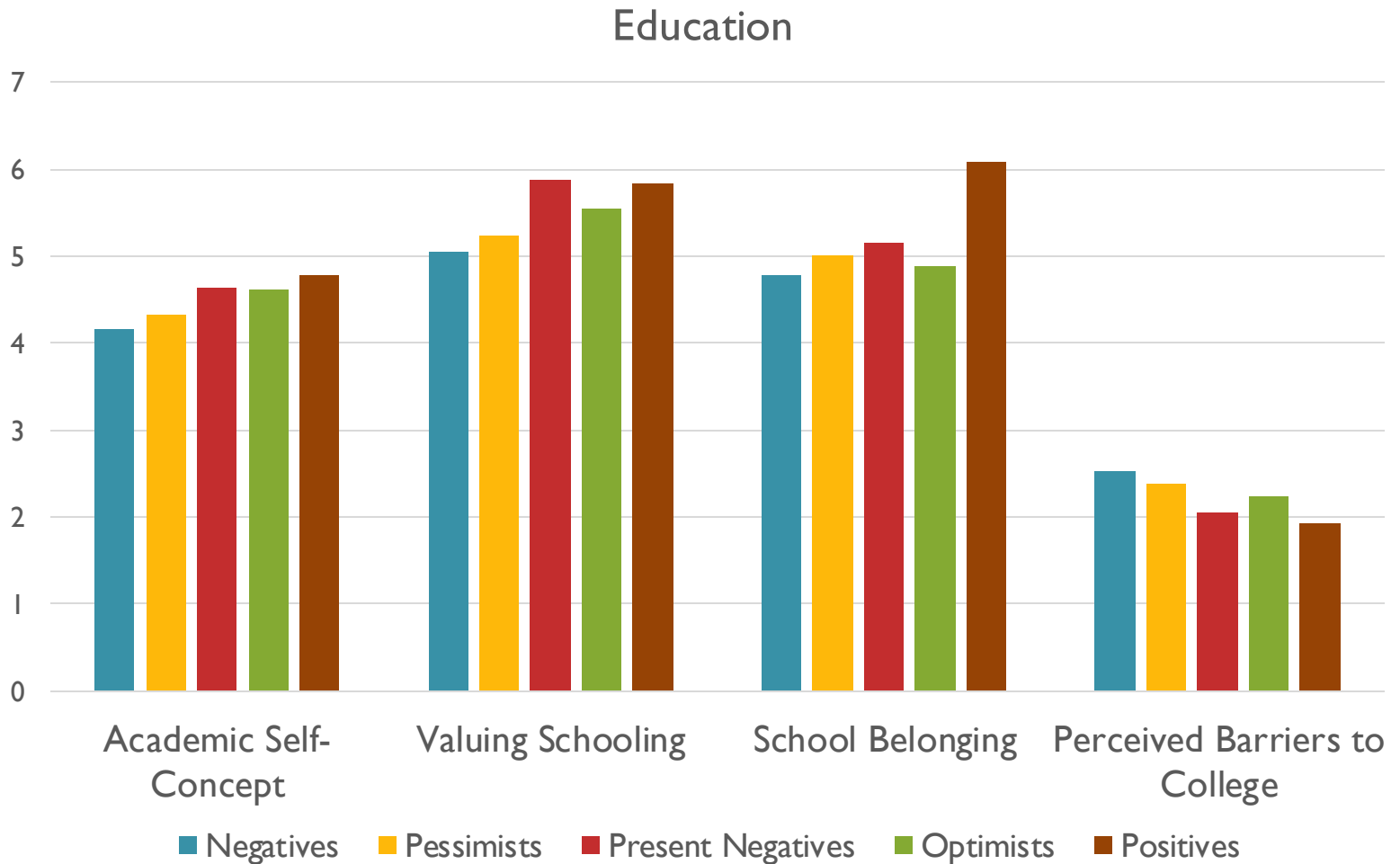
Prow et al. (2016)

United States



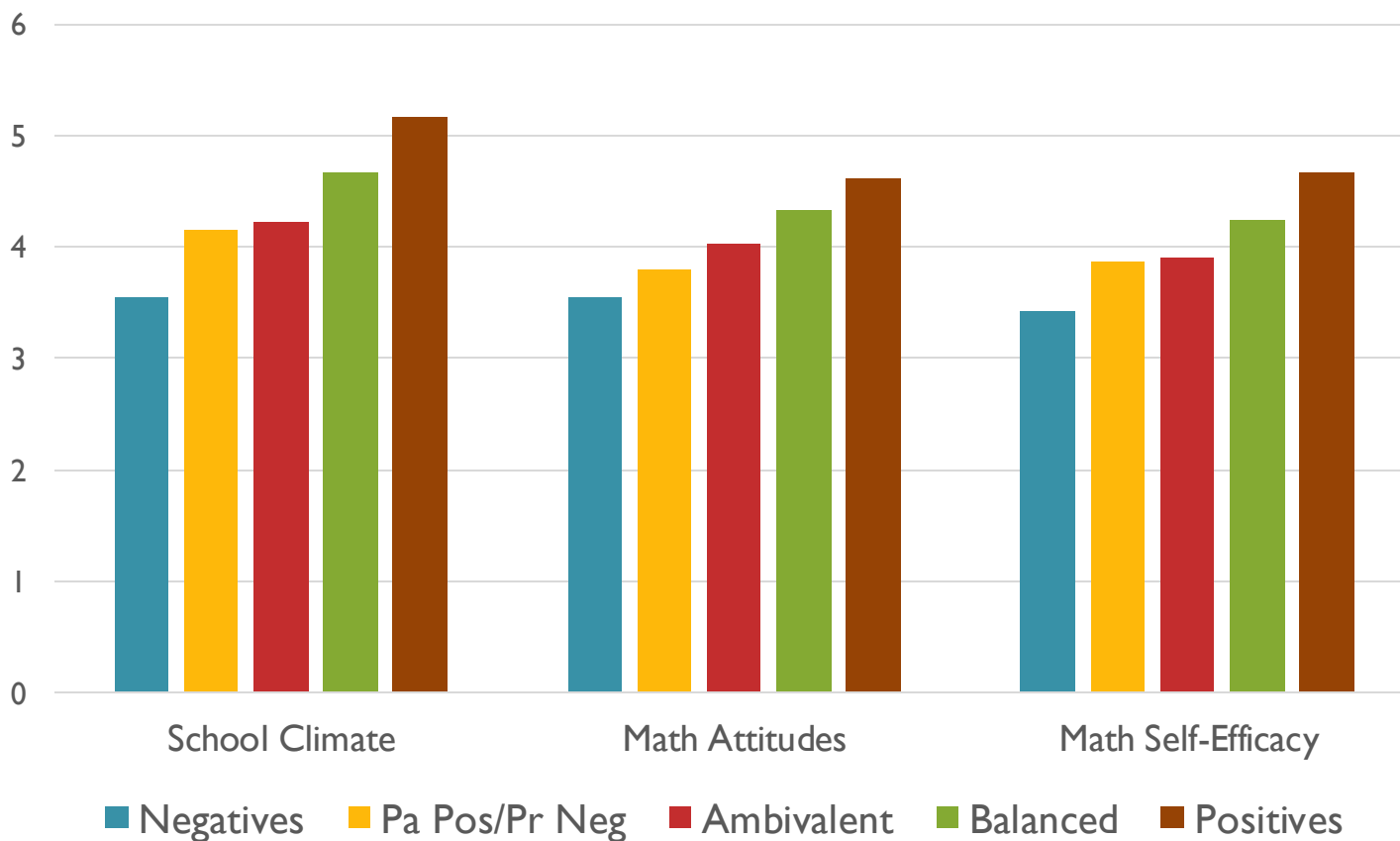
Worrell & Andretta (2019): Study I

United States



Worrell et al. (in preparation)

Singapore



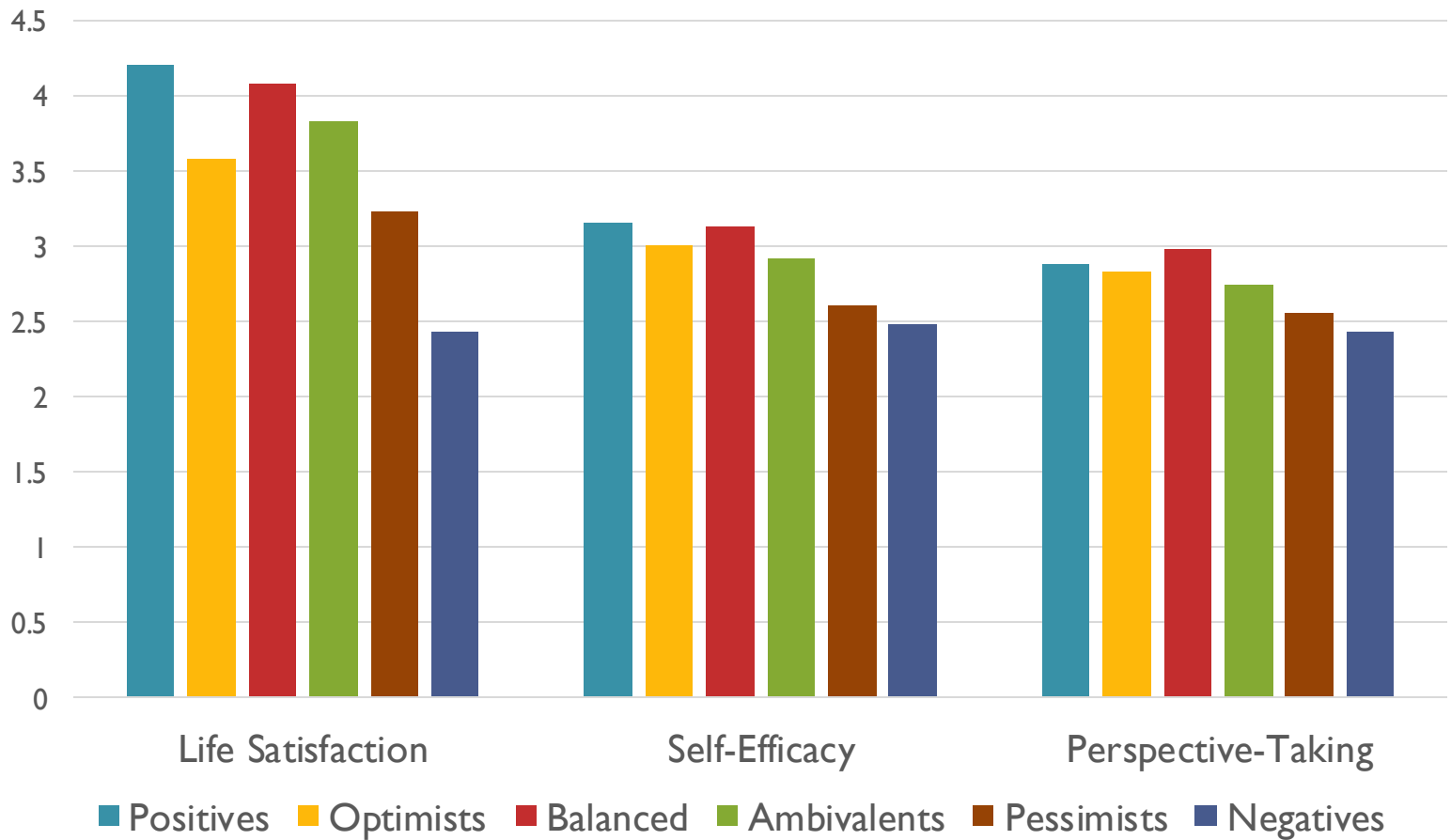


PSYCHOLOGICAL CONSTRUCTS

Buhl and Linder (2009)

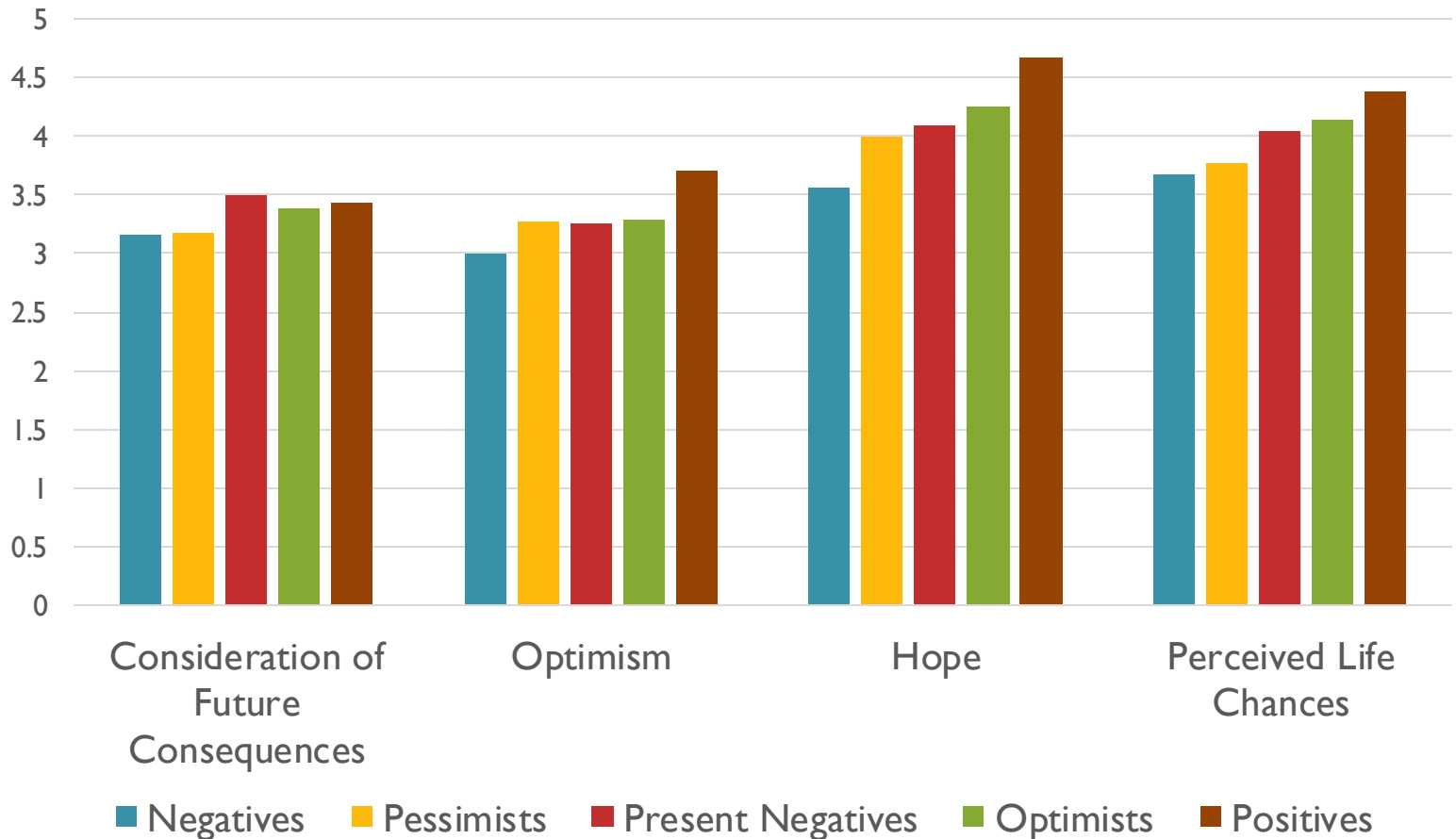
Germany

Psychological



Worrell & Andretta (2019): Study I United States

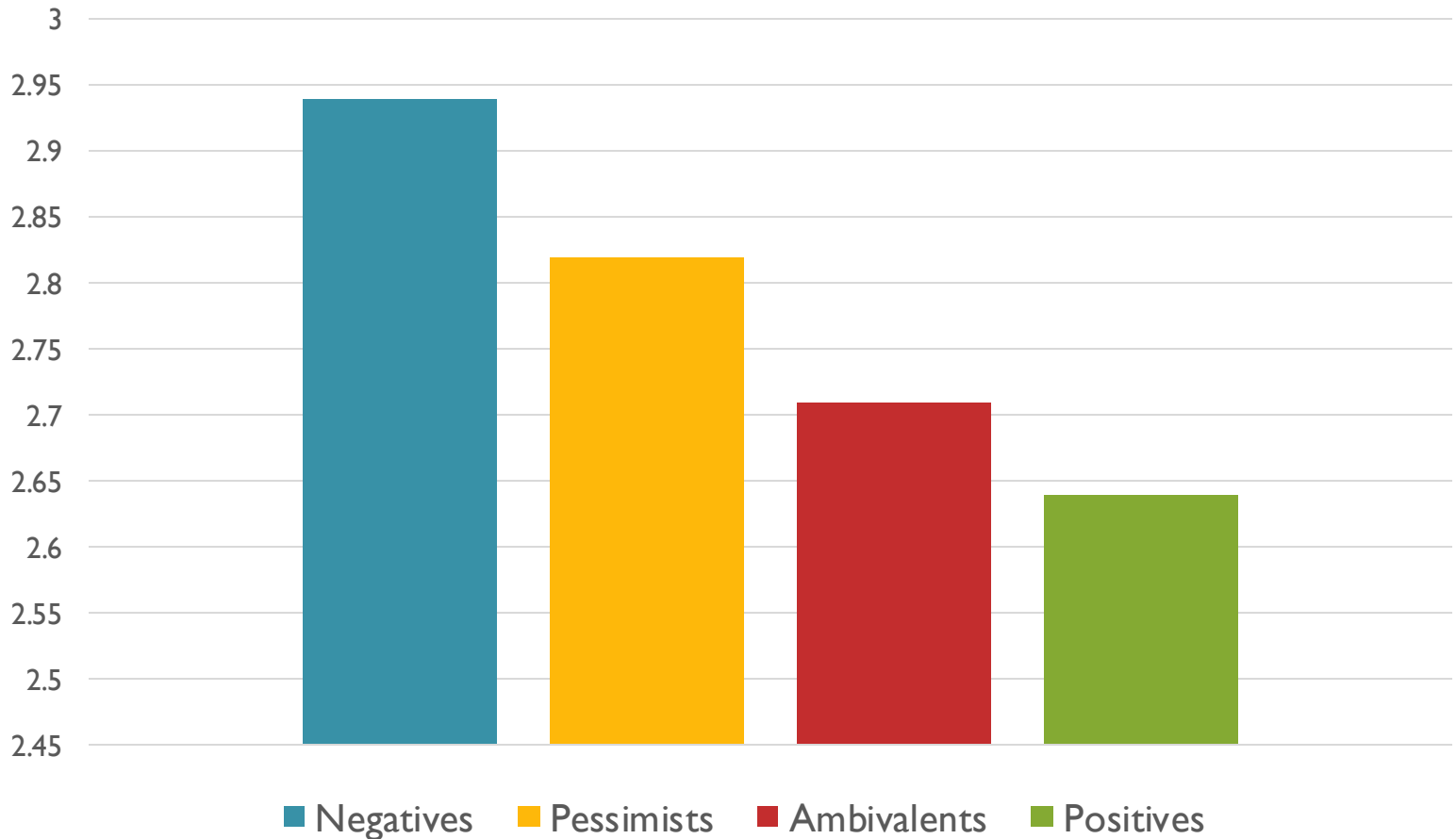
Psychological: Other Time Constructs



Worrell & Andretta (2019): Study 2

United States

Hopelessness





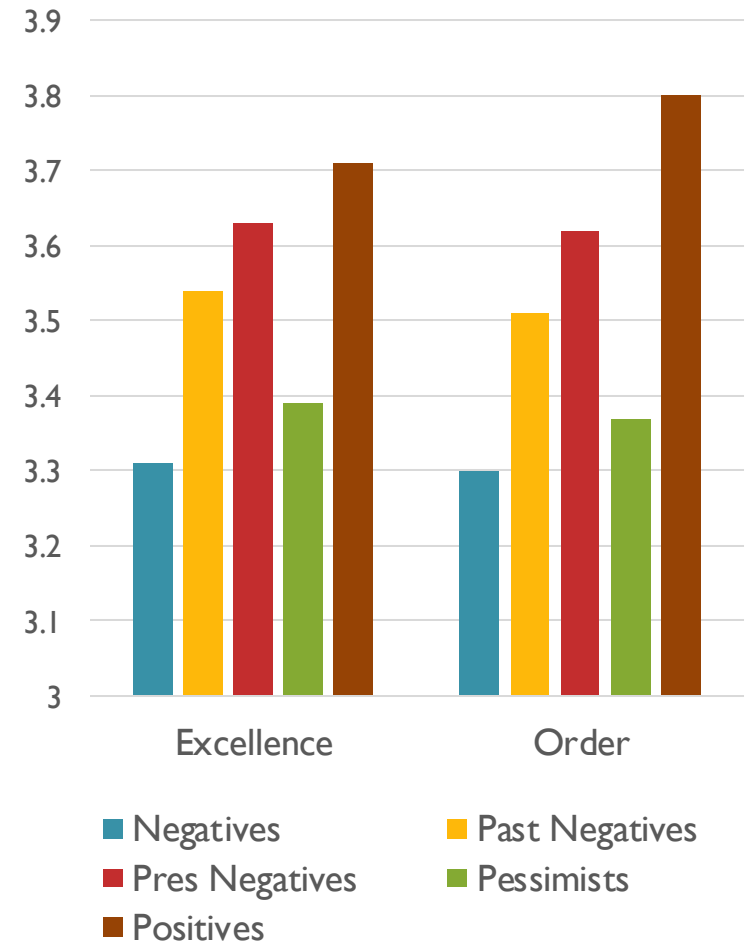
 **RESULTS FROM SLOVENIA**

IN PREPARATION

Adaptive Perfectionism (d_{corr})

Excellence & Order

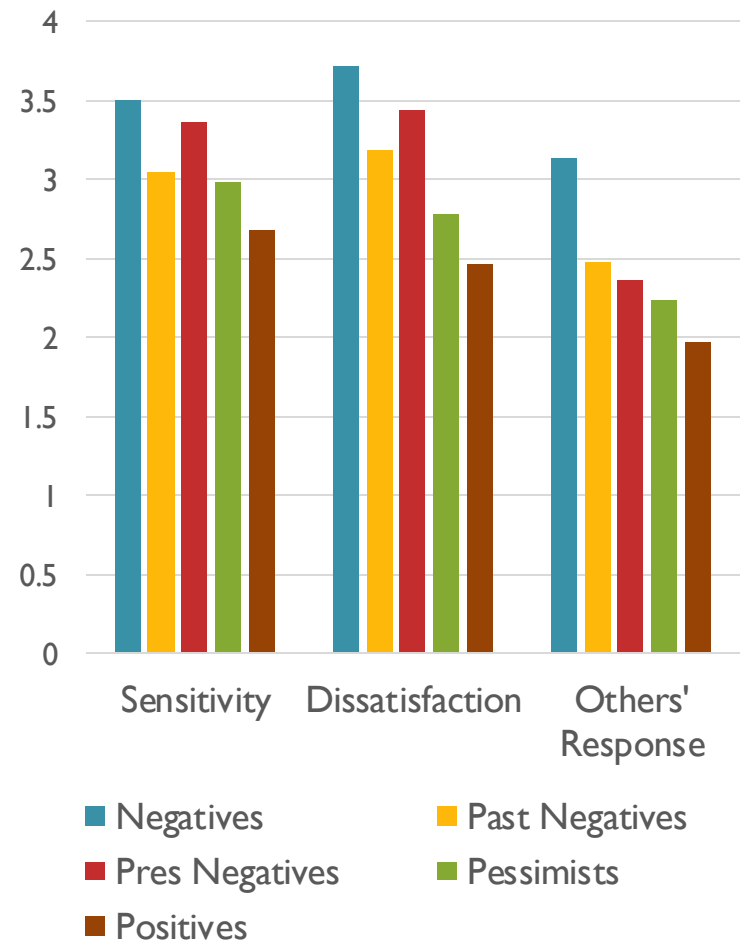
- Excellence
 - Pos to Pess (.43)
 - Pos to Negs (.52)
- Order
 - Pos to Pess (.66)
 - Pos to Negs (.77)



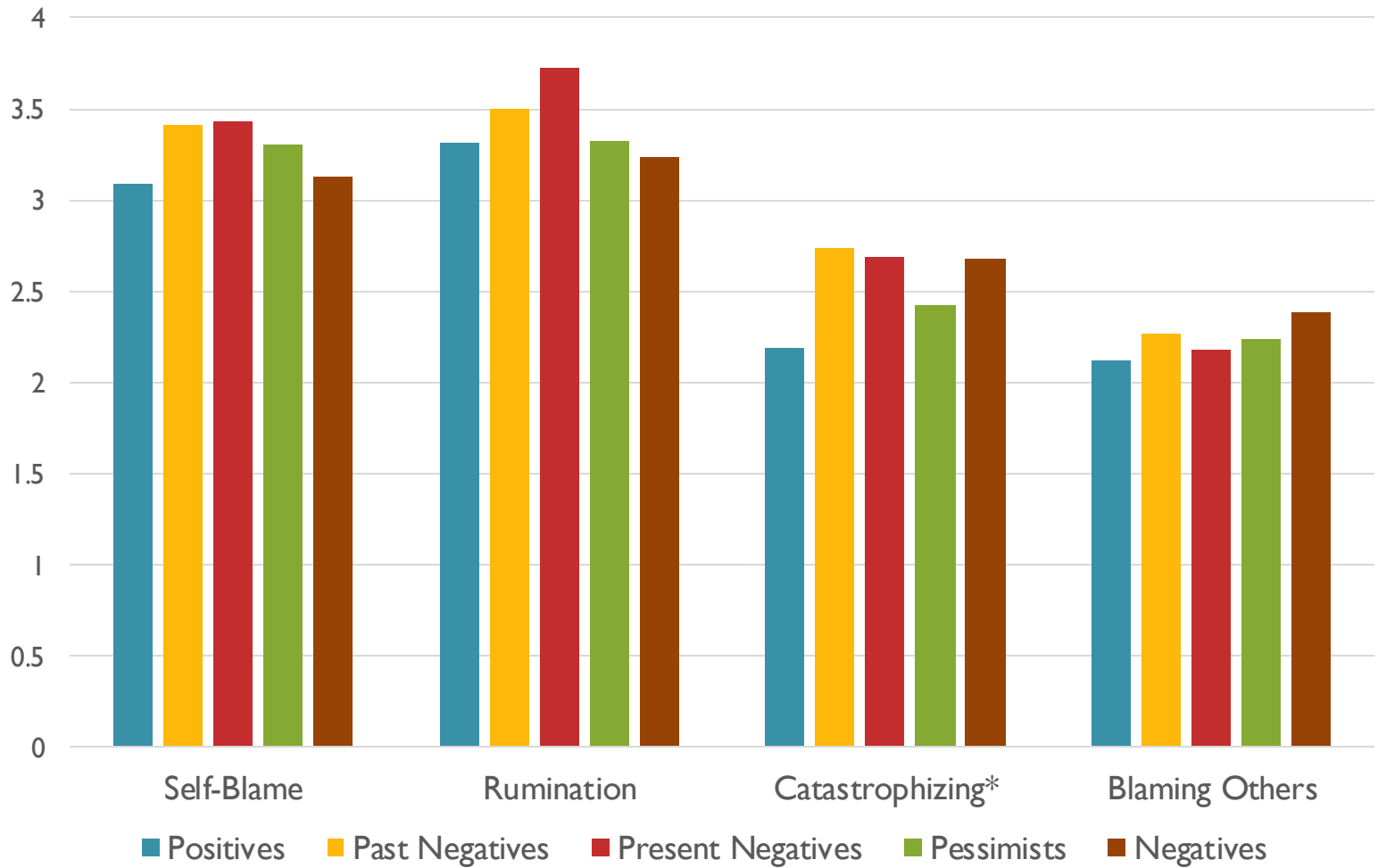
Maladaptive Perfectionism (d_{corr})

Sensitivity, Dissatisfaction, & Concern about Other's Responses

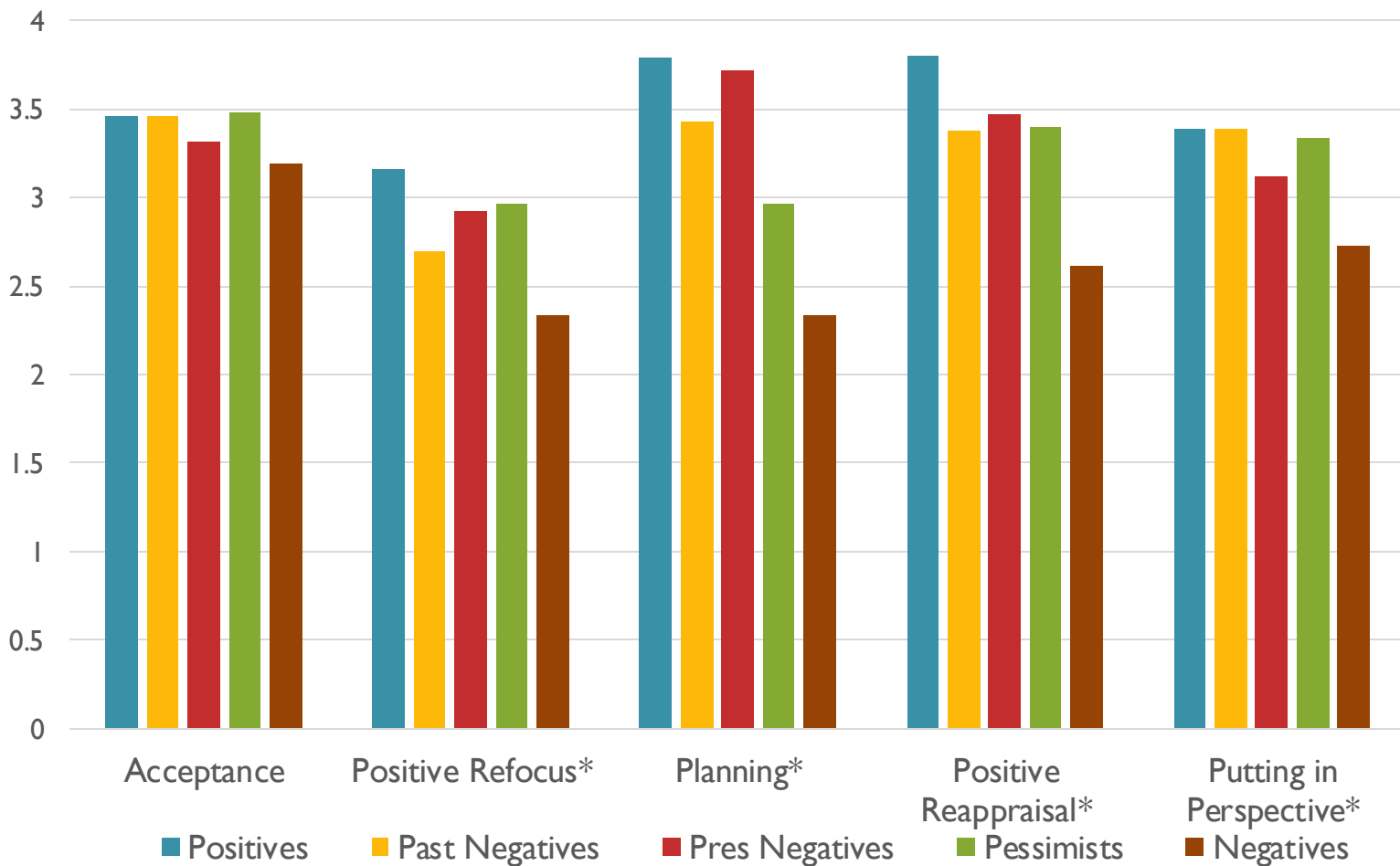
- Sensitivity
 - Negs to Past Negs (-.45), Pess (-.59), Pos (-1.03)
- Dissatisfaction
 - Negs to Pres Negs (-.33), Past Negs (-.60), Pess (-1.19), and Pos (-1.62)
 - Pr Negs to Pess (-.84), Pos (-1.26)
 - Past Negs to Pess (-.50), Pos (-.91)
- Concern about Others' Responses
 - Negs to Pa Negs (-.70), Pres Negs (-.99), Pess (-1.16), Pos (-1.56)
 - Pa Negs to Pos (-.65)



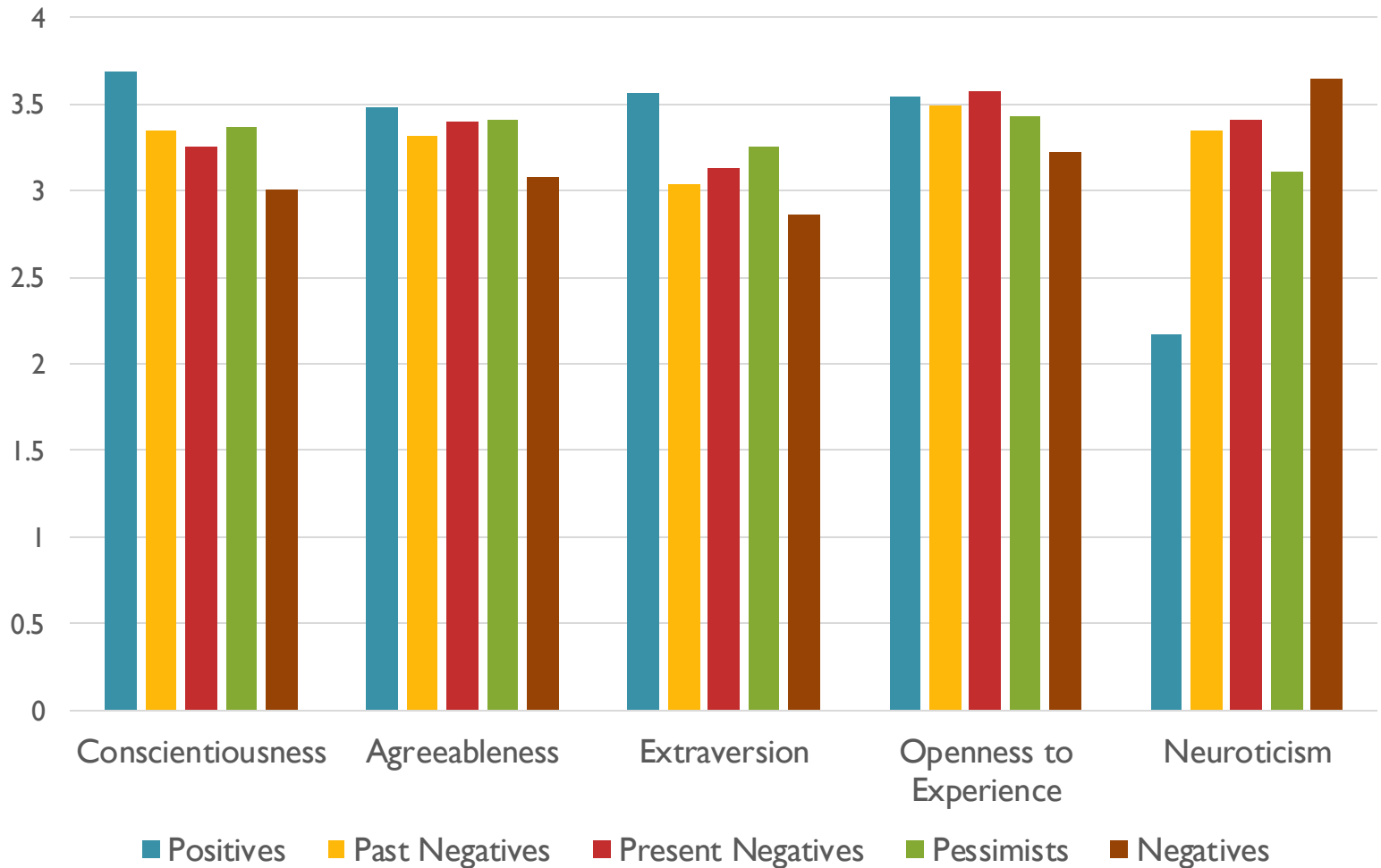
Maladaptive Coping



Adaptive Coping



Big 5 Personality Traits



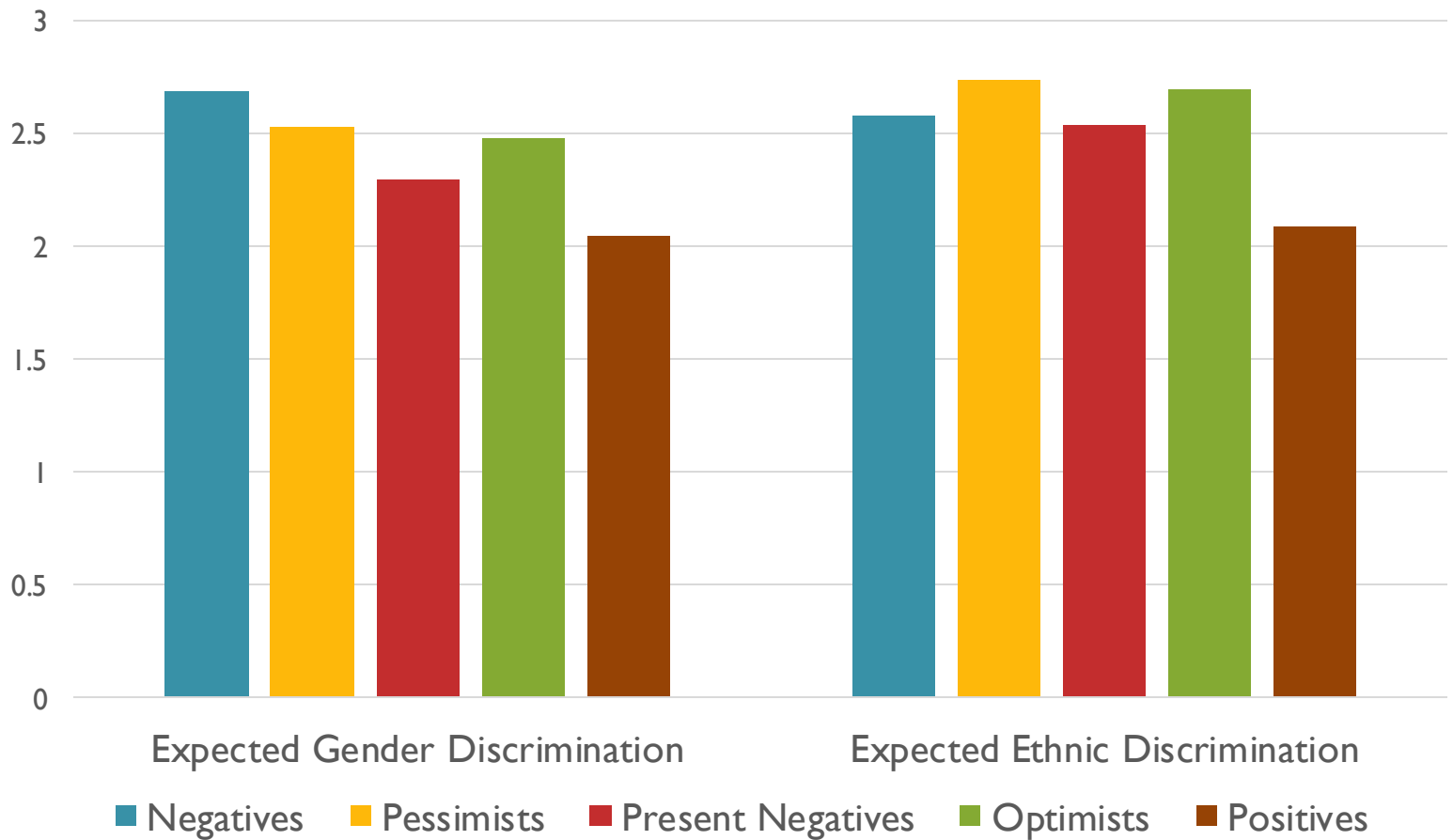


CULTURAL CONSTRUCTS

Worrell & Andretta (2019): Study I

United States

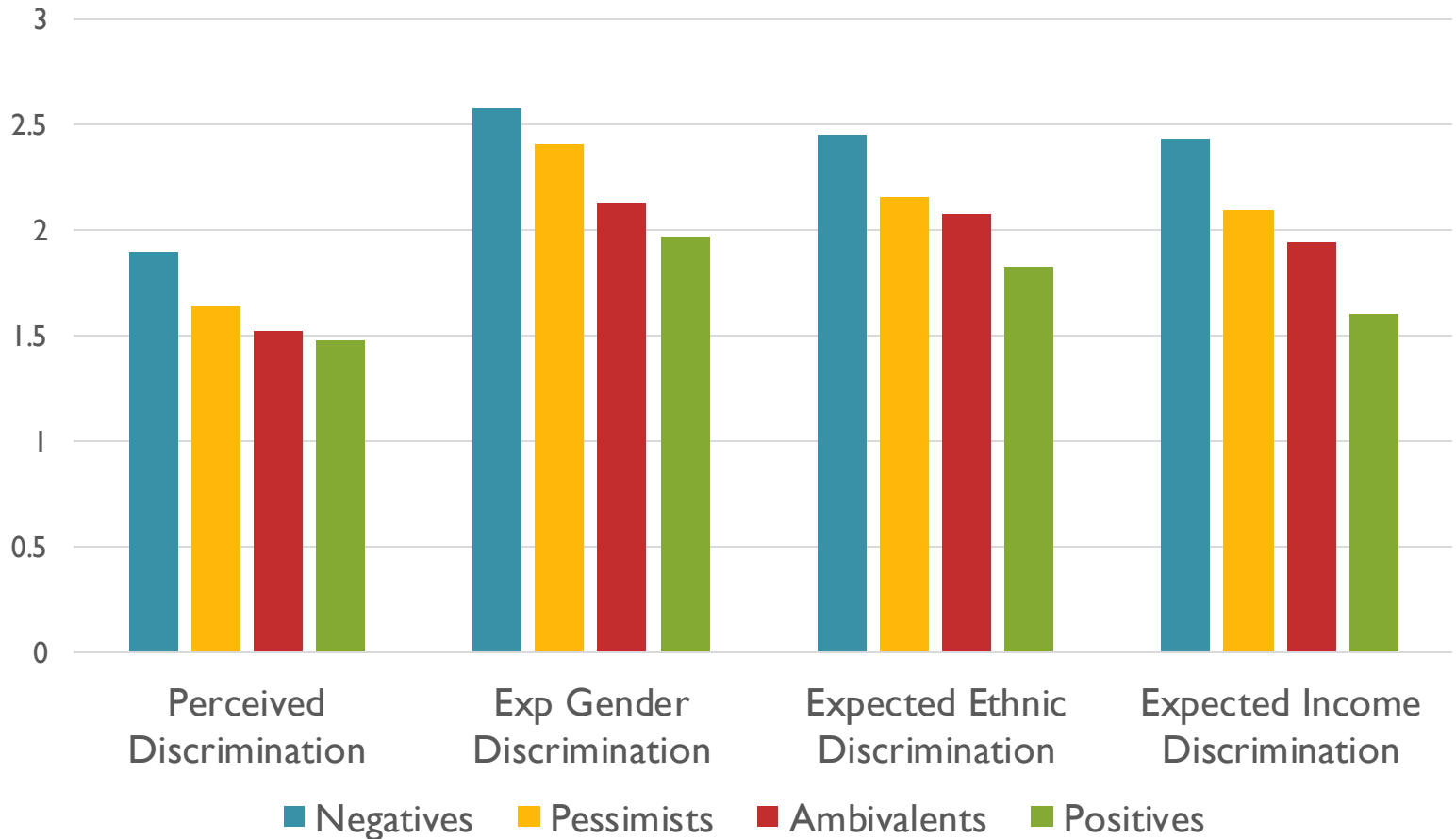
Cultural Constructs



Worrell & Andretta (2019): Study 2

United States

Cultural Constructs



Wells et al. (2018): 1 year

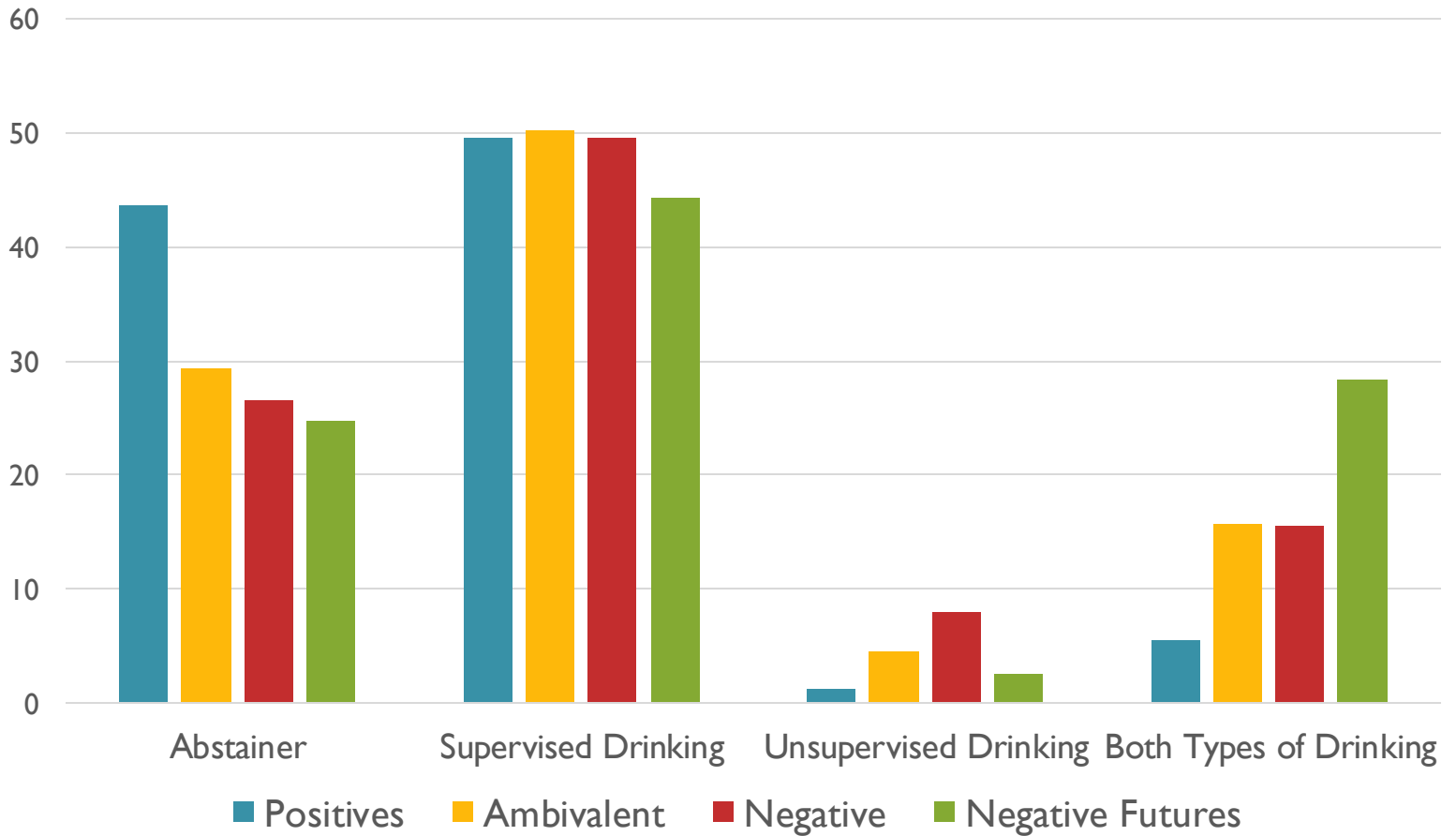
Wells et al. (2018): 2 years

McKay et al. (2018); 2 years

° **PROFILES AND
LONGITUDINAL
OUTCOMES:
SUBSTANCE USE
SELF-EFFICACY**

United Kingdom (Alcohol Use)

Stayers (12.5 to 13.5 Years Old)



McKay et al. (2018)

United Kingdom (Longitudinal – 2 years)

- Staying Positive associated with a lower likelihood of ever having used cannabis compared to staying Negative, Mod-Negative or Ambivalent ($d > -3.08$).
- Staying Positive associated with a lower likelihood of ever having smoked compared to staying Negative, Mod-Negative, or Ambivalent ($d > 2.2$).
- Moving to Positive (from Negative) associated with a significantly lower likelihood of lifetime smoking.
- Moving to Negative was associated with an increased likelihood of lifetime smoking.

Wells et al. (2018): 2-Years

Academic Self-Efficacy

- Staying in Positive profile associated with increase in Academic SE ($d = 0.64$).
- From Ambivalent to Negative ($d = -0.87$)
- From Mod Neg to Neg ($d = -0.87$)
- From Neg to Mod Neg ($d = -0.44$)

Wells et al. (2018): 2-Years

Emotional Self-Efficacy

- Staying in Positive profile associated with an increase in Emotional SE ($d = 0.40$).
- From Ambivalent to Positive ($d = 0.60$).
- From Mod Neg to Positive ($d = 0.54$)
- From Ambivalent to Negative ($d = -0.85$)
- From Neg to Mod Neg ($d = -1.06$)
- From Mod Neg to Negative ($d = -0.45$)

Wells et al. (2018): 2-Years

Social Self-Efficacy

- Staying in Positive profile associated with an increase in Social SE ($d = 0.51$).
- From Ambivalent to Positive ($d = 0.51$).
- From Mod Neg to Positive ($d = 0.60$).
- From Ambivalent to Negative ($d = -0.89$)
- From Mod Neg to Neg ($d = -0.89$)

Tejada-Gallardo et al. (2021)

Positive Psychology Intervention Study: Spain

- Participants consisted of 220 adolescents ($M = 14.98$; 47.3% female) from two Spanish high schools.
- Time attitudes and well being assessed
- Five profiles found: Negative, Present/Future Negative, Past Negative, Optimistic, Positive).
- Adolescents in intervention group were more likely to transition to the optimistic & positive profile and reported higher well-being.

Concluding Thoughts I

- No silver bullets or magic wands.
- Researchers need to work **with** students, teachers, principals, schools, parents, and society on academic, behavioral, social, and psychosocial interventions.
- Constructs need to be operationalized, validated, and **assessed** before being recommended for general use.
- Governments need to spend education dollars more wisely.

Concluding Thoughts 2

- “When the have nots gain but the haves gain even more”
 - Ceci & Papierno (2005)
- “Reducing the achievement gap” versus “Raising the achievement floor”
- What needs to change?
- When should we make strong claims about impact?
- Researchers need intellectual humility.

Avoiding Deficit Perspectives

- Students
 - Not focusing on negative stereotypes.
 - Looking for strengths to build on.
 - Starting from the assumption that every student we work with can learn and grow.
- Colleagues, Schools, and Society
 - Adopt the same non-deficit perspectives with regard to the system.
 - Too often focus on what is not right and ignore what is going well.

LET AMERICA BE AMERICA AGAIN

Langston Hughes (1936)

Let America be America again,
(America never was America to me.)
I am the poor White, fooled and pushed apart,
I am the Negro bearing slavery's scars.
I am the red man driven from the land,
I am the immigrant clutching the hope I seek—
And finding only the same old stupid plan
Of dog eat dog, of mighty crush the weak.

THE ROAD NOT TAKEN

Robert Frost (1916)

Two roads diverged in a yellow wood,
And sorry I could not travel both
And be one traveler, long I stood
And looked down one as far as I could
To where it bent in the undergrowth;

....

Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference.

Frank C. Worrell, Ph.D.
University of California, Berkeley
American Psychological Association

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(510) 643-4891

 **THANKS FOR YOUR
ATTENTION.**

QUESTIONS?