Using Developmental Skills & Supports to Improve Youth Outcomes

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MN Youth Development Research Group

www.mnydrg.org

Minnesota Youth Development Research Group

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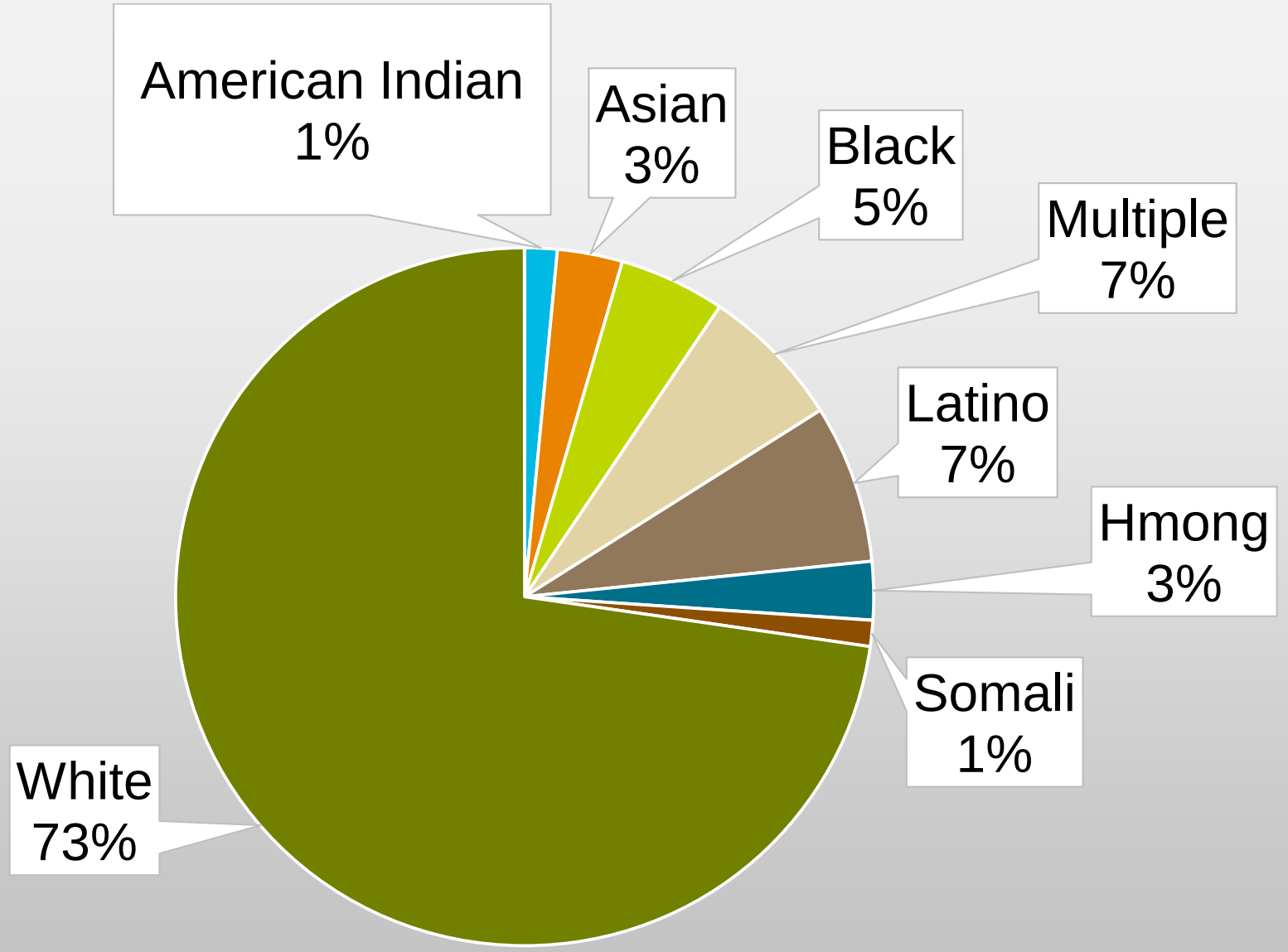
Rigorous Measurement from a Statewide Youth Survey

University of Minnesota

Kory Vue, Michael Rodriguez

- MSS is a rich database for research potential
  - Created by Departments of Education, Health & Human Services, Public Safety, and Corrections
- Survey of students in grades 5, 8, 9, & 11 with three forms (elementary, middle, high school) given every 3 years
- 162,034 students (in 2013)
- The high school form has 336 questions

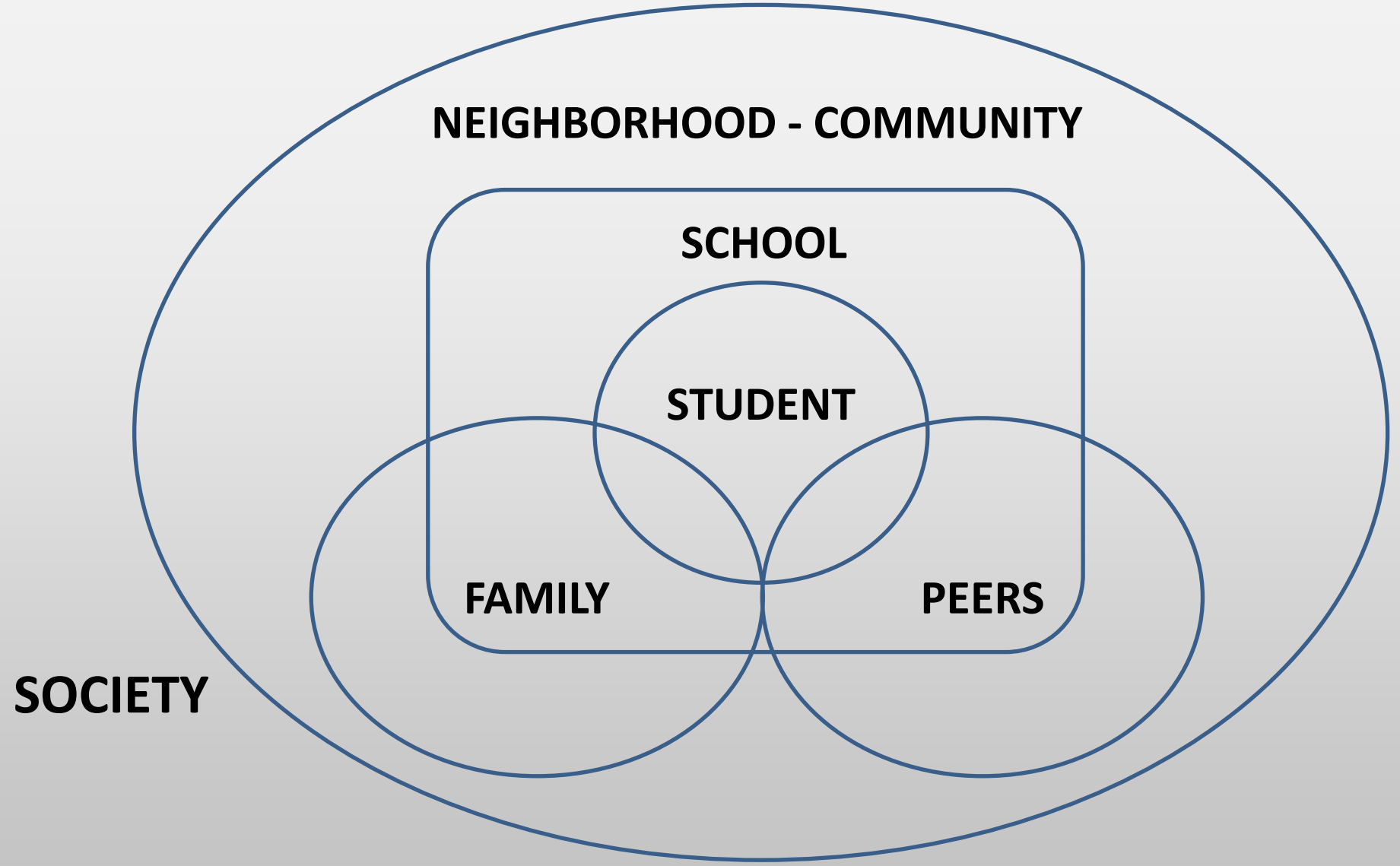
MSS Student Sample



MSS 2013 Participants

- Too many variables (336)
- Item-level data are less meaningful at program, system, and policy levels
- Many districts have limited capacity to work with large databases
- Student group disaggregation is promising
- Composite measures are desired

What we hear from schools



Ecology of Youth Development

- Identify items related to research-based constructs through positive youth development framework and ecological models of development
- Confirmatory Factor Analysis used to test model-data fit
- Calibrate items using Rasch family of measurement models
- Transform estimated scores to support interpretation

Our process

- Demonstrate how items can be used to create meaningful and useful measures to monitor school and district-wide efforts and special programs

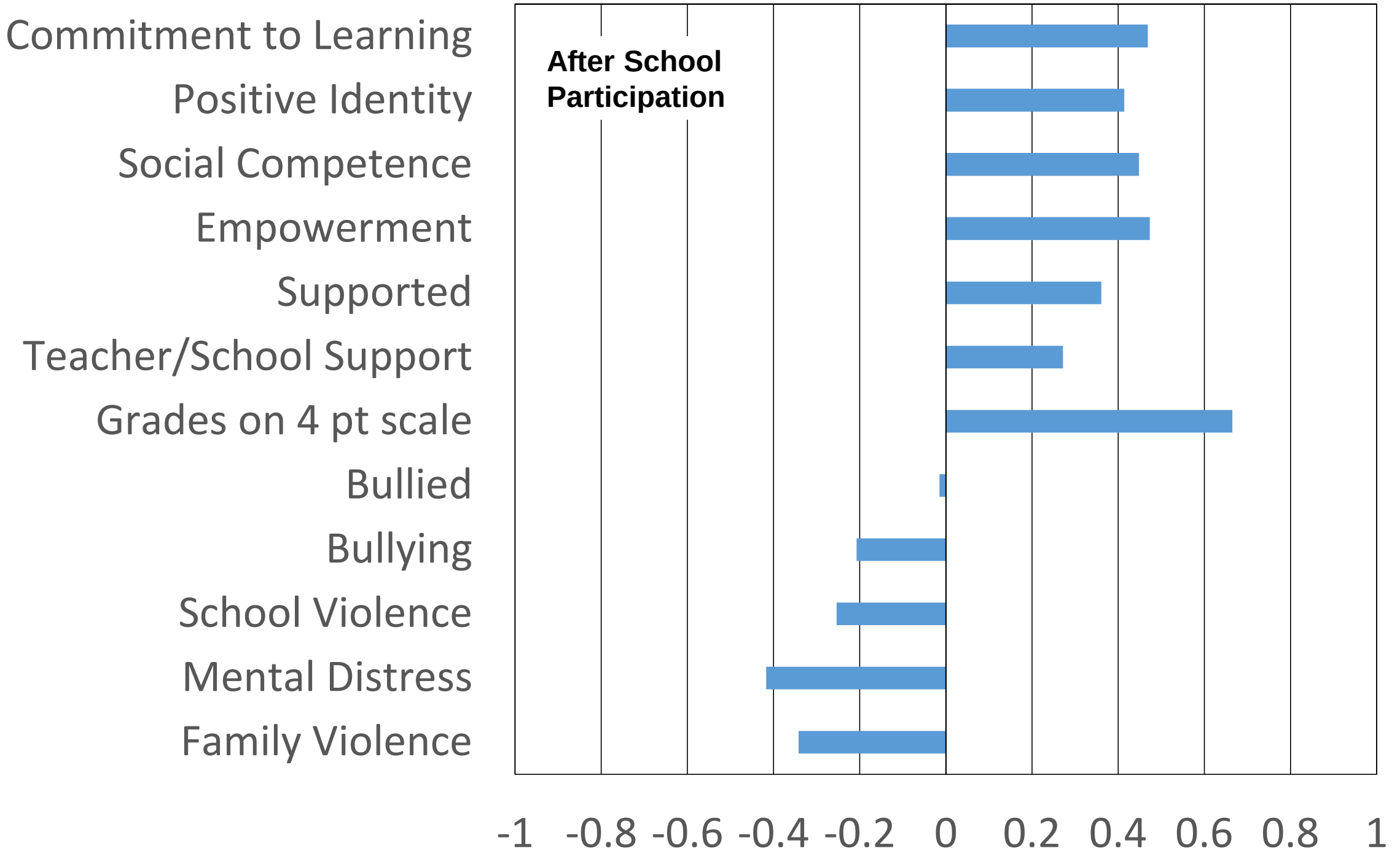
- Provide practical measures to schools regarding developmental skills, supports, and challenges

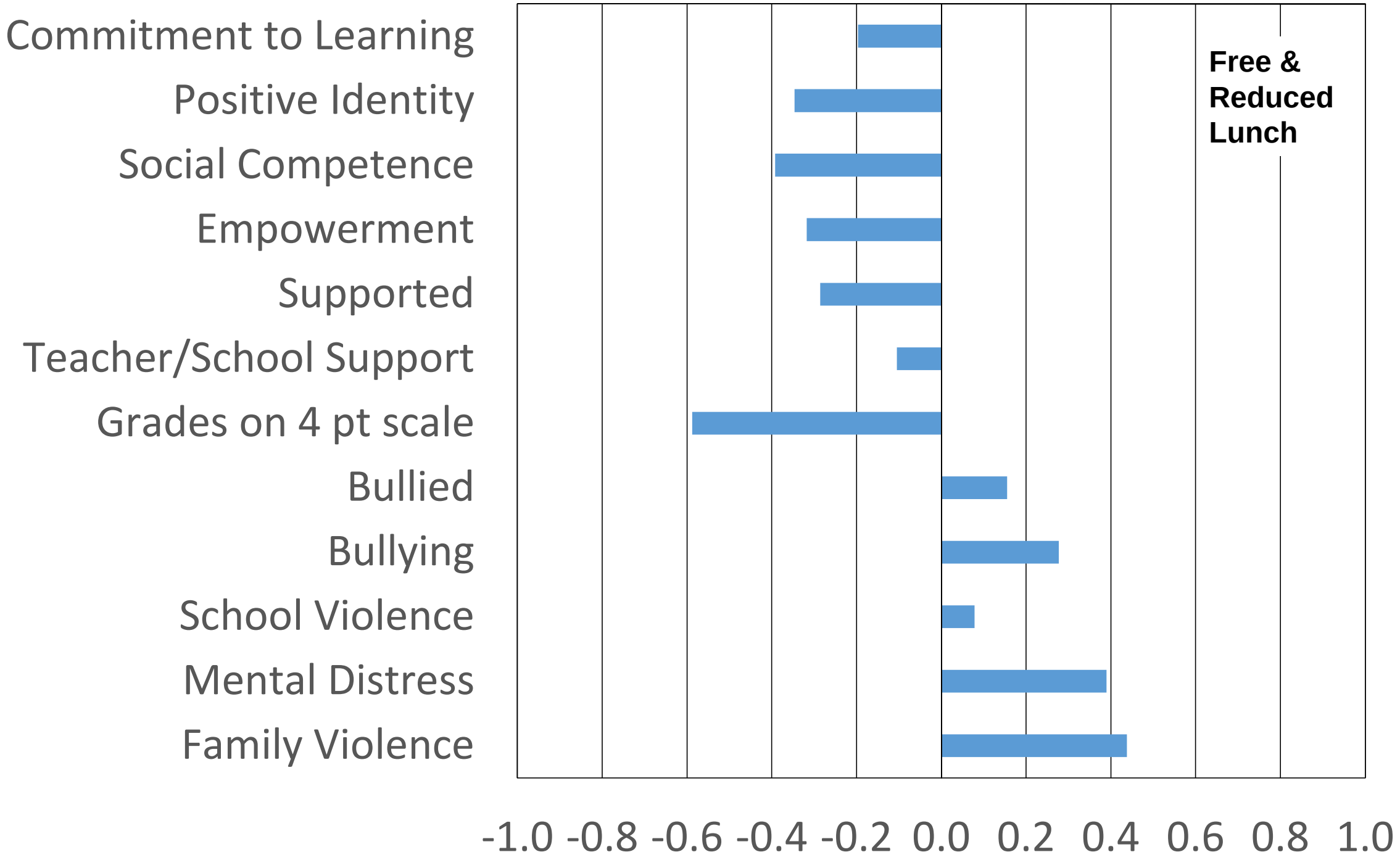
Current Efforts

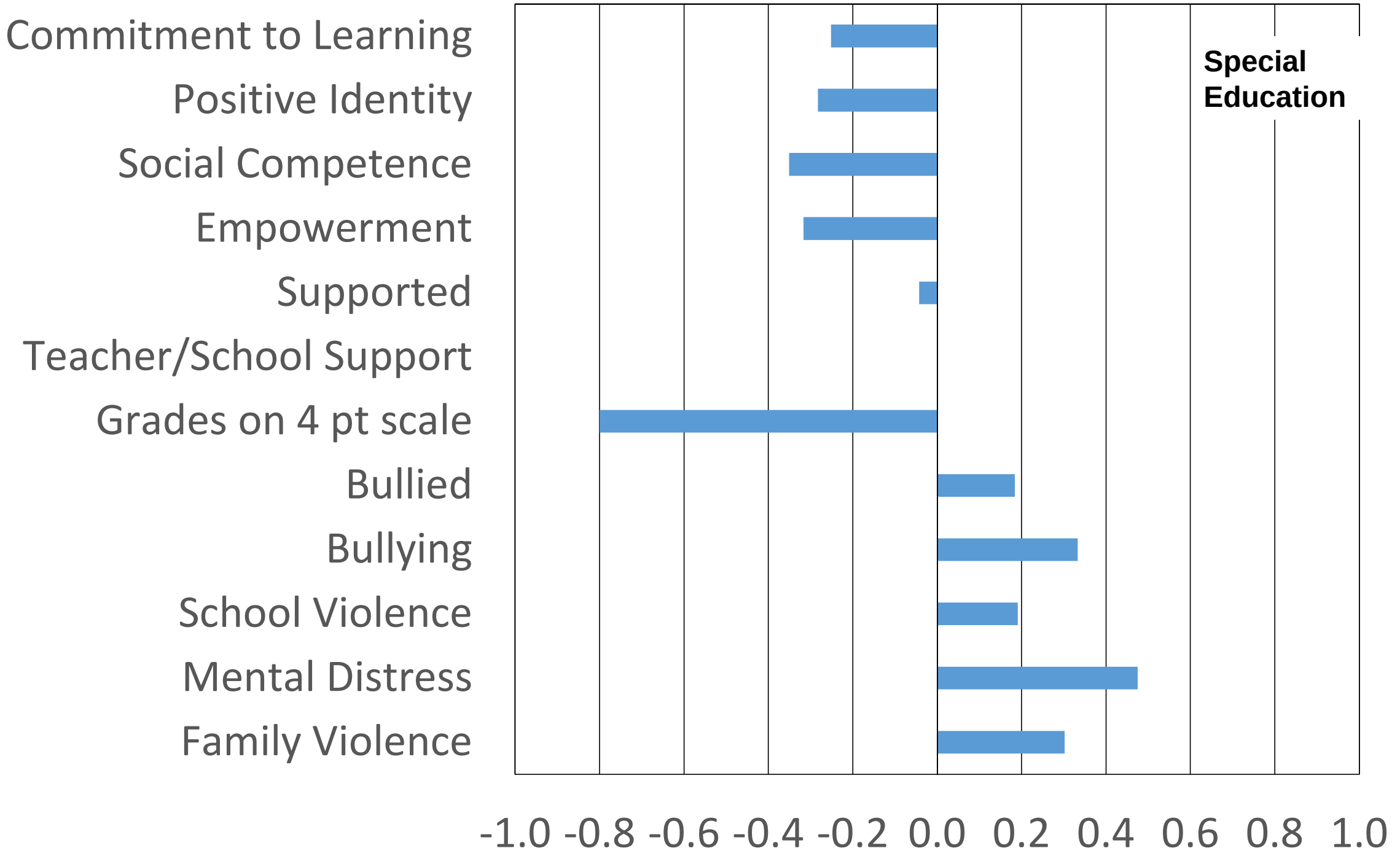
Developmental Skills	Developmental Supports	Developmental Challenges
1. Commitment to Learning	1. Empowerment*	1. Bullying
2. Positive Identity*	2. Supported	2. Bullied
3. Social Competence*	3. Teacher/School Support	3. School Violence
		4. Mental Distress
**DAP*		5. Family Violence

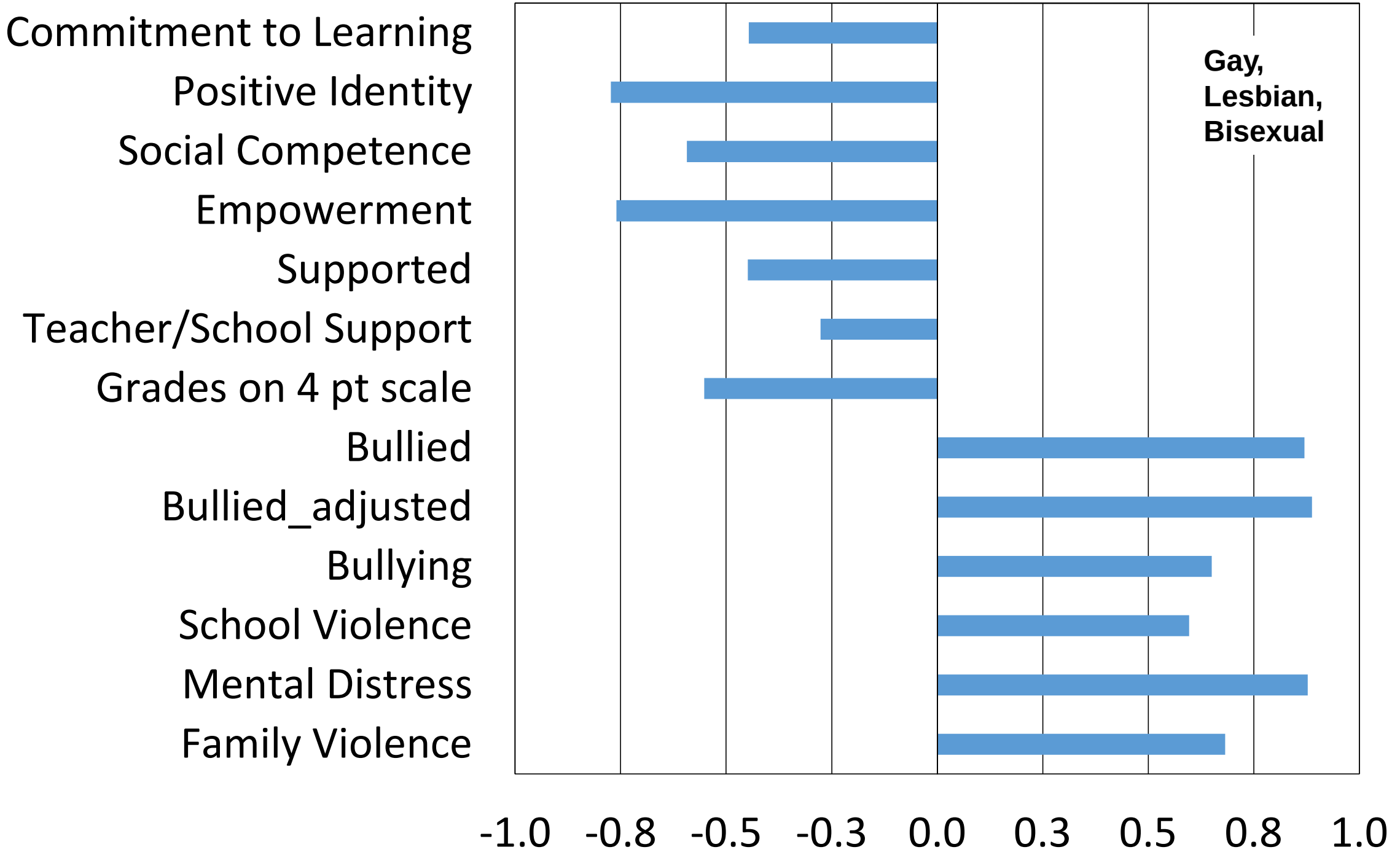
- Care about doing well in school
- Pay attention in class
- Go to class unprepared
- I try to learn about things that interest me
- Things I learn at school are useful
- Being a student is an important part of who I am
- Study or do homework
- Have a hard time paying attention at school

Youth Developmental Profiles


After School Participation
Commitment to Learning
Positive Identity
Social Competence
Empowerment
Supported
Teacher/School Support
Grades on 4 pt scale
Bullied
Bullying
School Violence
Mental Distress
Family Violence
-1
-0.8
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
0.8
1


Commitment to Learning
Positive Identity
Social Competence
Empowerment
Supported
Teacher/School Support
Grades on 4 pt scale
Bullied
Bullying
School Violence
Mental Distress
Family Violence
Free & Reduced Lunch
-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0


Commitment to Learning
Positive Identity
Social Competence
Empowerment
Supported
Teacher/School Support
Grades on 4 pt scale
Bullied
Bullying
School Violence
Mental Distress
Family Violence
Special Education
-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0


Commitment to Learning
Positive Identity
Social Competence
Empowerment
Supported
Teacher/School Support
Grades on 4 pt scale
Bullied
Bullied_adjusted
Bullying
School Violence
Mental Distress
Family Violence
Gay, Lesbian, Bisexual
-1.0
-0.8
-0.5
-0.3
0.0
0.3
0.5
0.8
1.0

- Youth have an inherent capacity for positive development
- That is enabled and enhanced through multiple meaningful relationships, contexts, and environments
- Where community is a critical delivery system
- And youth are major actors in their own development

The work in this area is exploring many aspects of context, all which might influence positive youth development, including success in school and beyond – providing useful information for strong policy development and positive youth development programming.

After-School Activity Participation and the Association with Developmental Outcomes

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José Palma, Martin Van Boekel, Okan Bulut

Benefits of participation in structured afterschool activities

- Healthy development
- Academic resilience
- Educational attainment
- Well-being & social functioning
- Civic engagement
- May lead to prevention of risky behaviors

- To investigate the association between participation in afterschool activities and youth development
- Intensity and breadth of participation to represent engagement in after school activities
- In relation to GPA, family & community support
- To investigate nonlinear relationships
  - i.e. the Overscheduling Hypothesis

Objectives

During a typical week, how often do you participate in the following activities?

1. Club or community sports teams
2. School sports teams
3. School-sponsored (drama, music, science club)
4. Leadership activities (youth councils)
5. Tutoring, homework help or other academic programs
6. Lessons such as music, dance or karate
7. Other community clubs (4-H, scouts, Y-clubs)
8. Religious activities

Breadth

- (How many?) The total number of after school activities in which a student reports to participate
- An indicator of youth interests and opportunities to learn a broad range of skills
- Importance: enables youth to explore different roles, engage in identity formation, be exposed to different peers, and develop a large support network

Intensity

- (How much?) The average time spent in afterschool activities per week
- As an indicator of commitment and skill development.
- Importance:
  - Helps youth be more attuned of the developmental affordances of activities
  - Develop stronger and deeper relationships with peers and adults
  - May reduce time spent in unsupervised and unstructured activities

MSS 2013

N = 36,888 students

Grade 9th

Two second-order polynomial regression models to evaluate nonlinearity

	%
Male	49.2
Free or Reduced-price Lunch	26.6
American Indian	1.3
Black, African or African American	5.2
Latino	6.5
Asian American or Pacific Islander	5.5
White	72.7
Multiple Race or Other	8.9

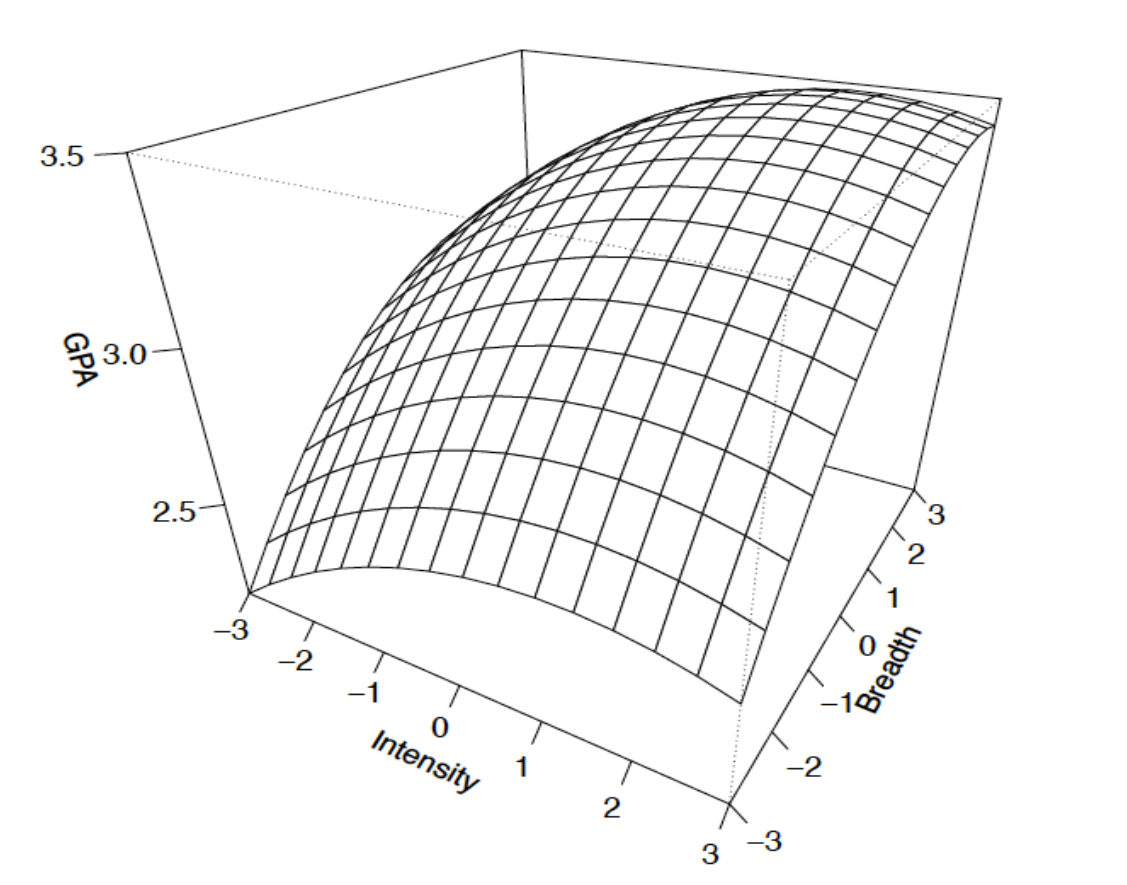
Data and Analysis

	M	*SD*
GPA	3.11	0.97
Breadth	2.06	1.61
Intensity	2.45	1.84

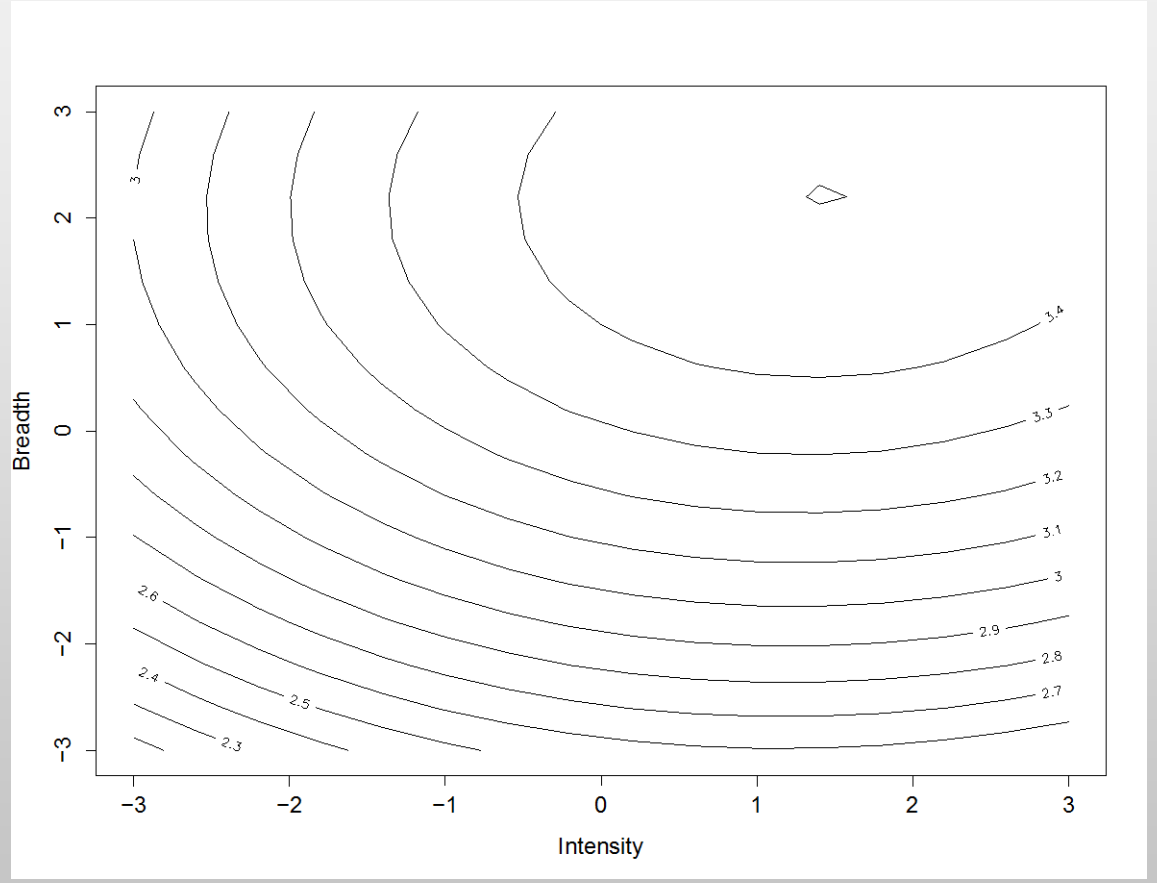
MSS 2013: 9th grade students

Results

3-D Graph



Contour Graph



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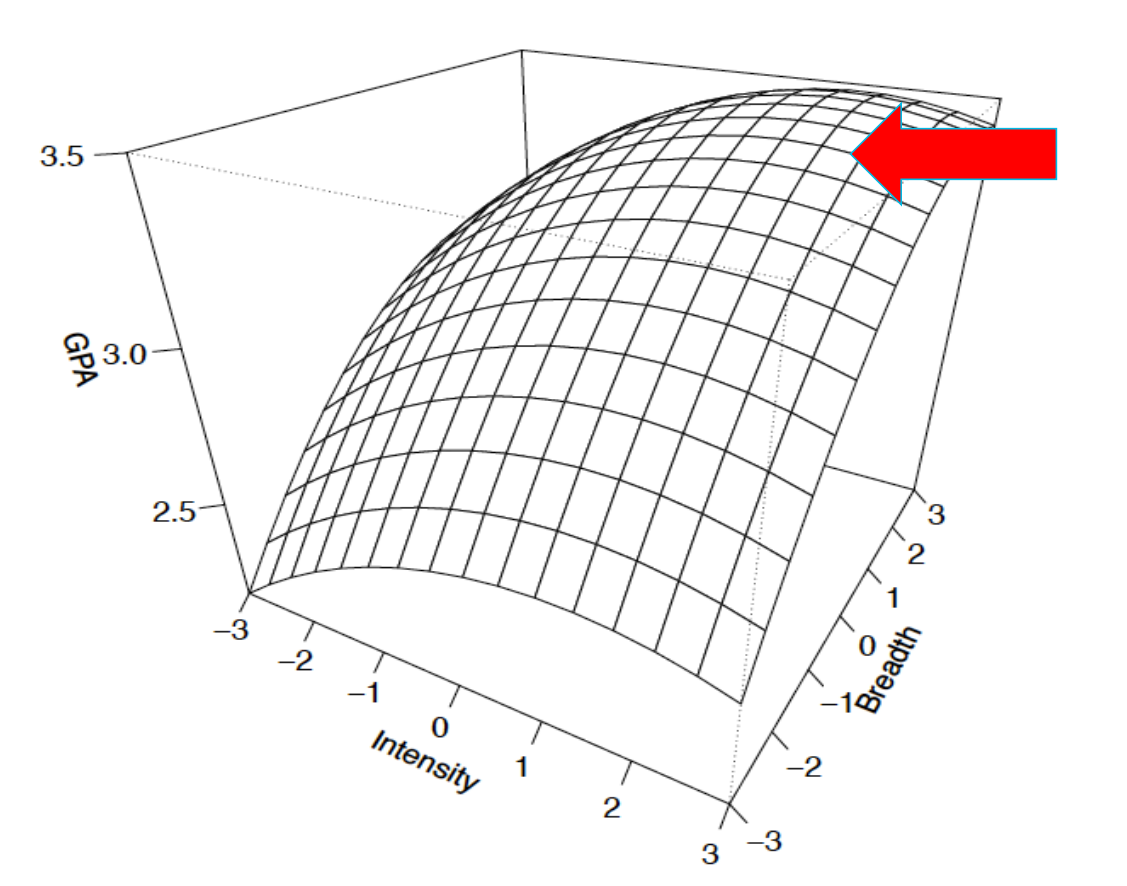
Results – GPA

3-D Graph



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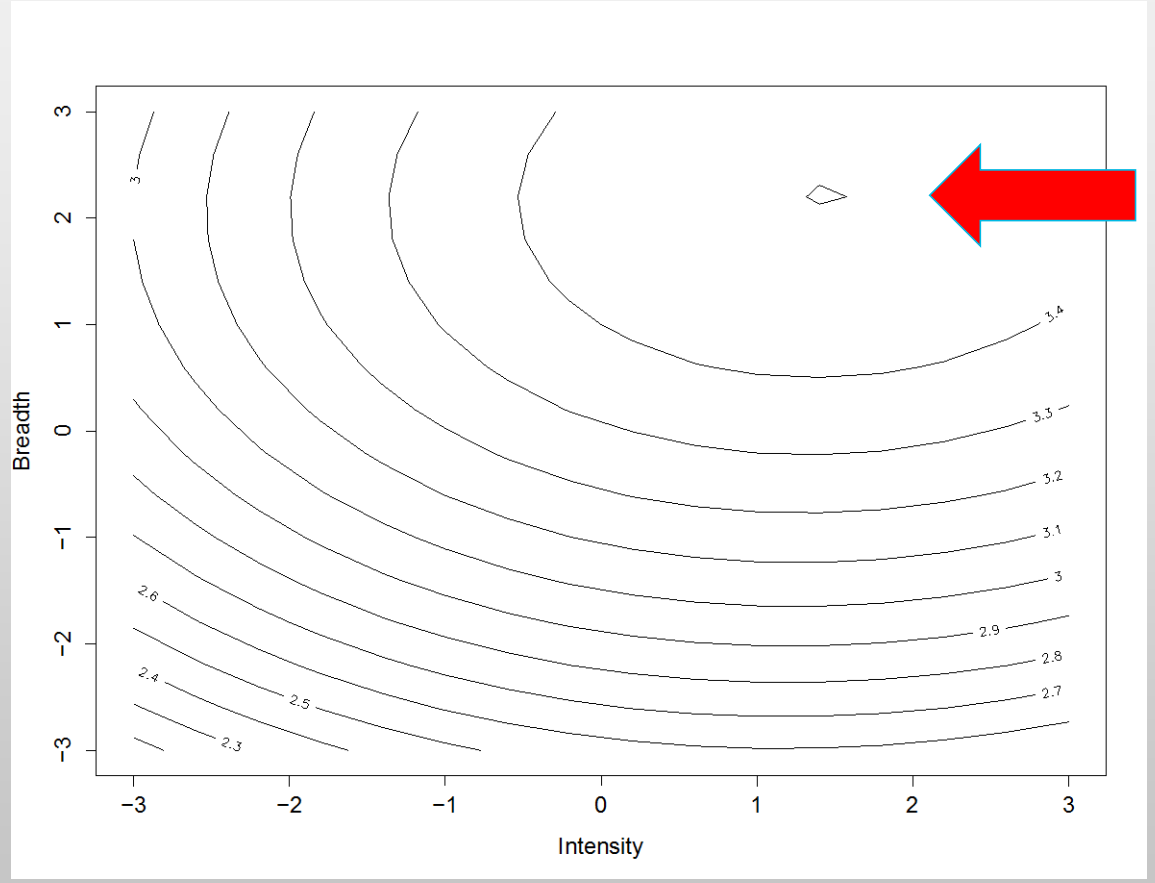

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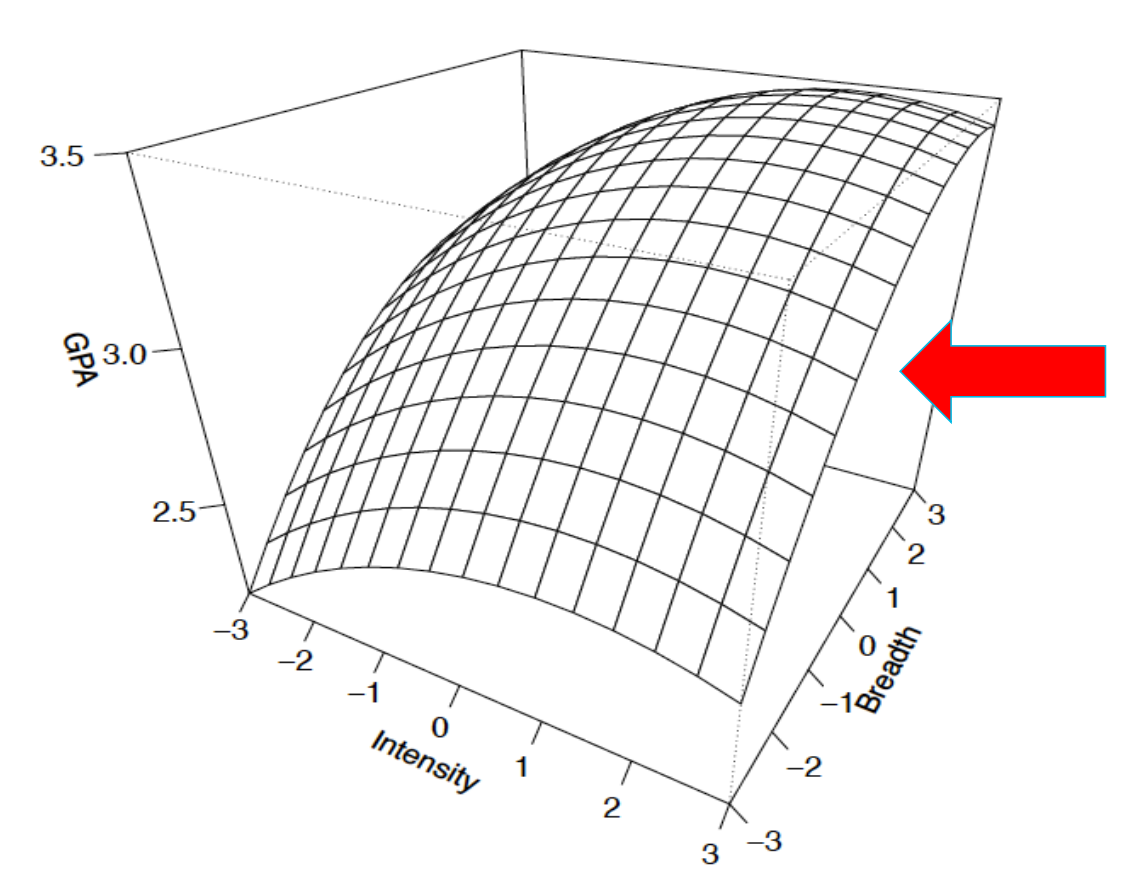
Results – GPA

3-D Graph



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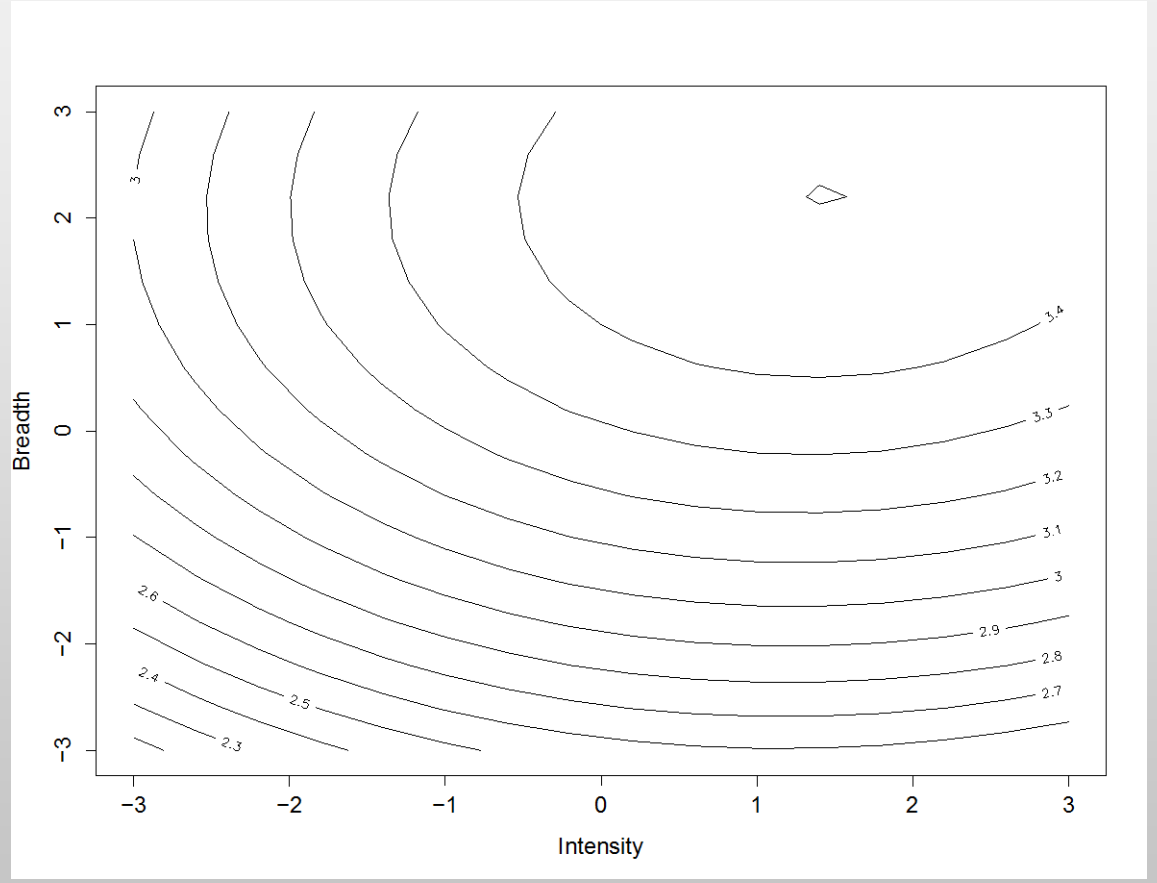

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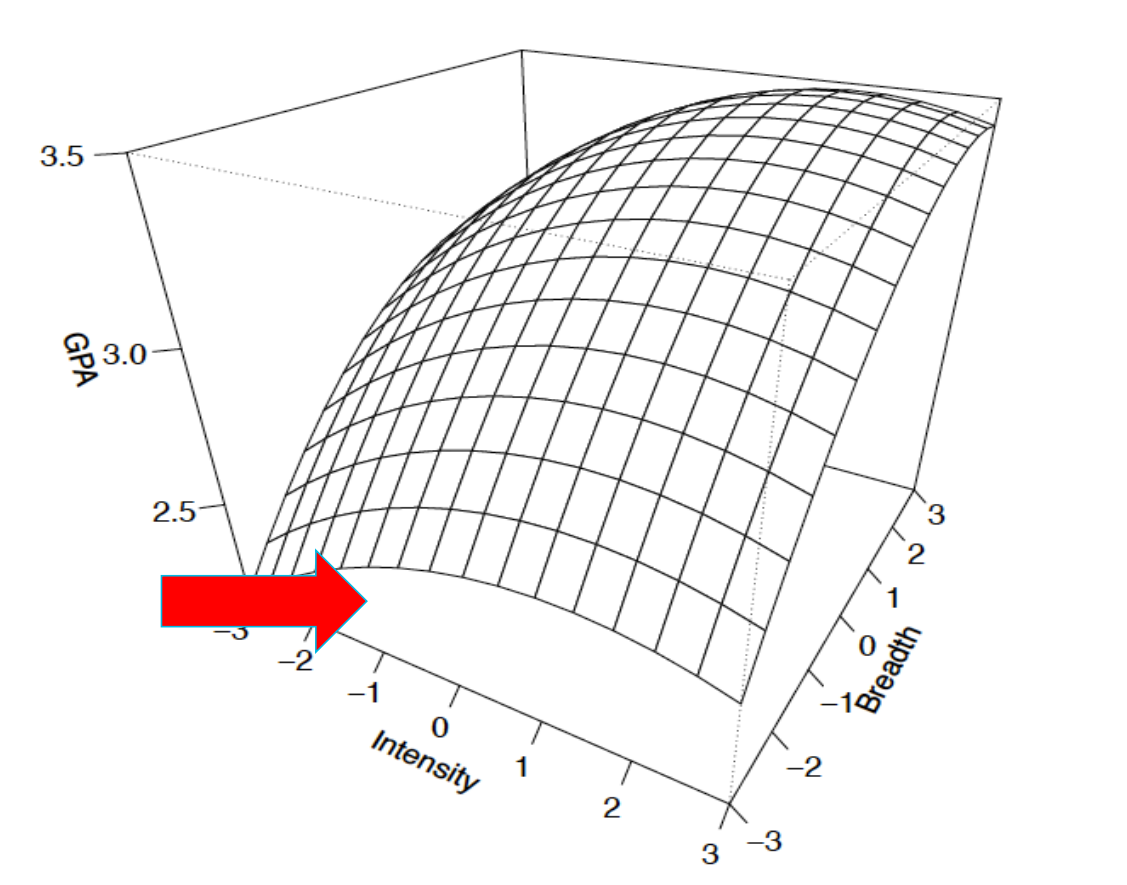
Results – GPA

3-D Graph



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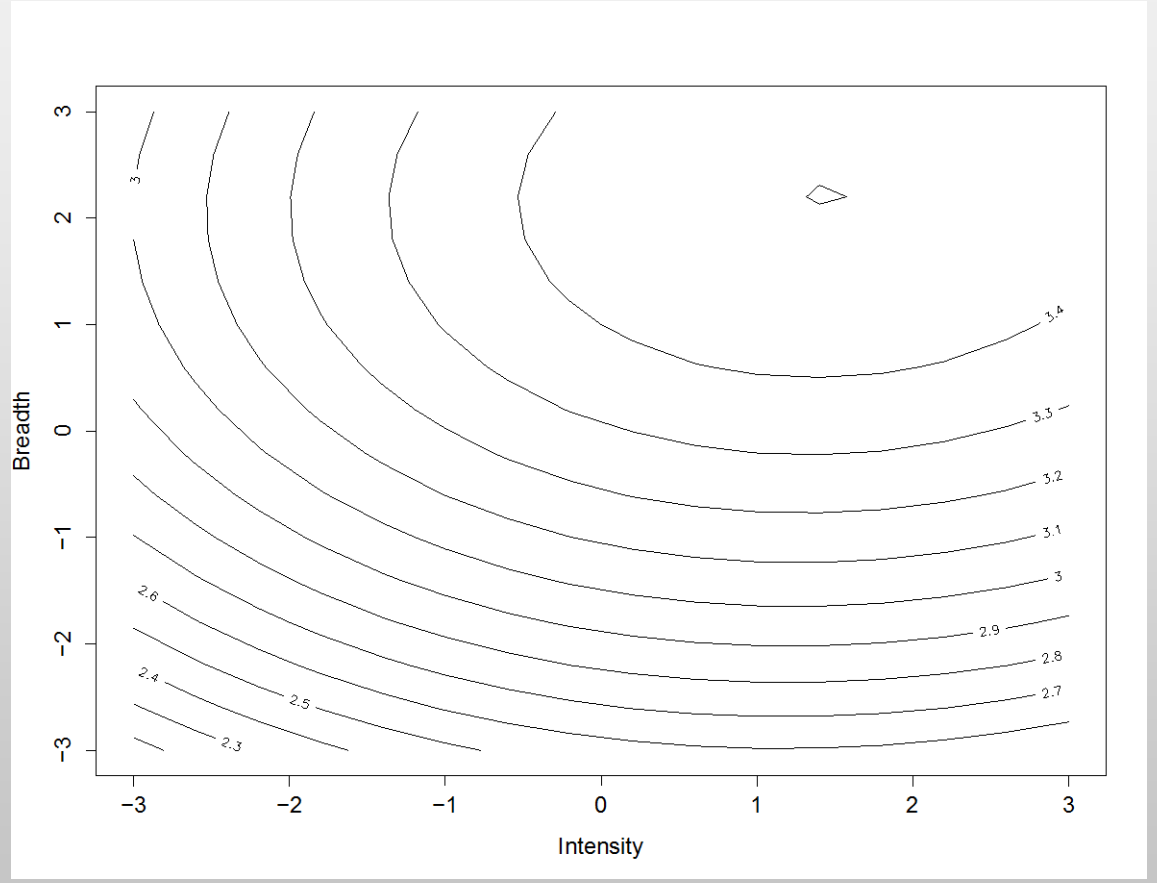

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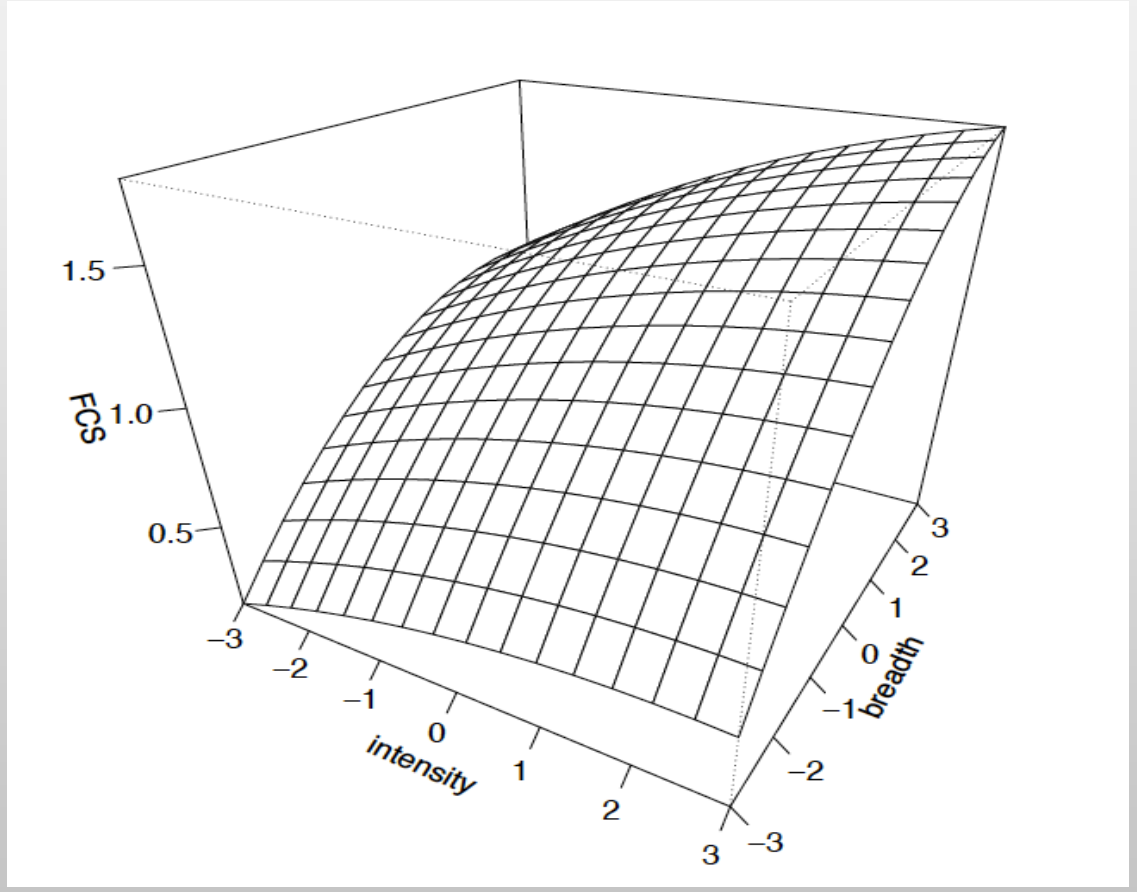
Results – GPA

3-D Graph



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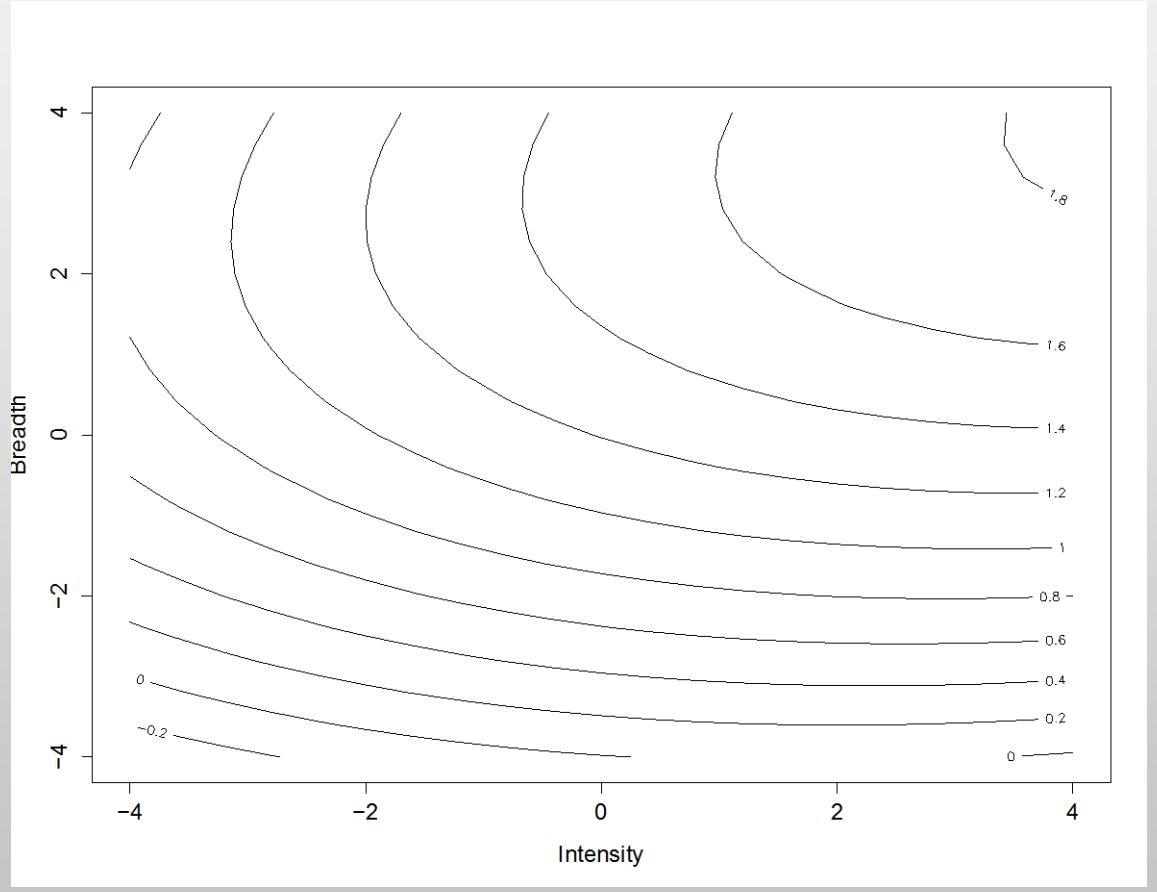

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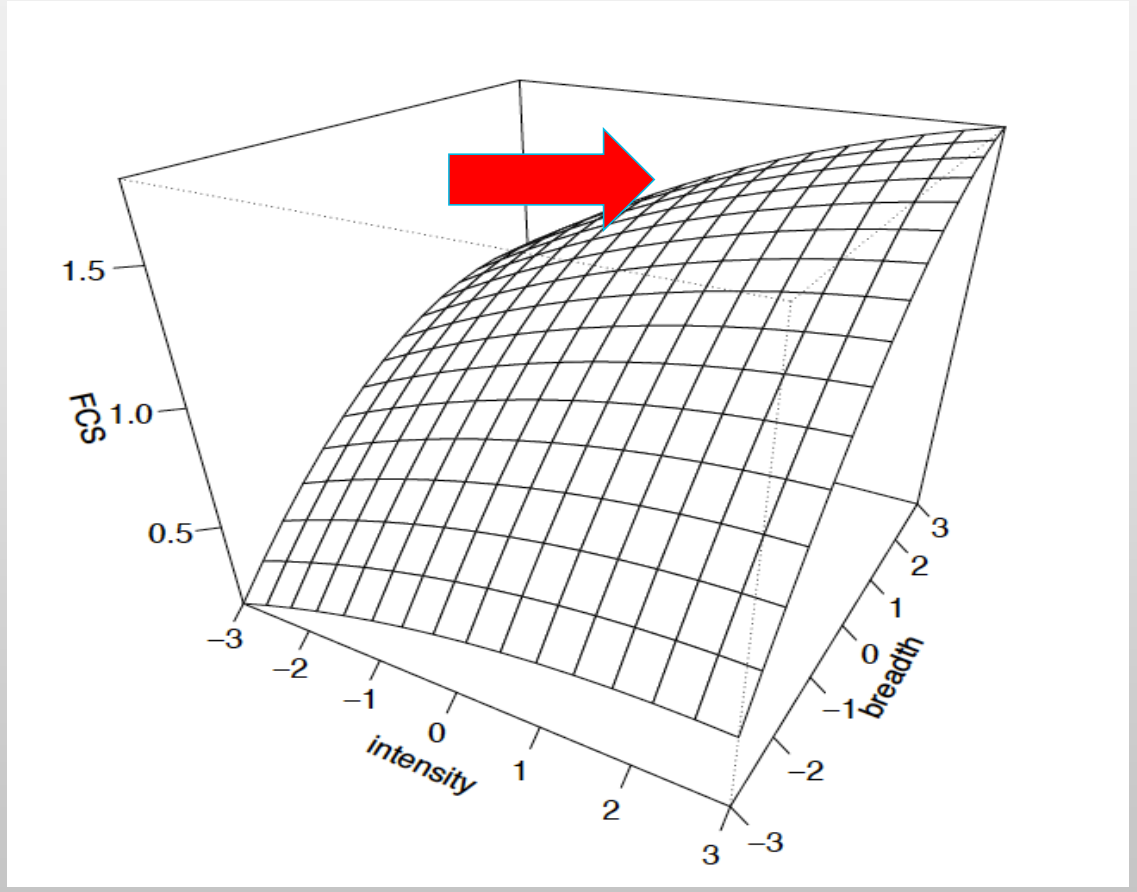
Results – FCS

3-D Graph



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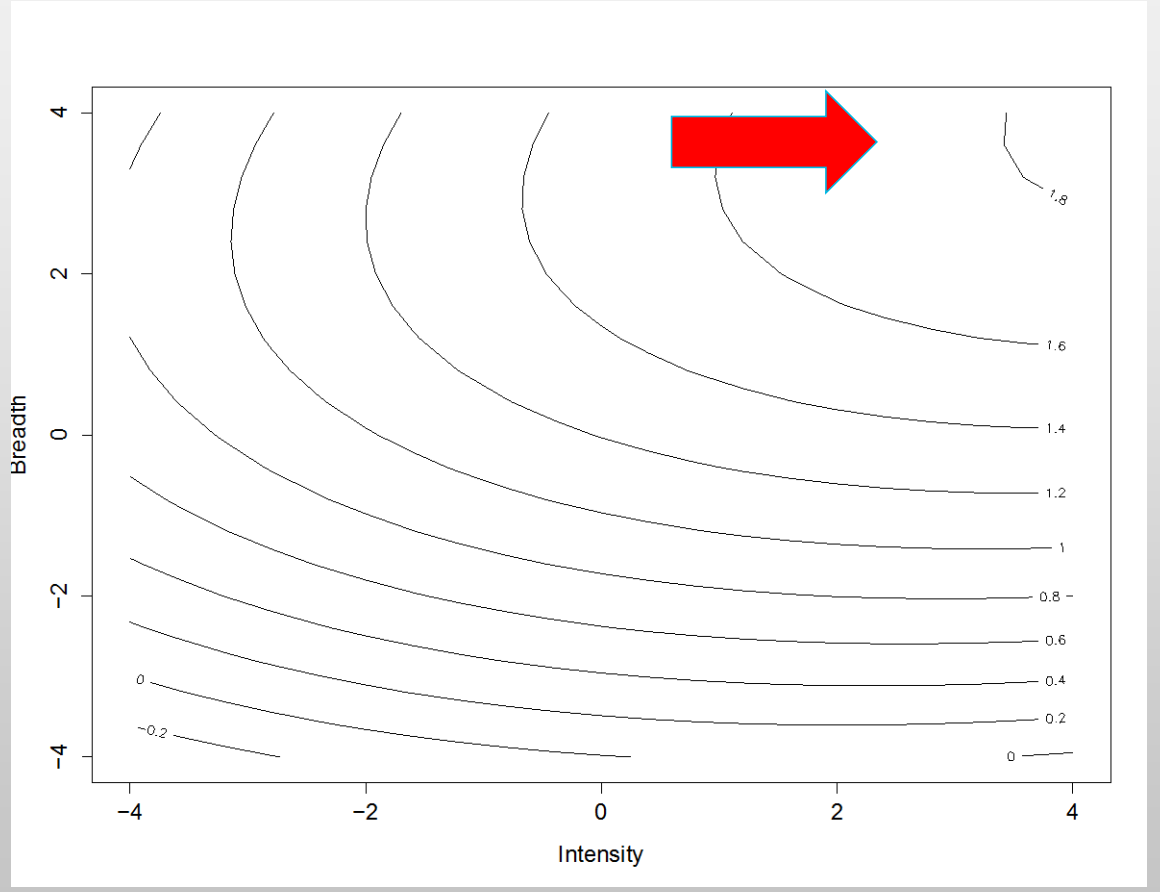

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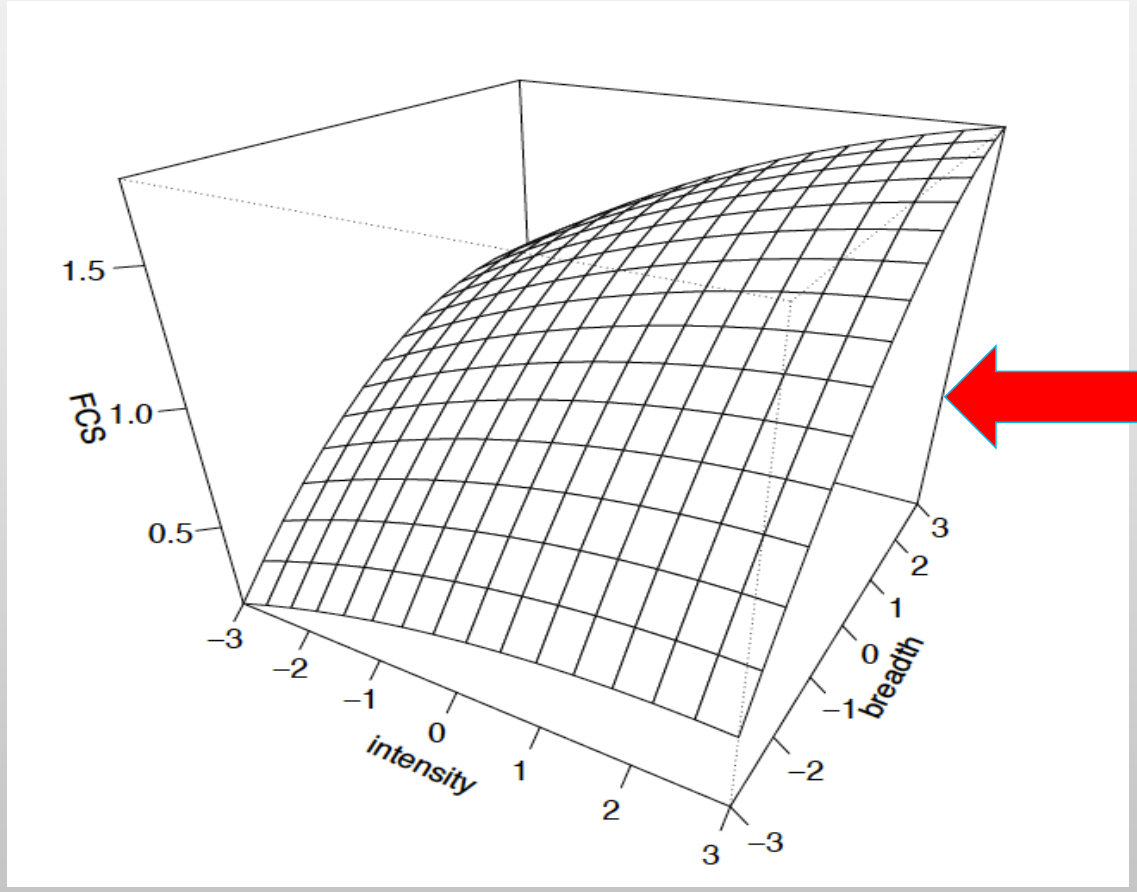
Results – FCS

3-D Graph



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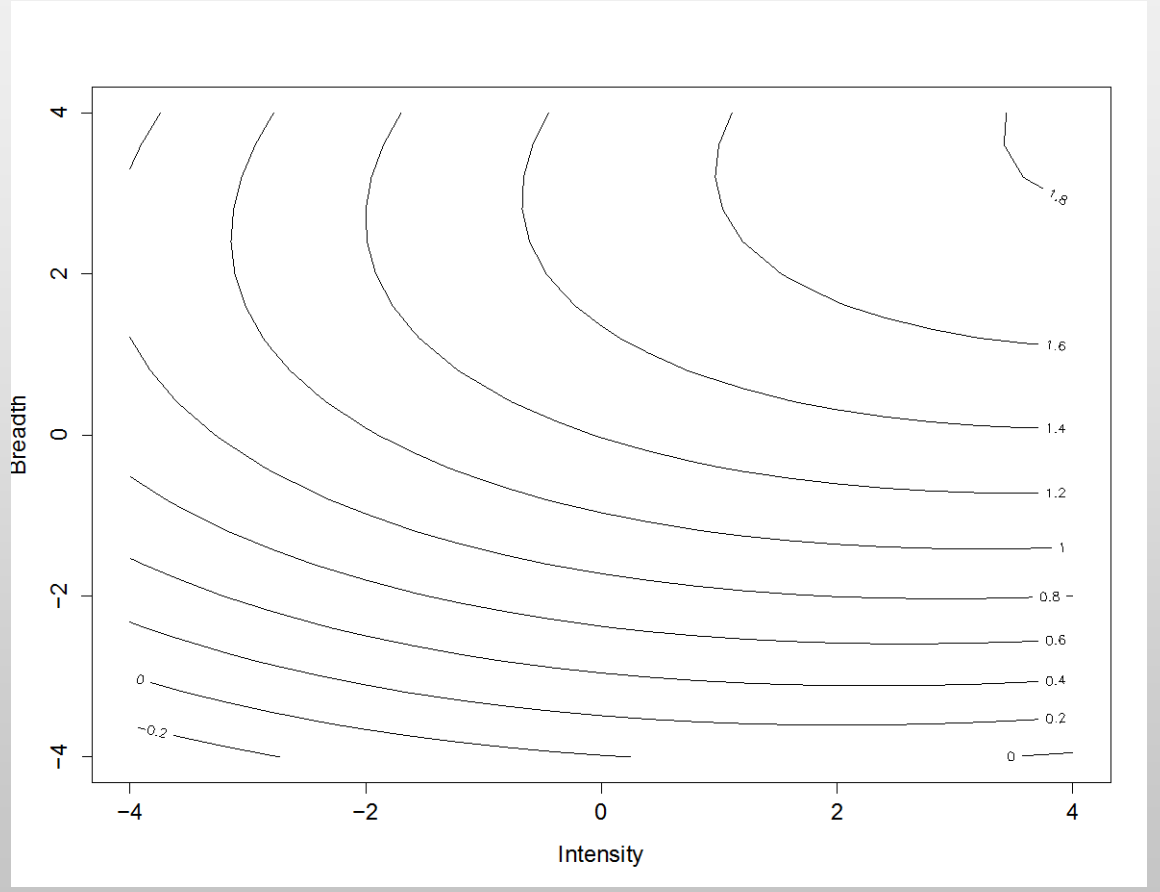

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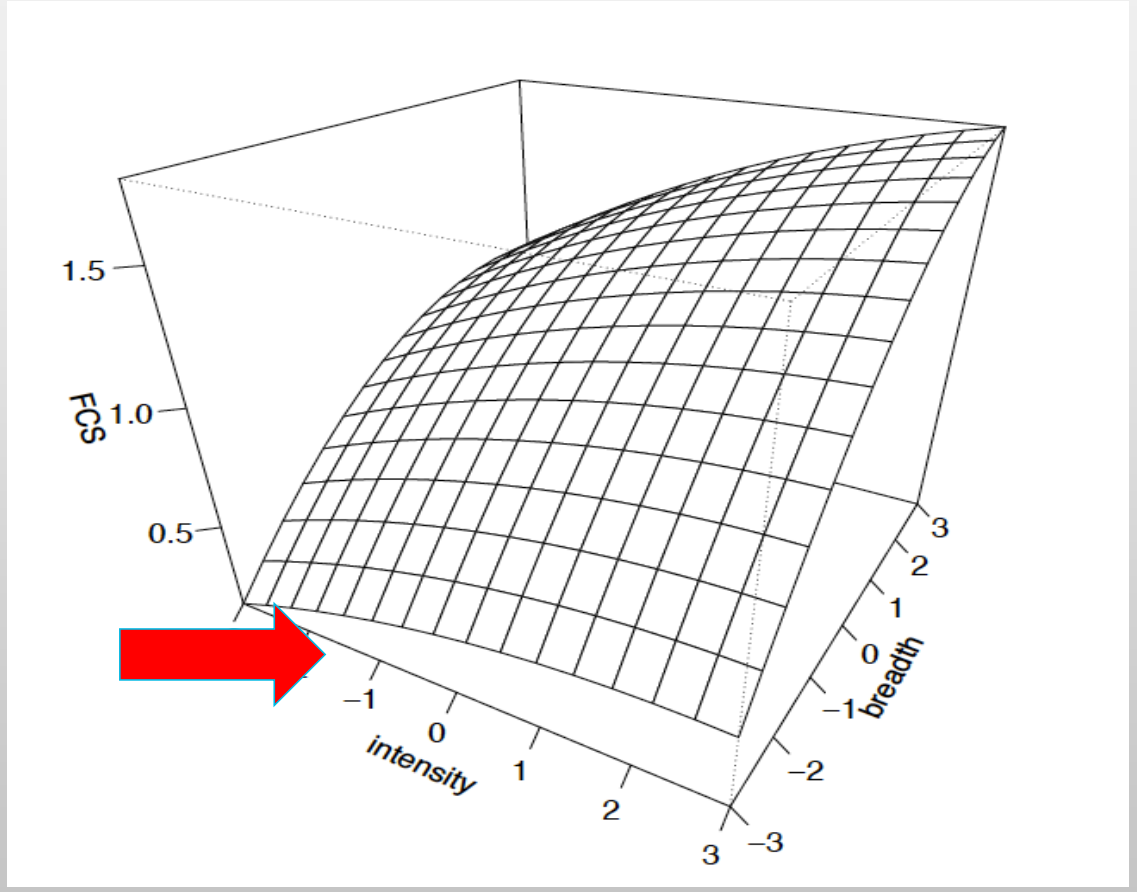
Results – FCS

3-D Graph



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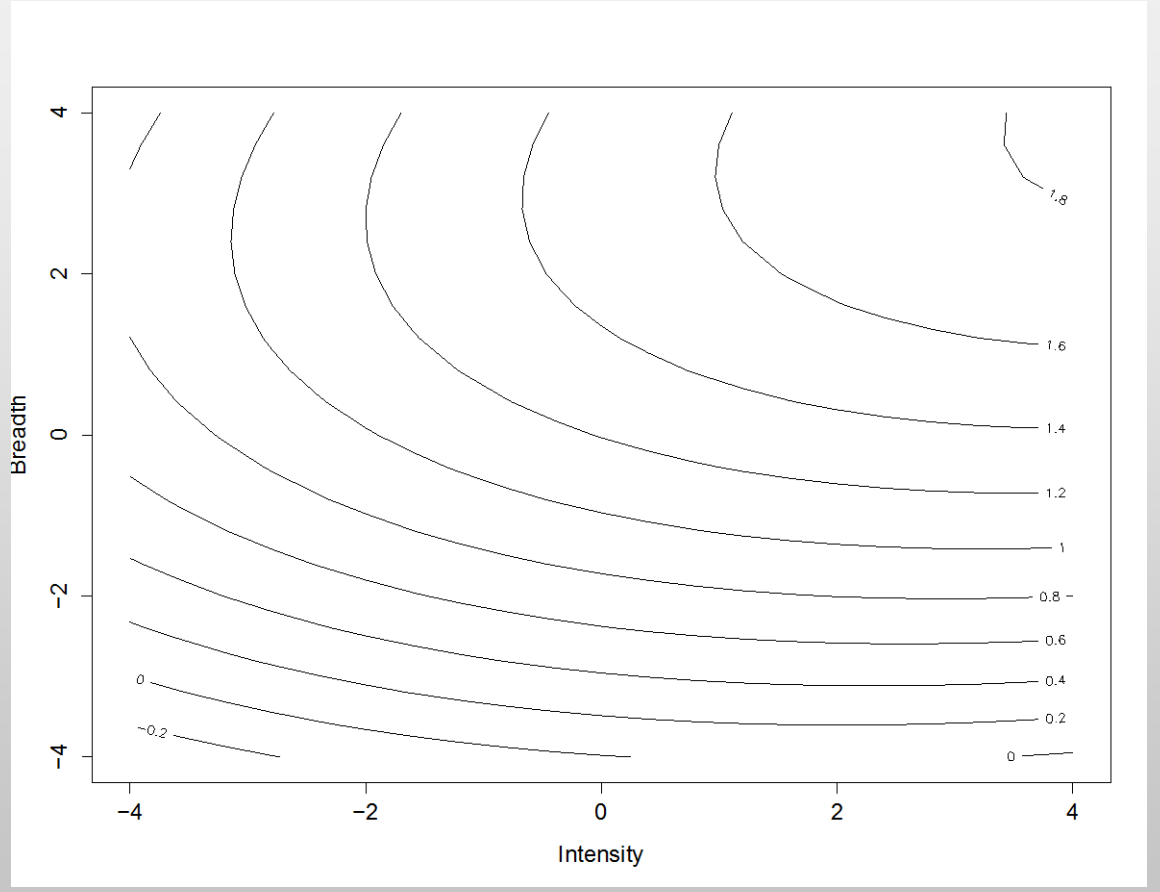

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Results – FCS

- Breadth and intensity can be treated as two related but separate constructs

- Findings suggest that benefits of extracurricular engagement seem to go beyond academics.

- Benefits of time spent in after-school activities are true up to a certain level. This is particularly evident for GPA.

Take Aways

- Associations of breadth and intensity in different school grades
- Associations in different student groups by race and ethnicity
- Other developmental outcomes
- Afterschool activities profiles
- Quality and availability of afterschool activities

Future Directions

School Sports and Positive Youth Development

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Kyle Nickodem, Martin Van Boekel

55.5% of high school students play at least one school organized sport (NFHS, 2011)

Students who participate tend to have:

- Higher GPAs (Eccles, Barber, & Stone, 2003)
- Higher self-esteem (Broh, 2002)
- Lower risk of substance abuse (Dever et al., 2012)
- Lower rates of depression (Babiss & Gangwisch, 2009)

- Study 1 – The problem with self-selection (2010)
- Study 2 – LGB students (2013)
- Conclusions

Overview

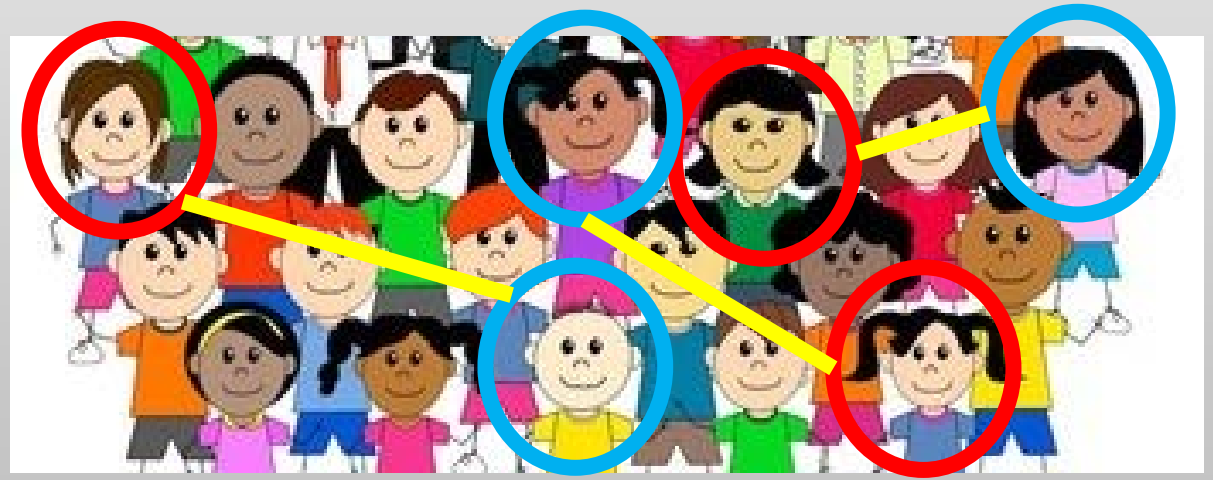
Sports participation is voluntary

- Eliminates possibility of conducting a random control trial
- Introduces possible selection bias

Matching Variables

- Age
- Special education status
- Free or reduced school lunch
- Gender
- Ethnicity

→ **Propensity scores**



Matched Groups:
12,849 12th grade students in each group

How does participation in school-organized sports relate to:

- GPA
- perceptions of family support
- perceptions of teacher and community support
- perceptions of school safety

Grade 12 Students in 2010 Academic Year

	Outcomes	
	GPA	
	R^2	β
School Sports Participation	.04	0.39

Results

Grade 12 Students in 2010 Academic Year

	Outcomes			
	GPA		Family Support	
	R^2	β	R^2	β
School Sports Participation	.04	0.39	.03	0.32

Results

Grade 12 Students in 2010 Academic Year

	Outcomes					
	GPA		Family Support		Teacher & Community Support	
	R^2	β	R^2	β	R^2	β
School Sports Participation	.04	0.39	.03	0.32	.04	0.41

Results

Grade 12 Students in 2010 Academic Year

	Outcomes							
	GPA		Family Support		Teacher & Community Support		School Safety	
	R^2	β	R^2	β	R^2	β	R^2	β
School Sports Participation	.04	0.39	.03	0.32	.04	0.41	.02	0.31

Results

Is sports participation associated with

1. Greater developmental support and skills,
2. Fewer developmental challenges

for LGB students in a manner similar to their heterosexual peers?

Study 2 – LGB students

In a nationwide survey of LGBTQ students:

(Kosciw, Greytak, Bartkiewicz, Boesen, & Palmer, 2012)

- 70% frequently heard homophobic remarks
- 57% heard these remarks from teachers and staff
- 82% report being verbally harassed
- 38% report being physically harassed

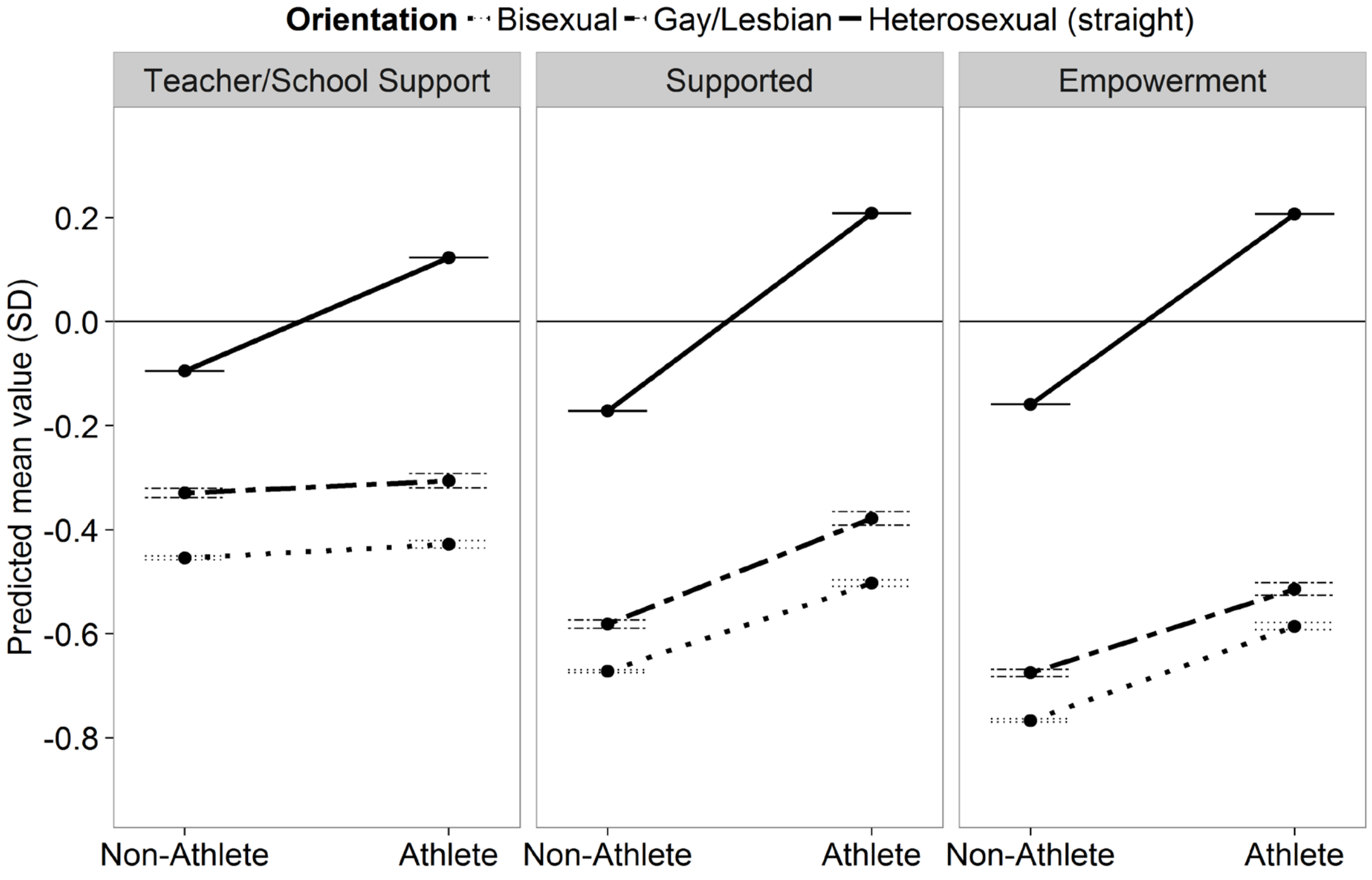
School is often not safe for LGB students

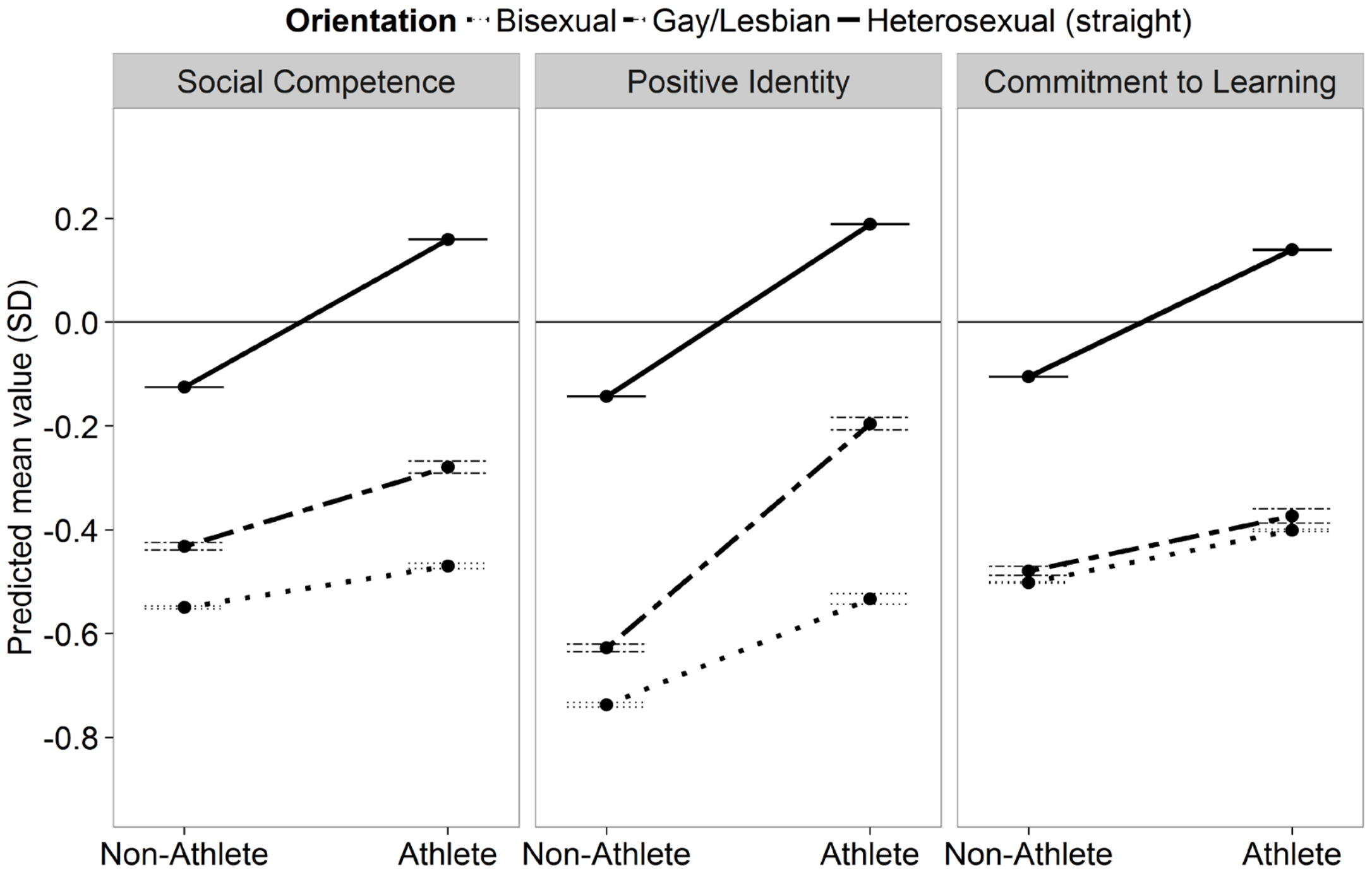
- Common coping strategy for LGB students include: (Hutcheson and Tieso, 2014)
  - finding a supportive peer group and adult
  - participating in extracurricular activities
  - finding ways to develop their identities
- However,
  - sports tend to perpetuate heteronormative values (Wilkinson & Pearson, 2009)
  - Athletes tend to hold homophobic attitudes at higher rates than non-athletes (Dawkins, 2012)

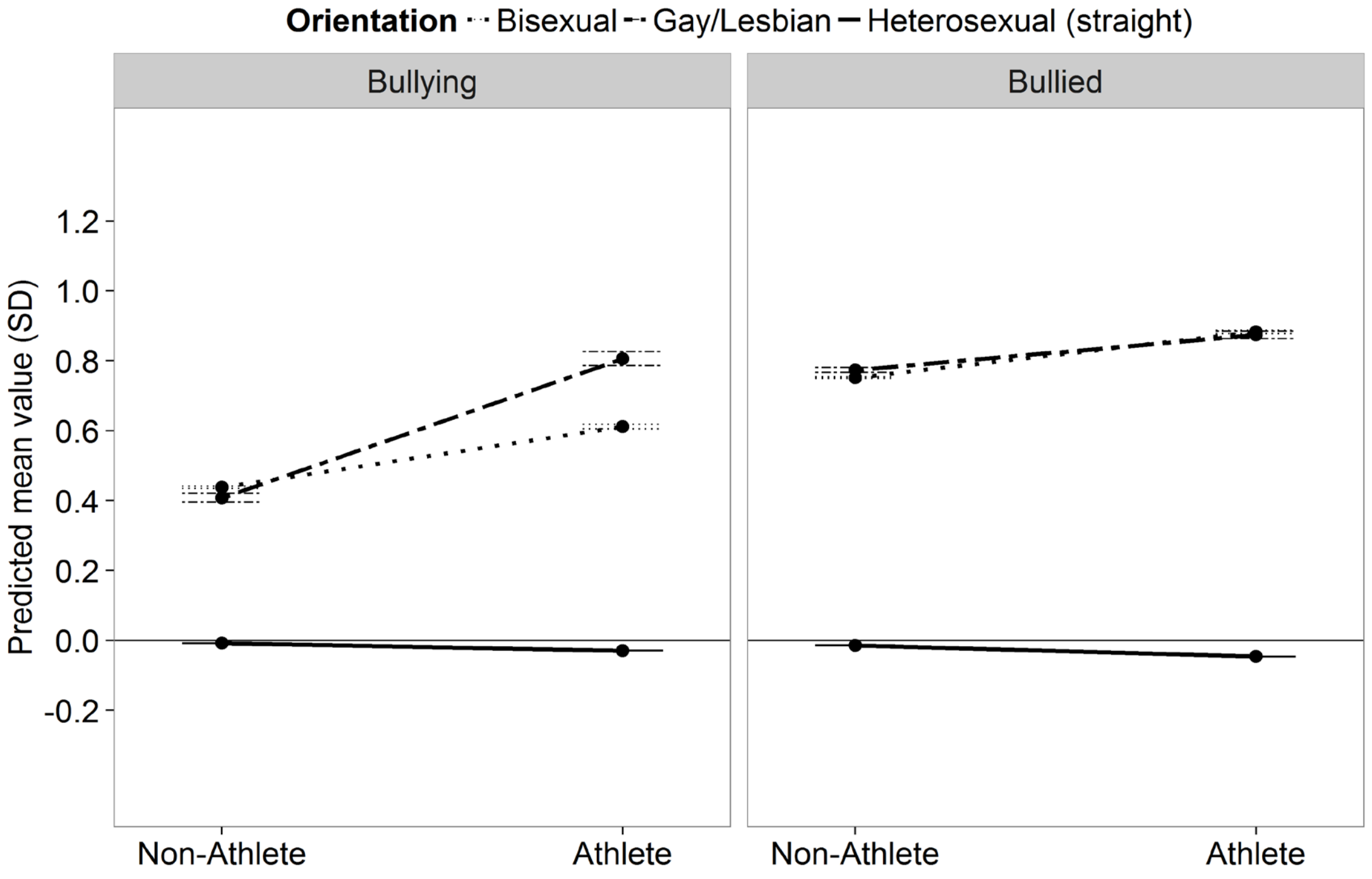
Can sports participation help?

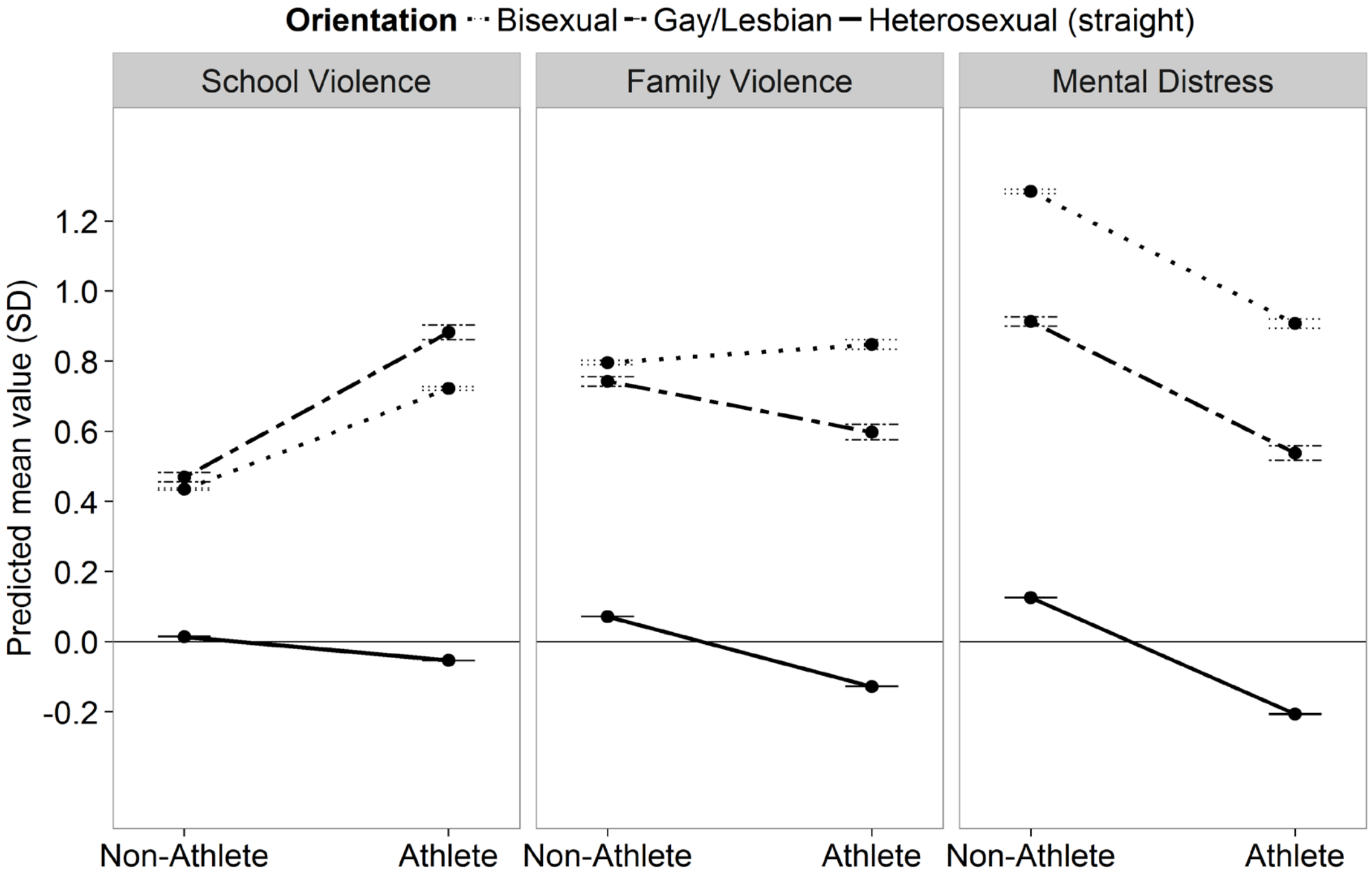
11 Regression models

- DV: Supports, Skills, and Challenges
- Predictors: Gay/Lesbian, Bisexual, Athlete
- Controls: Sex, Student of Color
- Two-way interactions between Sexual Orientation and each of the other variables


Orientation
Bisexual
Gay/Lesbian
Heterosexual (straight)
Teacher/School Support
Supported
Empowerment
Predicted mean value (SD)
0.2
0.0
-0.2
-0.4
-0.6
-0.8
Non-Athlete
Athlete
Non-Athlete
Athlete
Non-Athlete
Athlete


Orientation
Bisexual
Gay/Lesbian
Heterosexual (straight)
Social Competence
Positive Identity
Commitment to Learning
Predicted mean value (SD)
0.2
0.0
-0.2
-0.4
-0.6
-0.8
Non-Athlete
Athlete
Non-Athlete
Athlete
Non-Athlete
Athlete


Orientation
Bisexual
Gay/Lesbian
Heterosexual (straight)
Bullying
Bullied
Predicted mean value (SD)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
Non-Athlete
Athlete
Non-Athlete
Athlete


Orientation Bisexual Gay/Lesbian Heterosexual (straight)
School Violence
Family Violence
Mental Distress
Predicted mean value (SD)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
Non-Athlete
Athlete
Non-Athlete
Athlete
Non-Athlete
Athlete

Study 1:

- Examining the impact of sports must account for selection bias
- What are the mechanisms in sports that lead to positive outcomes?

Study 2:

- Trends in the general population do not necessarily hold for special populations

Take away points - Researchers

- Encourage students to participate on sports teams

- Talk with athletes and non-athletes - especially those from special populations:
  - how they feel supported
  - what can be done to improve support

Take away points - Practitioners

Exploring American Indian Students' Non-Response to Educational Goals

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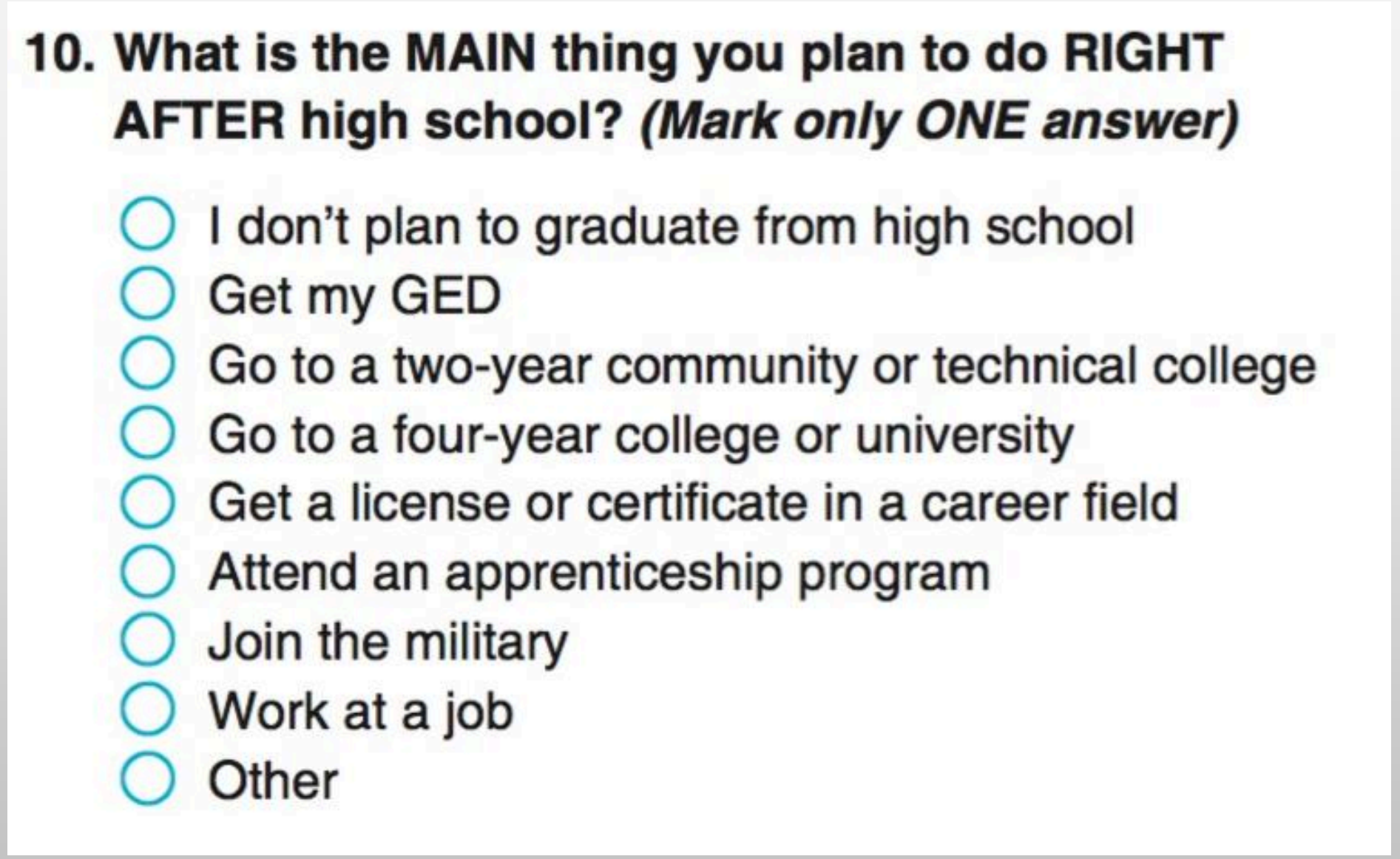
Youngsoon Kang, Kory Vue, Yoo Jeong Jang

- Poor conditions of Indian schools
- Much lower proficiencies in math, reading, and science compared to white students
- Much lower high school graduation rate (52%) compared to white students (87%)

http://www.startribune.com/part-1-indian-schools-a-nation-s-neglect/283514491/
http://rc.education.state.mn.us/
https://nces.ed.gov/ccd/tables/ACGR_RE_and_characteristics_2013-14.asp

Challenges of MN American Indian Students

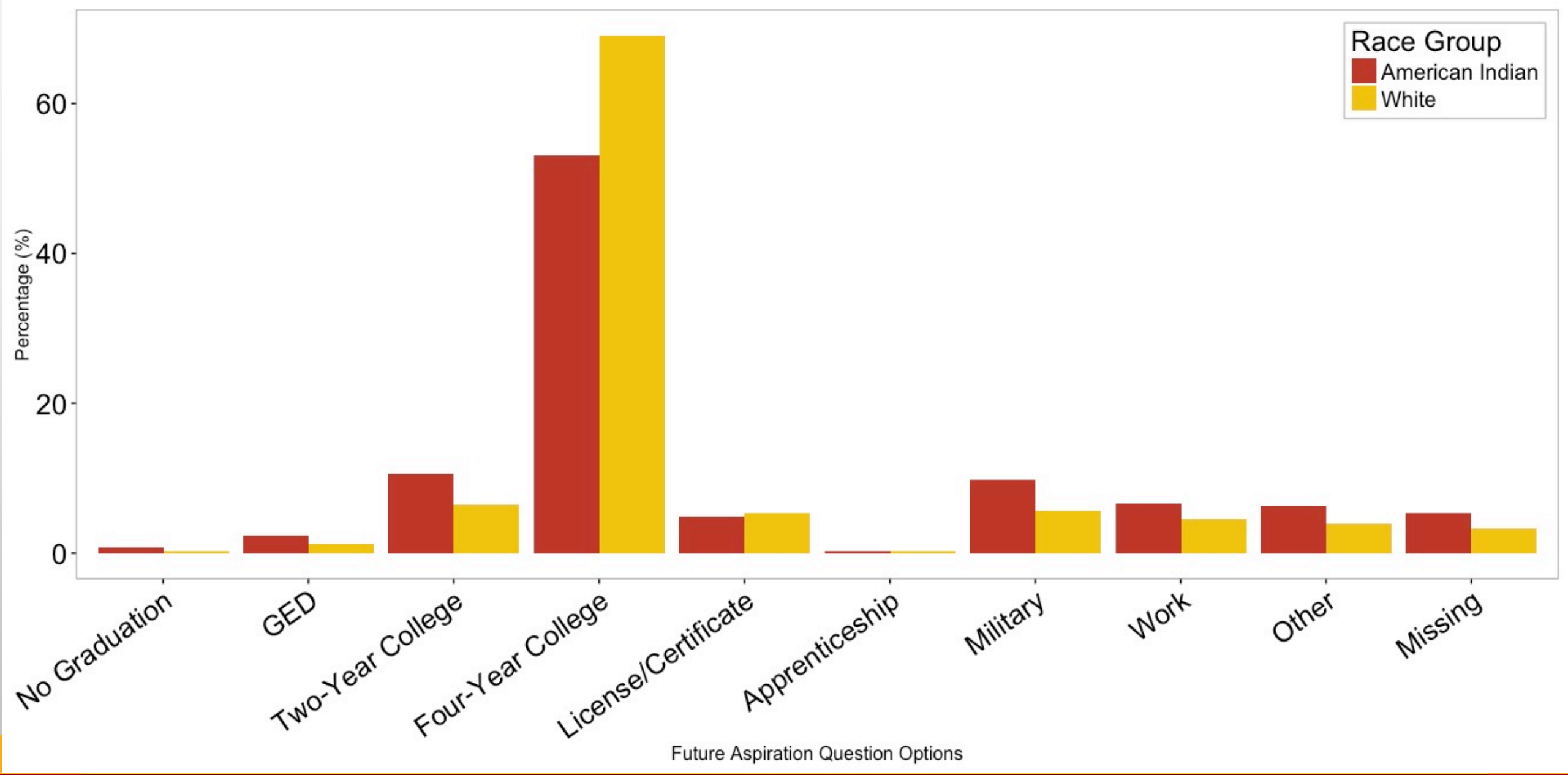
- Academic aspirations predict a variety of academic outcomes



10. What is the MAIN thing you plan to do RIGHT AFTER high school? *(Mark only ONE answer)*

- ○ I don't plan to graduate from high school
- ○ Get my GED
- ○ Go to a two-year community or technical college
- ○ Go to a four-year college or university
- ○ Get a license or certificate in a career field
- ○ Attend an apprenticeship program
- ○ Join the military
- ○ Work at a job
- ○ Other

Future Aspirations Question



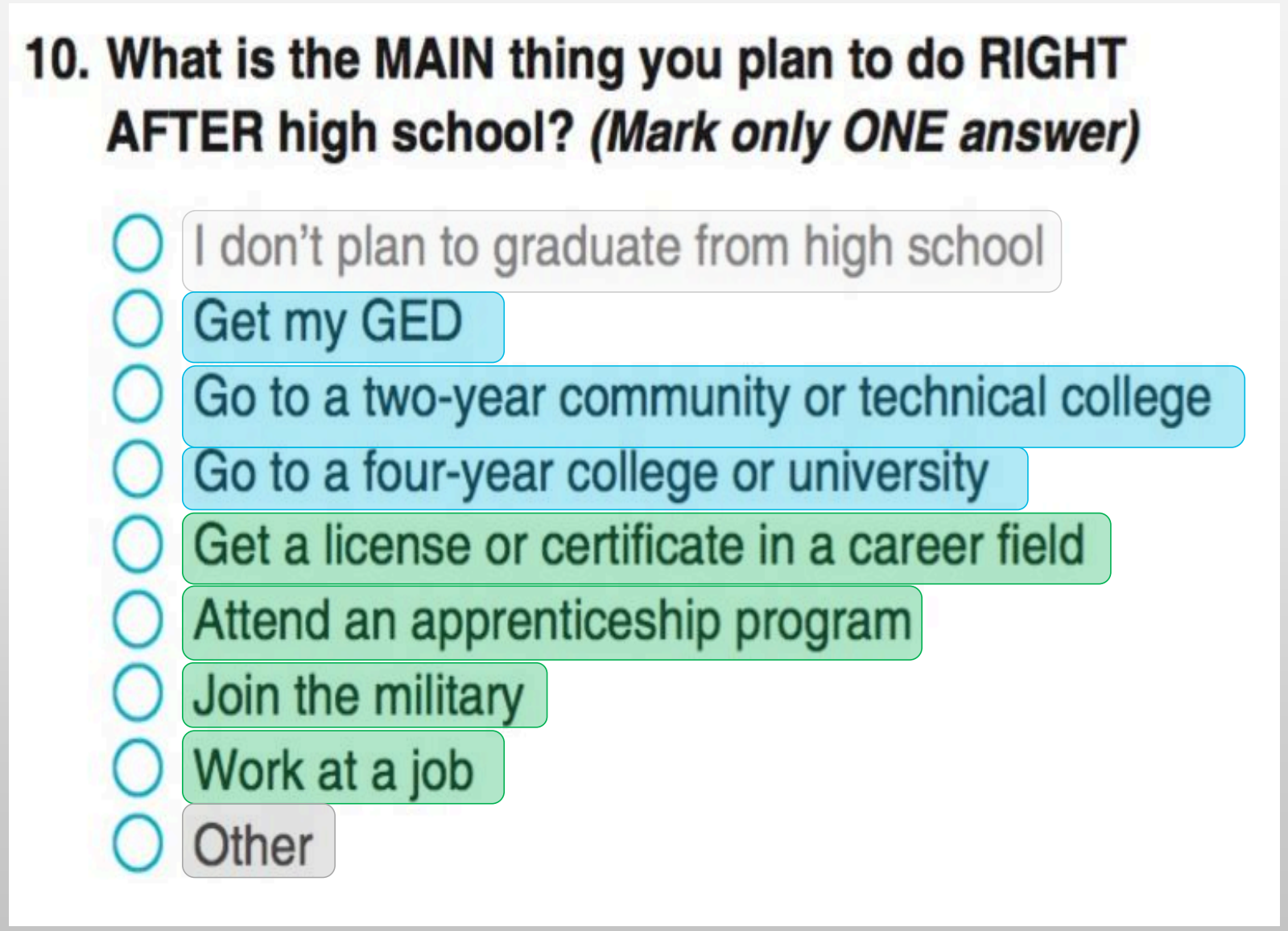
Future Aspirations of AI v. White Students

Changed schools this year	0.7%
Live with parent's partner	0.8%
Live with other adult relatives	0.8%
Live with foster parents	0.8%
Skipped classes or part of the school day	0.8%
Skilled a FULL day of school	0.8%
Can talk to mother about problems	1.1%
Can talk to father about problems	1.5%
Get free or reduced-price lunch	1.5%
Receive special education services	2.4%
Typical grades in school this year	4.6%
Main plan right AFTER high school	5.3%

Missing Response Rates for AI Students

What are the differences in developmental skills, supports, and challenges across different future aspirations between American Indian and White students?

Research Questions 1



No Graduation

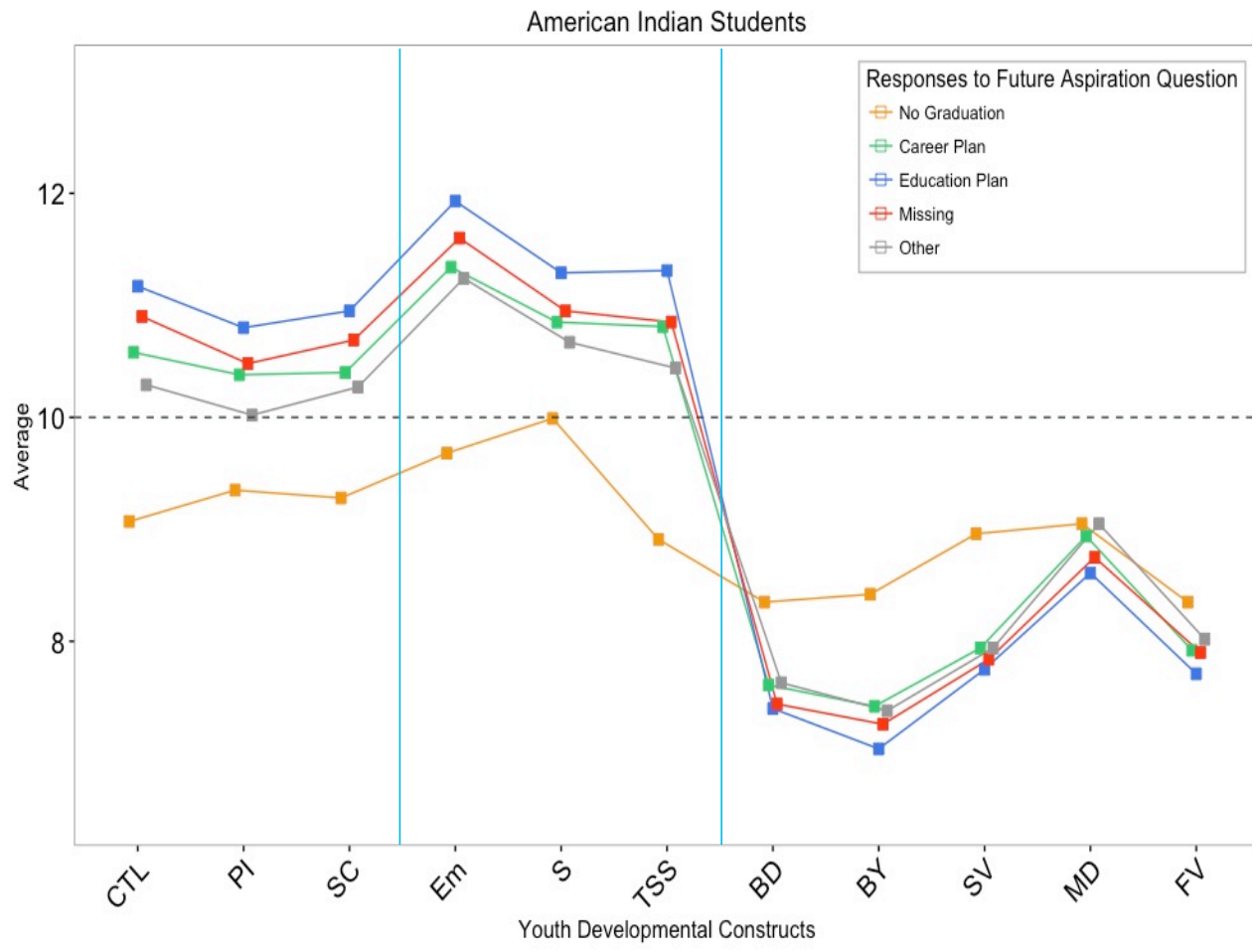
Academic Plans

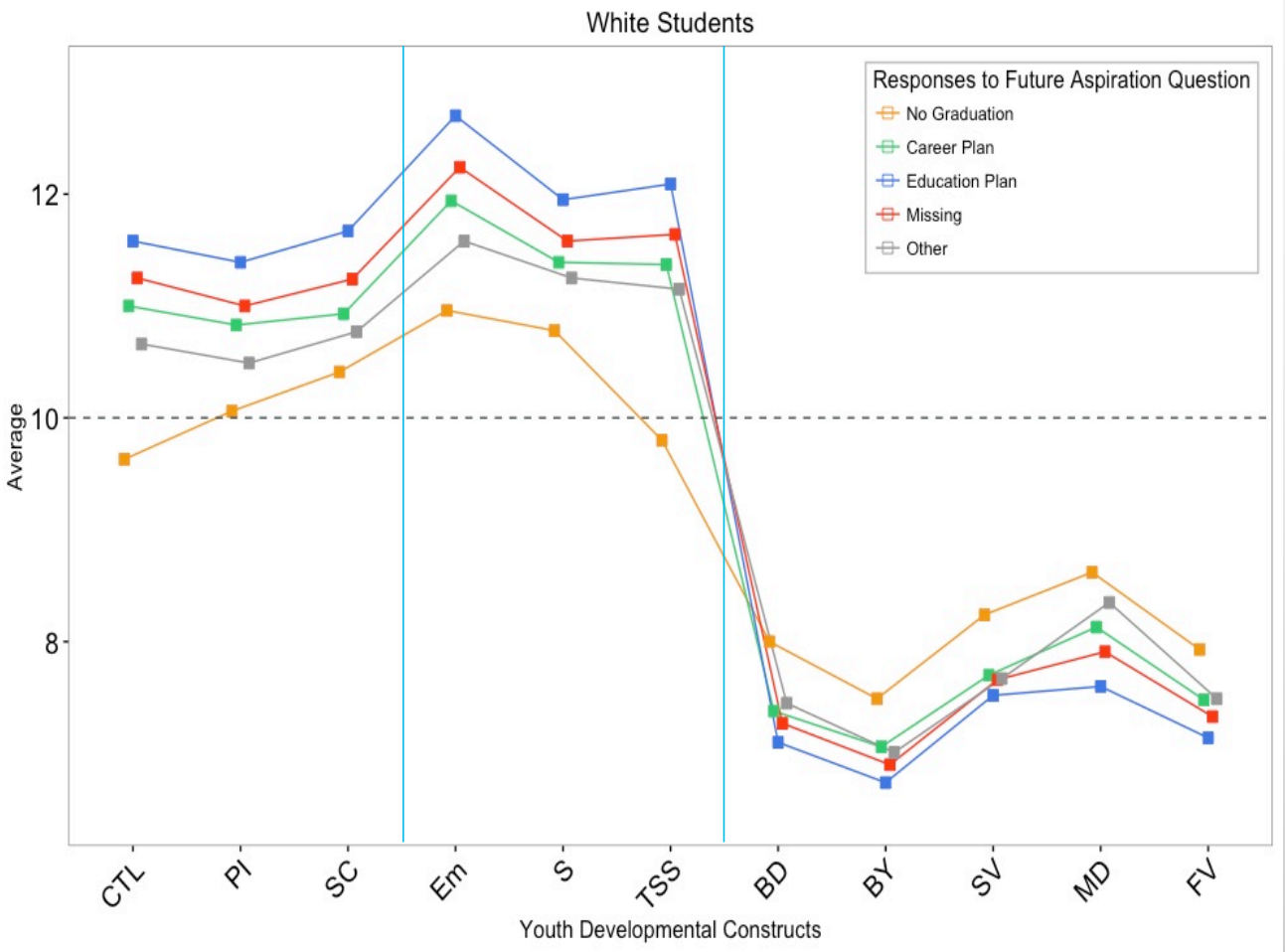
Career Plans

Other

Missing

Future Aspiration – 5 Response Groups





American Indian Students

White Students

To what extent is AI students' non-response to future aspiration question associated with their non-responses to the other items?

Research Questions 2

- Dependent Variable: Whether AI students skipped the future aspiration question (1/0)
- Covariates: sex and grade
- Predictors: whether AI students skipped each item or not (1/0)
  - 11 developmental measures
  - 13 behavioral variables

Logistic Regression Predicting Non-Response

Commitment to Learning

Teacher-School Support

Bullied

Grades

In-School Suspension

Changing School

Number of Alcohol Drinks

Talk to Mother

Talk to Father

Gave Up Social Events

Predictive (Non-Response) Variables

Gender/ Grade

Family/Friend/ Community Support

Empowerment

Social Competence

Positive Identity

Bullying

Family/ School Violence

Mental Distress

Skip School

Community Participation

After-School Activities

Often Use Alcohol

Living with adult who often drinks alcohol

Non-Predictive (Non-Response) Variables

- More research attention is needed for American Indian students, families, schools, communities, and their experiences.
- Missing data can be a meaningful index for group characteristics, especially for exploring various challenges faced by disadvantaged youth.

Implications for Researchers

- Educational intervention needs to focus on closing the gap between academic aspiration and their actual achievement.
- Different educational approaches should be considered for students with no clear future plans.

Implications for Practitioners

- Students who skipped the future aspiration question may not have a concrete plan right after high school graduation.
- Providing adequate support for American Indian students is imperative for their academic and career success.

Implications for Practitioners