



University of Pittsburgh

Keep Calm and Stay Engaged: The Multipathway to Student Engagement in School

Ming-Te Wang

Department of Psychology

School of Education

*Learning Research and Development Center
(LRDC)*

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Richard Snow Award Address



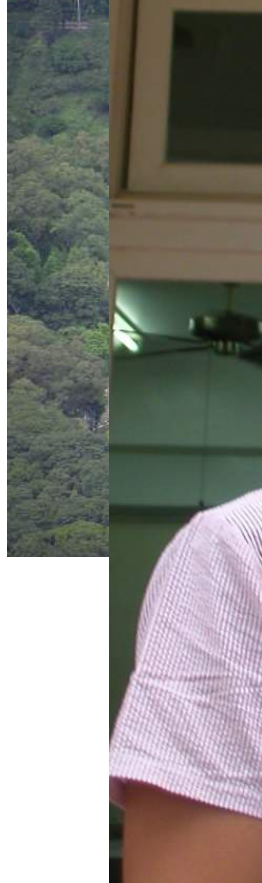
Story in the Mountains



Story in the Mountains



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Story in the Mountains



Research-Practice Partnership Models

- **Model I: Policy-Driven**
- **Model II: Research-Driven**
- **Model III: Practice-Driven**



Model I: Policy-Driven

Student Engagement Measurement

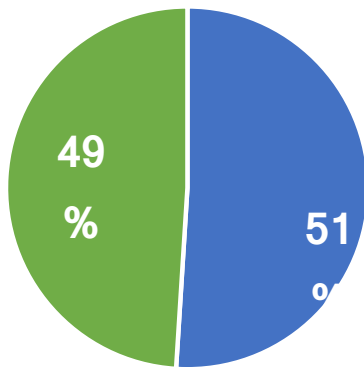
Study Aims

- Use mixed-methods approach to develop and validate multi-method and multi-informant student engagement instruments
 - School engagement and disengagement
 - Student survey
 - Teacher survey
 - Math and Science engagement
 - Student survey
 - Teacher survey
 - Classroom observation

Study Sample

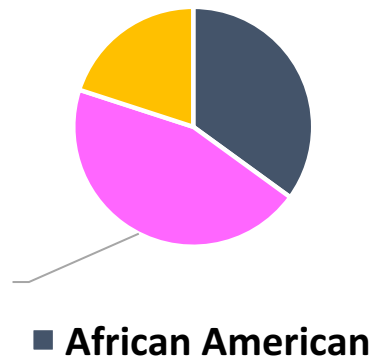
- $N = 4,500$ students and 200 teachers from seven urban and suburban school districts
 - 5th, 6th, 7th, 8th, 9th, 10th, 11th, and 12th graders
- Data collected during 2013-2014 school year

Gender



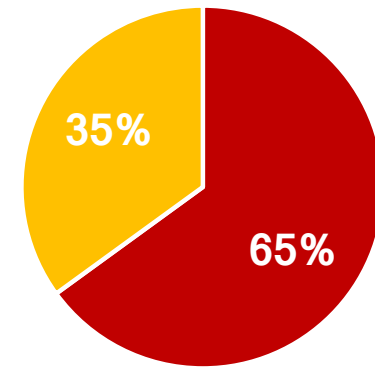
■ Female ■ Male

Race



■ African American
■ White
■ Other

Socioeconomic Status



■ Free Lunch ■ Paid Lunch

Engagement

Cognitive



Social



Behavioral



Emotional



Engagement

```
graph TD; Engagement[Engagement] --> Cognitive[Cognitive]; Engagement --> Behavioral[Behavioral]; Engagement --> Emotional[Emotional]; Engagement --> Social[Social]; Cognitive --> Thoughts["(Thoughts): Self regulated learning; Level of investment/effort for understanding complex ideas"]; Behavioral --> Actions["(Actions): Participation, attention, positive conduct; absence of disruptive behavior"]; Emotional --> Feelings["(Feelings): Positive and negative reactions to teachers, classmates, academics, or school"]; Social --> Interactions["(Interactions): Quality of interactions with peers and adults; willingness to invest in relationships while learning."];
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Cognitive

Behavioral

Emotional

Social

(Thoughts):
Self regulated learning; Level of investment/effort for understanding complex ideas

(Actions):
Participation, attention, positive conduct; absence of disruptive behavior

(Feelings):
Positive and negative reactions to teachers, classmates, academics, or school

(Interactions):
Quality of interactions with peers and adults; willingness to invest in relationships while learning.

Model II: Research-Driven

How to Praise Students?

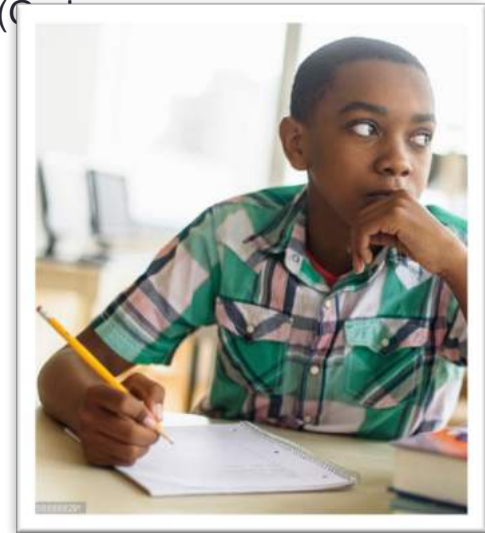
The Role of Teacher Praise

- Teacher praise may be an important motivator for adolescents' sustained engagement in math. (Kamins & Dweck, 1999; Mueller & Dweck, 1998)
- Ability Praise
 - “You’re so smart!”
- Effort praise
 - “You worked so hard!”
- Strategy praise
 - “You found a good way to solve the problems!”



...But the Task May Matter, Too

- Task difficulty → Adequate challenge
- Task performance → Mastery experience
- Task difficulty and performance may predict increases in engagement (Gardner, 1991; Weiner, 1985)



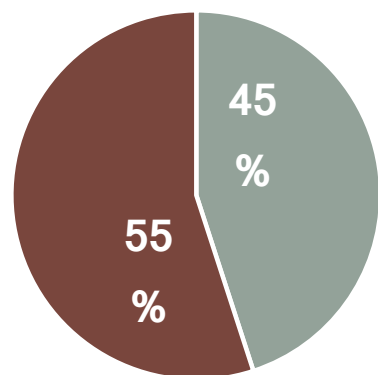
Study Questions

- How does teachers' praise predict students' engagement in math class?
- How do task characteristics—task performance and task difficulty—predict engagement?
- Do these associations differ by students' relationship quality with their teacher?

Study Sample

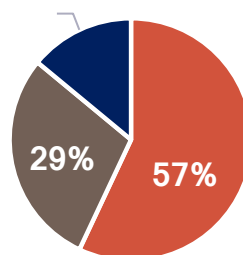
- $N = 190$ eighth grade adolescents
- Data across the 2017-2018 school year
- Students completed 15-day daily diaries in math class

Gender



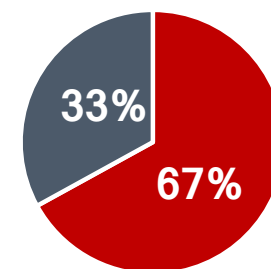
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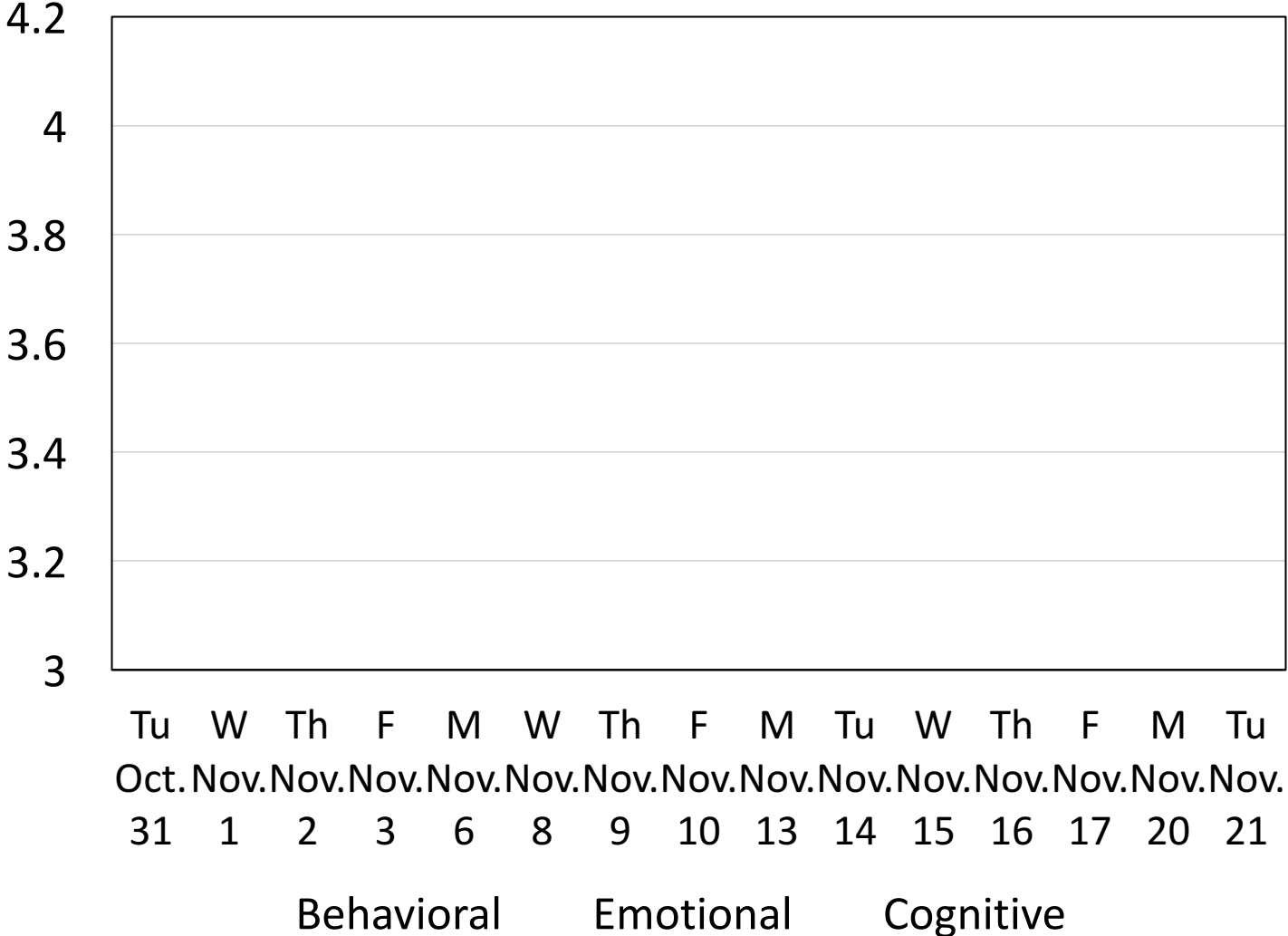
■ African American
■ White
■ Biracial/Multiracial/Other Ethnicity

Socioeconomic Status

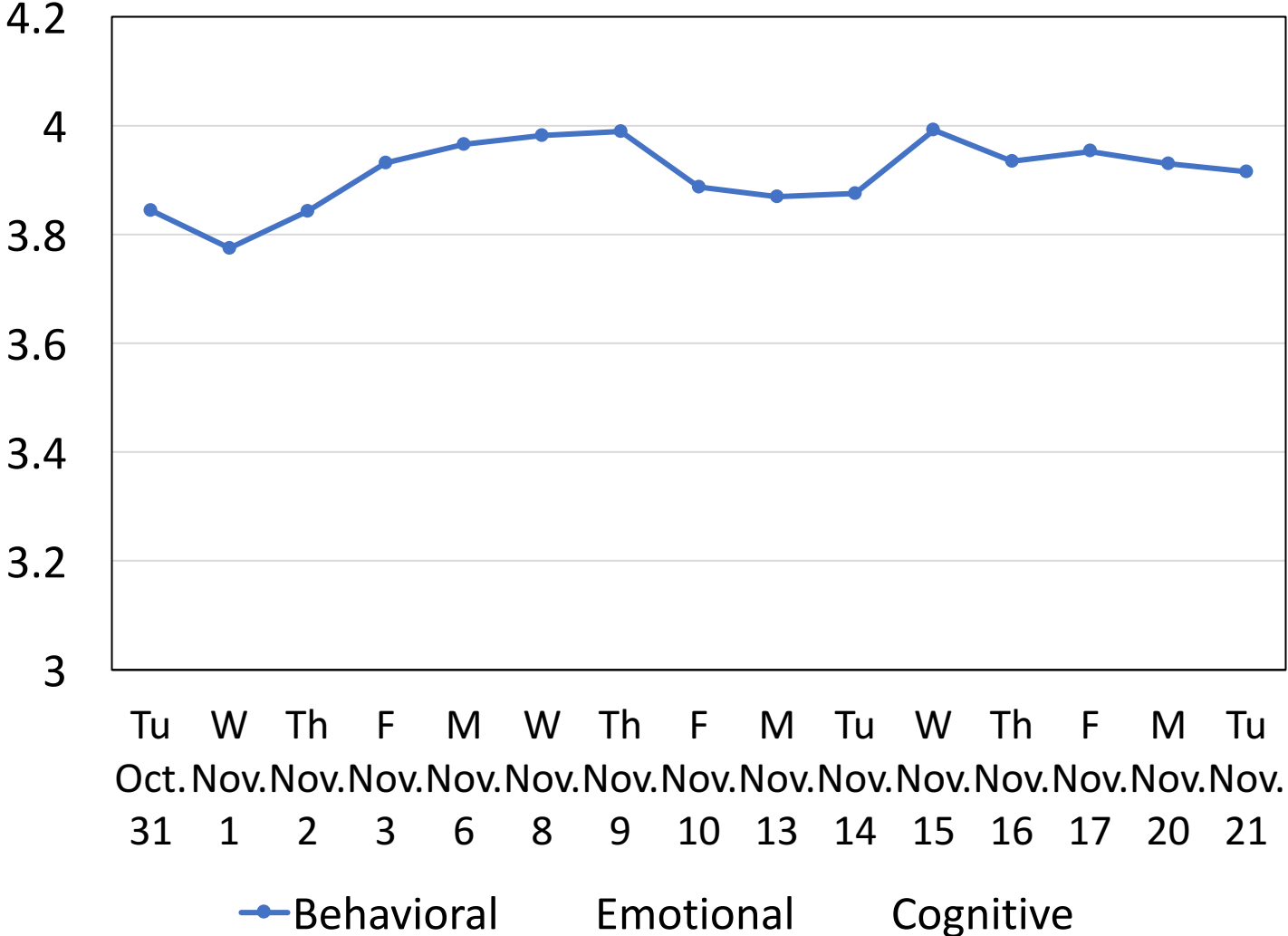


■ Free Lunch
■ Paid Lunch

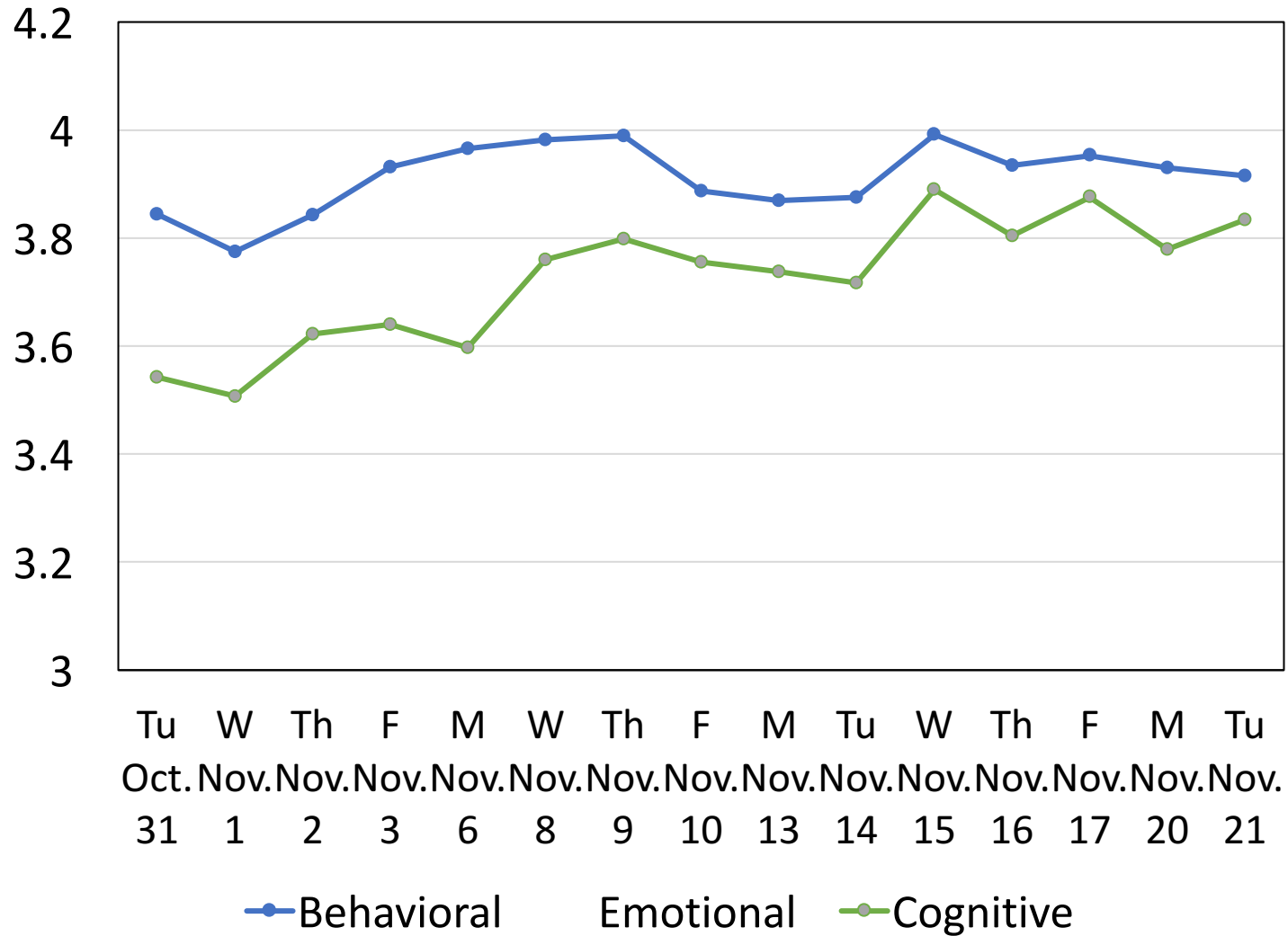
Students' Report of Daily Math Engagement over 15 Days



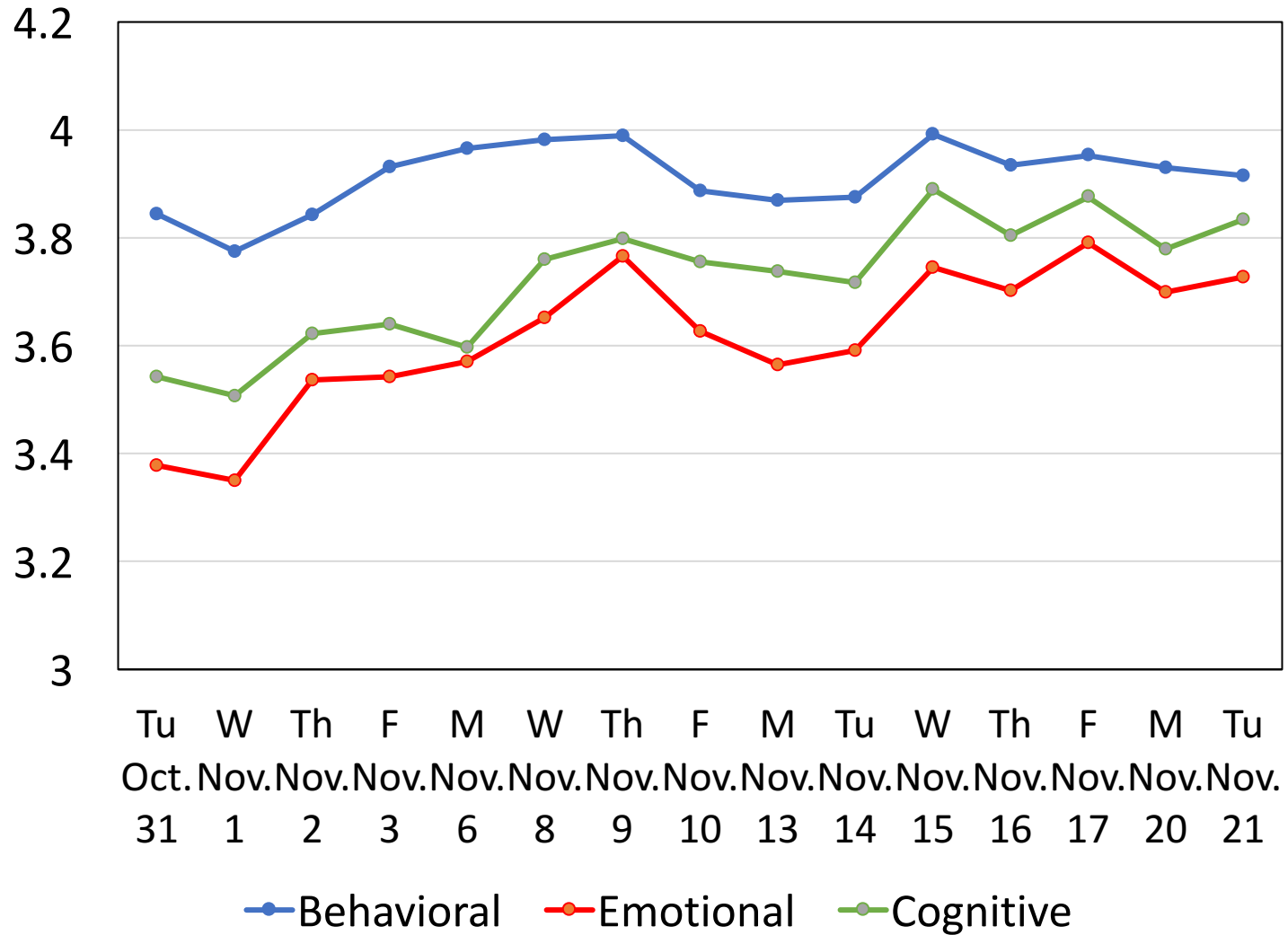
Students' Report of Daily Math Engagement over 15 Days



Students' Report of Daily Math Engagement over 15 Days



Students' Report of Daily Math Engagement over 15 Days



Predictors of Math Engagement: Same Day

	Emotional	Behavioral	Cognitive
Ability praise			
Effort praise			
Strategy praise			
Perceived performance			
Perceived difficulty			

Predictors of Math Engagement: Same Day

	Emotional	Behavioral	Cognitive
Ability praise	+	+	
Effort praise			++
Strategy praise	+		
Perceived performance	++	++	+++
Perceived difficulty			+++

Takeaway: How to Promote Math Engagement?

- Timely feedback is important and can have immediate pay-offs for engagement.
 - Strategy and ability praise can help students feel good in the moment.
 - Effort praise may boost deeper-level learning.
- Mastery experiences are the most important predictor of daily engagement.
- Adequate challenge may have immediate effect on cognitive engagement.



Notable Differences by Student Characteristics

- Relationship Quality with Teacher
 - Ability praise, effort praise, and strategy praise each predicted more same-day engagement (behavioral, cognitive, and emotional, respectively) among students with higher (but not lower) relationship quality.
- Establishing strong teacher-student relationships may help make praise more effective.



Model III: Practice-Driven

School Discipline Practice

Effective school discipline is a challenge across the nation.

Adolescents are prone to engaging in socially rewarding and risky behavior.



A beginning to the school discipline cycle?

- **Zero-tolerance approach:** punish minor misbehavior to deter more serious behavior (American Psychological Association Zero Tolerance Task Force, 2008)
 - For example, infraction for minor misconduct
- Adolescents may view punishment for minor misbehavior as overcontrolling, and in turn, engage in *more* serious defiant behavior to re-establish autonomy (Brehm, 1966; Gregory & Ripski, 2008; Van Petegem, Soenens, Vansteenkiste, & Beyers, 2015)
- Defiant behavior is strongly linked to school suspension (see Okonofua et al. 2016)



Racial disparities in school discipline also continue to be an issue that plagues the U.S.



Racial Disparities in School Discipline

Black students are 3-4 times more likely than their white peers to be expelled or face multiple suspensions from school.

Risk of Being Expelled

Black



White

Risk of Facing Multiple Suspensions



Source: U.S. Department of Education, Office for Civil Rights, Civil Rights Data Collection, 2009-10

American Institutes for Research | www.air.org

To date, little is known about the process of school discipline or what strategies could be more effective.

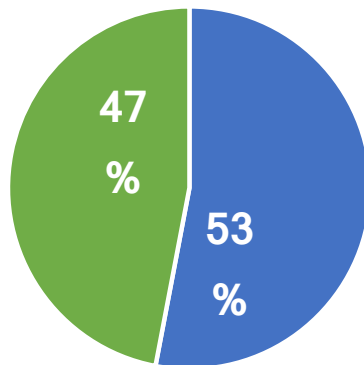
Study Questions

- Does minor infraction lead to reduced defiant behavior?
- Are there racial differences in the minor infraction or defiant behavior?

Study Sample

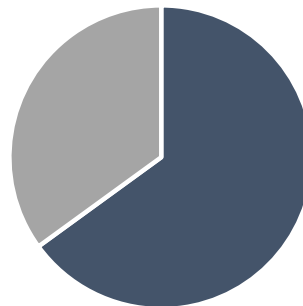
- $N = 729$ adolescents from an urban public school district
 - 6th, 8th, and 10th graders
- Data collected during 2016-2017 school year

Gender



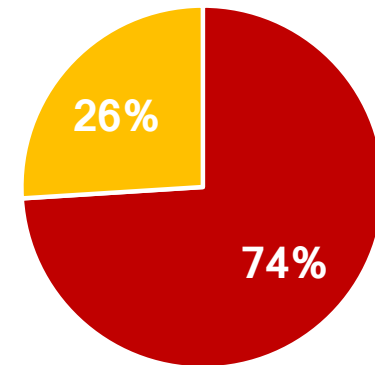
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Minor Infractions

- Infractions for more “prototypical” adolescent misbehavior
- Non-violent
- Not necessarily indicative of school disengagement
- Examples:
 - Dress code
 - Cell phone
 - Horseplay

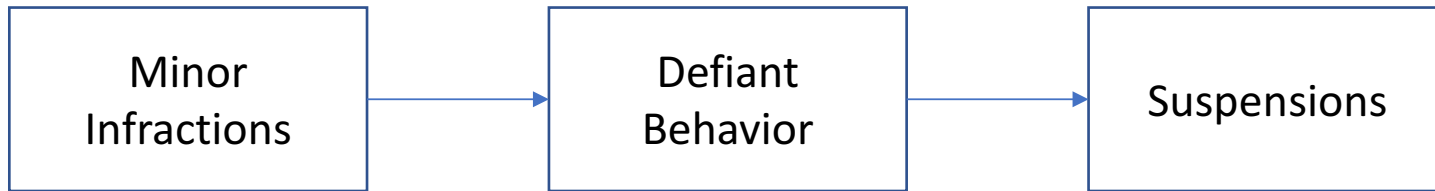
Defiant Behavior

- Intentional defiance of school personnel or school rules
- Examples:
 - Defiance/Disrespect/Insubordination
 - Vandalism

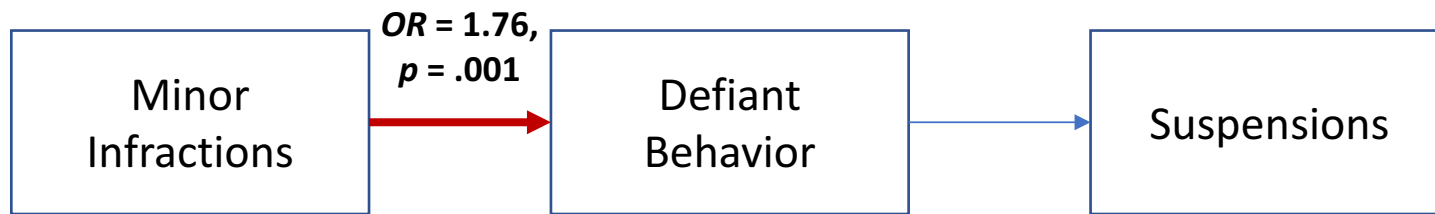
Notable Descriptive Statistics

- **53.4%** of students received at least one minor infraction
- **31.6%** of students received at least one defiant behavior infraction
- **28.3%** of students were suspended at least once
- Race was correlated with suspensions ($r = .13$), such that African American students received more suspensions than their White peers

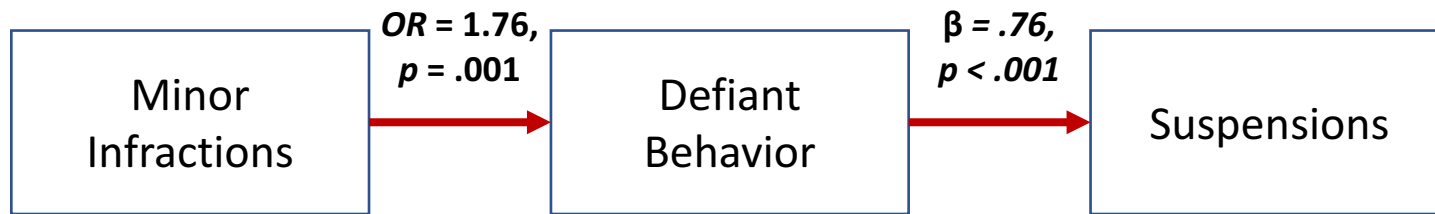
Research Aim 1: Identify a beginning to the school discipline cycle



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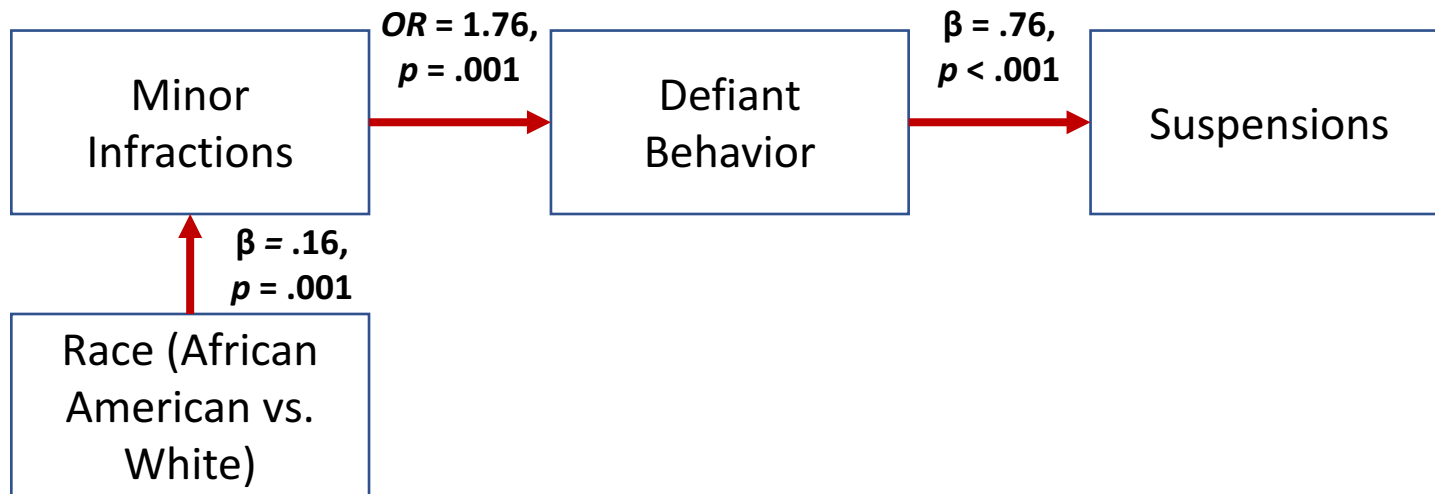


- When students received a minor infraction, they were 1.75 times more likely to receive a defiant infraction the next trimester ($p = .001$).
- Students with defiant infractions received more suspensions across the school year ($\beta = .76, p < .001$).

Research Aim 2: Identify a potential starting point of racial disparities in the school discipline cycle



Research Aim 2: Identify a potential starting point of racial disparities in the school discipline cycle

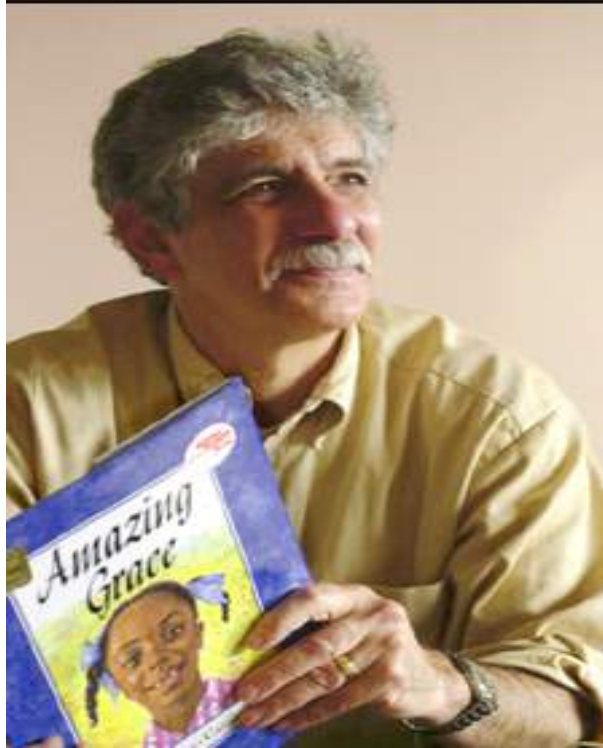


- African American students received more minor infractions than White students ($\beta = .16, p = .001$), controlling for behavior and academic factors.
- Notably, there were no racial differences in defiant behavior infractions.

Takeaway

- Discipline for minor misconduct may have several negative consequences:
 - Result in worse behavior
 - Racial disparities in school discipline
- Yet, it is still critical to maintain classroom order and safety.
 - May need to help teachers use developmentally appropriate behavior management practices that balance adolescent autonomy and structure in the classroom

THANK YOU!!





Thank you to...

**Multiple School Districts
Students, Parents, Teachers, Administration**

Developmental and Motivation Lab
mtwang@pitt.edu

