

Agenda

- 1. Background & Context
- 2. Part 1: Qualitative Findings
- 3. Part 2: Quantitative Findings
- 4. Discussion





The School District of Philadelphia, 2022-23

Graduation Rates*

*Graduation rates based on 2021-2022 data

79%
District Schools

71%
District & Alternative Schools

197,288
Total Student Enrollment

113,443 District Operated 64,498 Charter Enrolled 3,624 Alternative Education 13,405 Cyber Charters 2.318 Other 329
Total Number of Schools

217 District Operated 83 Charter Operated 29 Alternative Education

Student Diversity

Black/ African-American 51% Hispanic/ Latino 23% White 13% Asian 7% Multiracial/ Other 5%

School Funding

Local \$1.7B | State \$2.2B | Federal \$17M | Federal Grant Relief \$555M

173
Languages Spoken by students/family

4950

Students now enrolled in Advanced Placement 34

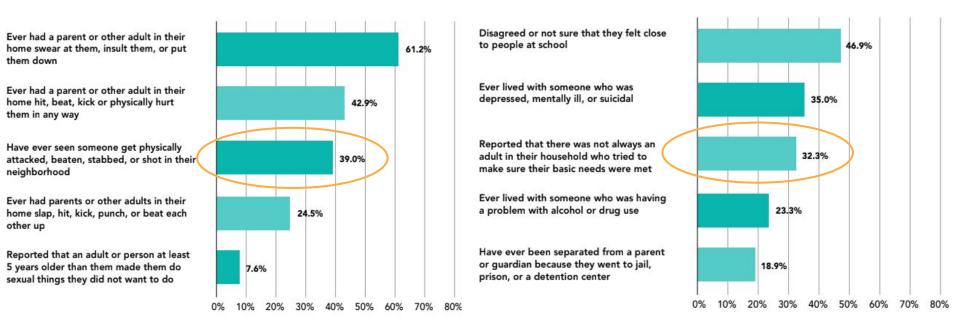
Advanced Placement courses are available across our schools 43

Career and Technical Education Programs 8

International Baccalaureate
Programs

Adverse Childhood Events in Philadelphia

According to the 2021 **Youth Risk Behavior Survey** (YRBS), the percentage of high school students who:



The Philly School Experience Survey (PSES)

- The <u>Philly School Experience Survey</u> (PSES) is SDP's annual District-Wide Survey of students, families, and staff.
- The PSES is grounded in research on school improvement by Bryk and colleagues (2010) at The University of Chicago Consortium on School Research, who found that there are five essential factors ("5Essentials") schools need to improve student outcomes:
 - Effective Leadership
 - Collaborative Teachers
 - Involved Families
 - Supportive Environments
 - Ambitious Instruction
- The PSES includes four subtopics similar to "Supportive Environments" in the 5Essentials:
 - School Safety, Belonging, and Building Conditions (under School Climate)
 - Supportive Classrooms (under Instructional Environment)



Purpose of the Study

• In Fall 2021, SDP leadership expressed a need for more clarity about how respondents (students, in particular) understand and answer our annual PSES survey questions related to belonging, safety, and cleanliness, as part of the District's strategic planning process.

Purpose:

- To understand how students interpret and respond to key survey questions related to the school climate and instructional environment on our annual PSES survey
- To explore patterns in variation in student perceptions of subtopics related to school climate and instructional environment, and factors underlying specific PSES results
- While the overall study focused on four different subtopics, today we will focus most on School Safety, as well as the ways it intersects with other aspects of school climate.
- High-level exploratory study on a complex topic not meant to definitively answer questions, but to better understand and use PSES data and, working closely with partner offices, generate ideas for follow-up research.

Literature

Student perceptions of safety are an important precursor to learning.

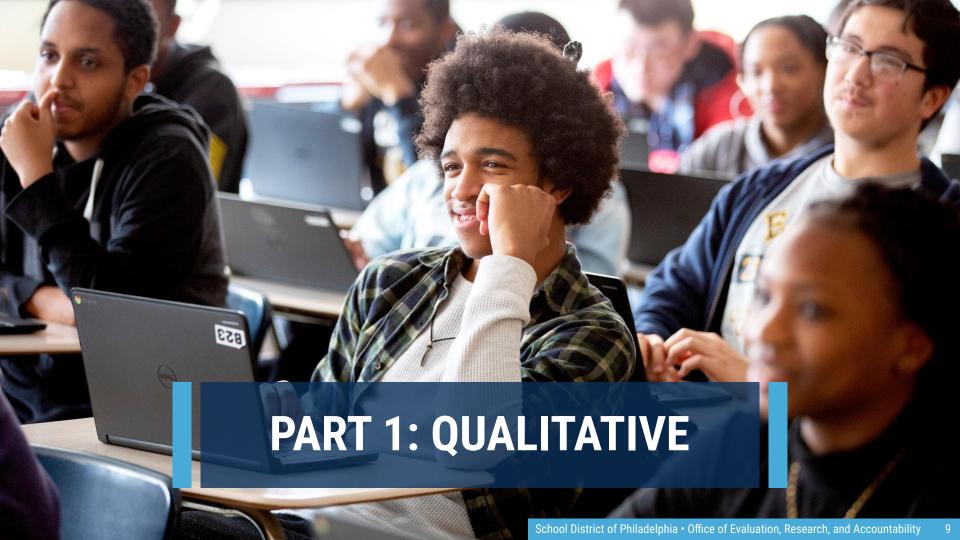
- Low academic achievement is correlated with students' fear of being victimized by school violence. Student fear in school is a
 policy issue, and a major barrier to student learning (Akiba, 2010, p. 69).
- Black and Hispanic students report a lower sense of safety on average, compared to White and Asian students, between schools as well as within schools (Lacoe, 2021).

Recent literature on school safety has identified a need for:

- More comprehensive approaches that address both opportunity and safety gaps (Kingston et al., 2018; Astor et al., 2010).
- Research that documents the contexts of school safety outcomes and how feelings of belonging, connection, and engagement contribute to students' sense of safety (Astor et al., 2010; Williams, 2018).

Recent literature on school climate has identified a need for:

- o Intersectional and ecological frameworks (Katsyuruba et al., 2015).
- "Nested" monitoring and evaluation approaches to account for school climate features that are interrelated, accounting for student-teacher relationships, sense of belonging, consistent rules, and clean and orderly environments (Katsyuruba et al., 2015; Williams, 2018).
- Studies that interrogate school climate experiences along racial lines and that consider critical dimensions of safety such as intersectional identities, academic, social-emotional, interpersonal, and physical safety (Heidelberg, 2022; Heidelberg et al., 2022; Edwards, 2021; Zimmerman, 2021; Lacoe, 2015).
- Addressing the lack of a shared definition of school climate, the dimensions of school climate to be measured, and ways to measure them (Thapa et al., 2013).



Methods: Research Questions

- In order to decolonize and humanize educational research, researchers must "center the realities, desires, and stories of the people with whom we work." (San Pedro & Kinloch, 2017, p. 3738)
- Research Question: How do students understand PSES questions related to school climate and safety?
 - Are students understanding PSES questions in ways that are consistent with what school and district leaders might expect?
 - What physical spaces of their school are students thinking about when they answer PSES questions positively or negatively?
 - What types of school staff are students thinking about when they answer PSES questions positively or negatively?
 - What specific incidents or examples are students thinking about when they answer PSES questions positively or negatively?

Methods

- ORE developed and finalized protocols with input from the Office of School Climate and Culture.
 - Developed questions based on cognitive interview wording
 - Conducted a pilot study with superintendent's student advisory group in June 2022
 - Revised question wording based on student feedback
- There were 15 focus groups between July 19-27, 2022 during summer school sessions.
 - Four focus groups were with English learners with translation support.
- Sessions were audio recorded and professionally transcribed.
- The research team coded and checked all data for emergent themes.

Sample

ORE worked with summer programs to arrange focus groups with 70 students from 42 different District schools:

- 70 students total:
 - 29 high school students
 - 41 middle school students
- Sample was roughly representative of District middle and high school students

	Percentage of Students in Focus Groups	Percentage of District Middle and High School Students
Race/Ethnicity		
Asian	15.7%	6.9%
Black/African American	61.4%	52.6%
Hispanic/Latino	17.1%	21.5%
Multi Racial/Other	4.3%	6.0%
White	1.4%	12.7%
Gender		
Female	44.3%	48.9%
Male	55.7%	51.1%
English Learner Status		
EL	34.3%	15.4%
Non-EL	65.7%	84.6%

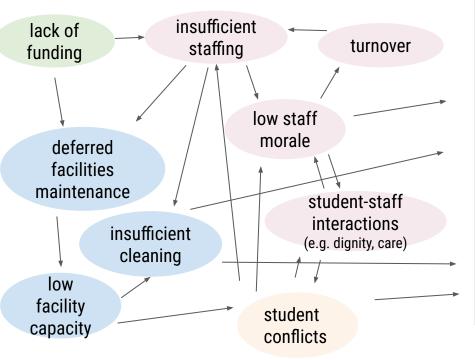
Key Findings: Interconnectedness

Overall, students' responses revealed the interconnectedness of school safety with climate, staffing, cleanliness, building condition, security protocols, discipline practices, belonging and trust.

The bathrooms are dirty, and then there's groups of girls that sit in there and just talk. Or sometimes they'll be in there smoking. Or sometimes, there's only one toilet. Since there's only one toilet, they're all waiting for this one toilet. Then you get yelled at because you're supposedly taking extra trips instead of just going to the bathroom. It's a whole thing. Sometimes, the bathrooms aren't even open. You can't even go to the bathroom.

Multiple, interconnected factors contribute to student experiences

Implicit/contributing factors



Student experience

"The bathrooms are dirty. and then there's groups of girls that sit in there and just talk. Or sometimes they'll be in there smoking. Or sometimes, there's only one toilet. Since there's only one toilet, they're all waiting for this one toilet. Then you get yelled at because you're supposedly taking extra trips instead of just going to the bathroom, Sometimes, the bathrooms aren't even open. You can't even go to the bathroom."

Outcomes

- Physical safety
- Emotional safety
- Health/well-being
- Trusting relationships with staff
- Relationships with peers
- Learning experience
- Sense of belonging

Key Findings: Staffing & Safety

Students felt less safe in spaces without sufficient supervision and when there was chaos/disorder.

- Most students said they answered the safety questions thinking about their physical safety, although some said they thought about emotional safety, or that emotional and physical safety were too interrelated to separate.
- Many students felt safe "most or all of the time" in classrooms. Those
 who did not feel safe cited substitute teachers or the occasional fight.
- About half felt safe stairwells and hallways. Those who did not feel safe cited a very isolated space or unused stairwell, or overcrowding issues (such as pushing during a fire drill).
- About half felt less safe or not at all safe in bathrooms, during lunchtime in the cafeteria, and in the schoolyard, during recess, and at dismissal time. Students noted that many of these concerns stemmed from insufficient supervision.

Unless you're with your friends...You got to watch your back or you going to get jumped.

[Another student:] Yes. Unless you have people around you. Because certain groups, especially in stairways and hallways, there's not enough teachers, I say. But even that, most teachers don't do anything anyways.

Key Findings: Security Protocols, Discipline, & Safety

Students worried about fights breaking out, weapons being brought into school, and school shooters.

- Students shared security concerns regarding cameras, locks, entrances and exits, and protocols and procedures.
- Overall, school safety officers made students feel safer, and students expressed that more school safety presence would make them feel even safer. However, some students did not feel safe being searched or patted down by officers.
- Metal detectors made students feel more safe.
- Others wanted metal detectors to be installed or better enforced.

[Interpreter:] He's saying...where he eats lunch, the door where they exit is the same door where they come in.

Kids sometimes will go outside to buy pizza, they sneak out, and then he comes in and the others open the door...He was like, "A shooter could come in through that door."

Key Findings: Cleanliness, Building Conditions, & Safety

Students' perceptions of cleanliness often stemmed from bathroom conditions, specifically.

- Students understood "clean" to mean that, in general across their school, trash is picked up; there is not generally dust, debris, or evidence of pests; and bathrooms are operational, have adequate soap and toilet paper, and are not filthy.
- Students noted that sometimes things don't get fixed for a long time (e.g., toilets, leaks, etc.) which causes overuse of non-broken items, in turn causing cleanliness issues.
- Students described many problems with pest control, which felt unclean to them.
- Students understood "building condition" to be whether a school was in good repair, beyond what could be fixed easily. They mentioned ceilings bubbling from water damage, mold, pipes, paint cracking, etc.

Bathroom wise, the stalls occasionally they're not clean. Some of the bathroom doors are broken which needs to be a fix. Some of them, they don't lock. Kids can easily go in there.

Key Findings: Belonging

Students cited caring teachers, inclusion, and co-curricular activities as fostering belonging.

- Many students mentioned having friends at school as contributing to their sense of belonging, as well as clubs/extracurricular activities.
- Teachers contribute to a student's sense of belonging when they accommodate different learning styles, understand their circumstances, and help students feel confident in their classes.
- School staff contribute to belonging when they listen, help in difficult situations, help manage emotions, and treat students as a whole person.

We have sports. Sports are a big thing that push people together. And no matter how different you are, you have to work as a team. So, they're very inclusive.

Key Findings: Trusting Relationships

Students trust consistent, fair, and caring adults who keep what they say confidential.

- Many students mentioned counselors as adults they can trust.
- Teachers can foster a sense of trust in the classroom by connecting with students, demonstrating care, and listening.
- When asked about their relationships with staff, students in many focus groups reported feeling distrust for teachers and staff who seem inflexible, unhelpful, dismissive, hostile, disrespectful, or threatening; who escalate situations or react in "immature" ways; and who (in their view) apply rules or expectations inconsistently or unfairly.
- Another common response about feeling distrust and lack of care
 was when teachers and staff did not allow students to go to the
 bathroom when needed, rushed them through lunch, or ignored other
 health issues such as asthma.

Maybe the teacher can just be overall disrespectful. I know that it's really common for teachers to just be downright disrespectful to their students but then proceed to demand respect in return... Openly not caring for emotions, not taking time to slow down and talk with the student if they're clearly struggling, outright denying them help or attention if they need it, policing going to the bathroom.

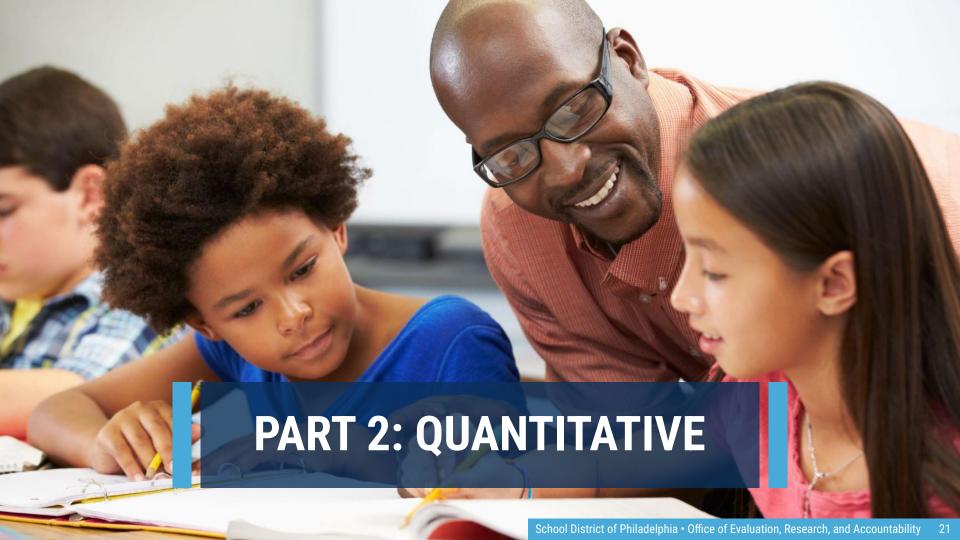
Student Suggestions

Students provided suggestions for improving safety and climate in their schools:

- Increase the number of staff, including security personnel, supervising students in bathrooms, hallways, cafeterias, recess, and at dismissal times. Increase the number of facilities staff, to create a more clean and orderly environment.
- Consistent and fair enforcement of rules.
- More support for and acceptance of LGBTQ students.
- More support for English Learner students, especially Bilingual Counseling Assistants.
- Train staff on conflict resolution skills and de-escalation strategies.
- Treat students as whole people, with more care and empathy.

Try and talk to kids about, I don't know, accepting people with differences.

Because we have about – we have a lot of different people at our school and stuff. We have a lot of LGBTQ people, different people of different races and stuff. And a lot of the kids at our school are terribly racist and homophobic. And it can be real hard trying to be there and stuff for these kids.



Research Questions

- 1. How are the student survey subtopics under School Climate and Instructional Environment (School Safety, Building Condition, Belonging, and Supportive Classrooms) related to each other?
- 2. How much do student results in School Safety, Building Condition, Belonging, and Supportive Classrooms vary, and where does this variation tend to occur?
 - a. How much variation in student responses under these topics is found between schools, and how much is found within schools?
 - b. Which school and student characteristics are most strongly related to variation in results on each of these subtopics?

Today's focus: School Safety

Sample

- The 2021-22 PSES included 50,372 student survey responses from 213 District schools.
- The sample was representative of the District student population in terms of race/ethnicity and gender.
- For the regression analysis, the sample was split into three groups (random assignment). The first dataset was used initially for the model, while the others were used to replicate and test the model to ensure its validity.

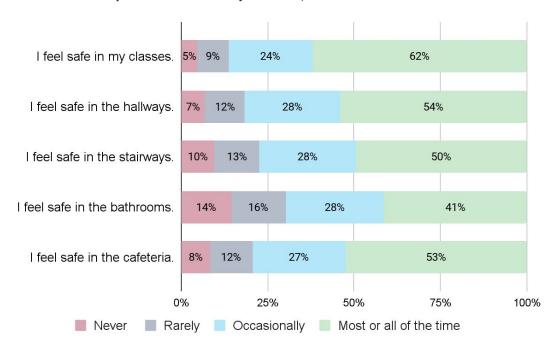
	% of total students enrolled	% of student respondents
Race/Ethnicity		
Black/African American	48%	45%
Hispanic/Latinx	23%	24%
White	14%	15%
Asian	10%	11%
Multi-Racial/Other*	5%	4%
Gender		
Male	51%	50%
Female	49%	50%
Non-Binary	<1%	<1%

Methods

- Exploratory data analysis: including visualizations created using the ggplot2 package available for R statistical software
- **Descriptive statistics:** generated using R statistical software and the internal SDP QlikBAM dashboard for PSES data
- Regression analysis:
 - Setwise multilevel regression modeling for each of the five subtopics, with mixed (fixed and random) effects
 - School Safety subtopic score as the dependent variable, with several categories of independent variables considered:
 - Student demographic characteristics
 - Student attendance and involvement in serious incidents
 - School demographic characteristics
 - School staffing variables
 - Other school characteristics (grade levels, type, building characteristics, crime levels in the surrounding neighborhood)
 - Level 1 covariates group-mean centered to focus on within-school variation, and Level 2 variables grand-mean centered to focus on between-school variation
 - Likelihood ratio tests used to test the value add of each subsequent model (e.g. whether random effects were needed for different types of variables)
 - The model was developed in the training dataset, and tested in two additional samples to ensure its soundness.

PSES School Safety Subtopic

District Student Responses to School Safety Questions, 2021-22



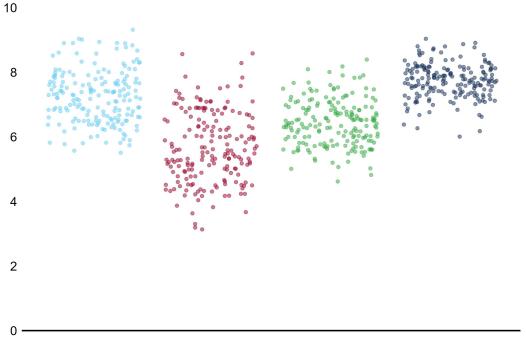
- The PSES School Safety subtopic is composed of 5 questions.
- Each response is assigned a value on a 10-point scale, where "never" = 0, and "most or all the time" = 10.
- "Scaled scores" are averaged across the 5 questions to create a subtopic score at the student, school, or aggregate level.
- Typically subtopics are only produced in the aggregate (for schools or groups of schools), but we are using individual subtopic scores for this exploratory analysis.

Correlations between Climate and Instructional Environment Subtopics



- Strong correlation between students' perceptions of Belonging and Supportive Classrooms
- Moderate correlations between students' perceptions of:
 - Belonging and School Safety
 - Supportive Classrooms and School Safety
 - Building Condition and School Safety
 - Belonging and Building Condition

Variation in School-Level Subtopic Scores

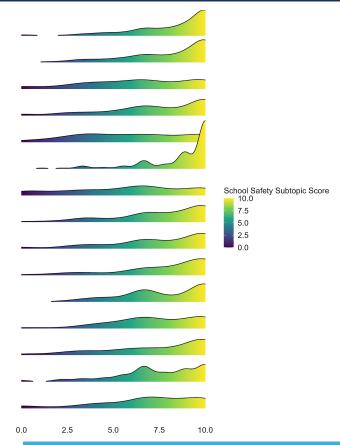


Subtopic	Schools	Mean	Standard Deviation
School Safety	187	7.24	0.81
Building Condition	187	5.65	1.09
Belonging	187	6.43	0.72
Supportive Classrooms	187	7.73	0.53

School Safety Building Belonging Supportive Condition Classrooms

School Safety: Variation in Scores between and within Schools

- This chart shows the distribution of students' School Safety subtopic scores for each of 15 randomly selected District schools.
- Within each school, there are a wide variety of experiences.
- Many students' responses on School Safety questions are scored as 10s, which means they gave the most positive response on all 5 safety questions.
- However, there are many students' whose responses are scored below 5, which means they responded negatively, on average, across the 5 questions.



Quantifying Between-school vs. Within-school Variation in School Safety Scores

Subtopic	Proportion of between- school variation (ICC)	Proportion of within- school variation
School Safety	0.09	0.91
Building Condition	0.17	0.83
Belonging	0.07	0.93
Supportive Classrooms	0.08	0.92

- The intraclass correlation coefficient (ICC) is the proportion of variation in the outcome variable that occurs between groups, compared to the total variation.
- The proportion of between-school variation for these subtopics ranges from 0.07 to 0.17.
- Among these subtopics, Building
 Condition had the greatest proportion of between-school variation.

		Unconditional (Training Dataset)	Final (Training Dataset)	Final (Test 1 Dataset)	Final (Test 2 Dataset)
Multilevel	Fixed Effects				
Multilevei	Intercept	7.31 ***	7.43 ***	7.46 ***	7.42 ***
regression	Age		0.15 ***	0.13 ***	0.15 ***
_	Has IEP		-0.49 ***	-0.39 ***	-0.39 ***
models on	English Learner		-0.24 ***	-0.21 ***	-0.18 **
Cobool	LGBTQ (survey-reported)		-0.55 ***	-0.64 ***	-0.66 ***
School	Black/African American		-0.25 ***	-0.31 ***	-0.22 **
Safety	Hispanic/Latinx		-0.14	-0.11	-0.15 *
Daiety	Asian		-0.18 *	-0.31 ***	-0.26 **
	Multi-Racial/Other		-0.06	-0.28 [*]	0.17
	School % Economically Disadvantaged		-3.02 ***	-3.08 ***	-3.16 ***
	Building Age		-0.0016**	-0.0033*	-0.0015*
	School Teacher Retention Rate		1.52 **	1.45 **	1.80 ***
63% of the	Random Effects				
explainable	σ^2	6.70	6.61	6.49	6.51
variance in School	τ_{00}	0.64 _{ulcs}	0.28 _{ulcs}	0.30 _{ulcs}	$0.24_{ m ulcs}$
Safety scores in	τ_{11}		0.03 _{ulcs_AGE}	0.02 _{ulcsAGE}	0.02 _{ulcs.AGE}
level 2 (i.e. between	ρ_{01}		-0.34 _{ulcs}	-0.15 _{ulcs}	-0.41 _{ulcs}
schools) is explained in the	ICC	0.09	0.05	0.05	0.04
	N (schools)	213	198	198	197
	Observations (students)	16011	15126	15123	15028
final model.	Marginal R ² / Conditional R ²	0.000 / 0.087	0.054 / 0.101	0.054 / 0.102	0.060 / 0.099
				* p<0.	05 ** p<0.01 *** p<0.0
			School District of Phila	delphia • Office of Evaluatio	n, Research, and Accoun

Multilevel
regressio
models o
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In the final model, 96% of total
unexplained
variance is in leve
(within schools).

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Final

(Training Dataset)

Unconditional

(Training Dataset)

Final

(Test 1 Dataset)

Final (Test 2 Dataset)

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English Learner			\uparrow	
LGBTQ (survey-reported)		5		
Black/African American		· · · · · · · · · · · · · · · · · · ·	sociated with a pe	rception of
Hispanic/Latinx		greater school sa	afety.	
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rp<0.001

Marginal R² / Conditional R²

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LGBTQ (survey-reported)		O EE ***	O C 1 ***	n cc ***
Black/African American			↑	
Hispanic/Latinx			•	
Asian		Being an English L	earner or having a	n Individualize
Multi-Racial/Other		Education Program	ns (IEP) is associa	ted with a less
School % Economically Disadvantaged		positive perception	•	
Building Age		other factors in th	and the second of the second o	(**************************************
School Teacher Retention Rate		other ractors in th	e modery.	
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Asian				,
Multi-Racial/Other		Identifying as lesbi		
School % Economically Disadvantaged		non-binary or gend	•	
Building Age		with feeling less sa	afe in school (conti	rolling for othe
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School % Economically Disadvantaged			↑		
Building Age					
School Teacher Retention Rate		Identification as B			
Random Effects σ^2 τ_{00}	6.70 0.64 _{ulcs}	associated with a less positive perception of School Safety, compared to White students (controlling for other factors in the model).			
τ ₁₁	uloo	0.03 _{ulcs_AGE}	0.02 _{ulcsAGE}	0.02 _{ulcs.AGE}	
ρ_{01}		-0.34 _{ulcs}	-0.15 _{ulcs}	-0.41 _{ulcs}	
ICC	0.09	0.05	0.05	0.04	
N (schools)	213	198	198	197	
Observations (students)	16011	15126	15123	15028	
Marginal R ² / Conditional R ²	0.000 / 0.087	0.054 / 0.101	0.054 / 0.102	0.060 / 0.099	

p<0.001

	Unconditional (Training Dataset)	Final (Training Dataset)	Final (Test 1 Dataset)	Final (Test 2 Dataset)
Fixed Effects				
Intercept	7.31 ***	7.43 ***	7.46 ***	7.42 ***
Age		Daine in an aldenb	:1	l
Has IEP		Being in an older b	•	•
English Learner		proportion of econ	•	•
LGBTQ (survey-reported)		is associated with	a less positive per	ception of
Black/African American		School Safety (con	ntrolling for other f	actors in the
Hispanic/Latinx		model).	ŭ	
Asian			I	
Multi-Racial/Other			\	
School % Economically Disadvantaged		-3.02 ***	-3.08 ***	-3.16 ***
Building Age		-0.0016**	-0.0033*	-0.0015*
School Teacher Retention Rate		1.52 **	1.45 **	1.80 ***
Random Effects				
σ^2	6.70	6.61	6.49	6.51
τ_{00}	0.64 _{ulcs}	0.28 _{ulcs}	0.30 _{ulcs}	0.24 _{ulcs}
τ ₁₁		$0.03_{ m ulcs_AGE}$	0.02 _{ulcsAGE}	$0.02_{\rm ulcs.AGE}$
ρ_{01}		-0.34 _{ulcs}	-0.15 _{ulcs}	-0.41 _{ulcs}
ICC	0.09	0.05	0.05	0.04
N (schools)	213	198	198	197
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	Unconditional (Training Dataset)	Final (Training Dataset)	Final (Test 1 Dataset)	Final (Test 2 Dataset)	
Fixed Effects					
Intercept	7.31 ***	7.43 ***	7.46 ***	7.42 ***	
Age		0.15 ***	0.13 ***	0.15 ***	
Has IEP		-0.49 ***	-0.39 ***	-0.39 ***	
English Learner		-0.24 ***	-0.21 ***	-0.18 **	
LGBTQ (survey-reported)		-0.55 ***	-0.64 ***	-0.66 ***	
Black/African American		U JE ***	0 21 ***	0 22 **	
Hispanic/Latinx		Being in a school with higher teacher retention is			
Asian		associated with feeling safer (controlling for			
Multi-Racial/Other		other factors in t	•	oming ror	
School % Economically Disadvantaged		other ractors in the	ne moderj.		
Building Age			↓		
School Teacher Retention Rate		1.52 **	1.45 **	1.80 ***	
Random Effects					
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τ_{00}	0.64 _{ulcs}	0.28 _{ulcs}	0.30 _{ulcs}	0.24 _{ulcs}	
τ ₁₁		0.03 _{ulcs_AGE}	0.02 _{ulcsAGE}	0.02 _{ulcs.AGE}	
ρ_{01}		-0.34 _{ulcs}	-0.15 _{ulcs}	-0.41 _{ulcs}	
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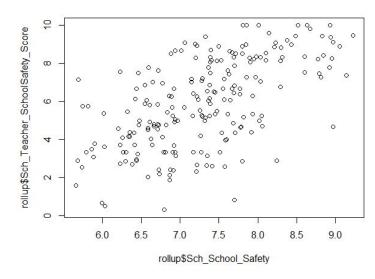
p<0.001

Exploring the complex relationship between staffing and student perceptions of School Safety

- At a school level, teacher perceptions of school crime/safety* are correlated with student School Safety scores (corr=0.59).
- Teacher retention is also correlated with perceptions of school crime/safety.
- Understaffing was mentioned by students in the focus groups as contributing to unsafe conditions. This link was also highlighted in the SDP 2022 <u>Listening and Learning</u> sessions and survey.



District Schools' Student-Reported School Safety Subtopic Scores vs. Teacher-Reported School Crime/Safety Question Scores, 2021-22



^{*}Teachers are asked "To what extent do you consider [school crime/safety] a challenge to student learning?", with a response scale from "not a challenge" (10 pts), "a slight challenge" (6.67 pts), "a moderate challenge" (3.33 pts), "a great challenge" (0 pts).

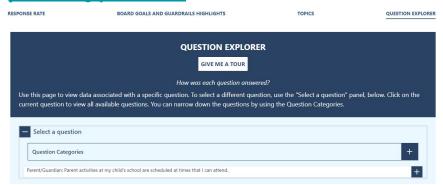
Summary of quantitative research findings

- Climate and Instructional Environment subtopics are all moderately/strongly correlated with one another.
- The majority of variation in student perception of school safety (and other climate and instructional environment subtopics) is within schools rather than between schools.
- Our multilevel regression model explains a small proportion of explainable within-school variance in student perceptions of School Safety.
- Controlling for the other factors in the model, some groups of students report less positive perceptions of school safety than others, on average: particularly LGBTQ students, students with IEPs, ELs, Black/African-American students, and Asian students.
- Controlling for the other factors in the model, building age is associated with less positive school safety perceptions.
- Controlling for the other factors in the model, teacher retention is associated with more positive student perceptions
 of school safety.

Multiple Ways to Explore PSES Results

Interactive PSES Dashboard

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Research & Reports

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