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Many Shades of Climate: Understanding Black Secondary
Students' Perceptions of School Climate in California
Through Latent Class Analysis

A dissertation submitted in partial satisfaction of the
requirements for the degree of Doctor of Philosophy
in School Psychology

by

Shemiyah C. Holland

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June 2026

The dissertation of Shemiyah C. Holland, has been approved by the committee members.

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September 2025

Many Shades of Climate: Understanding Black Secondary Students' Perceptions of School Climate in
California Through Latent Class Analysis

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By

Shemiyah C. Holland

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I would like to express my sincere gratitude to Dr. Shane Jimerson for being patient and reminding me to make progress on this dissertation. I literally think everyone can hear you say, “How’s your Dissertation?” In fact, Nola started to text and ask me everyday, “How’s your dissertation mom?” To Dr. Hui-Ling Malone, thank you for the support and helping me find my voice within my writing. You allowed me to be part of your research which has sparked my enthusiasm to complete this quantitative research study. To Dr. Jon Goodwin, thank you for always pushing me to get unique experiences. To Kaela, my biggest cheerleader even when I wanted to quit. Thanks for being an encouragement and support to me. The long hours sitting at your desk and typing, troubleshooting, and almost about to cry. You were always there for me through every phone call to text, disappointment, and never let me know that I was too much or you could not handle anything that I came to you with. To Lakhvir, you are a marvelous, dynamic statistician. Thank you for pushing me to take higher statistical analysis classes AND being patient with me when I did not understand. I think you may have re-taught the lesson to me in basic terms. I appreciate you! I want to express my appreciation and love to my wonderful, gorgeous daughter Nola who has matured and stepped up to support me through this process. And to my mom, you are the one who created me into this woman, I love you so much! Dad, wish you were here! To Dr. J’s lab, Lakhvir and Jennifer thank you for the long days of working on assignments. To Amber, thank you for always looking over my work and giving me awesome feedback! To my friends and family, thanks for answering my calls and sitting on the phone with me through my tears.

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This doctoral journey has challenged me and pushed me to limits of exhaustion that I did not know even existed. Days went by that I did not even want to see a computer, phone, or any electronics and I shut down my social media because everything going on in this world was too much. I knew that I could not focus on this research. To Dr. Katie who I met Fall 2024 in the dissertation write-in course and then later in Spring quarter for the graduate write in class. Dr. Katie pushed and supported me with such ease and gave me the space and time throughout the year to focus and make progress on my research. I hope that she continues the work that she is doing because it helps and works for the graduate students that use the space she offers properly. Anywho, conferences instill excitement and before my trip to Portugal. I met with the infamous Dr. Karen Nylund-Gibson who offered her time to review my analysis and challenged me to think deeper about what the numbers are saying to me. Dr. Karen enthusiastically asked thoughtful questions to get me to think even higher that I think I was wrapping my head around everything that I could not type until I left for Portugal. Portugal

had the best conference but the worst trip. I slept so much and worked minimally on my dissertation. Thus, I came back to Santa Barbara with my Chapter 4 finished. I'm so excited to know that I have reached the finish line and moving on to the next part of my doctoral journey. Thank you to everyone who has supported me through this, family, friends, and CCSP UCSB family.

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EDUCATION

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2019	Master of Arts, School Psychology, Bowie State University, Bowie, MD • Relevant Coursework: Research Methods and Statistics, Advanced Human Growth and Development, Counseling Children in a School Setting, Curriculum Change and Instructional Methods, Cultural Diversity in Education
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August 2023- present	Graduate Researcher, Malone Lab, Department of Education, UCSB - Review of literature, Methods- CBPR & Photovoice, implement focus groups with high school students, planned UCSB student visit, coordinated student presentation with community partners - CBPR workshops with undergraduate students (review of literature, annotated bibliography, data collection and analysis)
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August 2018- May 2019	Practicum Student, Calvert County Public Schools, MD Calvert High School & Huntingtown Elementary School

PUBLICATIONS

Kaur, L., Holland, S., Reinke, A., Quintanilla, J., Ortiz, A., Thompson, M., & Jimerson, S. R. (in progress). Advancing Culturally Responsive Practices to Support Multilingual Learners: Sí, Se Puede; ਹਾਂ, ਇਹ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ; Yes, It Can Be Done.

Perez, M. G., Castro, Laís de, Freitas, D. D., Lorenzetti, L., Delivorias, P., Paragiou, E., Karamousoulis, M., Mittelstet, A., Kaur, L., Holland, S., Reinke, A., Malucelli, T., Dini, C., Ascari, B., Corridore, S., Russo, A., Guzzo, R. S. L., Jimerson, S. R., Matteucci, M. C., & Hatzichristou, C. (in progress). Cultural Differences Across School Psychology: Graduate Students' Perspectives on Role, Training, and Career Pathways.

Jimerson, S. R., Reinke, A., Kaur, L., Holland, S., Quintanilla, J., Mittelstet, A., & Alvarez, L. (2025). Understanding school psychology internationally: An introduction to pioneering resources and research from the 1900's. *International School Psychology World-Go-Round*, 53 (2), 14-22.

<https://ispaweb.org/wp-content/uploads/2025/06/WGR-ISPA-V53-N2.pdf>

Jimerson, S. R., Allen, J., Arora, P., Blake, J., Canivez, G., Chambers, C., Chan, M., Espelage, D., Gonzalez, J., Gormley, M., Graves, S., Holland, S., Huang, F., January, S., Kaur, L., Kim, E., LaSalle, T., Mittelstet, A., Phelps, C., Reinke, A., Renshaw, T., Song, S., Sullivan, A., Wang, C., Worrell, F., & Yang, C. (in press). Advancing diversity, equity, and inclusion in school psychology science and scholarship: Changing training and practice in the field of school psychology. *Canadian Journal of School Psychology*, Online First

<https://doi.org/10.1177/08295735241266746>

Scott, D., Dunn, S., & Holland, S. (Revise & Resubmit) Nzima Stages of Human Development: An inclusive model for understanding lifespan development.

ACADEMIC CONFERENCE PRESENTATIONS

Holland, S., Kaur, L., Reinke, A. L., Quintanilla, J., & Jimerson, S. R. (2025, August). School climate perceptions among Black middle and high school adolescents: A latent class analysis. Presentation at the American Psychological Association conference in Denver, Colorado.

Holland, S., Kaur, L., & Jimerson, S. R. (2025, July). Understanding school climate perceptions among Black students in California. Presentation at the International School Psychology Association conference in Coimbra, Portugal.

Malone, H., Holland, S., Russell-Halterman, K., Farrise, K., & Gaddis, Z. (2025, July). Using our voice through photos: Confronting Anti-Blackness in a California school district through action research. Presentation at the International School Psychology Association conference in Coimbra, Portugal.

Quintanilla, J., Alvarez, L., Holland, S., & Jimerson, S. R. (2025, July). Supporting Immigrant Families in California Schools: International Implications. Presentation at the International School Psychology Association conference in Coimbra, Portugal.

Kaur, L., Weber, M., Zhang, C., Jimerson, S. R., Martinsone, B., Allen, K. A., Hatzichristou, C., Omarshvili, M., Martinelli, V., Bartolo, P., Holland, S., Mittelstet, A., Reinke, A., and SCCS colleagues (2025, July). International development and validation of the School Cultural Congruity Scale. Presentation at the International School Psychology Association conference in Coimbra, Portugal.

Guzzo, R., Gentili Perez, Lorenzetti, L., Martins, L., M., Kaur, L., Holland, S., Mittelstet, A., Reinke, A. & Jimerson, S. R. (2025, July). Competencies and responsibilities: An analysis of school psychology in Brazil and the United States of America. Presentation at the International School Psychology Association conference in Coimbra, Portugal.

Kaur, L., Weber, M., Zhang, C., Mittelstet, A., Jimerson, S.R., Holland, S., Reinke, A. (2025). Cross Cultural Validation of the School Cultural Congruity Scale. Poster presentation at the National Association for School Psychologists Annual Conference in Seattle, Washington.

Jimerson, S. R., Kaur, L., Zhang, Y., Weber, M., Reinke, A., & Holland, S., (2025, February). Development and Validation of the School Cultural Congruity Scale: A Cross National Study. Paper presentation at a Special Session at the annual conference of the National Association of School Psychologists Conference. Seattle, Washington.

Malone, H., Russell-Halterman, K., Holland, S. (February, 2025) “Using Our Voice through Photos: Confronting Anti-Blackness in a California School District through Action Research” [Paper Presentation] Ethnography Forum, Philadelphia, PA

Allen-Barnett, A., Santana, D., Doss, Y., Holland, S., Green, J. G., & Jimerson, S. R. (2024, December). Disaster Preparedness for Students with Disabilities: A Systematic Literature Review. Presentation at the National Center for School Mental Health Conference in Orlando, Florida.

Holland, S. (2024, November). Latent Class Analysis Examining Perceptions of School Climate among 10th Grade Black Adolescents. Presentation at the Department of Counseling, Clinical, and School Psychology 2024 Research Festival in Santa Barbara, California.

Kaur, L., Reinke, A., Holland, S., Jimerson, S.R., O'Malley, M. (2024). An Exploratory Latent Class Analysis of School Climate Perception Among Indian American Adolescents. Poster presentation at the Asian American Psychological Association at Atlanta, Georgia.

Kaur, L., Weber, M., Zhang, C., Mittelstet, A., Holland, S., Reinke, A., Jimerson, S.R. (2024, October). Cross Cultural Validation of the School Cultural Congruity Scale. Poster presentation at the American Psychological Science Summit, Virtual.

Kaur, L., Holland, S., Reinke, A. L., Mittelstet, A., & Haddock, A., & Jimerson, S.R. (2024, October). Understanding Perception of School Climate among Diverse Adolescents. Presentation at the California Association of School Psychologists conference. Palm Springs, California.

Kaur, L., Reinke, A., Holland, S., Jimerson, S.R., O'Malley, M. Romero, L.(2024). Understanding Indian American Adolescents' Experiences in Schools and MTSS approaches. Paper presentation at the California Association of School Psychology in Palm Spring, California.

Kaur, L., Holland, S., Reinke, A. L., Mittelstet, A., & Haddock, A., & Jimerson, S.R. (2024, July). An Exploratory Latent Class Analysis of School Climate Perceptions Among Diverse Adolescents. Presentation at the International School Psychology Association conference. Riga, Latvia.

Kaur, L., Holland, S., & Jimerson, S. R. (2024, February). Latent-Class Analysis: School Climate Perception Among Asian Indian 10th Grade Students. Presentation at the National Association of School Psychologists conference. New Orleans, Louisiana.

Rodriguez Robles, A., Perez, E., Holland, S., Paul, M., & Quirk, M. (2024, February). Examining the Effects of Dual Language Instruction on Executive Functioning. Presentation at the National Association of School Psychologists conference. New Orleans, Louisiana.

Perez, M. G., Castro, Laís de, Freitas, D. D., Lorenzetti, L., Delivorias, P., Paragyiou, E., Karamousoulis, M., Mittelstet, A., Kaur, L., Holland, S., Malucelli, T., Dini, C., Ascari, B., Corridore, S., Russo, A., & Guzzo, R. S. L. (2023, July). Cultural Differences Across School

Psychology: Graduate Student's Perspective. Presentation at the International School Psychology Association conference. Bologna, Italy.

Mittelstet, A., Kaur, L., Holland, S., & Jimerson, S. R. (2023, July). Developing Safe, Supportive, and Effective School Climate: Promoting Student Engagement, Preventing Bullying, and Recognizing the Role of School Cultural Congruity. Workshop at the International School Psychology Association. Bologna, Italy.

Kaur, L., Mittelstet, A., Holland, S., & Jimerson, S. R. (2023, July). Preliminary Development and Validation of the School Cultural Congruity Scale. Presentation at the International School Psychology Association conference. Bologna, Italy.

Holland, S., Easley, M., Scott, D. M. (2019, July). Understanding the Impact of Age, Race, and Gender on Learner Empowerment and Instructor Connection among College Students. Presentation at the International School Psychology Association conference. Basel, Switzerland.

Holland, S., Easley, M., Scott, D. M. (2019, April). The Impact of Demographic and Course Perception factors on Student Empowerment to Engage in College Courses Among Ethnically Diverse Students. Presentation at the DC Consortium Student Conference on Evaluation & Policy. Washington, DC.

Bey, Q., Easley, M., Hall, R., Holland, S., Kerner, A., McWilliams, S., Sanchez, C., Spencer, T., Turner, B., & Wilkerson, B., & Scott, D. (2018, April). The Relationship between Cultural Competency, Burnout, and Implicit Bias among School Psychologists. Presentation at the Maryland School Psychological association in Hanover, MD.

SERVICE

January 2025-Present	Letter of Recommendations for undergraduate students
August 2024-June 2025	Student Representative of Clinical, Counseling, School Psychology
	& Faculty Executive Committee for Gevirtz Graduate School of Education
August 2025-present	Psychology in the Schools student editorial board
August 2024-present	Ambassador/Mentor for Pathways 2 Professoriate
May 2021	Mock Interviewer for Internship Applications at Bowie State University
August 2018-May 2019	Student Representative for Maryland School Psychologists Association

PANELIST

May 20, 2025 1150	Taco 'Bout Grad School ONDAS Student Center Kerr Hall University of California, Santa Barbara
January 2025 School	Career Graduate Student Panelist for Clinical, Counseling, Psychology
October 2024 School	Career Graduate Student Panelist for Clinical, Counseling, Psychology
October 2023 School	Career Graduate Student Panelist for Clinical, Counseling, Psychology

AFFILIATIONS/MEMBERSHIPS

April 2025- present	Trainers of School Psychologists individual membership
August 2022- present	California Association of School Psychologist graduate student member
August 2017- present	National Association of School Psychologists graduate student member
March 2018- present	International School Psychology Association graduate student member
August 2017- present	Graduate Student Association student member (Bowie State and UCSB)
August 2017- June 2020	Maryland School Psychologists Association graduate student member/ representative

AWARDS/FELLOWSHIPS

August 2025	APA Division 16 Student Poster Winner
June 2025 (Sankofa	Outstanding Contribution in Mixed Methods Research Scholarship Collective & Wayne State University)
June 2025	Sankofa Scholarship Collective (\$250)

March 2025	SBCPA Student Equity Award Partial Scholarship (\$250)
June 2024	International Center for School-Based Youth Development (iCSBYD) Student Research Award (\$140)
March 2023	SBCPA Student Equity Award Partial Scholarship (\$200)
August 2022-present Barbara	Project TEAMS Fellow: University of California, Santa

Positionality

As a Black woman and mother who grew up in the public education system in Maryland, where I also worked as a school psychologist, I ask, “Why are marginalized students still going through many of the same challenges that I experienced in school, and why are these experiences still happening in 2025?” Through my scholarship and professional efforts, I aim to contribute knowledge and consultation to educators on how to build relationships with minority students who face cultural mismatches and help them connect more effectively with students who seem unmotivated or uninterested in the classroom. I seek to further understand the perceptions of Black youth, as their perspectives are largely missing from the research. My commitment is to advance understanding and support Black students and families facing educational challenges and anti-Blackness.

Abstract

Many Shades of Climate: Understanding Black Secondary Students' Perceptions of School Climate in California Through Latent Class Analysis

By: Shemiyah C. Holland

A positive school climate is foundational to creating a space where students are able to succeed and progress in their academic performance, well-being, and overall development. This dissertation used Phenomenological Variant of Ecological Systems Theory (PVEST) and intersectionality as conceptual guides to examine perceptions of safety and belonging in a statewide sample ($N = 8,224$) of Black middle and high school students in California. The broader project encompassed two studies. The first study employed a latent class analysis to identify patterns in 7th, 9th, and 11th grade students' perceptions of school climate. This study analyzed the response patterns and identified the number of classes enumerated to understand how students perceived school climate by grade. The second study conducted a covariate analysis to explore how perceptions of school climate varied by gender and parental education level. Study 2 found significant differences at different grade levels and the impact of parent level of education and gender. Both studies advanced our understanding of within-group differences among Black youth, in regards to how they perceived their school climate. School climate is crucial to a student's success, and educators should foster a sense of safety, inclusion, and emotional support for the development of all students. Implications for school professionals to support Black students are discussed.

Keywords: school climate, Black youth, latent class analysis, California, covariate analysis

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Chapter 1: Introduction

The California Department of Education (CA DOE) provides guidance to school districts to create a secure and supportive environment where students feel safe and connected, supporting their emotional development. In 2023, CA DOE conducted a climate survey examining students' perspectives on belonging [school belonging, relationship with adults, safety, and meaningful participation]. The data helps students, families, and teachers better understand their learning and working environment. It also informs the California School Climate Policies that include measures that address bullying prevention, school safety plans, reducing discrimination, alternatives to expulsion, mental health services, increasing parent involvement, and media literacy. California also has several policies addressing dating violence, sexual harassment education, and healthy relationship education (NSCC, 2021).

It is important to approach climate survey data in a comprehensive way that honors the realities of every Black student's day to day school experiences. This dissertation used Phenomenological Variant of Ecological Systems Theory (PVEST) and intersectionality as conceptual guides to examine perceptions of safety and belonging in a statewide sample ($N = 8,224$) of Black middle and high school students in California. Integrating PVEST and intersectionality helped identify complexity in Black students' experiences. Study one employed a latent class analysis to identify patterns in 7th, 9th, and 11th grade students' perceptions of school climate. This study analyzed the response patterns and identified the number of classes enumerated to understand how students perceived school climate by grade. The second study conducted a covariate analysis to explore how perceptions of school climate varied by gender and parental education level. Study 2 found significant differences at different grade levels and the impact of parent level of education and gender. Findings indicated individual Black students experience school safety, belonging in different ways, with differences in perception associated with grade level, parental education level, and gender as established intersections of social identity. Findings also encouraged school researchers to develop

more accurate school safety and belonging measures, and to critically read data in conversation with broader literature on Black education.

Historical Context of Black Education

The history of Black education in the United States is a powerful testament to resilience, determination, beginning during the era of enslavement when the pursuit of literacy was a courageous act of resistance and hope. Despite laws in Southern states prohibiting their education, enslaved people created clandestine schools and seized opportunities to learn (Edwards, 2010). After the Civil War, the establishment of the Freedmen’s Bureau in 1865 marked significant progress, leading to the founding of numerous Historically Black Colleges and Universities (HBCUs; e.g., Bowie State University, Claflin University). However, this progress faced severe setbacks with the implementation of Jim Crow laws and the *Plessy v. Ferguson* (1896) decision, which entrenched educational segregation and inequities. *Plessy v. Ferguson* (1896) was a U.S. Supreme Court case that upheld the constitutionality of racial segregation under the “separate but equal” doctrine. The ruling essentially legalized segregation in public facilities for the next half-century until it was overturned by *Brown v. Board of Education* in 1954.

The landmark *Brown v. Board of Education* decision in 1954, followed by the Civil Rights Act of 1964, marked crucial turning points in the fight for educational equality. Brave individuals like Ruby Bridges and the Little Rock Nine became powerful symbols of progress as they integrated previously segregated schools. However, challenges persisted through “White flight” to the suburbs, which fundamentally altered urban educational landscapes by concentrating poverty in schools and eroding crucial tax bases for school funding. In California, these dynamics played out in various ways. In Pasadena, a federally mandated desegregation order in 1970 initially reflected demographic parity. However, white flight led to a sharp decline in white student enrollment in 2004, as affluent families shifted toward private schools, prompting district leaders to launch initiatives to get white families back to public schools. *Crawford v. The Board of Education of the City of Los Angeles* led

to court-ordered plans for mandatory busing in 1977, which met resistance and legal challenges, including the approval of California's Proposition 1 in 1979 to prohibit such measures.

Modern disparities continue to affect Black education, such as school districts with large populations of Black students receiving significantly less funding, a \$23 billion gap as of 2019. These funding inequities manifest in adequate facilities, outdated resources, and limited access to advanced coursework. Additionally, Black students face disproportionate disciplinary actions, being 3.8 times more likely to receive out-of-school suspensions, and they remain underrepresented in advanced science, technology, engineering, and mathematics (STEM) courses and gifted programs while being overrepresented in special education programs.

Educational disparities and systemic inequities experienced by Black students are well documented, with scholars highlighting the pervasive role of antiblackness and structural racism in shaping these outcomes (Dumas, 2016; Ross & Givens, 2023). The Phenomenological Variant of Ecological Systems Theory (PVEST) developed by Spencer (2006) is a framework for understanding Black youth and how they navigate complex ecological systems characterized by risk and protective factors, self-appraisal, and identity formation. PVEST centers the lived experiences of marginalized youth and emphasizes the meaning-making processes through which students interpret systemic stressors and develop coping strategies. This approach shifts the focus from deficit-based models that pathologize Black students toward a strengths-based perspective that recognizes adaptive coping and emergent identities shaped by context.

Research on school discipline highlights the disproportionate punitive measures faced by Black students, often attributed to implicit bias and systemic inequities (Skiba et al., 2011; U.S. Department of Education Office for Civil Rights 2016). PVEST contextualizes these disparities within broader societal systems, arguing that behaviors interpreted as problematic may be coping mechanisms to chronic racialized stress. This theoretical understanding becomes particularly relevant when examining the historical trajectory from overt segregation to contemporary forms of educational marginalization. There are other critical frameworks such as BlackCrit theory (Dumas & Ross, 2016)

that extend on PVEST by centering anti-blackness as a fundamental axis of oppression within education. This challenges educators to recognize and dismantle the systemic forces that reproduce racial inequities, underscoring the limitation of colorblind or ostensibly neutral policies. Edwards (2021) calls for an intersectional ecological approach that centers race in defining school safety and student well-being, complementing PVEST's focus on individual meaning-making with structural contexts.

The education system also grapples with workforce challenges, as only 7% of public school teachers are Black (2020), creating a significant representation gap. This disparity has historical roots, with Black teachers historically receiving substantially lower pay than their White counterparts. The limited pipeline for Black educators, combined with high turnover rates in high-needs schools, continues to affect educational outcomes for Black students. Anderson & Stevenson (2019) further argue that racial socialization within supportive environments can mitigate racial stress and promote resilience, supported by racial identity affirmation to improve psychological and academic outcomes (Seaton, 2020). Culturally responsive pedagogy and identity-affirming practices emerge as protective factors (Cross, 1991; Ladson-Billings, 1995). These approaches support academic engagement and bolster Black students' self-concept and adaptive coping, essential elements identified in PVEST's model of emergent identity. Mentoring and curricula that incorporate Black history and cultural narratives provide counter spaces that resist dominant deficit narratives and foster a positive racial identity (Morris et al., 2019; Toldson et al., 2019).

Furthermore, the COVID-19 pandemic exposed and exacerbated existing technological disparities, highlighting the challenges of remote learning in low-income communities. Recent social movements, including Black Lives Matter in Education, have influenced educational discourse by pushing for more culturally responsive teaching and curriculum reform. Black students are not having the same educational experiences as their non-Black peers (Harry & Klingner, 2006; Skiba, 2005). Black students are overrepresented in Special Education and remedial courses and are disciplined more often than other students (Harry & Klingner, 2006; Skiba, 2005). For instance, Black students at

two Central Coast High Schools reported the following themes based on their school experiences: a) basic needs being neglected, b) experiencing anti-blackness, c) wanting more community, opportunity and support, d) racial experiences with school personnel and with peers, e) a lack of support in representation and in celebration of Black culture and community, and f) appreciation of teachers and student resources (Malone et al., 2025).

Participatory research with Black youth demonstrates the importance of attending to students' own interpretations of their schooling experiences (Hope, Skoog, & Jagers, 2015). This aligns with PVEST and the BlackCrit theory to center Black voices in the development of policies and practices that impact their educational trajectories. Some California school districts have attempted to address racial slurs and anti-Black sentiments in their schools. In Oxnard, the school district banned the use of the word "Oaxaquita" in the schools and labeled it as a racial slur (Esquivel, 2012). Los Angeles Unified School District has a resource for educators on Uplifting Black Students and guidelines for addressing the use of the N-word in schools using "*The N-Word: Breaking the Silence*" (LAUSD, 2023).

New initiatives are emerging to address these challenges, including policy reforms for discipline through restorative justice practices and positive behavioral interventions (González, 2015; Skiba et al., 2014), weighted student funding formulas that allocated additional resources to high-need students (Baker & Green, 2019), teacher diversity initiatives aimed at increasing Black educator representation (Bristol & Goings, 2019; Carver-Thomas, 2018), and enhanced support for HBCUs through federal funding and partnership programs (Gasman & Nguyen, 2014; Palmer & Maramba, 2015). Schools are also implementing comprehensive student support services through wraparound models (Eber et al., 2016), extended learning opportunities that provide academic enrichment and mentorship (Durlak et al., 2010; Lauer et al., 2006), and early college high school programs that increase college readiness and completion rates for underrepresented students (Berger et al., 2013; Song & Zeiser, 2019). These bodies of research affirm that effective support for Black students

requires multi-level interventions that address systemic inequities while nurturing identity development and resilience (Carter Andrews et al., 2019; Spencer et al., 1997).

Despite ongoing challenges, the dedication of students, educators, and communities continues to drive efforts toward closing disparate gaps and creating a more equitable educational landscape (Howard & Navarro, 2016; Milner, 2020). This study supports ongoing projects working with Black students to aid them in sharing their experiences through qualitative data, this investigation sought to give more context by adding a quantitative analysis of within-group differences of California's Black youth at the middle and high school levels. The commitment to equity, representation, and excellence continues to shape efforts toward a more just and equitable educational system for future generations (Gay, 2018; Love, 2019).

Methodological Approach to Studying School Climate

This dissertation uses Systems View of School Climate and Phenomenological Variant of Ecological Systems.

Systems View of School Climate

The Systems View of School Climate emphasizes the interconnectedness of various elements within a school environment, highlighting how they collectively influence the experiences and outcomes of students, staff, and the broader school community. This perspective views school climate as a dynamic and multilayered construct shaped by relationships, organizational structures, policies, and cultural norms. Key components include the physical and emotional safety of students and staff, the quality of teaching and learning, the inclusivity and equity of policies, and the engagement of families and communities.

The Systems View also recognizes the reciprocal nature of interactions within schools. For example, positive teacher-student relationships can foster a supportive learning environment, which in turn enhances academic performance and student well-being. Conversely, negative dynamics, such as

a lack of trust or inequitable practices, can create a toxic climate, undermining engagement and success. In the discussion section, this research will analyze the interconnectedness of various elements that specifically apply to black youth.

Conceptual Framework for Black Students

Urie Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1977) examined multiple layers of the environment influencing an individual's development. Bronfenbrenner highlighted that the interaction between a child and their family, home situation, and interpersonal relationships (microsystem) will shape how they interact with their extended environmental systems (mesosystem, exosystem, macrosystem). The Phenomenological Variant of Ecological Systems Theory (PVEST) model extends Bronfenbrenner's ecological perspective by building upon deeply rooted societal systems of opportunity and inequity while affirming the role of phenomenological processes in development (Smith et al., 2020). PVEST is identity-focused and emphasizes that how the child makes meaning of their social environment and everyday experiences must be understood with a developmentally sensitive and context-specific process (Spencer, 2006). This framework emphasizes "meaning-making" or "sense-making" focusing on how individuals understand and interpret their everyday experiences (Spencer et al., 1997). Rooted in Brown v. Board of Education (1954) and the Civil Rights Movement (Spencer, 2008), PVEST reconceptualized poor psychological or social functioning as "coping reactions" to systemic inequities and discrimination.

The framework's central tenets are vulnerability level, net stress experiences, coping strategies, emergent identities/stable coping responses, and life stage outcomes. These five key components acknowledge the historical and contemporary impact of social policy on diverse youth and their families, emphasizing the importance of culture at the interpersonal and extended environmental levels. PVEST considers the interpersonal (microsystem) and extended (mesosystem, exosystem, macrosystem) layers of environment, normal human processes in varied settings,

historical factors, social policy, and cultural sensitivity to authentic everyday experiences (Spencer, 2006). This comprehensive approach makes PVEST relevant to all ethnicities and races, as all groups have distinctive histories and responsive traditions that evolve into cultural patterns. This research study is examining the within-group differences as well as if there are patterns in the data and what it means for Black adolescents.

To interpret these within-group patterns and their implications, this study draws on PVEST, which emphasizes how Black adolescents' identity development is shaped by their lived experiences, coping strategies, and exposure to contextual stressors (Brittain, 2011; Brittain & Spencer, 2012; Smith et al., 2020; Spencer et al., 2004). The framework identifies five key components: vulnerability level, net stress experiences, coping strategies, emergent identities/stable coping responses, and life stage outcomes (Brittain, 2011; Brittain & Spencer 2012). Net vulnerability encompasses the balance of risk and protective factors in determining the overall stress experienced by an individual which is then processed through self-appraisal leading to either adaptive or maladaptive coping strategies.

Within the PVEST framework, this dynamic interaction between vulnerability, self-appraisal, and coping is central to understanding how identity develops over time. As children develop, they employ various coping methods to navigate systemic, structural, and cultural risks and protective factors. These coping responses can be maladaptive (i.e., aggressive behaviors) or adaptive (i.e., help-seeking behaviors), and when repeated and stabilized, they combine with self-appraisal to form emergent identities (Cunningham et al., 2023). These identities encompass various aspects, including academic identity, and are influenced by social identities like race and gender, which can result in either greater risk (oppression) or greater protection (privilege; Cunningham et al., 2023).

Intersectionality refers to the interconnectedness of race, gender, class, and sexuality that produce overlapping and interdependent systems of discrimination or disadvantage (Crenshaw, 1989). When integrated with PVEST, intersectionality deepens our understanding of how individuals'

multiple, intersecting identities shape their experiences of vulnerability, resilience, and identity development across ecological contexts (Anderson & Stevenson, 2019; Seaton, 2020). Scholars have used PVEST in tandem with intersectionality to explore how Black youth, for example, develop culturally grounded coping strategies in response to racism, gendered expectations, and class-based barriers. For instance, PVEST has been applied to examine how Black boys process racial stress and how their coping responses shape emergent identities tied to masculinity, resistance, and social survival (Anderson & Stevenson, 2019). Similarly, Seaton (2020) employed an intersectional-PVEST lens to highlight how Black girls navigate school-based discrimination, showing how identity formation is shaped by the confluence of race, gender, and educational inequity. Together, PVEST and intersectionality offer a robust framework for analyzing how youth negotiate their developmental trajectories in the face of compounding structural inequalities, while also emphasizing their agency, resilience, and identity formation processes.

The PVEST framework's application helps develop targeted interventions and support systems by examining crucial questions about environmental factors, school policies, systemic barriers, and societal issues affecting Black students (Smith et al., 2020). PVEST emphasizes the importance of context and lived experience, especially in population navigating systemic oppression. By using PVEST, researchers and educators can move beyond one size fits all approach and instead develop culturally responsive and sustaining supports that address the actual challenges students face (e.g., racial discrimination in school discipline policies, lack of access to mental health resources, or biased curriculum content). For example, if PVEST reveals that Black students in a particular district experience high levels of racialized discipline (risk factor), an intervention might include professional development for teachers on racial bias, along with peer-led restorative justice programs (protective factors). Also, if students are coping with community violence, schools might implement trauma-informed care or culturally grounded mentoring programs that validate their experiences and support

identity development. So basically, PVEST helps with understanding the “why” and “how” of students’ experiences, allowing schools and school psychologists to build interventions that are not only evidence-based but also socially and culturally attuned to the identities and needs of the youth they serve.

PVEST enables educational institutions to move beyond colorblind policies and instead understand and address the broader contextual and systemic issues impacting Black student behavior and development. Unlike deficit-based models, PVEST focuses on how youth make meaning of their experiences within racialized contexts, allowing educators to understand student behavior not as isolated incidents, but as responses to structural inequalities (Spencer, 2006). This phenomenological approach encourages schools to address the root cause of the behavior rather than applying punitive or universal policies. It highlights how identity is shaped through the interaction of risk and protective factors, PVEST continues to support the development of targeted, culturally responsive interventions that affirm student identity and promote resilience.

PVEST pushes institutions to replace color blindness with a contextual grounded, equity-focused lens that actively acknowledges and addresses systemic oppression. This research focuses on school climate perceptions of Black students and examining associations between grade level, gender, and parental education level, educators and policymakers can better support Black students’ educational experiences and outcomes. Educational institutions can more effectively support Black youths’ educational experiences and outcomes by adopting frameworks such as PVEST, which centers lived experiences and identity development of marginalized youth within systemic contexts (Spencer, 2006). Educational institutions can more effectively support Black students’ educational experiences and outcomes by adopting frameworks such as PVEST that centers lived experiences, identity development, and coping processes of marginalized youth within systemic and structural contexts (Spencer, 2006). Moving beyond colorblind policies that fail to acknowledge pervasive anti-

blackness and systemic inequities in education is critical for addressing the root causes of disparities in discipline, academic opportunity, and well-being (Ross & Givens, 2023; Dumas, 2016).

PVEST provides a nuanced lens to understand how structural racism, biased school disciplinary policies, and community traumas act as chronic stressors shaping Black students' behaviors and coping strategies (Skiba et al., 2011; U.S. Department of Education Office for Civil Rights, 2016). This perspective challenges deficit-based interpretations that pathologize Black students, instead of recognizing many behaviors as adaptive responses to oppressive environments (Anderson & Stevenson, 2019). Furthermore, PVEST's emphasis on identity formation is complemented by critical race perspectives, such as Dumas and Ross (2016), who argue that the necessity of explicitly naming and dismantling antiblackness in educational discourse and policy. Educators can implement trauma-informed and restorative justice approaches that will validate Black students' experiences and foster environments that resist systemic marginalization (Edwards, 2021). Culturally responsive pedagogy and identity-affirming support are also essential protective factors highlighted by PVEST; these approaches affirm Black students' racial and cultural identities. Research shows how this is tied to improve academic engagement, psychological resilience, and positive self-concept (Cross, 1991; Ladson-Billings, 1995; Seaton, 2020). For example, mentoring programs and curricula that incorporate Black history and culture provide vital counter-narratives that empower youth and buffer against internalized oppression (Morris et al., 2019; Toldson et al., 2019).

Importantly, PVEST's phenomenological focus insists on attending to how Black students interpret their social environments and make meaning from their experiences which promotes the importance of participatory approaches that involve youth voices in policy and practice (Hope, Skoog, & Jagers, 2015). This also aligns with BlackCrit theory's call for centering Blackness and disrupting dominant narratives that erase or minimize the complexity of Black student identities (Dumas & Ross, 2016). Educators and policymakers support Black students by adopting equity-

focused, culturally sustaining, and intersectional frameworks such as PVEST, paired with explicit anti-blackness commitments. These approaches foster school environments where Black youth can not only survive but thrive emotionally, socially, academically, despite the systemic barriers. In the discussion section, the researcher will explore how PVEST and intersectionality built the intervention strategies and implications for black youth.

Chapter II: Literature Review:

Defining School Climate

School climate refers to the quality and character of school life that reflects an overall approach to school experiences (National School Climate Council, 2007). This includes physical and emotional safety, quality of teaching and learning, relationships between students, staff and families, and community, institutional environment (physical facilities, resources), and the organizational structures and practices. A positive school climate is associated with several beneficial student outcomes. These include increased school motivation and connectedness, enhanced engagement, improved attitudes towards learning (Klem & Connell, 2004; Nelson et. al., 2002; Welsh, 2000), higher academic achievement, better social attitudes, improved attendance, and fewer behavior problems (Goldstein & Brooks, 2013).

Assessments of school environments typically involve student-completed scales, although teacher-completed assessments are also used. Despite differences in ratings between teachers and students, student perceptions are considered equally important for understanding the school climate. School climate and progress monitoring measures must be comprehensive, relevant to the student population, and technically or psychometrically sound. Pragmatically, the value of these assessments lie in their ability to inform decision making. Progress monitoring assessments should align with intervention goals, be repeatable, and brief to evaluate a school community's progress toward healthier well-being. Assessments should be developed based on specific constructs, be field-tested to ensure alignment with the other established tools, and validated through factor analysis and reliability testing. Assessments should demonstrate internal consistency and reliability, and subsequent validations examine their predictive validity regarding outcomes such as school engagement and academic achievement (Goldstein & Brooks, 2013). For the purposes of this research, school climate focuses on the safety of students, relationships (teacher-student, peer), and the teaching and learning

environment. I chose these variables because their interplay creates distinct patterns of school climate experiences that can be captured through latent class analysis. Rather than assuming all Black adolescents experience these dimensions uniformly, latent class analysis aids in identifying subgroups who may experience different combinations. For example, students who feel safe but have poor relationships with adults. Understanding these distinct profiles is crucial for developing targeting interventions. of the interplay and how they engage with each other.

Dimensions of School Climate

School Climate is conceptualized into three dimensions of school climate research: 1) Social climate (peer relationships, teacher-student interactions), 2) Achievement Climate (supportive learning practices), and 3) Safety Climate (trust in physical and social safety). The National School Climate Council (2007; Goldstein & Brooks, 2013) emphasizes five major areas that assessment needs to address in school climate: 1) Safety (physical, emotional, psychological safety, clear, consistent, and fair rules), 2) Interpersonal Relationships (respect for diversity, social support from adults and between students, school connectedness, family and community partnerships), 3) Social Media (digital safety and citizenship), 4) Teaching & Learning (high academic expectations, support for academic learning, professional relationships, social-emotional learning integration), and 5) Institutional Environment (physical surroundings, resources and supplies, physical layout and space, environmental comfort). School climate evaluations should focus on creating environments where students thrive, not just preventing behavioral issues. Comprehensive assessments should examine key areas including safety, support systems, student engagement, and conditions that promote flourishing. To achieve meaningful improvement, schools need several essential components: continuous data-driven decision making, ongoing professional development for educators, committed leadership, and active stakeholder involvement. This holistic approach ensures that school climate initiatives go beyond problem prevention to actively cultivate student success that is committed and stakeholders being involved.

Safety in schools transcends mere physical security measures, embracing both tangible and intangible aspects of student well-being. Physical safety encompasses structured protocols such as visitor management systems, emergency response procedures, and building security measures. However, equally crucial is emotional and psychological safety, which creates an environment where students feel secure expressing themselves without fear of ridicule or discrimination. This psychological safety manifests through comprehensive anti-bullying programs, cultural sensitivity training, and mental health support systems that recognize and address student needs before they escalate into serious concerns.

The relationship dimension, particularly teacher-student and peer interactions, is at the core of school climate. Teacher-student relationships extend beyond academic instruction to create meaningful connections that support student growth. Effective teachers establish emotional bonds with students while maintaining professional boundaries, demonstrating cultural competence, and providing individualized support. These relationships prove especially crucial during critical developmental periods and transitions. Research consistently shows that positive teacher-student relationships correlate with improved academic performance, increased motivation, and reduced behavioral issues.

Peer relationships, another vital component, shape students' social development and learning experiences. Educators must actively foster positive peer interactions through structured activities, collaborative learning opportunities, and peer mentoring programs. These relationships influence students' sense of belonging, academic engagement, and social-emotional development. Successful schools implement programs that promote inclusive social environments, prevent peer victimization, and develop students' conflict resolution skills.

The teaching and learning environment encompasses both instructional practices and physical space considerations. Effective instructional practices include differentiated instruction that accommodates diverse learning styles, interactive teaching methods that engage students actively in the learning process, and assessment strategies that inform instruction. The physical environment,

including classroom organization, access to resources, and comfort factors like lighting and temperature, significantly impacts student engagement and learning outcomes.

These dimensions interweave to create a comprehensive school climate. For instance, when students feel physically and emotionally safe, they become more receptive to building relationships with teachers and peers. Strong relationships, in turn, enhance classroom management and academic engagement. The physical environment supports these interactions by providing spaces conducive to both individual and collaborative learning. School leaders must recognize that improving school climate requires attention to all these dimensions simultaneously. Initiatives focusing solely on one aspect while neglecting others often fail to achieve lasting positive change. Successful school climate improvement efforts require systematic assessment, targeted interventions, and continuous monitoring across all dimensions.

The challenge lies in maintaining balance among these dimensions while addressing the unique needs of diverse student populations. Educators must consider cultural factors, socioeconomic conditions, and individual student circumstances when implementing climate improvement strategies. This necessitates flexible approaches that can adapt to changing student needs while maintaining consistent core principles. Moving forward, educators must continue to evolve their understanding and implementation of these dimensions, particularly in response to emerging challenges such as digital learning environments, mental health concerns, and increasing student diversity. Success requires ongoing commitment from all stakeholders, administrators, teachers, students, families, and community members, working together to create and maintain positive school climates that support both academic achievement and personal development. This multifaceted approach to school climate, when properly implemented and maintained, creates an environment where students feel safe, supported, and engaged in their learning journey. The result is more than academic outcomes, it's the development of individuals who are well-rounded and prepared to successfully navigate whatever challenges come in the future.

School Climate and Student Outcomes

School climate has emerged as a critical factor influencing student outcomes, including from historically marginalized student populations (Edwards, 2010). This study takes particular attention to within-group differences and intersectional factors affecting these experiences among Black students in California middle and high schools. A research study (Voight et al., 2015) examined 400 middle schools in California on the relationship between a school's racial climate gaps and achievement gaps to explain why some schools have larger or smaller racial disparities in student reports of climate than others. Multilevel regression analyses revealed that on average – middle school, Black and Hispanic students have less favorable experiences of safety, connectedness, relationships with adults, and opportunities for participation when compared to White students (Voight et al., 2015). Voight et al. (2015) took a deep dive into school climate highlighting that a) middle school students' perceptions of positive adult-student relationships are associated with higher self-esteem and lower rates of depression and behavior problems; b) student participation and positive adult-student relationships have been correlated with lower rates of secondary school violence in both quantitative and qualitative research; and c) that elementary and middle schools with more positive student-teacher relationships were found to have greater success implementing a classroom-based violence intervention (Voight et al., 2015). Research has consistently demonstrated the significance of a positive school climate for student outcomes.

Factors Influencing Student Perceptions of School Climate

Researchers have noted increasing academic pressures affect school climate perceptions differently across grade levels. Howard (2016) found that Black high school students face compound pressures from teacher expectations, college preparation expectations, standardized testing requirements, and advanced course tracking decisions. Before students can make it to high school they go through middle school which represents a crucial developmental period where students seek

both autonomy and social acceptance. Erik Erikson's psychosocial development theory is particularly significant at the Identity vs. Role Confusion stage as students develop their academic and social identities. Way et al. (2018) examined how identity formation intersects with school experiences. Findings indicated middle school years (grades 7-8) focus on competency development, early high school years (grades 9-10) emphasize identity exploration, and later high school years (grades 11-12) involve future orientation. Across the years, students become progressively aware of societal stereotypes and injustices starting in middle childhood and increasingly so as they approach adolescence (Gray, Hope, Byrd, 2020; McKown & Weinstein, 2003). Having caring, supportive, respectful relationships with adults and peers and having opportunities to meaningfully engage at school is important for middle school students as they have a desire for autonomy and social acceptance (Voight et al., 2015). This developmental context makes school climate especially important for identity formation, peer relationships, academic self-concept, and future educational aspirations.

Research consistently shows that the transition from middle to high school presents unique challenges for Black students. Benner and Graham (2009) found that Black students often experience declines in academic performance and school belonging during this transition compared to other racial groups. Their longitudinal study of 1,979 students revealed that school racial composition and perceived discrimination significantly impacted transition experiences. Another study (Wang & Eccles, 2012) documented that school engagement also declines as students progress through secondary education, with this decline being more pronounced for marginalized students. Three dimensions of school engagement were identified: behavioral engagement (i.e., taking notes, participation in class discussions, completing assignments on time, following the classroom rules), emotional engagement (i.e., positive feelings and attitudes towards learning, feeling a sense of belonging in the classroom, nonverbal cues during lessons), cognitive engagement (i.e., thinking critically, asking questions, connecting new concepts to prior knowledge, striving to deepen your understanding of topics).

Griffin (2014) explored three dimensions of school engagement, behavioral, emotional, and cognitive, mediated relationships between school racial climate and academic performance and educational aspirations among African American adolescent youth. Griffin (2014) found that an indirect effect of perceptions of racial fairness on academic achievement indicators through behavioral and cognitive engagement. Behavioral and cognitive engagement mediated relationships between youths' perceived peer discrimination and academic achievement indicators (Griffin, 2014). The mediating role of emotional engagement in these relationships was found to be dependent on the predicted achievement outcome. This shows that engagement plays an important role in students' school experience because it relates to achievement (Griffin, 2014). Further, noting that a positive school climate that is supportive and encouraging to Black students is important.

The teacher-student relationship is important for Black youth as studies have shown teacher expectations are linked to academic outcomes. Black students who are perceived to have a supportive relationship with their teachers have positive attitudes towards learning and are more likely to participate in academic related activities (i.e., studying, answering questions in class; Smith, Wang et al., 2020). Teacher relations are important for Black youth to learn skills to navigate diverse experiences, however, research shows that Black youth tend to have less supportive relationships with their teacher than their other-race peers (Smith, Wang et al., 2020; Voight et al., 2015).

Gender. Adolescence is a time for students to develop their identity and exploration. Adolescents begin to have an increase in their sense of belonging based on stereotypes associated with social groups (Evans et al., 2011). Boys are found to engage in more aggression and bullying behaviors and to be victimized (Berg & Aber, 2015). Even more, gender-specific support needs often go unaddressed. Berg and Aber (2015) found a higher level of emotional fear from female students. Butler-Barnes et al. (2018) revealed gender differences in racial identity and academic achievement among Black adolescents such as different coping strategies between genders, varying impacts of teacher relationships, and distinct patterns of school engagement. Furthermore, gender stereotypes affect Black students like their academic self-concept, course selection decision, career aspirations,

and teacher-student relationships (Evans et al., 2011). Astor and Meyer (2001) found female students had more safety concerns and Siegel (2024) found that female students reported lower marks on physical safety. Siegel (2024) focused on how the participant's role within the school and gender impact their perceptions of school climate through administration of survey data in a high school setting. Siegel (2024) found that male students demonstrate higher perceptions of school climate than female students and noted that roles within the school setting can influence perceptions.

Parental Education Level. In California, Black students are more likely to be low income, perform lower on state standards, and are more likely to be suspended (Edwards, 2010; Fix, Schaeffer et al., 2023; Smith, Wang et al., 2020). Poverty rates correlate with decreased school connectedness and increased experiences of violence (Edwards, 2010; Fix, Schaeffer et al., 2023; Wang et al., 2020). According to data collected in the 2017-2019 school safety survey, 13% of California students whose parents did not finish college felt very safe at school (WestEd, 2025). Research has found that students feel less connected to school and experience more violence and victimization in schools with high poverty rates (Voight et al., 2015). The relationship between parental education levels and academic support services, extracurricular participation, access to advanced coursework, and college preparation resources were found to be significant (Diamond & Huguley, 2014).

Moreover, parental education levels and involvement impact student experiences. Taking into account the social capital theory (Horvat, 2013), shared that there are network access differences, the way information is available, how resources are being mobilized and in what capacity, as well as the ability for institutional navigation. Parent involvement and advocacy is important but what if a parent does not know how to communicate with educators, get involved in school, or better yet understand educational systems. These parents are not going to challenge inequitable practices that are happening at the school. Furthermore, ethnographic research (Lareau, 2015) highlights the influence of parental education levels on educational advocacy styles, school interaction patterns, support-seeking behaviors, and educational decision making.

Romero & O'Malley (2020) used parental education level (proxy for socioeconomic status) as a covariate when analyzing Latinx middle school students. Specific to parental education level, 24% reported that their parents graduated from college, 11% reported that their parents attended college but did not graduate, 17% said their parents graduated from high school, and 13% said that their parents did not finish high school. They found that students in the most positive climate class self-reported significantly higher levels of parent education (Romero & O'Malley, 2020).

Another study (Kaur et al., 2024) used a three-step method to include parental education level as a covariate for mixture models (Nylund-Gibson et al., 2014). A multinomial logistic regression was conducted using the ML 3-step method to examine the effects of parental education level on latent class membership. Kaur et al. (2024) found three significant parental education differences among the classes. Students with college graduate parents were most likely to be in class High Positive, Mixed/Low Meaningful Participation, and Mixed School Climate relative to Low/Negative School Climate. The positive logit values and the odds ratio of more than 1 for the High/Positive School Climate Class and Mixed School Climate Class indicated that students with college graduated parents were less likely to be in lower climate classes than all other classes. Also, this study reported in the High/Positive and Low/Negative climate class that students with higher parental education level were more likely to be in the highest climate class (Kaur et al., 2024)

An investigation explored a range of school and student-level variables in order to better understand how these factors influence students' perceptions of school climate. Fan et al. (2011) used data from the Educational Longitudinal Study of 2002 to examine how students' perceptions of school climate varied across multiple factors. The researchers analyzed ten individual-level variables, including race, gender, family structure, family income, parent's education, parent's nationality, whether siblings had dropped out of school, students' history of changing schools or repeating grades, and behavior problems at school. Additionally, they examined three school-level variables: enrollment size, percentage of students receiving subsidized meals, and school sector (public, Catholic, and non-Catholic private schools). They measured along three separate axes: order, safety

and discipline; fairness and clarity of school rules; and teacher-student relationships. The sample is nationally representative and includes 16,168 tenth graders from 757 different high schools (Fan et al., 2011). They found that the majority of variation in perceived school climate is accounted for using the individual level and that the associations at the individual level are independent of any school level factors. For instance, being Black, male, or lower class was negatively correlated with perceived climate regardless of school characteristics.

This research (Fan et al., 2011) further revealed the importance of examining different aspects of school climate and different ethnic groups separately and further provides an empirical example of how examining a general measure of school climate or minority status can result in the loss of valuable information to educators. Their findings indicated that male students perceived school rules to be less fair and clear and teacher-students to be less supportive and warm than female students. Hispanics and Asian students reported less favorable perceptions of school order, safety and discipline, and students who were Native American, Hawaiian, multiracial, or of other races reported less favorable perceptions of the teacher-student relationship. Also, the perceptions of African American students were more favorable toward the fairness and clarity of school rules. The results confirmed previous findings (Griffith, 1999, 200; Koth et al., 2008) suggesting that student gender and race are associated with student perceptions of school climate.

School Climate Perceptions among Black Students

California's Current Context

According to the Public Policy Institute of California (2024), Black children between the ages of 0 to 17 make up 5% of the population (see Figure 1). This demographic context provides an important backdrop for understanding the educational experiences of Black students in California's school system. Way et al. (2007) found that students' racial minority status was weakly correlated with their perceptions of several dimensions of school climate, including adult-student relationships and opportunities for meaningful participation. Black and Hispanic students are treated differently via

tracking into less rigorous courses and the students not being able to relate to the dominant culture (Voight et al., 2015). Voight et al. (2015) suggest that different students within a school carry different representations of their school which could potentially go to the notion of within school climate a student can have their own unique experience and it does not pertain to the entire school' climate.

Bradshaw et al. (2009) used data from 19 middle schools in a large school district in Maryland and found that Black and Latino students were less likely than White Students to report feeling safe at school (findings were not statistically significant). Black youth have been found to have less positive evaluations of school climate in comparison to their other-race peers (Bottiani et al., 2016; Graham, 2020; Konold et al., 2017; Voight et al., 2015). Furthermore, Graham (2022) specifically found that Black and “Other” students consistently report worse perceptions on nearly all measures of school climate compared to White students and that these disparities persist within school. The National Association of School Psychologists (NASP) highlights that systemic changes are necessary to address these disparities and create more equitable educational environments (Graham, 2022; Griffin, 2014). Factors such as racial stereotypes, discrimination, and racialized experiences may contribute to feelings of marginalization or exclusion, exacerbating disparities in educational outcomes. When advocating for a more positive and inclusive school climate. These challenges include a lack of representation in student leadership roles, limited access to supportive networks and resources, and potential backlash or punitive responses from school authorities. Additionally, their voices may be marginalized or dismissed due to prevailing stereotypes and biases. This lack of agency and support can hinder their ability to effectively advocate for changes that would improve their educational experiences and outcomes. Therefore, understanding the intersectionality of race and school climate perception is imperative for identifying and addressing these disparities, and fostering more inclusive and supportive learning environments for black adolescents (Graham, 2022). By recognizing the nuanced ways in which race intersects with school climate perception, educators

and policymakers can work towards creating equitable educational experiences that promote the well-being and success of all students, regardless of their racial background.

Smith, Wang et al. (2020) sought to understand the relationship between Black students' perceptions of school support for cultural pluralism (referred to as school support for cultural diversity) and perceptions of school climate. They found that students who felt their school to be supportive of cultural diversity had more positive ratings of school climate and that the mediating role of racial identity differed for Black boys and Black girls (Smith et al., 2020).

Bottiani et al. (2016) shows that when accounting for socioeconomic status, African American and Latinx students reported more negative experiences and perceptions of their school climates relative to White peers. Another study accounted for students' socioeconomic status, as measured by parental education (Read, 2019). Read (2019) hypothesized that African American students and Afro-Caribbean students' have different experiences of school climate based on their parents' educational level in which they have been exposed to schools. Read (2019) found no statistical significance for students' level of perceived support.

Edwards (2010) examined the extent to which students' school climate perceptions affected their academic achievement using the School Climate Survey (Emmons et al., 2002). The dependent variables included six factors of school climate: student interpersonal relations, student-teacher relations, sharing of resources, order and discipline, parent involvement, and the school building. Edwards (2010) found statistically significant differences in students' perceptions of student-teacher relations, based on school diversity, ethnicity, and educational category. It was reported that most of the students who were offended by adverse student-teacher relationships failed to achieve with a higher frequency than students who indicated positive relationships. These findings suggest systemic reforms in pedagogy that engage students to empower their self-efficacy and achievement (Edwards, 2010).

A research brief (Solomon et al., 2020) shared the importance of school climate data and the key to help schools use school climate data. They summarized five important points: 1) Reporting

data in a timely manner and in a format that supports data interpretation, 2) Provide data-focused consultation or technical assistance, along with training on data interpretation and data-informed decision making, 3) Build buy-in for data use by ensuring that data are high-quality and reflect the needs of the school community, 4) Engage multiple stakeholders in the review of data, and 5) Emphasize the utility of school climate data for improvement, rather than accountability. This research project aims to incorporate these points when presenting results and implications.

Gaps in the School Climate Literature

Few studies have explored school climate perceptions among students from diverse backgrounds in the United States (Capp et al., 2022; Kaur et al., 2024; Romero & O'Mally, 2020; Voight et al., 2015). A study conducted by Voight et al. (2015) explored different racial subgroups' perceptions regarding school climate among middle schoolers. They found that Black students reported lower school safety, relationship with adults and school safety compared to White students. Another study done by Romero and O'Mally (2020) used Latent Class Analysis to explore within-group differences among 8th-grade Latinx youth. The results indicated that about 50% of Latinx students reported positive perceptions of the school climate and 75% of Latinx students consistently reported lower meaningful participation. This indicates that Latinx students are less likely to voice their opinions and make decisions regarding the system that directly impacts them.

Capp et al. (2022) examined latent trends exploring the connection between school climate and resilience using California's seventh, ninth, and 11th-grade students. The findings indicated that students with positive and supportive adult relationships and meaningful engagement with their work are more likely to endorse higher resilience characteristics (e.g., cooperation, empathy, self-efficacy, problem-solving, and self-awareness; Allen et. al., 2022). Kaur et al. (2024) utilized LCA to identify classes of school climate perceptions based on 10th-grade Indian/American students in California high schools. The LCA yielded five categories, indicating that about 60% of Asian-Indian American students perceived their school climate positively, and 67% perceived meaningful participation at

school negatively. These data revealed that Asian-Indian American students feel less involved in making decisions that impact them directly and advocating for themselves within the school system (Kaur et al., 2024).

There is limited research on within-group differences among Black students, and a need exists for a more nuanced understanding of school climate perceptions. There is also a limited literature that combines latent class analysis with demographic predictors among Black students.

The Present Study

This current study addressed the growing need among educational researchers and school professionals to better understand the complex patterns of school climate among Black middle and high school students. This study employed a latent class analysis to identify and categorize perceptions of school climate within a statewide sample of Black secondary public school students in California. It also examined how demographic factors, such as grade level, gender, and parental education level, relate to school climate.

The first part of this study used latent class analysis as an exploratory method to investigate the multi-dimensional concept of school climate in an innovative manner. This study replicated a study conducted with 8th-grade Latinx Students (Romero & O'Malley, 2020) and another with 10th-grade Asian-Indian American youth (Kaur et al., 2024). The second part of the study used multinomial logistic regression analysis to include the demographic variables as predictors of the latent class groups to run a model. This replicated the study conducted with middle and high school students in California public schools (De Pedro et al., 2016). Previous research on race, gender, and school climate led us to expect that Black students would experience lower levels of school climate overall and that gender would not significantly affect these perceptions. The research questions and hypotheses were created around grade level, gender, and parental education level of middle and high school students. This study aimed to advance our understanding of within-group variations among

Black students' perceptions of school climate, particularly in relation to these demographic factors.

The research questions and hypotheses guiding this investigation are as followed (see Table 1):

Research Question/Hypothesis 1

What are the school climate perception profiles of Black students? Based on a study examining 10th grade Black students (Holland et al., 2024), 5 distinct student groups were anticipated: (1) Low/Negative School Climate, (2) High/Low School Climate, (3) High /Positive School Climate, (4) Positive School Climate/ Low Meaningful Participation, and (5) High School Connectedness and Safety with Low Relationships with Adults/ and Meaningful Participation (see table 1; Kaur et al., 2024).

Research Question/Hypothesis 2

How is grade level associated with school climate perception profiles of Black students? The related hypotheses are (a) higher grade levels will be associated with higher perceptions of negative school climate, (b) ninth grade students are more likely to be members of the low school climate class when compared to seventh grade students, and (c) 11th-grade students are more likely to be members of the negative school climate when compared to seventh grade students (Table 1).

Research Question/Hypothesis 3

How is gender associated with school climate perception profiles of Black students? Based on previous literature, it is anticipated that gender will not predict school climate class membership (Table 1; De Pedro et al., 2016).

Research Question/Hypothesis 4

How is parental education level associated with school climate perception profiles of Black students? The associated hypotheses are (a) students whose parents did not finish high school are more likely to report poorer perceptions of school climate when compared to students whose parents finished college, (b) students whose parents completed high school are more likely to report poorer perceptions of school climate when compared to students whose parents finished college, (c) students

whose parents attended college but did not complete will have similar perceptions of school climate when compared to students whose parents finished college (Table 1).

Chapter III: Method

Methodology

This study employed a cross-sectional design. Latent class analysis (LCA) is a statistical method that identifies unobserved subgroups within a population by analyzing patterns of responses to multiple categorical variables. A LCA was conducted to explore within-group differences among seventh-grade, ninth-grade, and 11th-grade Black students' perceptions of school climate. A multinomial logistic regression (MLR) is a statistical method used to predict or explain the relationship between a categorical dependent variable (outcome variable=latent class memberships) that has more than two categories, and one or more independent variables (covariates= gender and parental education level) will examine the relationship between the categorical dependent variables and multiple independent predictors. A MLR was used simultaneously with class estimation to account for measurement error related to class assignment. These methods being used together gives the research more accurate results than by doing them separately. This approach helped the researcher to identify meaningful patterns in how students perceive their school environment while reducing errors in the analysis. Further, it allowed the research to explore how factors like gender, grade level, and parents' education level might predict which pattern a student falls into, rather than just looking at individual aspects of school climate. Gender, grade level, and parental education level were included as demographic covariates in this regression. The methodological procedures were similar to the previous studies conducted (De Pedro et al., 2016; Kaur, Holland et al., 2024; Kaur et al., 2024; Romero & O'Malley, 2020). Participants, measures, and variables used in this study are described below.

A. Participants

The sample is seventh-grade ($N = 2,799$), ninth-grade ($N = 2,982$), and 11th- grade ($N = 2,443$) Black students ($N = 8,224$; see Table 2) from the 2022-2023 California Healthy Kids Survey

(CHKS) data (Table 3). They attended California Public Schools and resided in California. There are 52% boys ($N = 4,236$) and 48% girls ($N = 3,988$). The CHKS racial/ethnic identity item responses were: A) American Indian or Alaska Native; B) Asian or Asian American; C) Black or African American; D) Hispanic or Latinx; E) Native Hawaiian or Pacific Islander; F) White; G) Something else. For this study, students who identified themselves as Black or African American were included and not two or more races. Descriptive characteristics of the participants are described below in the Results section.

B. Measures

California Healthy Kids Survey (CHKS)

The California Healthy Kids Survey (CHKS) is a statewide survey of elementary, middle, and high school students' perceptions of school climate, resiliency, and risk behaviors in California (De Pedro et al., 2016; Hanson & Voight, 2014). CHKS data has been used to understand student perceptions of schools, such as school climate, school connectedness, social-emotional well-being, and safety and meaningful relationships (Voight et al., 2015). CHKS survey items examine: school climate; physical, social, and emotional health and learning; bullying and mental health; substance use and safety/violence; and other risk behaviors (CHKS, WestEd, 2019; Holland et al., 2024; Kaur et al., 2024). The CHKS is a core module that gathers demographic data (e.g., grade level, gender, race/ethnicity, parental educational level), school climate perceptions, and health-related behaviors (e.g., alcohol use, drug use, violence and victimization; De Pedro et al., 2016). The CHKS is administered to parents, teachers, and elementary, middle, and high school students through the California School Climate, Health, and Learning Survey (Cal-SCHLS) system. California Districts receive funding to administer the CHKS biannually (Kaur et al., 2024). Students provided assent before the voluntary survey participation. Participation is voluntary, and they can skip any item/question they wish not to answer. The student survey measuring school climate consists of a core module and a supplemental school climate module, which was used for this study. CHKS data

was collected for the 2022-2023 academic school year from students ($N = 522,376$). Due to this survey data being publicly available and involving existing/secondary data, an application to UCSB Human Subjects Committee (HSC) or the Institutional Review Board was exempt (see Figure 2).

School Climate

The school climate is a multidimensional construct frequently measured across four dimensions: school connectedness, caring relationships (relationships with adults), meaningful participation, and school safety perceptions (Kaur et al., 2024; O'Malley et al., 2015). Fourteen categorical items were selected for this analysis. The following items measure School Connectedness: (a) *I feel close to people at this school*, (b) *I am happy to be at this school*, (c) *I feel like I am a part of this school*, and (d) *The teachers at this school treat students fairly*. Values ranged from 1 for “strongly disagree” to 5 for “strongly agree.” Six items measured Relationships with Adults (focused on students’ perceived treatment of adults or teachers at their school): *At my school* (a) *there is an adult/teacher: who really cares about me*, (b) *tells me when I do a good job*, (c) *notices when I'm not there*, (d) *always wants me to do my best*, (e), *listens to me when I have something to say*, (f) and *believes I will be a success*. Values ranged from 1 for “not at all true” to 4 for “very much true.” Three items measured Meaningful Participation: *At school*, (a) *I do interesting activities*, (b) *I help decide things like class activities or rules*, and (c) *I do things that make a difference*. Values ranged from 1 for “not at all true” to 4 for “very much true.” School Safety was measured using one item: *How safe do you feel when you are at school?* Responses were reverse-coded for consistency, so higher values reflected positive responses, ranging from 1 for “very unsafe” to 5 for “very safe.”

The response variables were dichotomized due to the common practice for LCA (see, for example, Masyn, 2013; Nyland-Gibson & Choi, 2018; Quirk et al., 2013) and the skewness of responses in a positive direction. Previous studies (Kaur et al., 2024; Romero & O'Malley, 2020) and this research followed a similar method. The response variables were dichotomized. Responses of

“strongly agree/ agree” and “very much true/true” were coded as 1. For example, students who indicated feeling “very safe/safe” were coded as 1.

Covariates

Grade Level. A LCA was run for each grade level to determine how grade level is associated with school climate. In the discussion section, this will be further explored in detail.

Gender and Parental Education Level. This study included demographic variables such as gender and parental education level. Gender and parental education level were used as covariates (see Table 2). *Gender (What is your gender?)* values were from 1, for “Boy” 2, for “Girl” 3, for “Nonbinary” 4, for “Something Else.” Gender was dichotomized 0, for “Girl” and 1, for “Boy”. The other values were coded as missing data. The student’s *Parental Education Level (What is the highest level of education your parents or guardians completed? (Mark the educational level of the parent or guardian who went the furthest in school))* values were labeled as 1, for “Did not finish high school” 2, for “Graduated from high school” 3, for “Attended college but did not complete 4-year college degree” 4, for “Graduated from college” and 5, for “Don't know” which was treated as missing following the previous studies methodological procedures (Kaur et al., 2024; Romero & O’Malley, 2020). Parental Education level was dichotomized as 0, for students’ parents who did not graduate from college and 1, for parents who graduated from college.

Analyses

Descriptive Analysis

SPSS 29 was used for data management (cleaning the data) and descriptive analysis (frequencies, means, standard deviations). Data were cleaned and made sure that each dataset of 7th, 9th, and 11th grade students did not have any missing values. Then variables representing different dimensions of school climate (e.g., school connectedness, adult relationships, meaningful participation, and school safety) were selected. The analyses were conducted using R Studio and

Mplus to run the LCA and MLR. Students who identified themselves as Black or African American were included and this study excluded two or more races.

Latent Class Analysis

Latent class analysis (LCA) is a statistical method used to identify subgroups, patterns, or "classes" within a population by analyzing patterns in observed variables, essentially allowing researchers to discover distinct groups of individuals who share similar characteristics even if those characteristics aren't directly measured, revealing underlying patterns that might not be apparent from looking at individual variables alone (citation).

R Studio and Mplus 8.1 were used to complete the LCA (Muthén & Muthén, 1998-2017). The first step was class enumeration to determine the number of classes. Class enumeration begins with one class model and increases the number of classes until there is no change in the trends or model fit (Larsen, Nylund-Gibson, & Cosden, 2014, p. 77). More specifically, R Studio and Mplus will start with a 2-class model and incrementally increase the number of classes. For each model, I specified the model for 8 numbers of classes, indicators, and estimated parameters using maximum likelihood estimation. Full information maximum likelihood (FIML) estimation was used for item-level missing data under the missing at random (MAR) assumption.

Next, model selection was completed using, information criteria Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), sample size adjusted BIC, Lo-Mendell-Rubin (LMR) likelihood ratio test, Bootstrap likelihood ratio test (BLRT), and entropy (measures of classification quality). Parsimony and interpretability were considered alongside statistical criteria. Model fit was evaluated using multiple measures as the better method to identify classes based on individuals' response patterns (Masyn, 2013; Muthén, 2003). The final model selected was based on the fit statistics, which helps compare models with different classes (Muthén and Asparouhov, 2006; Nylund-Gibson et al., 2007). Following fit indices were used to identify an approximate number of classes with the assumption that latent class "truly exist" in the population: Information Criteria

consist of Bayesian Information Criterion (BIC), Sample Size adjusted BIC, consistent Akaike Information Criterion, and Approximate Weight of Criterion (AWE; Nylund-Gibson & Choi, 2018). The lower values of BIC, SABIC, and CAIC are linked with a better model fit (Nylund-Gibson et al., 2007). The BIC (Schwarz, 1978) was used because it's a better indicator of the fit indices than others. The likelihood-based tests, the LMR and the BLRT, assessed whether the addition of another class significantly improved model fit (Nylund-Gibson et al., 2007).

In addition, the Bayes Factor (BF) provides a pairwise comparison of two competing class models and a promising method of selecting latent class models (Masyn, 2013). The *BF* calculates the ratio of probabilities of two competing models, assuming one is the "correct" model. *BF* suggests that values falling between 1 and 3 indicate weak evidence for the model, values 3 through 10 show moderate evidence, and values greater than 10 indicate strong evidence (Masyn, 2013). Also, correct model probability (*cmP*) provided an approximate estimate of the individual model considering all the models under the assumption that the "true" model exists among them; the model that has the largest value is indicative of the "True" model (Masyn, 2013).

Next, I examined item-response probabilities for each class by looking at models showing class homogeneity and class separation. Class homogeneity refers to the similarity among individuals based on their item responses in each class (Nylund-Gibson & Choi, 2018). This is determined if the probability of participant-endorsed items falls above 0.7 or below 0.3 (Masyn, 2013). Class separation refers to the dissimilarity of participants to each other across the classes based on their item response, and this is determined where the "odds ratio of item probabilities between two classes is > 5 and $< .20$ indicating higher separation" (Nylund-Gibson & Choi, 2018, p. 448). Each class was characterized and labeled based on their response patterns and the class proportions were calculated.

By analyzing each model, a model fit emerged. Then, the fit information was gathered, summarized, and interpreted into a fit statistic table. The fit indices gathered for each emergent class was compared with each previous class model until there were no more improvements in the emerging classes. Then classification quality was assessed by examining posterior probabilities and

entropy. When it comes to describing the classes, analyzing how these classes represent different experiences of school climate among Black students. Once that was established, I examined how gender and parental education level relate to class membership using multinomial linear regression (MLR).

Multinomial Linear Regression Analysis

Multinomial linear regression (MLR) analysis is a statistical method used when you want to predict or explain the relationship between a categorical dependent variable (outcome variable) that has more than two categories, and one or more independent variables (covariates) that is employed to examine the relationship between the categorical dependent variables and multiple independent predictors (De Pedro et al., 2016).

After examining the LCA results, MLR was performed to examine associations between these classes and demographic variables. The dependent variables are now the latent class membership (categories) from the LCA. The independent variables will be the demographic variables (e.g., gender and parental education level; De Pedro et al., 2016). The LCA classes will be categorical with two levels (e.g., high & low). Gender and parental education level will have to be coded properly using dummy coding for categorical variables. Again, the data will be examined for any missing values and outliers to ensure accuracy in analysis.

Before running the MLR, the independence of observations were verified, the absence of multicollinearity among the independent variables (gender and parental education level), and the absence of outliers or influential cases that could skew the results. This approach allowed me to understand which demographic factors are associated with different experiences or perceptions of school climate that was represented from the LCA. A three-step method was used to include covariates in mixture models (Nylund-Gibson et al., 2014). By using the three-step method, auxiliary variables influenced the class enumeration and formations process unintentionally. The three-step

method avoids the distortion by fixing model parameters at the values from the unconditional model (i.e., model without auxiliary variables). It accounts for the errors at the class level (Vermunt, 2010).

The MLR regressed the latent class variables on the binary variables of gender and parental education level. The model's overall fit used likelihood ratio tests. The results were interpreted by examining the coefficients/odds ratios on each independent variable across all equations and explained how gender and parental education level is associated with the likelihood of being in each class compared to the reference class (LCA; De Pedro et al., 2016). For the purposes of this study, a reference class is chosen based on previous precedents (Kaur, 2024; De Pedro et al., 2016; Romero & O'Malley, 2020). Results were also interpreted in terms of odds ratios, which show how the odds of being in a particular category (LCA class) change when an independent variable (gender and parental education level) increases or decreases by one unit. Additionally, pseudo R-squared values will be examined to determine the model's explanatory power.

Chapter IV: Results

This project is going to explain the results to each grade level separately. In the covariates section only one reference group was used, the other reference groups are in the Appendix A.

Descriptive Statistics

The total sample across California consisted of $N = 522,376$ students, of which $N = 2,799$ were 7th grade Black students. Among this group, 47% identified as girls and 53% as boys (see Table 2). In terms of parental education level, 62% of students reported that their parents graduated from college, while 38% reported their parents did not graduate from college (Table 2). The proportions for CHKS items are presented in Table 3. Missing data and neutral responses were coded as missing data. Interestingly, the CHKS item for “How safe do you feel when you are at school,” around 35% of students responded ‘neither safe, nor unsafe.’ For Black 9th grade students ($N = 2,982$), the gender distribution was approximately equal, with 51% identifying as boys and 49% as girls (Table 2). Regarding parental education level, 56% of students reported that their parents graduated from college, and 44% reported their parents did not (Table 2). The sample of Black 11th grade students consisted of $N = 2,443$ participants, with 51% boy and 49% girl students (Table 2). As with the 9th grade group of students, 56% of 11th grade students reported that their parents had graduated from college, and 44% reported they had not (Table 2).

Although these descriptive statistics offer a general overview of the sample, they do not capture within-group variation or response patterns among Black students. To explore these differences in more detail, Latent Class Analysis (LCA) was used to identify distinct subgroups based on students’ perceptions of school climate.

Seventh Grade Results

Latent Classes

The next step was to fit a series of LCA models to the dichotomized school climate subscale beginning with a one-class model up until an eight-class model and collected their fit information to compare model fit. The fit statistics for each model are reported in Table 4. The fit indices did not converge on a single unit. Evaluating the indices presented in Table 4, the BIC, CAIC, and AWE, all suggest a five-class solution. However, SABIC suggests a higher class model (8) and *cmP* suggests a lower class model (4). After careful consideration and looking at the model fit statistics, the five-class model was selected for further evaluation. Turning to substantive consideration, item probability plots, evidence of class homogeneity and separation were examined comparing the five-class model to alternative models but other models were less conceptually compelling. For example, the four-class solution does not capture all meaningful subgroups that align with the data and may not have practical considerations. Looking at the probability plot, there is no change after the five-class solution, indicating there are no meaningful differences in group memberships after the five classes. Also, the parsimony principle was considered which would suggest selecting “the model with the fewest number of classes that is substantially adequate and useful” (Masyn 2013, p. 571). Hence, a five-class solution was selected.

Then, entropy was examined to understand how well this model assigns individuals into classes. Though entropy is not a fit statistic, it is a metric to assess classification accuracy; an entropy index of $>.80$ indicates that the model does a good job of correctly classifying individuals into classes (Clark & Muthén, 2009). The entropy for the five-class model is .71.

Figure 3 shows the conditional item probability plot for the five-class solution. The 14 indicators of the model are labeled on the x-axis, and the y-axis represents the probability that an item is endorsed (0 to 1). The five intersecting lines represent the five classes. After examining Figure 3

and the response pattern across each class, the results were similar to the school climate class uncovered by Holland (2024), Kaur et al. (2024), and Romero and O'Malley (2020) and used similar labels. The classes were reordered for naming purposes and to better understand the data across each grade level. The researcher did descriptive labeling because the general pattern is the same across each grade level (the researcher is not making claims that they are statistically equal; see Table 10).

High Positive School Climate Class

The first class, represented by the solid dot at the top of the graph, was labeled *High Positive School Climate* and was characterized by high response probabilities across all items. Approximately 21% of the students belonged to this class ($N = 578$).

Positive/Low Negative Meaningful Participation School Climate Class

The second class, represented by the solid triangle, was labeled *Positive/Low Negative Meaningful Participation*. This was the largest class, with 28% of the students ($N = 769$) assigned to it. Students in this group reported positive school relationships but lower endorsement on meaningful participation items, particularly: “*At school, I help decide things like class activities or rules,*” and “*At school, I do things that make a difference.*”

Mixed/ Connected School Climate Class

The third class, represented by the solid square, was labeled *Mixed/Connected* and comprised 20% of the sample ($N = 550$). This group showed moderate endorsement of relationships with adults and low endorsement of meaningful participation items. Two items in the moderate range included: “*At my school, there is an adult who notices when I’m not there,*” and “*At school, I do interesting activities.*”

Moderate/Positive School Climate Class

The fourth class, represented by the star, was labeled *Moderate/Positive* and included 16% of students ($N = 455$). Most items in this class were rated in the moderate range, with one exception: “*At my school, there is an adult who wants me to do my best,*” which was rated in the high positive range.

Low Negative School Climate Class

The fifth class, marked by an X, was labeled *Low/Negative*. Students in this group responded negatively across all items meaning students do not have positive perception about their school environment. This class comprised 16% of the sample ($N = 447$).

Overall, all five classes showed distinct patterns of endorsement that reflect both positive and negative dimensions of school climate. These results are consistent with previous studies on Asian-Indian American and Latinx student populations (Kaur et al., 2024; Romero & O'Malley, 2020), suggesting shared trends across diverse racial and ethnic groups.

Covariate Analysis

A multinomial logistic regression, regressing the latent class variable on the binary variable of *gender* (male = 1) and *parental education level* (graduated college = 1), was conducted using the ML-3 step method to examine the effects of gender and parental education level on latent class membership. Logistic regression estimates are provided in the form of logits and odd ratios (see Table 5).

Parental Education Level. Two significant differences were found related to parent education. Students whose parents graduated from college were approximately 1.48 times more likely to be in the *Positive Low Meaningful* class (logit = .39, $p < .05$, OR = 1.48, CI [1.09, 2.01]) and 1.50 times more likely to be in the *Mixed/Connected* class (logit = .41, $p < .05$, OR = 1.50, CI [1.12, 2.01]), compared to the *Low/Negative School Climate* class.

Gender. Regarding gender, three significant differences emerged among the classes. Compared to girls, boys were 1.44 times more likely to be in the *High/Positive* class (logit = .37, $p < .05$, OR = 1.44, CI [1.04, 2.00]), 1.78 times more likely to be in the *Positive Low Meaningful* class (logit = .58, $p < .05$, OR = 1.78, CI [1.32, 2.41]), and 1.69 times more likely to be in the *Mixed/Connected* class (logit = .52, $p < .05$, OR = 1.69, CI [1.28, 2.25]), relative to the *Low Negative School Climate* class.

9th Grade Results

Latent Classes

A series of LCA models were estimated for the dichotomized school climate subscales, ranging from a one-class to an eight-class solution. Model fit indices for each solution are reported in Table 6. The fit statistics indices did not converge on a single best-fitting model, as the indicators suggested different optimal solutions. Specifically, the Bayesian Information Criterion (BIC) showed the most substantial drop at the six-class model but favored a seven-class solution overall. The Consistent Akaike Information Criterion (CAIC) also supported a seven-class solution, although the differences between the five, six, and seven class models were minimal. The Approximate Weight of Evidence (AWE) supported a five- class model, whereas the Sample-Size Adjusted BIC (SABIC) favoured an eight-class solution. In contrast, the *cmP* statistic suggested a more parsimonious six class solution.

Given these varying indicators, the five class solution was selected based on several considerations: (1) interpretability and theoretical coherence across classes; (2) minimal improvement in model fit after five classes, as observed in the conditional probability plots; and (3) the principle of parsimony, which recommends choosing the fewest number of classes that adequately represent the data (Masyn 2013, p. 571). Hence, the five-class solution was selected.

The entropy value for the five-class model was .738, indicating acceptable classification precision. The item probability plot for the five-class model (see Figure 4) revealed patterns closely aligned with the five-class solution for the 7th grade sample, supporting the model's stability across grade levels.

- Class 1- *High Positive School Climate* (solid black dot): Approximately 18% of students ($N = 531$) demonstrated consistently high endorsement across all school climate items.
- Class 2 - *High Positive School Climate and Low Negative Meaningful Participation* (solid triangle): The largest class, comprising 29% of students ($N = 870$), showed high

endorsement of most items but lower ratings for items related to meaningful participation, mirroring patterns seen in the 7th grade data (e.g., “*I help decide things like class activities or rules,*” “*I do things that make a difference*”).

- Class 3 - *Mixed Connected* (solid square): Approximately 19% of students ($N = 555$) demonstrated moderate ratings for adult relationships and lower ratings for meaningful participation- again similar to the 7th grade group of students.
- Class 4 - *Moderate/Positive* (star): Representing 18% of students ($N = 525$), this group showed moderated endorsement across most items.
- Class 5 - *Low/Negative* (X mark): About 17% of students ($N = 500$) gave low ratings across all school climate items.

Overall, the five-class solution for 9th grade Black students demonstrated a highly similar structure to the 7th grade model, suggesting consistency in how these latent subgroups experience and report school climate.

Covariate Analysis

A multinomial logistic regression, regressing the latent class variable on the binary variable of *gender* (male=1) and *parental education level* (graduated college =1), was conducted using the ML-3 step method to examine the effects of gender and parental education level on latent class membership. Logistic regression estimates are provided in the form of logits and odd ratios (see Table 7).

Parental Education Level. The *Low Negative School Climate* as the first reference group because it showed the most robust differences. The results (Table 7) showed a higher number of significant differences across classes. There were two significant parental education differences among the classes. Parent education was significantly associated with school climate class membership. Students whose parents graduated from college were more likely to belong to more favorable school climate classes relative to the *Low/Negative* school climate class. Specifically, they

were 1.73 times more likely to be in the *High Positive* class (logit = .55, $p < .05$, OR = 1.73, CI [1.29, 2.31]) and 1.52 times more likely to be in the *Positive Low Meaningful* class (logit = .42, $p < .05$, OR = 1.52, CI [1.18, 1.97]).

Gender. Significant gender differences were also observed across four school climate classes. Compared to girls, boys were:

- 1.58 times more likely to be in the *High/Positive* class (logit = .46, $p < .05$, OR = 1.58, CI [1.19, 2.11]),
- 1.38 times more likely to be in the *Positive Low Meaningful* class (logit = .32, $p < .05$, OR = 1.38, CI [1.07, 1.78]),
- 1.48 times more likely to be in the *Mixed/Connected* class (logit = .39, $p < .05$, OR = 1.48, CI [1.08, 2.04]), and
- 34% less likely to be in the *Moderate/Positive* class (logit = -.41, $p < .05$, OR = 0.66, CI [0.48, 0.91]).

These results indicate that boys had greater odds of being in the most positive or mixed climate class compared to girls, with the exception of the *Moderate/Positive* class, where they were significantly less likely to be represented.

11th grade Results

Latent Classes

The researcher fitted a series of LCA models to the dichotomized school climate subscale beginning with a one-class model up until an eight-class model and collected their fit information to compare model fit. The fit statistics for each model are reported in Table 8. The fit indices did not converge on a single unit. Evaluating the indices presented in Table 8, the BIC and CAIC suggests a six-class model. The AWE and *cmP* suggests a five-class solution. The SABIC suggests a higher class model (8). After careful consideration and looking at the model fit statistics, five class models was selected for further evaluation due to the biggest drop in numbers, and analyzing the scree plot. The entropy for the five-class model is .753. Figure 5 shows the conditional item probability plot for the five-class solution. After examining Figure 5 and the response pattern across each class, the pattern looks similar to the 7th and 9th grade five-class solution using similar labels.

The first class, represented by the solid dot at the top of the graph, is characterized by high response probabilities for all items. Approximately 21% of the students belonged to the *High Positive School Climate* class ($N = 512$). The second class, represented by the solid triangle, yielded *High Positive School Climate and Low Negative Meaningful Participation*. This was the largest group representation; approximately 25% of the students belonged to this class ($N = 599$). The third class, represented by the solid square, is characterized by moderate response patterns for relationship with adults and low meaningful participation. Approximately 17% of the students belonged to the *Mixed/Connected* class ($N = 418$). The fourth class, represented by the star, which is labeled as *Moderate/Positive*. Approximately 20% of students belonged to this class ($N = 499$). The fifth class, characterized by the X mark, is labeled *Low/Negative*. Students in this class responded negatively on all items; approximately 17% fell in this class ($N = 415$). Overall, this study showed similar trends of item endorsements to seventh and ninth grade LCA groups as well as the previous studies conducted with Asian-Indian American and Latinx students (Kaur et al., 2024; Romero & O'Malley, 2020).

Covariate Analysis

A multinomial logistic regression, regressing the latent class variable on the binary variable of *gender* (male=1) and *parental education level* (graduated college =1), was conducted using the ML-3 step method to examine the effects of gender and parental education level on latent class membership. The *Low/Negative School Climate* class is used as the reference group (see Table 9).

Parental Education Level. There were three significant parental education differences among the classes. Parents who graduated from college were significantly more likely than those who did not to belong to more favorable school climate classes, relative to the *Low/Negative School Climate* class. Specifically, they were 1.51 times more likely to be in the *High Positive* class (logit = .41, $p < .05$, OR = 1.51, CI [1.12, 2.04]), 1.73 times more likely to be in the *Positive Low Meaningful* class (logit = .55, $p < .05$, OR = 1.730, CI [1.28, 2.34]), and 2.04 times more likely to be in the *Mixed/Connected* class (logit = .72, $p < .05$, OR = 2.04, CI [1.42, 2.95]).

Gender. Gender differences also emerged in school climate class membership. Compared to girls, boys were significantly more likely to be in the *Positive Low Meaningful* class relative to the *Low Negative School Climate* class (logit = .36, $p < .05$, OR = 1.43, CI [1.06, 1.93]). In contrast, boys were less likely than girls to be in the *Moderate/Positive* class relative to the *Low Negative School Climate* class (logit = -.48, $p < .05$, OR = 0.62, CI [0.45, 0.86]), indicating a 38% decrease in the odds.

Summary of the LCA and Covariates

Across grade levels, the largest group of students fell within the *Positive/ Low Meaningful School Climate* class, while the smallest group was in the *Low Negative school climate* class. Approximately 47% of the students ($N = 3,865$) reported a positive perception of school climate, combining the *High Positive* and *Positive/Low Meaningful School climate* classes. About 35% of students ($N = 2,961$) had mixed or moderate perceptions, and approximately 17% ($N = 1,398$) reported negative perceptions of school climate.

When examining grade-specific patterns, students in the 7th, 9th and 11th grades whose parents graduated from college and boys were more likely to be in the *Positive Low Meaningful* school climate class (Table 10). The items with moderate to low endorsement were the Meaningful Participation items (#1-3): “At school, I do interesting activities,” “At school, I help decide things like class activities or rules,” and “At school I do things that make a difference.”

Additionally, 7th and 9th grade boys were more likely to be in the *High Positive* and *Mixed Connected* school climate classes (Table 10). Ninth and 11th grade boys had a higher likelihood of being in the *Moderate Positive* school climate class (Table 10). Furthermore, 7th and 11th grade students whose parents graduated from college were more likely to be in the *Mixed Connected* school climate class (Table 10), while 9th and 11th grade students with college-educated parents were more likely to be in the *High Positive* school climate class (Table 10).

Chapter V: Discussion

The following discussion positions the study's findings within theoretical and empirical frameworks emphasizing complexity, context, and systemic influences on Black students' school climate perceptions. Drawing first on systems and ecological perspectives, the analysis highlights the dynamic interplay among relationships, organizational structures, policies, and cultural norms that collectively shape students' educational experiences. To further interpret the within-group variation revealed in the latent class analysis, the Phenomenological Variant of Ecological Systems Theory (PVEST) and intersectionality are employed, offering critical insights into how identity development, coping processes, and multiple, intersecting social identities inform students' perceptions of school climate. These frameworks provide the foundation for examining differences across grade level, gender, and parental education level, underscoring the heterogeneity of experiences among Black students and challenging deficit-oriented narratives. The discussion proceeds to consider the implications of these findings for educational practice and policy, particularly in relation to fostering meaningful participation, enhancing culturally responsive supports, and advancing equity-centered approaches. Finally, limitations of the present study and directions for future research are addressed, with an emphasis on refining methodological approaches and contributing to a knowledge base that affirms the complexity and diversity of Black students' schooling experiences.

Latent Profiles of School Climate Understanding the Findings from this Study

This study revealed important patterns in how Black students perceive their school climate across different grade levels. Nearly half of the students reported feeling positively about their school environment, especially those in the *High Positive* and *Positive Low Meaningful* classes. This finding is encouraging and suggests that many Black students experience their schools as supportive and engaging places. However, about 36% of Black students reported mixed and moderate feelings about school climate, and 17% reported negative perceptions. These groups may benefit from targeted

efforts to improve their school experience, particularly by increasing meaningful participation opportunities, such as having more chances to do interesting activities, help decide on class rules, and engage in activities that make a difference.

These findings offer a complex perspective on the educational experiences of Black students that both challenges and supports existing scholarship. The results challenge what Dumas (2016) describes as “antiblackness in education policy and discourse” by highlighting the resilience and positive experiences of many Black students while simultaneously acknowledging areas for improvement. However, the presence of students in negative perception classes may reflect what Dumas identifies as systemic anti-blackness that creates hostile educational environments for some Black youth. These patterns underscore the importance of student agency in promoting school engagement, especially for historically marginalized groups, aligning with Gray and colleagues (2020) recommendations for investing in school leadership preparation that uses data to create cultures of belonging and achievement, supportive instructional infrastructure, and opportunities for valued student participation in policy decisions.

This study also examined how Black students’ perceptions of school climate relate to parental education levels and gender (boys and girls). The results revealed that Black students whose parents graduated from college were more likely to report positive experiences at school, such as feeling connected and supported, compared to those whose parents did not graduate from college. This finding highlights the important role of parental education in shaping Black children’s school experiences and suggests that higher parental education may provide resources or support that help children feel more positive about school. Parents with higher education levels may be better positioned to provide academic support at home, engage in meaningful conversations about school experiences, or navigate educational systems effectively, all of which contribute to their children’s more positive perceptions of the school environment (Yamamoto & Holloway, 2010).

Gender differences also emerged among Black students in this study. Boys were more likely than girls to report belonging to school climate groups characterized by positive or mixed

experiences, particularly in 7th and 9th grades where boys were more likely to be in the *High Positive* and *Mixed Connected* classes. However, older boys in 9th and 11th grades tended to fall more in the *Moderate Positive* group, while boys were less likely than girls to belong to groups reflecting moderately positive experiences overall. These findings reveal that boys' and girls' school experiences differ in nuanced ways and challenge some common assumptions about gender differences in educational engagement. The results suggest that interventions aimed at improving school climate for Black students should carefully consider these gender differences and avoid one-size-fits-all approaches that may not address the distinct experiences of different student subgroups.

Ecological and Systemic influence on Student's school Experience

A previous study (Holland et al., 2024) that explored within-group differences among 10th-grade Black students' school climate perceptions revealed that: 1) substantial heterogeneity exists, and 2) five distinct latent classes were enumerated. Therefore, it was anticipated that the LCA in the present study would have similar findings among 7th, 9th, and 11th grade students. Based on prior research showing Black students experience more negative school climates (De Pedro et al., 2016), it was anticipated that: 1) 7th graders would report more positive school climate perceptions, 2) gender would not significantly correlate with school climate perceptions, and 3) students whose parents finished college would perceive a more positive school climate. This heterogeneity aligns with Dumas & Ross (2016) call to "be real Black" in educational research by recognizing the complexity and diversity within Black student experiences rather than treating them as a monolithic group. The identification of five distinct classes challenges deficit-oriented narratives and instead highlights the various ways Black students navigate and experience their educational environments.

The Systems View of School Climate provides a crucial framework for understanding these within-group differences, as it emphasizes the interconnectedness of various elements within a school environment and how they collectively influence student experiences. This perspective recognizes that Black students' perceptions are shaped by the dynamic interactions between relationships, organizational structures, policies, and cultural norms within their schools. The reciprocal nature of

these interactions means that positive elements like supportive teacher-student relationships can foster environments that enhance well being, while negative dynamics create climates that undermine engagement and success.

PVEST, Intersectionality, and Black Students' Experiences

“Schools can be structured in ways that afford Black students with opportunities to establish a sense of belonging. When schools invest in innovative approaches that prioritize Black students’ experiences, cultural strengths, and citizenship practices, then those students view schools as places where they matter” (Gray et al., 2020 p. 6). This perspective aligns with Ross & Givens (2023) work on Black Education Studies, which emphasizes moving beyond deficit frameworks to understand how structural and cultural factors shape Black students’ educational experiences.

To interpret the within-group patterns emerging from this study and their implications, this research draws on the PVEST, which extends Bronfenbrenner’s ecological perspective by building upon deeply rooted societal systems of opportunity and inequity while affirming the role of phenomenological processes in development (Spencer, 2006). PVEST emphasizes how Black adolescents’ identity development is shaped by their lived experiences, coping strategies, and exposure to contextual stressors through five key components: vulnerability level, net stress experiences, coping strategies, emergent identities/stable coping responses, and life stage outcomes (Brittain, 2011; Britain & Spencer, 2012; Smith et al., 2020).

The framework provided by Edwards (2021) offers a critical lens for understanding school safety and climate for Black students through an intersectional ecological approach. When integrated with PVEST, intersectionality deepens our understanding of how individuals' multiple, intersecting identities shape their experiences of vulnerability, resilience, and identity development across ecological contexts (Anderson & Stevenson, 2019; Seaton, 2020). This framework helps explain why students in different latent classes may experience varying levels of safety and belonging, as their experiences are shaped by the intersection of race, gender, grade level, and family background within broader school and societal contexts. PVEST emphasizes “meaning-making” or “sense-making,”

focusing on how Black students understand and interpret their everyday school experiences (Spencer et al., 1997). This approach recognizes that many behaviors often pathologized in traditional frameworks are actually adaptive responses to oppressive environments (Anderson & Stevenson, 2019). The dynamic interaction between vulnerability, self-appraisal, and coping is central to understanding how identity develops over time, with students employing various coping methods to navigate systemic, structural, and cultural risks and protective factors.

Influence of Ecological Factors in Identity Development/ School Climate Experiences

These findings can be understood through PVEST's framework, which considers how the balance of risk and protective factors determines the overall stress experienced by individuals, which is then processed through self-appraisal leading to either adaptive or maladaptive coping strategies (Spencer et al., 1997). Students with college-educated parents may have access to cultural and social capital that serves as protective factors, supporting their navigation of school environments and influencing their meaning-making processes. Additionally, Cross's (1991) racial identity development model suggests that Black adolescents' identity development occurs within complex social contexts that include family, school, and community influences, with different stages of racial identity development potentially influencing school climate perceptions.

Gender differences also emerged in this study. Through a PVEST and intersectionality lens, these patterns may reflect how Black boys and girls develop different coping strategies in response to racialized and gendered expectations and experiences within school environments (Anderson & Steveson, 2019; Seaton, 2020). The work of scholars on Black adolescent mental health provides important context for understanding how school climate experiences may impact the psychological well-being of Black youth, particularly as students employ various coping methods to navigate systemic stressors (Anderson et al., 2024; Varner et al., 2025).

Implications for Practice

The findings of this study have several important implications for school leaders, educators, and policymakers working to improve school climate for Black students. The identification of five distinct school climate classes; *High Positive*, *Positive/Low meaningful*, *mixed/connected*, *moderate/positive*, and *low negative*, highlights that Black students' experiences in school are not monolithic. While nearly half of the sample included generally positive perceptions, a significant proportion of students reported only moderate or negative experiences, particularly related to meaningful participation in school activities and decision-making.

PVEST enables educational institutions to move beyond colorblind policies and instead understand and address the broader contextual and systemic issues impacting Black student behavior and development. Unlike deficit-based models, PVEST focuses on how youth make meaning of their experiences within racialized contexts, allowing educators to understand student behavior not as isolated incidents, but as responses to structural inequalities (Spencer, 2006). This phenomenological approach encourages schools to address the root causes of negative climate perceptions rather than applying punitive or universal policies.

One of the most consistent areas of low endorsement across multiple classes was the *Meaningful Participation* domain. Items like “*I help decide things like class activities or rules*” and “*I do things that make a difference at school*” were frequently rated low, even in otherwise positive climate groups. This suggests that while many Black students may feel supported by adults at school, they do not consistently feel empowered or included in shaping their educational experiences. This finding aligns with scholarly work that emphasizes the importance of empowerment and agency in Black students' educational experiences (Neville et al., 2009; Toldson, 2019), and with PVEST's emphasis on the importance of participatory approaches that involve youth voices in policy and practice (Hope et al., 2015).

Increasing opportunities for meaningful student voice, leadership, and engagement, especially among historically marginalized groups, should be a priority for school improvement efforts (Toldson, 2019). From a PVEST perspective, these opportunities serve as crucial protective factors that can buffer against systemic stressors and support positive identity development. Another theme among grade levels were the students who fell in the *Low/Negative and Mixed connected class* may require more intentional support. Schools can provide adult mentoring programs or advisory periods to improve student-adult relationships. Additionally, using school climate screeners to conduct early identification of students in need and guide targeted interventions strategies. To better support Black students, schools should also offer culturally affirming counseling and engagement programs that are tailored to the specific needs of Black students, drawing on the mental health frameworks (Wing Sue, et al., 2022).

PVEST's application helps develop targeted interventions and support systems by examining crucial questions about environmental factors, school policies, systemic barriers, and societal issues affecting Black students (Smith et al., 2020). For example, if PVEST reveals that Black students in a particular district experience high levels of racialized discipline (risk factor), an intervention might include professional development for teachers on racial bias, along with peer led restorative justice programs (protective factors). Educators can implement trauma-informed and restorative justice approaches that validate Black students' experiences and foster environments that resist systemic marginalization (Edwards, 2021). Culturally responsive pedagogy and identity-affirming supports are essential protective factors highlighted by PVEST; these approaches affirm Black students' racial and cultural identities and are tied to improved academic engagement, psychological resilience, and positive self-concept (Cross, 1991; Ladson-Billings, 1995; Seaton, 2020).

Furthermore, the variation in class membership across grade levels, gender, and parental education indicates that intersectional identities matter. For example, Black boys and students with college-educated parents were more likely to belong to the *Positive/Low Meaningful* and *High Positive* classes, while other students may be more vulnerable to negative or disconnected

experiences. These findings emphasize the importance of using disaggregated data to inform targeted supports and interventions that meet the diverse needs of Black students.

In line with prior research on Latinx and Asian-Indian American students, this study reinforces that culturally responsive and equity-focused practices are essential in improving school climate across diverse populations (Kaur et al., 2024; Romero and O'Malley, 2020). Educators should prioritize relational trust, inclusive participation, and culturally relevant programming to ensure that all students, particularly those from underrepresented backgrounds, experience school as a safe, engaging, and supportive place to learn and grow.

Limitations and Future Research

A limitation for this study was decision making on the best class membership to choose. For instance, the 9th grade latent class model fit statistics had mixed evidence for the five or six-class solution. In particular, the LMR indicated the six-class solution (see Table 6). However, given the BIC and other model fit statistics, the researcher chose the five-class solution for interpretability. Further, the researcher also considered that the model fit statistics for 7th and 11th graders derived a five-class solution, as to why the five-class solution was used for 9th graders as well. Other latent class research on school climate perceptions have also had five class solutions for 10th grade African American students (Holland, 2024), 10th grade Asian-Indian American students (Kaur et al., 2024), and 8th grade Latinx students (Romero & O'Malley, 2020). Future researchers should consider if the 6th class solution is a better fit especially since there was ambiguity that emerged from the model fit statistics.

Future research should explore longitudinal trends in school climate class membership from middle to high school, investigate the impact of school-level factors (e.g., discipline policies) on class membership, and examine intersectional differences within the Black student population (e.g., gender, LGBTQ+ identity, racial and ethnic identities, language background). Such research should be

grounded in frameworks that center Black students' experiences and challenge deficit narratives in educational research (e.g., see Williams et al., 2020 for an example framework).

Table 3 shared the proportions of CHKS items. Interestingly, school belonging and safety items had a significant number of the students responding 'neither, nor.' This is important to look deeper into for future analysis that may want to use this data as positive or negative endorsements which could change the latent class membership or findings.

Conclusions

It is important that research continue to inform our understanding of Black youth and their educational experiences and outcomes, grounded in frameworks that center their humanity and challenge antiblack narratives in education (Dumas, 2016; Ross & Givens, 2023). PVEST provides a nuanced lens to understand how structural racism, biased school disciplinary policies, and community trauma act as chronic stressors shaping Black students' behaviors and coping strategies (Skiba et al., 2011; U.S. Department of Education Office of Civil Rights, 2016). This perspective challenges deficit-based interpretations that pathologize Black students, instead recognizing many behaviors as adaptive responses to oppressive environments (Anderson & Stevenson, 2019).

Moving beyond colorblind policies that fail to acknowledge pervasive anti-blackness and systemic inequities in education is critical for addressing the root causes of disparities in discipline, academic opportunity, and wellbeing. PVEST pushes institutions to replace color blindness with a contextually grounded, equity-focused lens that actively acknowledges and addresses systemic oppression. This aligns with BlackCrit theory's call for centering Blackness and disrupting dominant narratives that erase or minimize the complexity of Black students' identities (Dumas & Ross, 2016).

Relatedly, policies have to continue to evolve to support Black adolescents in the education setting especially, state and federal policies. Drawing on the results of this study and related research, the California Department of Education is encouraged to design professional development programs that require school districts to create and implement plans responsive to the diverse needs and

experiences of Black students, whether a school serves 5 or 200 Black children. The current study aims to contribute to the knowledge base through a) helping to identify specific factors that contribute to positive school climate experiences for Black students, b) informing recommendations for culturally responsive climate improvement strategies, c) providing insights into within-group differences in school climate experiences, and inform policy and practice for creating more equitable educational environments. The researcher has created a summary and recommendations to get shared with school districts in California to support Black students (see Appendix B & C).

This study emphasized the need to understand how social and family factors intersect with race and gender to influence Black children's school climate experiences. Educators should consider both family background and gender when designing programs to improve school climate, understanding these as part of the complex ecological systems that shape student experiences and identity development. Providing more opportunities for meaningful participation and connection could help engage students who feel less positive about their school environment, serving as protective factors within the PVEST framework. Tailoring support to meet the needs of different grade levels, genders, and family backgrounds will be important to foster a positive and inclusive school climate for all students. Schools and educators should use this knowledge to create supportive environments that recognize the diverse needs of Black boys and girls and to ensure equitable opportunities for all students to feel connected and valued. This dissertation explored how PVEST and intersectionality inform intervention strategies and implications for Black youth, emphasizing approaches that foster school environments where Black youth can not only survive but thrive emotionally, socially, and academically, despite systemic barriers.

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Table 1

Questions, Hypotheses, Variables, and Analyses

Questions	Hypotheses	IV	DV	Analyses
Q1: What are the school climate perception profiles of Black students?	H1: Based on a preliminary study done on 10th grade Black students- There will be at least 5 classes of students based on this preliminary study– (1) <i>Low/Negative School Climate</i> , (2) <i>High/Low School Climate</i> , (3) <i>High/Positive School Climate</i> , (4) <i>Positive School Climate/ Low Meaningful Participation</i> , and (5) <i>High School Connectedness and Safety with Low Relationships with Adults/ and Meaningful Participation</i> (Holland, 2024- Qualls’ research paper)	7th, 9th, and 11th grade Black California students	22-23 CHKS-school connectedness , caring relationship, meaningful participation, school safety,	Latent Class Analysis
Q2: How is grade level associated with school climate perception profiles of Black students?	H2a: Higher grade levels will be associated with higher perceptions of negative school climate H2b: Ninth grade students more likely to be members of the low school climate class when compared to 7th graders H2c: Eleventh grade students more likely to be members of the negative school climate when compared to 7th graders	7th, 9th, and 11th grade Black California students	Latent Class Membership (number of categories derived from LCA)	Multinomial logistic regression analysis
Q3: How is gender associated with school climate perception profiles of Black students?	H3: Based on previous literature, gender will not predict school climate class membership.	Male and Female Black California students	Latent Class Membership (number of categories derived from LCA)	Multinomial logistic regression analysis
Q4: How is parental education level associated with school climate perception	H4a: Students whose parents did not finish high school are more likely to report poorer perceptions of school climate when compared to students whose parents finished college. H4b: Students whose parents completed high school are more	<i>High school parents that finish and did not finish & College parents</i>	Latent Class Membership (number of categories derived from LCA)	<i>Multinomial logistic regression analysis</i>

<i>profiles of Black students?</i>	likely to report poorer perceptions of school climate when compared to students whose parents finished college. H4c: Students whose parents attended college but did not complete will have similar perceptions of school climate when compared to students whose parents finished college.	<i>that did and did not finish college of the Black California students</i>		
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Table 2*Socio-demographic Characteristics of African American Participants (N = 8,224)*

	%	N
Grade Level		
7th	34%	<i>n</i> = 2,799
Gender		
Boy	53%	<i>n</i> = 1,326
Girl	47%	<i>n</i> = 1,473
Parental Education Level		
College Graduate	62%	<i>n</i> = 1,730
Did not finish college	38%	<i>n</i> = 1,069
Grade Level		
9th	36%	<i>n</i> = 2,982
Gender		
Boy	51%	<i>n</i> = 1,528
Girl	49%	<i>n</i> = 1,454
Parental Education Level		
College Graduate	56%	<i>n</i> = 1,667
Did not finish college	44%	<i>n</i> = 1,315

Grade Level		
11th	30%	<i>n</i> = 2,443
Gender		
Boy	51%	<i>n</i> = 1,235
Girl	49%	<i>n</i> = 1,208
Parental Education Level		
College Graduate	53%	<i>n</i> = 1,285
Did not finish college	47%	<i>n</i> = 1,158

Figure 1

African American/Black Child Population in 2021- Population Reference Bureau

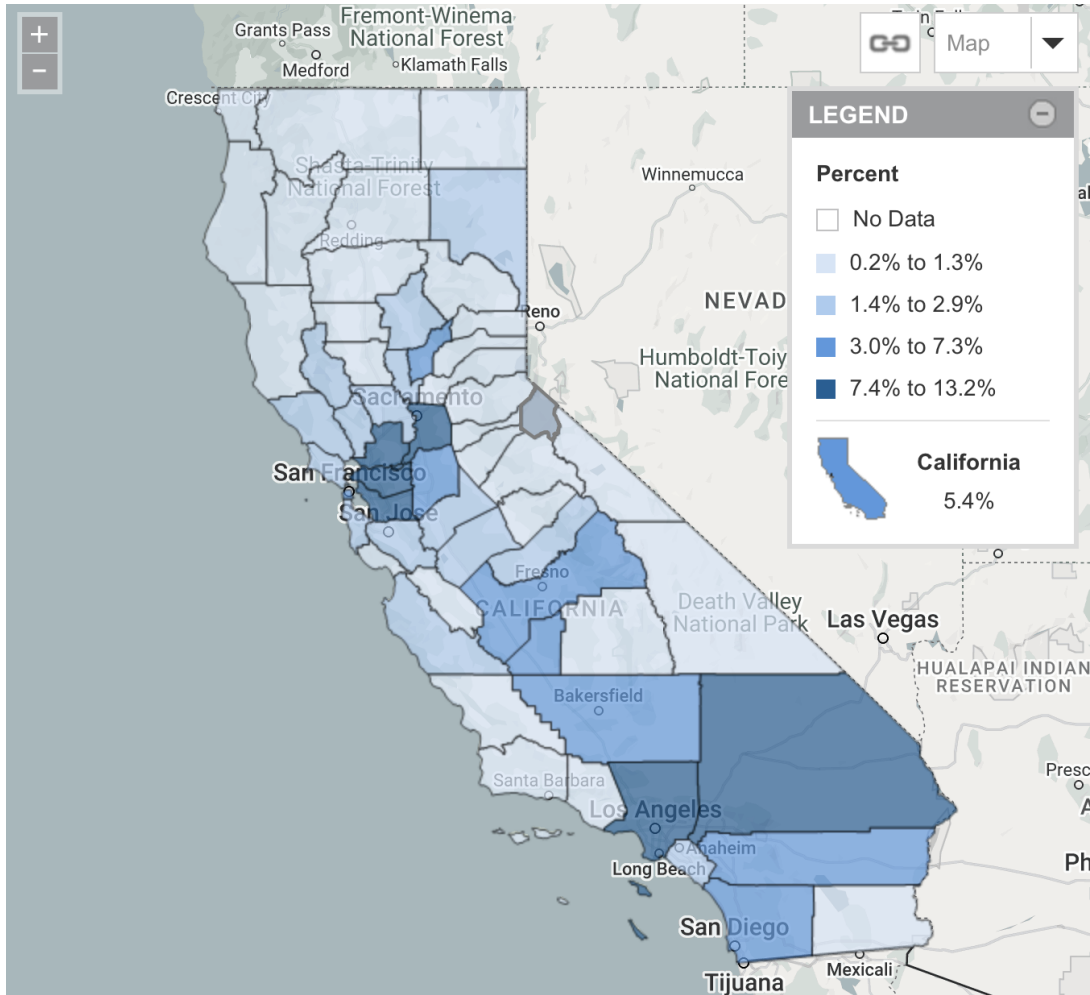


Figure 2

Secondary Uses Human Subjects Research Decision Tree

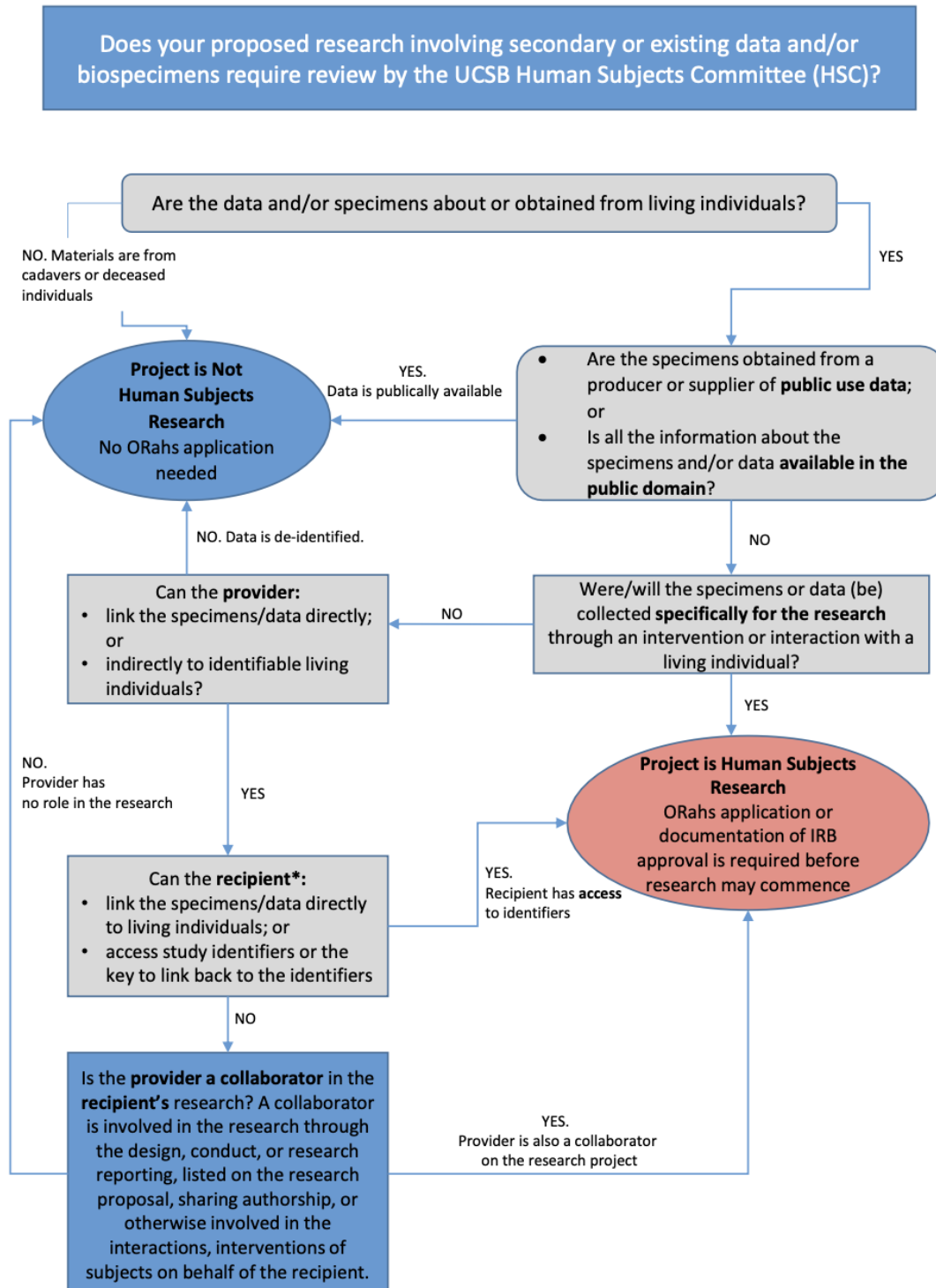


Table 3*CHKS items- Proportions*

CHKS items	Positive Endorsement	Negative Endorsement	Missing/Neutral
I feel close to people at this school (C)	55%	14%	31%
I am happy to be at this school (C)	41%	20%	39%
I feel like I am part of this school (C)	42%	20%	38%
The teachers at this school treat students fairly (C)	45%	18%	37%
At my school, there is an adult who really cares about me (R)	54%	41%	5%
At my school, there is an adult who tells me I do a good job (R)	65%	30%	5%
At my school, there is an adult who notices when I'm not there (R)	55%	40%	5%
At my school, there is an adult who wants me to do my best (R)	73%	22%	5%
At my school, there is an adult who listens to me when I have something to say (R)	62%	33%	5%
At my school, there is an adult who believes I will be a success (R)	65%	30%	5%
How safe do feel when you are school (reversed) (S)	45%	9%	46%
At school, I do interesting activities (M)	48%	44%	8%
At school, I help decide things like class activities or rules (M)	19%	73%	8%
At school, I do things that make a difference(M)	26%	66%	8%

Note. The letter in parenthesis indicates the dimension of the school climate. C = school connectedness, R = relationships with adults, S = safety, and M = meaningful participation.

Table 4

7th grade Fit Statistics for classes 1-8.

<i>K</i>	<i>LL</i>	<i>BIC</i>	<i>SABIC</i>	<i>CAIC</i>	<i>AWE</i>	<i>BLRT_p</i>	<i>VLMR-LRT_p</i>	<i>Entropy</i>	<i>BF</i>	<i>cmP</i>
1	-19,338	38,786	38,742	38,800	38,939	-	-	-	0.000	<.001
2	-16,628	33,486	33,394	33,515	33,802	<.001	<.001	0.838	0.000	<.001
3	-16,268	32,884	32,744	32,928	33,363	<.001	<.001	0.736	0.000	<.001
4	-16,006	32,479	32,292	32,538	33,123	<.001	<.001	0.751	0.000	<.001
5	-15,851	32,287	32,052	32,361	33,094	<.001	<.001	0.711	0.000	0.01
6	-15,788	32,280	31,997	32,369	33,251	<.001	0.07	0.704	0.8	0.44
7	-15,729	32,280	31,949	32,384	33,414	<.001	0.02	0.701	>100	0.55
8	-15,685	32,310	31,932	32,429	33,608	<.001	0.01	0.694	-	<.001

Note. *K* = number of classes; *LL* = log-likelihood; *BIC* = Bayesian information criterion; *SABIC* = sample-size adjusted BIC; *CAIC* = consistent Akaike information criterion; *AWE* = approximate weight of evidence criterion; *BLRT* = bootstrapped likelihood ratio test; *VLMR-LRT_p* = Vuong-Lo-Mendell-Rubin adjusted likelihood ratio test; *p* = *p*-value; *BF* = Bayes factor; *cmP* correct model probability. Bolded values indicate the “best” fit for each respective statistic. Entropy is included in the table for brevity but should not be used as a model selection statistic (Masyn, 2013).

Figure 3

7th grade Class Solution

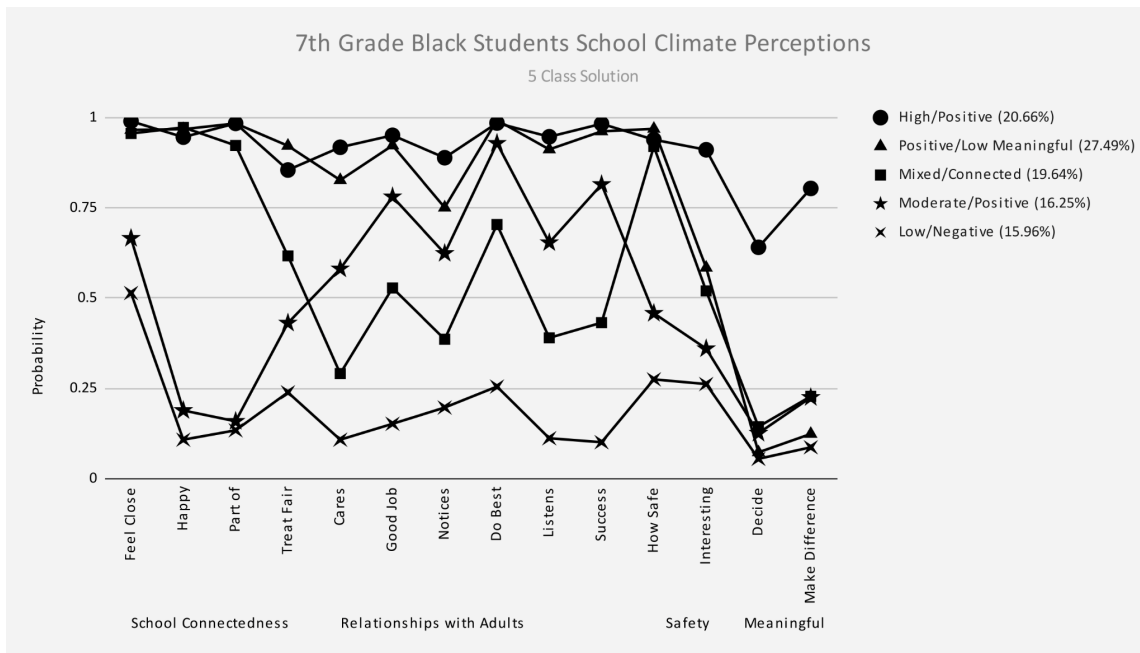


Table 5*Covariates Effects Predicting Class Membership in LCA for 7th grade students*

Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
<i>Low/ Negative</i>	<i>High Positive</i>	Boy	0.365	0.168	2.179	0.029	1.441	1.037-2.001
		Graduated	0.278	0.170	1.630	0.103	1.320	0.945-1.843
	<i>Positive Low Meaningful</i>	Boy	0.577	0.154	3.753	<0.001	1.781	1.318-2.408
		Graduated	0.393	0.157	2.510	0.012	1.482	1.090-2.014
	<i>Mixed/ Connected</i>	Boy	0.523	0.146	3.585	<0.001	1.687	1.267-2.245
		Graduated	0.405	0.149	2.720	0.007	1.499	1.120-2.006
	<i>Moderate/ Positive</i>	Boy	-0.040	0.175	-0.230	0.818	0.960	0.681-1.354
		Graduated	0.036	0.174	0.204	0.839	1.036	0.736-1.458

***Bold** values indicate significance at $p \leq .05$

Table 6*9th grade Fit Statistics for classes 1-8.*

<i>K</i>	<i>LL</i>	<i>BIC</i>	<i>SABIC</i>	<i>CAIC</i>	<i>AWE</i>	<i>BLRTp</i>	<i>VLMR-LRTp</i>	<i>Entropy</i>	<i>BF</i>	<i>cmP</i>
			<i>C</i>							
<i>1</i>	-20,837	41,785	41,741	41,799	41,939	-	-	-	0.000	<.001
<i>2</i>	-17,740	35,712	35,619	35,741	36,030	<.001	<.001	0.855	0.000	<.001
<i>3</i>	-17,269	34,888	34,749	34,932	35,371	<.001	<.001	0.805	0.000	<.001
<i>4</i>	-16,887	34,244	34,057	34,303	34,891	<.001	<.001	0.765	0.000	<.001
<i>5</i>	-16,702	33,994	33,759	34,068	34,805	<.001	<.001	0.738	0.000	<.001
<i>6</i>	-16,625	33,959	33,676	34,048	34,935	<.001	<.001	0.739	0.000	<.001
<i>7</i>	-16,557	33,942	33,612	34,046	35,083	<.001	0.29	0.748	15.1	0.94
<i>8</i>	-16,500	33,948	33,570	34,067	35,253	<.001	0.25	0.724	-	0.06

Note. *K*= number of classes; *LL*= log-likelihood; *BIC* = Bayesian information criterion; *SABIC* = sample-size adjusted BIC; *CAIC* = consistent Akaike information criterion; *AWE* = approximate weight of evidence criterion; *BLRT* = bootstrapped likelihood ratio test; *VLMR-LRT p* = Vuong-Lo-Mendell-Rubin adjusted likelihood ratio test; *p* = *p*-value; *BF* = Bayes factor; *cmP* correct model probability. Bolded values indicate the “best” fit for each respective statistic. Entropy is included in the table for brevity but should not be used as a model selection statistic (Masyn, 2013).

Figure 4

9th grade Class Solution

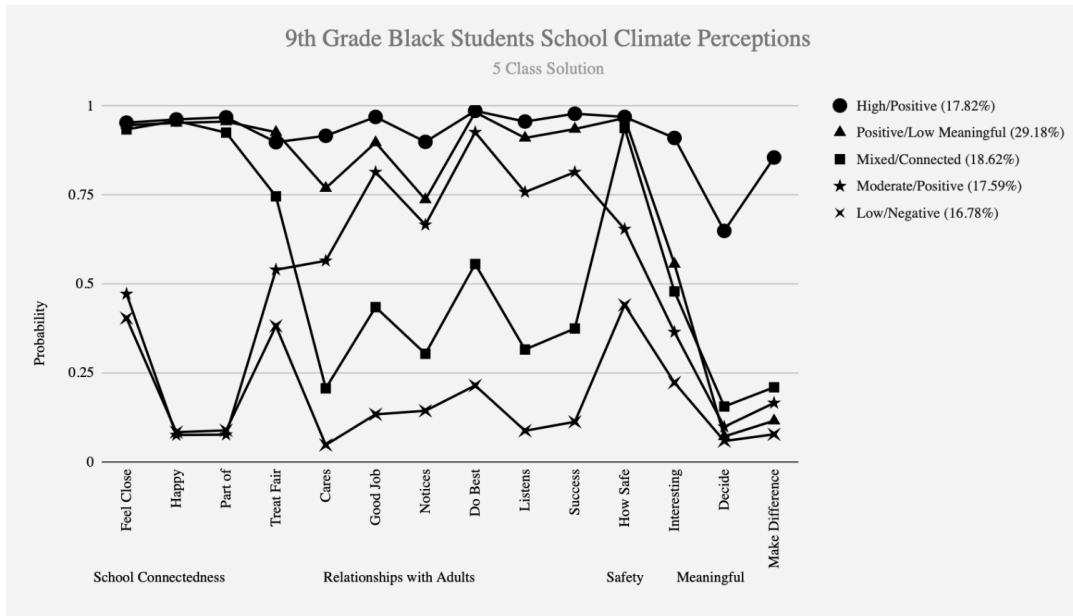


Table 7*Covariates Effects Predicting Class Membership in LCA for 9th grade students*

Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
<i>Low/ Negative</i>	<i>High Positive</i>	Boy	0.460	0.147	3.127	0.002	1.584	1.187-2.113
		Graduated	0.546	0.148	3.678	<0.001	1.726	1.291-2.310
	<i>Positive Low Meaningful</i>	Boy	0.318	0.130	2.442	0.015	1.375	1.065-1.775
		Graduated	0.421	0.131	3.212	0.001	1.523	1.178-1.969
	<i>Mixed/ Connected</i>	Boy	0.393	0.163	2.409	0.016	1.481	1.076-2.039
		Graduated	0.279	0.163	1.712	0.087	1.321	0.960-1.818
	<i>Moderate/ Positive</i>	Boy	-0.409	0.162	-2.532	0.011	0.664	0.484-0.912
		Graduated	-0.001	0.157	-0.005	0.996	0.999	0.735-1.359

***Bold** values indicate significance at $p \leq .05$

Table 8*11th grade Fit Statistics for classes 1-8.*

<i>K</i>	<i>LL</i>	<i>BIC</i>	<i>SABIC</i>	<i>CAIC</i>	<i>AWE</i>	<i>BLRT_p</i>	<i>VLMR-LRT_p</i>	<i>Entropy</i>	<i>BF</i>	<i>cmP</i>
<i>1</i>	-17,176	34,461	34,416	34,475	34,611	-	-	-	0.000	<.001
<i>2</i>	-14,344	28,912	28,820	28,941	29,225	<.001	<.001	0.867	0.000	<.001
<i>3</i>	-13,870	28,081	27,941	28,125	28,555	<.001	<.001	0.775	0.000	<.001
<i>4</i>	-13,595	27,648	27,461	27,707	28,283	<.001	0.05	0.772	0.000	<.001
<i>5</i>	-13,394	27,362	27,127	27,436	28,159	<.001	<.001	0.753	0.000	<.001
<i>6</i>	-13,287	27,265	26,982	27,354	28,223	<.001	0.000	0.754	7.6	0.88
<i>7</i>	-13,231	27,269	26,938	27,373	28,389	<.001	0.12	0.75	>100	0.12
<i>8</i>	-13,181	27,285	26,907	27,404	28,566	<.001	0.10	0.746	-	<.001

Note. *K* = number of classes; *LL* = log-likelihood; *BIC* = Bayesian information criterion; *SABIC* = sample-size adjusted BIC; *CAIC* = consistent Akaike information criterion; *AWE* = approximate weight of evidence criterion; *BLRT* = bootstrapped likelihood ratio test; *VLMR-LRT p* = Vuong-Lo-Mendell-Rubin adjusted likelihood ratio test; *p* = *p*-value; *BF* = Bayes factor; *cmP* correct model probability. Bolded values indicate the “best” fit for each respective statistic. Entropy is included in the table for brevity but should not be used as a model selection statistic (Masyn, 2013).

Figure 5

11th grade Class Solution

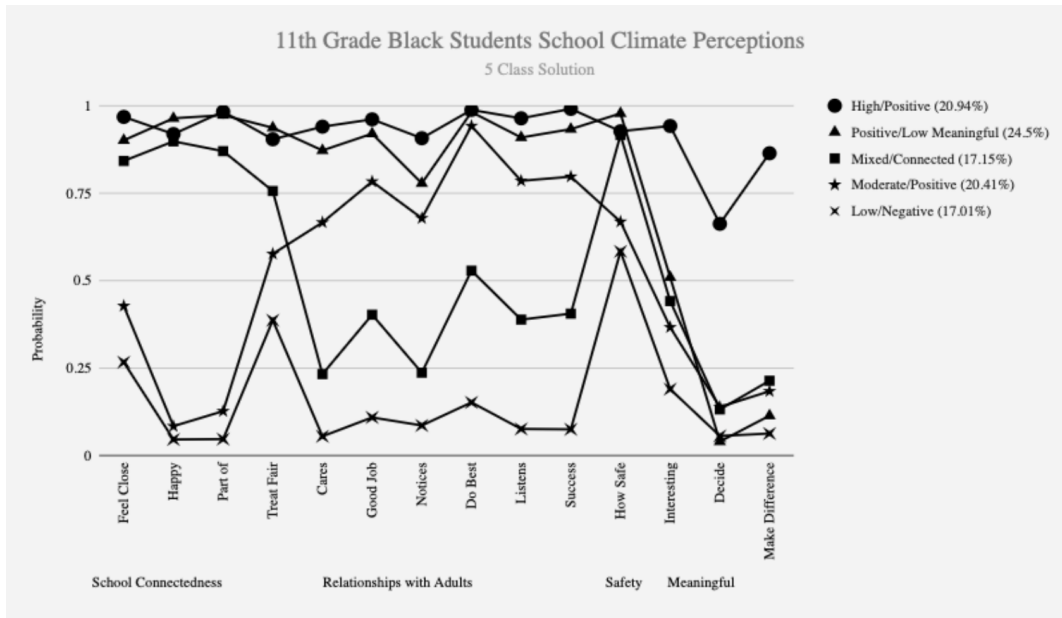


Table 9*Covariates Effects Predicting Class Membership in LCA for 11th grade students*

Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
<i>Low/ Negative</i>	<i>High Positive</i>	Boy	0.218	0.153	1.425	0.154	1.244	0.921-1.680
		Graduated	0.412	0.154	2.678	0.007	1.510	1.117-2.041
	<i>Positive Low Meaningful</i>	Boy	0.357	0.154	2.310	0.021	1.429	1.055-1.933
		Graduated	0.548	0.154	3.548	<0.001	1.730	1.278-2.341
	<i>Mixed/ Connected</i>	Boy	0.118	0.184	0.642	0.521	1.126	0.785-1.615
		Graduated	0.715	0.188	3.813	<0.001	2.044	1.416-2.953
	<i>Moderate/ Positive</i>	Boy	-0.481	0.166	-2.899	0.004	0.618	0.446-0.856
		Graduated	0.086	0.164	0.523	0.601	1.090	0.790-1.504

***Bold** values indicate significance at $p \leq .05$

Table 10*Size of class across Grade Level*

	7th grade	9th grade	11th grade
High/Positive (HP)	20.66%	17.82%	20.94%
Positive/Low Meaningful (PLM)	27.49%	29.18%	24.5%
Mixed/Connected (MC)	19.64%	18.62%	17.15%
Moderate/Positive (MP)	16.25%	17.59%	20.41%
Low/Negative (LN)	15.96%	16.78%	17.01%
Covariates	Boy: HP>LN, PLM> LN, MC>LN Graduated: PLM>LN, MC>LN	Boy: HP>LN, PLM>LN, MC>LN, MP<LN Graduated: HP>LN, PLM>LN	Boy: PLM>LN, MP<LN Graduated: HP>LN, PLM>LN, MC>LN

Appendix A

7th grade LCA results

Covariates Effects Predicting Class Membership in LCA for 7th grade students

Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
<i>High Positive</i>	<i>Positive/ Low Meaningful</i>	Boy	0.212	0.156	1.358	0.175	1.236	0.910-1.679
		Graduated	0.115	0.162	0.714	0.475	1.122	0.818-1.541
	<i>Mixed/ Connected</i>	Boy	0.158	0.161	0.982	0.326	1.171	0.854-1.604
		Graduated	0.127	0.167	0.761	0.447	1.135	0.819-1.575
	<i>Moderate Positive</i>	Boy	-0.406	0.179	-2.271	0.023	0.667	0.470-0.946
		Graduated	-0.242	0.181	-1.339	0.181	0.785	0.551-1.119
	<i>Low/ Negative</i>	Boy	-0.365	0.168	-2.179	0.029	0.694	0.500-0.964
		Graduated	-0.278	0.170	-1.630	0.103	0.758	0.543-1.058

Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
<i>Positive Low Meaningful</i>	<i>High Positive</i>	Boy	-0.212	0.156	-1.358	0.175	0.809	0.595-1.099
		Graduated	-0.115	0.162	-0.714	0.475	0.891	0.649-1.223
	<i>Mixed/ Connected</i>	Boy	-0.054	0.163	-0.335	0.738	0.947	0.688-1.303
		Graduated	0.012	0.169	0.069	0.945	1.012	0.726-1.409
	<i>Moderate Positive</i>	Boy	-0.618	0.165	-3.744	<0.001	0.539	0.390-0.745
		Graduated	-0.358	0.167	-2.138	0.033	0.699	0.504-0.971
	<i>Low/ Negative</i>	Boy	-0.577	0.154	-3.753	<0.001	0.561	0.415-0.759

		Graduated	-0.393	0.157	-2.510	0.012	0.675	0.497-0.917
Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
	<i>High Positive</i>	Boy	-0.158	0.161	-0.982	0.326	0.854	0.623-1.170
		Graduated	-0.127	0.167	-0.761	0.447	0.881	0.635-1.222
<i>Mixed/ Connected</i>	<i>Positive Low Meaningful</i>	Boy	0.054	0.163	0.335	0.738	1.056	0.768-1.452
		Graduated	-0.012	0.169	-0.069	0.945	0.988	0.710-1.377
	<i>Moderate Positive</i>	Boy	-0.563	0.165	-3.411	0.001	0.569	0.412-0.787
		Graduated	-0.369	0.168	-2.201	0.028	0.691	0.498-0.960
	<i>Low/ Negative</i>	Boy	-0.523	0.146	-3.585	<0.001	0.593	0.445-0.789
		Graduated	-0.405	0.149	-2.720	0.007	0.667	0.498-0.893
Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
	<i>High Positive</i>	Boy	0.406	0.179	2.271	0.023	1.500	1.057-2.129
		Graduated	0.242	0.181	1.339	0.181	1.274	0.894-1.816
<i>Moderate/ Positive</i>	<i>Positive Low Meaningful</i>	Boy	0.618	0.165	3.744	<0.001	1.855	1.342-2.563
		Graduated	0.358	0.167	2.138	0.033	1.430	1.030-1.984
	<i>Mixed/ Connected</i>	Boy	0.563	0.165	3.411	0.001	1.756	1.271-2.428
		Graduated	0.369	0.168	2.201	0.028	1.446	1.041-2.010

	<i>Low/ Negative</i>	Boy	0.040	0.175	0.230	0.818	1.041	0.738-1.468
		Graduated	-0.036	0.174	-0.204	0.839	0.965	0.686-1.358
Class Names	School Climate Classes	Covariates	Logit	SE	Logit/ SE	p-value	Odds ratio	95% Confidence Interval
	<i>High Positive</i>	Boy	0.365	0.168	2.179	0.029	1.441	1.037-2.001
		Graduated	0.278	0.170	1.630	0.103	1.320	0.945-1.843
<i>Low/ Negative</i>	<i>Positive Low Meaningful</i>	Boy	0.577	0.154	3.753	<0.001	1.781	1.318-2.408
		Graduated	0.393	0.157	2.510	0.012	1.482	1.090-2.014
	<i>Mixed/ Connected</i>	Boy	0.523	0.146	3.585	<0.001	1.687	1.267-2.245
		Graduated	0.405	0.149	2.720	0.007	1.499	1.120-2.006
	<i>Moderate/ Positive</i>	Boy	-0.040	0.175	-0.230	0.818	0.960	0.681-1.354
		Graduated	0.036	0.174	0.204	0.839	1.036	0.736-1.458

***Bold** values indicate significance at $p \leq .05$

9th grade LCA results

Covariates Effects Predicting Class Membership in LCA for 9th grade students

Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
<i>High Positive</i>	<i>Positive/ Low Meaningful</i>	Boy	-0.141	0.155	-0.914	0.361	0.868	0.641-1.176
		Graduated	-0.125	0.158	-0.795	0.427	0.882	0.648-1.202
	<i>Mixed/ Connected</i>	Boy	-0.067	0.158	-0.425	0.671	0.935	0.686-1.274
		Graduated	-0.267	0.159	-1.683	0.092	0.765	0.561-1.045
	<i>Moderate Positive</i>	Boy	-0.869	0.163	-5.320	<0.001	0.419	0.305-0.578
		Graduated	-0.547	0.161	-3.394	0.001	0.579	0.422-0.794
	<i>Low/ Negative</i>	Boy	-0.460	0.147	-3.127	0.003	0.631	0.473-0.842
		Graduated	-0.546	0.148	-3.678	<0.001	0.579	0.433-0.775

Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
<i>Positive Low Meaningful</i>	<i>High Positive</i>	Boy	0.141	0.155	0.914	0.361	1.152	0.851-1.560
		Graduated	0.125	0.158	0.795	0.427	1.134	0.832-1.544
	<i>Mixed/ Connected</i>	Boy	0.074	0.155	0.482	0.630	1.077	0.796-1.458
		Graduated	-0.142	0.155	-0.916	0.360	0.868	0.640-1.176
	<i>Moderate Positive</i>	Boy	-0.727	0.160	-4.539	<0.001	0.483	0.353-0.661
		Graduated	-0.421	0.157	-2.689	0.007	0.656	0.483-0.892
	<i>Low/ Negative</i>	Boy	-0.318	0.130	-2.442	0.015	0.727	0.563-0.939

		Graduated	-0.421	0.131	-3.212	0.001	0.657	0.508-0.849
Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
	<i>High Positive</i>	Boy	0.067	0.158	0.425	0.671	1.069	0.785-1.457
		Graduated	0.267	0.159	1.683	0.092	1.307	0.957-1.784
<i>Mixed/Connected</i>	<i>Positive Low Meaningful</i>	Boy	-0.074	0.155	-0.482	0.630	0.928	0.686-1.257
		Graduated	0.142	0.155	0.916	0.360	1.153	0.850-1.562
	<i>Moderate Positive</i>	Boy	-0.802	0.172	-4.652	<0.001	0.449	0.320-0.629
		Graduated	-0.279	0.169	-1.655	0.098	0.756	0.543-1.053
	<i>Low/Negative</i>	Boy	-0.393	0.163	-2.409	0.016	0.675	0.490-0.929
		Graduated	-0.279	0.163	-1.712	0.087	0.757	0.550-1.041
Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
	<i>High Positive</i>	Boy	0.869	0.163	5.320	<0.001	2.384	1.731-3.284
		Graduated	0.547	0.161	3.394	0.001	1.728	1.260-2.369
<i>Moderate/Positive</i>	<i>Positive Low Meaningful</i>	Boy	0.727	0.160	4.539	<0.001	2.070	1.512-2.834
		Graduated	0.421	0.157	2.689	0.007	1.524	1.121-2.072
	<i>Mixed/Connected</i>	Boy	0.802	0.172	4.652	<0.001	2.230	1.590-3.126
		Graduated	0.279	0.169	1.655	0.098	1.322	0.950-1.841

	<i>Low/ Negative</i>	Boy	0.409	0.162	2.532	0.011	1.505	1.097-2.066
		Graduated	0.001	0.157	0.005	0.996	1.001	0.736-1.361
Class Names	School Climate Classes	Covariates	Logit	SE	Logit/ SE	p-value	Odds ratio	95% Confidence Interval
	<i>High Positive</i>	Boy	0.460	0.147	3.127	0.002	1.584	1.187-2.113
		Graduated	0.546	0.148	3.678	<0.001	1.726	1.291-2.310
<i>Low/ Negative</i>	<i>Positive Low Meaningful</i>	Boy	0.318	0.130	2.442	0.015	1.375	1.065-1.775
		Graduated	0.421	0.131	3.212	0.001	1.523	1.178-1.969
	<i>Mixed/ Connected</i>	Boy	0.393	0.163	2.409	0.016	1.481	1.076-2.039
		Graduated	0.279	0.163	1.712	0.087	1.321	0.960-1.818
	<i>Moderate/ Positive</i>	Boy	-0.409	0.162	-2.532	0.011	0.664	0.484-0.912
		Graduated	-0.001	0.157	-0.005	0.996	0.999	0.735-1.359

***Bold** values indicate significance at $p \leq .05$

11th grade LCA results

Covariates Effects Predicting Class Membership in LCA for 11th grade students

Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
<i>High Positive</i>	<i>Positive/Low Meaningful</i>	Boy	0.138	0.164	0.845	0.398	1.148	0.833-1.582
		Graduated	0.136	0.163	0.834	0.404	1.146	0.832-1.577
	<i>Mixed/Connected</i>	Boy	-0.100	0.165	-0.607	0.544	0.905	0.655-1.250
		Graduated	0.303	0.168	1.801	0.072	1.354	0.974-1.883
	<i>Moderate Positive</i>	Boy	-0.700	0.159	-4.391	<0.001	0.497	0.363-0.679
		Graduated	-0.326	0.157	-2.082	0.037	0.722	0.531-0.981
	<i>Low/Negative</i>	Boy	-0.218	0.153	-1.425	0.154	0.804	0.595-1.085
		Graduated	-0.412	0.154	-2.678	0.007	0.662	0.490-0.895

Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
<i>Positive Low Meaningful</i>	<i>High Positive</i>	Boy	-0.138	0.164	-0.845	0.398	0.871	0.632-1.200
		Graduated	-0.136	0.163	-0.834	0.404	0.873	0.634-1.202
	<i>Mixed/Connected</i>	Boy	-0.238	0.177	-1.348	0.178	0.788	0.557-1.114
		Graduated	0.167	0.180	0.928	0.353	1.182	0.830-1.682
	<i>Moderate Positive</i>	Boy	-0.838	0.172	-4.879	<0.001	0.433	0.309-0.606
		Graduated	-0.462	0.169	-2.733	0.006	0.630	0.452-0.877
	<i>Low/Negative</i>	Boy	-0.357	0.154	-2.310	0.021	0.700	0.517-0.947

		Graduated	-0.548	0.154	-3.548	<0.001	0.578	0.427-0.783
Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
	<i>High Positive</i>	Boy	0.100	0.165	0.607	0.544	1.105	0.800-1.527
		Graduated	-0.303	0.168	-1.801	0.072	0.738	0.531-1.027
<i>Mixed/Connected</i>	<i>Positive Low Meaningful</i>	Boy	0.238	0.177	1.348	0.178	1.269	0.897-1.795
		Graduated	-0.167	0.180	-0.928	0.353	0.846	0.594-1.204
	<i>Moderate Positive</i>	Boy	-0.600	0.185	-3.247	0.001	0.549	0.382-0.788
		Graduated	-0.629	0.185	-3.402	0.001	0.533	0.371-0.766
	<i>Low/Negative</i>	Boy	-0.118	0.184	-0.642	0.521	0.888	0.619-1.275
		Graduated	-0.715	0.188	-3.813	<0.001	0.489	0.339-0.706
Class Names	School Climate Classes	Covariates	Logit	SE	Logit/SE	p-value	Odds ratio	95% Confidence Interval
	<i>High Positive</i>	Boy	0.700	0.159	4.391	<0.001	2.013	1.473-2.752
		Graduated	0.326	0.157	2.082	0.037	1.386	1.019-1.884
<i>Moderate/Positive</i>	<i>Positive Low Meaningful</i>	Boy	0.838	0.172	4.879	<0.001	2.312	1.651-3.237
		Graduated	0.462	0.169	2.733	0.006	1.587	1.140-2.211
	<i>Mixed/Connected</i>	Boy	0.600	0.185	3.247	0.001	1.822	1.268-2.616
		Graduated	0.629	0.185	3.402	0.001	1.876	1.306-2.696

			<i>Low/ Negative</i>					
			Boy	0.481	0.166	2.899	0.004	1.618 1.169-2.241
			Graduated	-0.086	0.164	-0.523	0.601	0.918 0.665-1.266
Class Names	School Climate Classes	Covariates	Logit	SE	Logit/ SE	p-value	Odds ratio	95% Confidence Interval
			<i>High Positive</i>					
			Boy	0.218	0.153	1.425	0.154	1.244 0.921-1.680
			Graduated	0.412	0.154	2.678	0.007	1.510 1.117-2.041
<i>Low/ Negative</i>	<i>Positive Low Meaningful</i>		Boy	0.357	0.154	2.310	0.021	1.429 1.055-1.933
			Graduated	0.548	0.154	3.548	<0.001	1.730 1.278-2.341
	<i>Mixed/ Connected</i>		Boy	0.118	0.184	0.642	0.521	1.126 0.785-1.615
			Graduated	0.715	0.188	3.813	<0.001	2.044 1.416-2.953
	<i>Moderate/ Positive</i>		Boy	-0.481	0.166	-2.899	0.004	0.618 0.446-0.856
			Graduated	0.086	0.164	0.523	0.601	1.090 0.790-1.504

***Bold** values indicate significance at $p \leq .05$

Appendix B

Recommendations for CA districts

Improving School Climate for Black Students

Recent analysis of over 8,000 Black students in California across grades 7, 9, and 11 revealed five distinct school climate profiles, with major differences based on gender and parental education. Nearly half of students reported positive school experience, but meaningful participation such as feeling heard and having a say in school decisions, was consistently rated low, even in the most positive groups.

Latent Class Analysis (LCA) reveals the urgent need for targeted, culturally responsive policies that address within-group differences and empower Black students in shaping their school environments.

- 47% of Black students had overall positive perceptions of school climate
 - Only 16% belonged to the most negative climate group
 - Meaningful Participation was the lowest-rated area across nearly all groups
 - Boys and students with college-educated parents were more likely to report positive climate experiences
 - Girls and students whose parents did not attend college were more likely to fall into mixed or negative climate groups.
1. Educators should implement programs that give Black students real decision-making power (e.g., leadership councils, participatory budgeting, and classroom decision-making opportunities) with intentional recruitment of Black students. This ensures that students feel their voices matter and they can make a difference in their schools.
 2. Mandate the disaggregation of school climate data by race, gender, grade level, and SES indicators. This helps to inform targeted supports and identify specific equity gaps.
 3. Fund training and support school-wide implementation of culturally responsive practices (e.g., restorative justice, trauma-informed approaches, and culturally relevant and sustaining pedagogies). This helps foster trusting relationships and environments where Black students feel seen, supported, and valued.
 4. Include school climate indicators, particularly student experience, voice and engagement metrics, in school accountability frameworks at the district and state levels. This helps to prioritize climate equity as a measurable and actionable goal.
 5. Support family engagement strategies that center Black families, such as culturally affirming outreach, family advisory boards, and parent education workshops. This

builds inclusive school cultures that reflect and uplift the values of the communities they serve.

Improving school climate isn't just about safety or satisfaction, it is linked to higher academic achievement, lower dropout rates, and stronger wellbeing. To achieve equity, we must go beyond averages and listen to the lived experiences of Black students.

Appendix C

Action Plan

Priority #1: Expand Meaningful Participation					
Action Step	Timeline	Responsible Party	Resources Needed	Schoolwide Programs	Progress Monitoring
Establish student advisory councils in each school Host quarterly student forums with administrators Integrate student voice into decision-making committees (student reps) Track engagement data by subgroup	Launch by September Forums October - May Annual review in June	Assistant Principals, School climate chairs, student leadership advisors	Meeting spaces, facilitator training, communication platforms	Peer mentorship, ASB, student advisory committees	Use annual school climate surveys disaggregated by race/gender/grade; Track student participation in leadership activities; include students and family feedback in review processes
Priority #2: Targeted Supports for Students					
Action Step	Timeline	Responsible Party	Resources Needed	Schoolwide Programs	Progress Monitoring
Identify at-risk students early using data Pair each student with a mentor Provide bi-weekly skill-building workshops	Identification by september Mentoring ongoing Workshops quarterly	Counselors, intervention coordinators, student support services	Data dashboards , trauma-informed PD; small-group meeting spaces	MTSS, counseling services, after-school tutoring	Monitor student progress logs each grading period Use annual climate surveys disaggregated by subgroup Collect family

Hold family-student-mentor meetings each semester					feedback on support effectiveness
Maintain and review support logs					
Priority #3: Disaggregated Data to Drive Equity					
Action Step	Timeline	Responsible Party	Resources Needed	Schoolwide Programs	Progress Monitoring
Collect and review data disaggregated by subgroup twice/year	Ongoing collection Reports each semester	Data coordinators, equity committees, principals	Data software, staff training, review time	School climate survey, equity task force, PLCs	Monitor and review LCA-based group membership trends
Create district equity dashboards					Track changes in equity gaps over time
Publish data summaries for stakeholders					Present equity data summaries to stakeholders
Connect data findings to PD and interventions					
Hold quarterly equity accountability meetings					
Priority #4: Build Culturally Responsive School Climates					
Action Step	Timeline	Responsible Party	Resources Needed	Schoolwide Programs	Progress Monitoring
Quarterly PD on culturally	Quarterly PD	Equity committees,	PD facilitators,	Multicultural fair,	Use annual climate

responsive and sustaining teaching and restorative practices Annual curriculum review for cultural inclusivity Host cultural events at district and site level Annual policy review for bias Conduct focus groups and surveys with underrepresented students	Annual curriculum and policy review Events each semester	department chairs, family engagement coordinators	culturally relevant resources, event funding	restorative practices team, DEI training	surveys to assess inclusivity Gather feedback from student focus groups Track participation in cultural events and related programs
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