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UNIVERSITY OF CALIFORNIA

Santa Barbara

Cross Cultural Validation of the School Cultural Congruity Scale:

A Cross-National Study

A dissertation submitted in partial satisfaction of the
requirements for the degree of Doctor of Philosophy
in Counseling, Clinical, and School Psychology

by

Lakhvir Kaur

Committee in charge:

Professor Shane R. Jimerson, Chair

Professor Karen Nylund-Gibson

Professor Jon Goodwin

June 2026

The dissertation of Lakhvir Kaur is approved.

Karen Nylund-Gibson

Jon Goodwin

Shane Jimerson, Committee Chair

June 2025

Cross Cultural Validation of the School Cultural Congruity Scale: A Cross-National Study

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By

Lakhvir Kaur

ACKNOWLEDGEMENTS

This dissertation has been journey that is guided, nurtured, and spurred by a myriad of people to whom I owe immense gratitude. First of all, I'd like to thank the ONE, Waheguru, who has been with me in every step in this journey.

I would also like to extend my most sincere and heartfelt gratitude to my supervisor and committee chair, Dr. Shane Jimerson, for the constant support, professional guidance, and encouragement throughout this research. His insightful comments, meticulous attention to detail, and continuous support has significantly impacted my academic and personal growth. I am truly blessed to have worked under his supervision.

I would also like to take a moment to express my gratitude to members of my dissertation committee—Dr. Karen Nylund-Gibson and Dr. Jon Goodwin. Dr. Karen Nylund-Gibson, I'm deeply grateful to you for sharing with me your wisdom, skills, time, and expertise in methodology and supporting my journey in quantitative research. I sincerely appreciate Dr. Jon Goodwin—for sharing their time, thoughtful suggestions, encouragement, and kind suggestions, each of which played an important role in reinforcing the fortitude and cogency of this work.

A special thanks to Mihya and Chloe and international colleagues in allowing me to run analyses on this international dataset. I appreciate my research team colleagues and friends (Allie, Shemiyah, Amber, Jennifer, Arnold, Isabel, and Simran) for the support, collaborative environment, and occasional much-needed humor. In addition, I'd like to thank Delwin for his immense support in statistical consultations. To my friends, thanks for grounding me and reminding me that there is life beyond the dissertation deadline. Your sense of humor and patience kept me grounded throughout this ordeal. Also, I am grateful to my advisors since my bachelor journey in guiding me through my higher education journey: Dr. Luis Vega and Dr. Brett Nelson!

Most of all, I would like to express my gratitude to my family, Mom and Dad thanks for your unconditional love, trust, and faith in me, which have been the cornerstones of all my achievements. To my siblings, Manjit, Simi, Navdeep, Pardeep, thanks for the encouragement and always being just a phone call away. A special thanks to the little ones in my world, my nephew and nieces—you have been a constant source of joy, laughter, and light during this journey. Your innocent questions, cheerful energy, and warm hugs reminded me to take breaks, smile often, and keep things in perspective. Thank you for brightening even the most stressful days.

To all who have assisted me in any way, no matter how big or small—thank you. Without you, this would not have been achievable

ਤੁਹਾਡਾ ਧੰਨਵਾਦ!

Curriculum Vitae

Lakhvir Kaur

EDUCATION

2021-present **Ph.D. Candidate in Clinical, Counseling, and School Psychology (Combined) & Quantitative Methods in Social Sciences (QMSS) Emphasis**
University of California, Santa Barbara

Dissertation Title: *A Cross-Cultural Validation of the School Cultural Congruity Scale: A Cross-National Study*
Dissertation Defense date: June 11, 2025

Thesis: *Latent Class Analysis Examining School Climate Perception among Indian American Adolescents*

2021 **Education Specialist degree (Ed.S.) and Pupil Personnel Service Credentials in School Psychology**
California State University, San Bernardino

2018 **Bachelor of Arts in Psychology, Sociology Minor**
California State University, Bakersfield

2016 **Associate of Arts in Psychology**
Bakersfield College

FELLOWSHIPS, AWARDS, AND GRANT

Fellowships

2024 UC President's Pre-Professional Fellowship
Awarded to facilitate the academic career development of doctoral candidates who show potential to become excellent faculty or researchers in institutions of higher education as well as to foster multifaceted diversity in graduate education at the University of California or pursuing a professoriate path.

2023 Dorman Commons Fellowship, UCSB
Awarded to professional educators returning to an advanced degree and showing commitment to public education.

2023 Project Teams Fellowship, UCSB
Awarded to diverse Ph.D. students in Special Education and School Psychology with deep interdisciplinary knowledge of identifying,

supporting, and advancing equity in student mental health and well-being in schools

2020 Graduate Equity Fellowship, College of Education-CSUSB (\$5,000)

2019 Graduate Equity Fellowship

Awards

2026 2026 Outstanding Dissertation Award in the Field of School Climate
AERA School Community, Climate, and Culture (SC3) Special Interest
Group (SIG)

2025 Outstanding Student Reviewer Award, School Psychology Review Journal

2023 Presidential Citation Award- International School Psychology Association

2020 CSUSB Best Poster Presentation Award, CSUSB

2020 Student Leader Award, CSUSB

2020 Cultural, Linguistic, and Diversity Award, California Association of School
Psychologists (\$1,000)

2020 Coyote Research Ambassador Recognition, CSUSB

2019 Paul Hankins Scholarship Award, California Association of School
Psychologists (\$750)

2019 NASP Minority-ERT Scholarship Award, National Association of School
Psychologists (~\$7,000)

Grants

2026 Academic Senate Travel Grant (\$900)

2025 California School Psychology Foundation Mini Grant
Awarded competitive grant (up to \$1,500) supporting implementation of
evidence-based school psychology interventions that address both learning
and social/emotional issues that impede a child's success and happiness
while embracing individual and group differences in children.

- 2025 Academic Senate Travel Grant (\$1500)
Clinical, Counseling, and School Psychology Travel Grant (\$900)
- 2024 U.S. Department of Education- Office of Special Education Grant in collab
w/ the CSU San Bernardino
- 2024 Individualized Professional Skills Grant (\$1000)
Awarded to graduate students to pursue a range of professional development
opportunities across a variety of career and skill interests.
- 2019 Faculty/Student Research Grant, CSUSB (\$5000)
- 2020 SSI Graduate Culminating Project fund, CSUSB (\$2000)
- 2020 Faculty Assigned Time Grant, CSUSB (\$7500)

PUBLICATIONS

- Jimerson, S. R., Reinke, A., **Kaur, L.**, Holland, S., Quintanilla, J., Mittelstet, A., Alvarez, L., Ali, A., Turner, I., Adan, B., Almeida, L., Cabigting, E., Cui, Z., Hung, J., Nusser, H., Villalobos, G., Scott, D., Wade, K., Miles, C., & Hunt, S., & Perez, M. G. (2025). Understanding school psychology internationally: The Expansion of International Knowledge and Practices During the 21st Century 2010-Present (Part 3 of 3). *International School Psychology Association World-Go-Round*, 53 (4), 10-27. <https://ispaweb.org/wp-content/uploads/2026/01/WGR-ISPA-V53-N4-2.pdf>
- Jimerson, S. R., Reinke, A., **Kaur, L.**, Holland, S., Quintanilla, J., Mittelstet, A., Alvarez, L., Ali, A., Turner, I., Adan, B., Almeida, L., Cabigting, E., Cui, Z., Hung, J., Nusser, H., Villalobos, G., Scott, D., Wade, K., Miles, C., & Hunt, S. (2025). Understanding School psychology internationally: The beginning of the 21st century 2000-2009 (Part 2 of 3). *International School Psychology Association World-Go-Round*, 53 (3), 34-46. <https://ispaweb.org/wp-content/uploads/2025/10/WGR-ISPA-V53-N3.pdf>
- Jimerson, S., Boyle, C., Bengeny, J., King, R., Liem, G. A., Wang, C., Gawrilow, C., Hall, J., Huang, F., Datu, J. A. D., Lyons, M. D., Allen, K.-A., Humphrey, N., Worrell, F. C., Veiga, F., Watanabe, Y., Espelage, D. L., Guzzo, R. S. L., Kikas, E., Green, J. G., Hatzichristou, C., Spilt, J., Bradshaw, C., Salmivalli, C., **Kaur, L.**, & Holland, S. (Under Review). Advancing the Science and Practice of School Psychology Internationally: Transnational Leadership Cultivating Diversity, Equity, Innovation, Inclusion, and Global Impact. *Psychology in the Schools*.
- Jimerson, S. R., **Kaur, L.**, & Hatzichristou, C. (2025). Contemporary issues in international school psychology featured at the National Association of School Psychologists

- convention. *International School Psychology World-Go-Round*, 53 (1), 12-13.
<https://ispaweb.org/wp-content/uploads/2025/03/WGR-ISPA-V53-N1.pdf>
- 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/wpcontent/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. (2024). 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*, 39 (4), 338-356. <https://doi.org/10.1177/08295735241266746>
- Weber, M., Zhang, Y., Mittelstet, A., **Kaur, L.** & Jimerson, S. R. (2022). Effective classroom management to support elementary students: *Current Research in Psychology and Behavioral Science*, 3 (7), 1067-1072. [DOI: 10.54026/CRPBS/1067](https://doi.org/10.54026/CRPBS/1067).
- Zhang, Y., Weber, M., **Kaur, L.**, Mittelstet, A., & Jimerson, S. R. (2022). Toward a critical transactional ecological developmental theory: Informing and advancing practice and science. *Current Research in Psychology and Behavioral Science*, 3 (2), 1-6.

Under Review

- Gentili Perez, M., Castro, L., Freitas, D., Lorenzetti, L., Delivorias, P., Paragyiou, E., Karamousoulis, M., Mittelstet, A., **Kaur, L.**, Holland, S., Reinke, A., Malucelli, T., Dini, C., Ascari, B., Corridore, S., Russo, A., Guzzo, R., Jimerson, S., Matteucci, M. C., & Hatzichristou, C. (Under Review). Cultural Differences Across School Psychology: Graduate Students' Perspectives on Role, Training, and Career Pathways. *School Psychology International*.
- Kaur, L.**, Reinke, A., O'Malley, M., Romero, L., & Jimerson, S. R. (Under Review). Understanding perceptions of school climate among Indian American adolescents. *School Psychology International*.

In progress

- 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: Si Se Puede, ਹਾਂ, ਇਹ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ, Yes - it can be done
- Kaur, L.**, Holland, & Jimerson, S. R. (in progress). Informed Consent : Ethical and Cultural Considerations

Kulkarni, T., Chan, M., Swami, S., **Kaur, L.**, Gonzales, C., Maldonado, R. (in Progress).
Who is Thriving? School Adjustment Among Asian American Elementary Students.
Cultural Diversity and Ethnic Minority.

PRESENTATIONS

Invited Presentations

Robinson-Zanartu, C., Ortiz A., & **Kaur, L.** (2025, September 17). Assessment Reimagined: Dynamic Assessment for Diverse Learners [Workshop]. Green River Regional Educational Cooperative (GRREC). Bowling Green, Kentucky.

Kaur, L. (2025, September 22). Impact of Media and Social Media on Mental Health. [Guest Presenter]. Mental Health Youth Advocate Seminar. Jakara Movement Non-Profit Organization. Remote.

Kaur, L. (2025, October 20). Impact of Stress on Youth's Mental Health. [Guest Presenter]. Mental Health Youth Advocate Seminar. Jakara Movement Non-Profit Organization.

Presentations (Conference/Guest Lecture/Roundtable/Mini Skills/Paper)

Jimerson, S. R., **Kaur, L.**, & Holland, S. (2026, March). *Preventing Bullying Through Positive School Climate: Promoting Strategies for Safe, Supportive, Inclusive, and Empowering Learning Environments*. Workshop presented at the Panhellenic Conference of School Psychology, Athens, Greece.

Kaur, L., Jimerson, S., Goodwin, J. (2026, February). *Culturally Responsive Family-School Partnership through Cultural Congruity Assessment and Interventions* [Paper Presentation]. The National Association of School Psychologists Annual Conference, Chicago, Illinois.

Kaur, L., Holland, S., Khanna, R.M., Farrise Beauvoir, K. (2026, February). *Discipline, Disability, and Sports: Navigating Ethical Challenges for School Psychologists*. [Practitioner Conversation]. The National Association of School Psychologists Annual Convention, Chicago, Illinois.

Reinke, A., **Kaur, L.**, Jimerson, S.R. (2026, February). *Discipline, Disability, and Sports: Navigating Ethical Challenges for School Psychologists* [Paper Presentation]. The National Association of School Psychologists Annual Convention 2026, Chicago, Illinois.

Holland, S., Kaur, L., Reinke, A., Quintanilla, J., Scott, D., Jimerson, S. R. (2026, January). *A Latent Class Analysis Exploring School Belonging and Relationships with Adults Perceptions of Black 9th Grade Adolescents*. [Paper presentation]. Hawaii

International Conference on Education, Honolulu, Hawaii.

Reinke, A., Gaddis, Z., **Kaur, L.**, Holland, S., Jimerson, S.R. (2026, January). *Student Athlete Mental Health: Does Coaching Matter?* [Poster presentation]. Hawaii International Conference on Education, Honolulu, Hawaii.

Reinke, A., **Kaur, L.**, Holland, S., Jimerson, S.R. (2026, January). *Discipline, Disability, and Sports: Ethical Challenges for Students with IEPs and the Role of School Personnel*. [Paper presentation]. Hawaii International Conference on Education, Honolulu, Hawaii.

Robinson-Zanartu, C., Ortiz A., & **Kaur, L.** (2025, September). *Assessment Reimagined: Dynamic Assessment for Diverse Learners* [Workshop]. California Association of School Psychologists Annual Convention, Anaheim, CA.

Gentili Perez, M., Brower, J. Petsis, L., Papaioannou, A., Alex Brownhill, A., **Kaur, L.**, Constanza Dini, C., Hatzichristou, C., & Jimerson S. R. (2025, July). *School Psychology Trainers Task Force RoundTable - Critical issues in Social Justice training and practice in School Psychology: Trainers' and Students' perspectives (Part B)*. Panelist 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*. [Paper Presentation]. International School Psychology Association conference in Coimbra, Portugal.

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

Kaur, L. (2025, April). Self-Esteem. [Guest Presenter]. Mental Health Youth Advocate Seminar. Jakara Movement Non-Profit Organization. Remote.

Kaur, L., Weber, M., Zhang, C., Jimerson, S.R. (2025, April 25). [Roundtable presentation]. *International Scale Development and Cross-Cultural Validation of the School Cultural Congruity Scale*. American Education Research Association Annual Conference, Denver, CO.

Kaur, L. (2025, April 16). *International Scale Development and Cross-Cultural Validation of the School Cultural Congruity Scale* [Speaker Series presentation]. Quantitative Methods in Social Sciences Seminar. University of California, Santa Barbara, CA.

Kaur, L. (2025, March 24). *International Scale Development and Cross-Cultural Validation of the School Cultural Congruity Scale*. [Guest presentation]. Wheelock College of

Education- Boston University, Boston, MA.

Kaur, L. & Ortiz A. (2025, February 18). *Use of Dynamic Assessment Strategies in Assessing Multilingual Learners*. [Mini Skills presentation]. National Association for School Psychologists Annual Conference, Seattle, WA.

Ortiz A., Avina, R., Nakada, Franco, G., **Kaur, L.**, Berzins., A. (2025, February 19). *Supporting the Social-Emotional Development of Newcomers in the Schools*. [Mini Skills presentation]. National Association for School Psychologists Annual Conference, Seattle, WA.

Jimerson, S. R., **Kaur, L.**, Zhang, Y., Weber, M. (2025, February 20). *Development and Validation of the School Cultural Congruity Scale: A Cross-National Study*. Presented at a Special Session at the annual conference of the National Association of School Psychologists. Seattle, Washington.

Cole, A., Williams, C., Khallaghi, S., Suldo, S., Dowdy, E., **Kaur, L.**, Eklund, K., Klingbeli, D. (2025, February 21). *Increasing the Pipeline of Future School Psychologists through Undergraduate Courses*. [Paper presentation]. National Association for School Psychologists Annual Conference, Seattle, WA.

Dowdy, E., Green, J., Wang, M., Jimerson, S. R., **Kaur, L.**, Mapp, N., Hutchinson, S., Rodriguez Robles, A., Allen-Barrett, A., Holland, S., & Doss, Y. (2024, December 3). *Advancing Equity in School Mental Health: Research Collaborations in School Psychology and Special Education*. [Symposium Presentation]. Advancing School Mental Health Conference. Orlando, FL.

Kaur, L., Reinke, A., Holland, S., Zhang, Y., Weber, M., & Jimerson, S. R. (2024, October 23). *Cross Cultural Validation of the School Congruity Scale*. [Poster Presentation]. Association for Psychological Science, Global Psychological Science Summit. Virtual.

Kaur, L., Reinke, A., Jimerson, S.R., O'Malley, M. Romero, L., Holland, S. (2024, October 17). *Understanding Indian American Adolescents' Experiences in Schools and MTSS approaches*. [Paper presentation]. California Association of School Psychologists, Palm Spring, CA.

Kaur, L. (2024, March 22). *Multicultural Consideration in Therapeutic Setting/ School based Counseling*. [Guest lecture]. CNCSP 274C: School Psychology Proseminar graduate course. University of California, Santa Barbara, CA.

Kaur, L. (2024, February 28). Introduction to Parent Child Interaction Therapy. [Guest lecture]. CNCSP 197: Applied Psychology Seminar undergraduate course. University of California, Santa Barbara, CA.

Kaur, L. (2024, February 8). *School Climate Perception Among Indian American*

Adolescents. [Guest Lecture]. CNCSP 102: Research Method in Applied Psychology Undergraduate Course. University of California, Santa Barbara, CA.

Kaur, L., Reinke, A., Holland, S., O'Malley, M., & Jimerson, S.R. (2024, October 16). *An Exploratory Latent Class Analysis of School Climate Perception Among Indian American Adolescents*. [Poster Presentation]. Asian American Psychological Association, Atlanta, GA.

Kaur, L., Jimerson, S.R. (2023, July 5). *School Psychology training: Trainers' and students' perspectives (Part A and Part B)*. International collaboration: [Roundtable presentation]. International School Psychology Association Annual conference, Bologna, Italy.

Kaur, L., Jimerson, S.R. (2023, July 5). *School Psychology training: Trainers' and students' perspectives (Part A and Part B)*. International collaboration: [Roundtable presentation]. International School Psychology Association Annual conference, Bologna, Italy.

Kaur, L., Jimerson, S.R., O'Malley, M. (2023, July 6). *An Exploratory Latent Class Analysis of School Climate Perception Among Indian American Adolescents*. [Research presentation]. Annual Research Festival in the Clinical, Counseling, and School Psychology department. University of California, Santa Barbara, CA.

Kaur, L. (2023, November 30). *Assessment Practices with Culturally Linguistically Diverse Population*. [Guest lecture]. CNCSP 250: Cognitive Assessment in Professional Psychology graduate course. University of California, Santa Barbara, CA.

Nelson, R.B. & **Kaur, L.** (2019, October 10). *Effects of exercise regime on positive mental health*. [Paper Presentation]. California Association of School Psychologists Annual Convention, Long Beach, CA.

Nelson, R.B. & **Kaur, L.** (2019, August 10). *Effects of exercise regime on positive mental health*. [Poster Presentation]. American Psychological Association Annual Convention of the, Chicago, IL.

POSTER PRESENTATIONS

Parker, T. R., Scheel, N. L., Natoli, A.P., **Kaur, L.,** Holland, S., Reinke, A., Quintanilla, J., & Jimerson, S. R. (2026, February). *Mapping School Climate: The Intersectionality of Locale, Identity, and Safety*. [Poster presentation]. The National Association of School Psychologists Annual Convention, Chicago, Illinois.

Kaur, S., **Kaur, L.,** Quintanilla, J., & Dorantes, D. (2026, February). *A Culturally Responsive Social-Emotional Learning Approach for Indian American Youth*. [Poster presentation]. The National Association of School Psychologists Annual Conference, Chicago,

Illinois.

Quintanilla, J., Gray, J., Alvarez, L., Kaur, S., **Kaur, L.** & Jimerson, S. R. (2026, February). *Exploring Educational Protective Factors for Adolescents Vulnerable to Gang Membership*. [Poster presentation]. The National Association of School Psychologists Annual Conference, Chicago, Illinois.

Reinke, A., Gaddis, Z., Kaur, L., Jimerson, S.R. (2026, February). *Student-Athlete Mental Health and the Role of Coaching*. [Poster Presentation]. The National Association of School Psychologists Annual Convention 2026, Chicago, Illinois.

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*. [Poster Presentation]. International School Psychology Association Annual Conference, Coimbra, Portugal.

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. [Poster Presentation]. American Psychological Association conference in Denver, Colorado.

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, April). *International Scale Development and Cross-Cultural Validation of the School Cultural Congruity Scale*. [Poster presentation]. California Association of School Psychologists, Anaheim, CA.

Holland, S., **Kaur, L.**, Quintanilla, J., Jimerson, S. R. (2025, October). Understanding school climate perceptions among Black adolescents. [Poster Presentation]. California Association of School Psychologists, Anaheim, CA.

Quintanilla, J., Alvarez, L., Holland, S., **Kaur, L.**, & Jimerson, S. R. (2025, October). Supporting immigrant families in California schools: International implications [Poster Presentation]. California Association of School Psychologists, Anaheim, CA.

Quintanilla, J., Holland, S., **Kaur, L.**, Alvarez, L., & Jimerson, S. R. (2025, October). Latinx adolescent perceptions of school climate in California [Poster presentation]. California Association of School Psychologists, Anaheim, CA.

Kaur, L., Weber, M., Zhang, C., Mittelstet, A., Jimerson, S.R., Holland, S., Reinke, A., & Quintanilla, J. (2025, April 23-25). *International Scale Development and Cross Cultural Validation of the School Cultural Congruity Scale*. [Poster presentation]. American Education Research Association Annual Conference in Denver, Colorado.

Kaur, L., Weber, M., Zhang, C., Mittelstet, A., Jimerson, S.R., Holland, S., & Reinke, A.

- (2025, February 19). Cross Cultural Validation of the School Cultural Congruity Scale. [Poster presentation]. National Association for School Psychologists Annual Conference in Seattle, Washington.
- Kaur, L.**, Holland, S., Reinke, A., & Jimerson, S.R. (2024, October 16). *An Exploratory Latent Class Analysis of School Climate Perception Among Diverse Adolescents*. [Poster presentation]. California Association of School Psychologist Annual conference in Palm Spring, California.
- Thompson, M., **Kaur, L.** Evans, M., & Ramirez, A. (2024, March 14-17). *Developing Assessment Batteries that are Responsive to Referral Concerns*. [Poster presentation]. Association for Psychology Training Clinic. San Diego, CA.
- 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]. Asian American Psychological Association at Atlanta, GA.
- Kaur, L.**, Reinke, Amber, Jimerson, S.R., & O'Malley, M. (2023). *An Exploratory Latent Class Analysis of School Climate Perception Among Indian American Adolescents*. [Poster presentation]. International School Psychology Association Annual conference, Bologna, Italy.
- Kaur, L.**, Holland, S., Mittelstet, A., Reinke, A., Haddock, A., & Jimerson, S.R. (2024). *An Exploratory Latent Class Analysis of School Climate Perception Among Diverse Adolescents*. [Poster presentation]. International School Psychology Association Annual conference, Riga, Latvia.
- Yuexin Zhang, Y., Weber, M., **Kaur, L.**, Mittelstet, A., & Jimerson, S. R. (2022). Toward a critical transactional ecological developmental theory: Informing and advancing practice and science. *Current Research in Psychology and Behavioral Science*, 3 (2), 1-6. [Poster Presentation]. California Association of School Psychologists Annual Conference in Universal City, CA.
- Nelson, R.B. & **Kaur, L.** (2020). *Effects of technology use on Positive Mental Health among college-age students*. Poster presentation presented at the Annual Meeting of the Minds Symposium at California State University, San Bernardino, CA.
- Nelson, R.B. & **Kaur, L.** (2019). *Effects of technology use on Positive Mental Health among college-age students*. [Poster Presentation]. American Psychological Association Annual Convention at Chicago, IL.
- Kaur, L** & Vega, L. (2018). *A Literature review examining stereotypes, prejudice, and stigma in school-age children*. [Poster presentation]. Western Psychological Association Annual Convention in Portland, Oregon.

Kaur, L & Vega, L. (2018). *A Literature review examining stereotypes, prejudice, and stigma in school-age children.* [Paper presentation]. Psi Chi Honor Society Conference at California State University, Bakersfield, CA.

RESEARCH

Graduate Student Researcher

September 2021- June 2025

Dr. Shane R. Jimerson's Lab, Department of Clinical, Counseling, and School Psychology

Field of Study: School Psychology (Culturally, Linguistically Diverse student's Social, Emotional well-being, school climate, family engagement, mental health outcomes)

University of California, Santa Barbara

- Currently conducting a confirmatory factor analysis and measurement invariance study on validation of the school cultural congruity scale in collaboration with international colleagues from six different countries for cross-cultural use
- Mentoring graduate students in use of various statistical analysis techniques
- Conducting mixture modeling analysis (Latent Class Analysis and covariate analysis) examining perception of school climate among Indian American adolescents in California using California Healthy Kids Survey Data
- Collaborated with international colleagues from 3 different countries to synthesize current topics and issues in school psychology training and organizations
- Trained and supervised undergraduate students in the facilitation of both Tier 1 (Power of Play) and Tier 2 social-emotional support services (social skills groups) to a local elementary school in both an online setting and in-person
- Facilitating workshops providing career counseling support to undergraduate planning for postgraduate programs and careers.
- Conducting poster, paper, and workshop presentations in local, national, and international conferences on school climate, bullying prevention, cultural congruity, and school psychology training across international contexts.

Lead Graduate Student Researcher

October 2018 - June 2021

Dr. R. Brett Nelson's Lab, Department of Special Education, Rehabilitation, and Counseling

Field of Study: School Psychology (Physical activity and student's mental health)

California State University, San Bernardino (CSUSB)

- Submitted IRB proposal survey-based studies with college students and adolescents.
- Secured research grant (\$7,500) and effectively monitored the funds for two research projects examining social media usage, physical activity, and their impact on college student's mental health.

- Formulated procedures to conduct a survey-based study to examine the relationship between Technology and Positive Mental Health among college students.
- Utilized technology (e.g., Qualtrics) to design psychology surveys and assessments and performed statistical analyses using SPSS.
- Submitted six poster and paper presentations at four regional, state, and national conferences annually (California Association of School Psychologists, American Psychological Association, etc.)
- Supervised and collaborated with a six-member research team to promptly complete assigned tasks such as collecting data, analyzing data, and drafting publishing papers to increase the progress of research projects.

Graduate Student Researcher

August 2019 - June 2021

Dr. Roderick Handley, Department of Special Education, Rehabilitation, and Counseling

Field of Study: School Psychology (autism spectrum disorders)

California State University, San Bernardino (CSUSB)

- Reviewed the literature involved with examining the practices of School Psychologists (SP) across the following categories of service delivery: (a) the assessment of students with autism spectrum disorder (ASD), (b) the type and empirical quality of interventions used with students with ASD, and (c) how SPs progress monitors the impact of the intervention.
- Utilized Qualtrics to design a survey examining School Psychologists' service delivery with students with an autism spectrum disorder.

TEACHING EXPERIENCE

INSTRUCTOR OF RECORD

PSC-2030: Human Development and Diversity

Adjunct Faculty

Antioch University, Santa Barbara, Fall 2025

- Designed and instructed a graduate-level course on Human Development and Diversity
- Delivered graduate instruction on key topics including child and adolescent development, cultural and contextual factors in development, school-based mental health, and behavior management.
- Integrated research-based service-learning components connecting psychological theory to real-world practice in clinical field experience.

- Facilitated critical discussions on diversity, equity, and ethical practice in education and mental health services.
- Created and assessed developmentally appropriate, culturally responsive learning experiences grounded in current research and best practices.

CNCSP 197 & 97: Promoting Positive Peer Relationships and Psychosocial Adjustment in School-Aged Children

Instructor of Record

University of California, Santa Barbara, Spring 2025

- Designed and taught a large undergraduate, research-based service-learning course on school-based Tier 1 interventions to promote prosocial behavior and peer relationships among elementary students.
- Delivered instruction on child development, school-based mental health, behavior management, and evidence-based intervention models.
- Supervised undergraduates in implementing social-emotional learning (SEL) activities in local elementary classrooms, emphasizing positive peer engagement and inclusion.
- Fostered a collaborative, culturally responsive learning environment grounded in ethical practice and real-world application of psychological principles.

TEACHING ASSISTANT

University of California, Santa Barbara

September 2021- Present

CNCSP 274H: Advanced Supervision for School-Based Fieldwork

Summer & Fall 2024

Instructor: Dr. Erin Dowdy

- Mentored advanced practicum students through case-based consultation, providing targeted feedback on academic, behavioral, and social-emotional interventions for K–12 populations.
- Observed and evaluated practicum students' implementation of evidence-based practices, promoting fidelity and effectiveness through guided reflection and skills-based feedback.
- Co-facilitated weekly group supervision meetings with faculty, contributing to case discussions and fostering a supportive, growth-oriented learning environment.
- Designed and delivered professional development sessions to strengthen core competencies in school-based assessment, intervention, and consultation.

Teaching Assistant, CNCSP 274B: Proseminar in Contemporary Issues in Student Services in School Psychology

Winter 2024

Instructor: Ryan Tanney, NCSP, BCBA

- Assisted in instruction and mentorship of beginning graduate students in school psychology.

- Conducted supervision meetings and facilitated discussions on professional issues, skill development, and intervention strategies in school psychology.

Teaching Assistant, CNCSP 197/199: Promoting Problem-Solving and Conflict Resolution of Children at School

Winter 2024

Instructor: Dr. Shane Jimerson

- Assisted in the instruction of a large undergraduate service-learning research course on prosocial engagement during recess in elementary schools.
- Supervised and monitored undergraduate students' fieldwork attendance and participation.
- Delivered guest lectures on school-based social-emotional curricula, emphasizing evidence-based therapeutic techniques.

Teaching Assistant, CNCSP 250: Cognitive Assessment in Professional Psychology

Fall 2023

Instructor: Dr. Miriam Thompson

- Supervised graduate students in the administration, scoring, and interpretation of cognitive assessments.
- Conducted competency evaluations and feedback sessions to ensure proficiency in standardized testing and report writing.
- Facilitated supervision and case consultations, guiding clinical reasoning, case conceptualization, and ethical practice.
- Delivered lectures on culturally responsive assessment with diverse populations.

Teaching Assistant, CNCSP 274A: Proseminar in Contemporary Issues in Student Services in School Psychology], Fall 2023

Instructor: Shane Jimerson

- Assisted in instruction of beginning graduate students in school psychology.
- Facilitated student observations in specialized K–12 programs (therapeutic classrooms, inclusive preschool, special education).
- Conducted weekly supervision meetings and discussions on interventions and field experiences.

Teaching Assistant, CNCSP 102: Research in Applied Psychology

Summer 2023

Instructor: Dr. Alice Mullin

- Assisted in instruction of a large undergraduate research course on diverse methodologies and quantitative analysis.
- Provided feedback on student research papers in both qualitative and quantitative methods.

- Graded quizzes, literature reviews, and methodology papers.

Teaching Assistant, CNCSP 197/199: Applied Psychology Seminar Series

Fall 2022 – Spring 2023

Instructors: Dr. Shane Jimerson and Dr. Alessandra Mittelstet

- Assisted in instruction of three undergraduate seminar series:
 - *Series 1: Promoting Social and Cognitive Competence of Children at School*
 - *Series 2: Promoting Problem-Solving and Conflict Resolution of Children at School*
 - *Series 3: Promoting Positive Peer Relationships and Healthy Psychosocial Adjustment of Children at School*
- Supervised and tracked student fieldwork participation in elementary recess-based interventions.
- Provided support in both in-person and online course delivery.

Teaching Assistant, CNCSP 101: Introduction to Helping Skills

Summer 2022

Instructor: Dr. Chongzheng Wei

- Assisted in instruction of an undergraduate counseling skills course using humanistic, behavioral, and cognitive approaches.
- Developed discussion lectures and questions, facilitated class discussions, graded assignments, and supervised students' practice of therapeutic skills.

Teaching Assistant, Applied Psychology: Educational and Vocational Guidance

Summer 2022

Instructor: Jacquelin Chin, MA

- Assisted in instruction of an undergraduate course on career development and educational guidance in psychology.
- Facilitated professional preparation, including résumés, CVs, and graduate school statements.
- Led discussions on pathways to graduate study and careers in psychology.

Teaching Assistant, CNCSP 197/199: Applied Psychology Seminar Series

Fall 2021 – Spring 2022

Instructor: Shane Jimerson

- Assisted in instruction of three undergraduate seminar series on social competence, problem-solving, and positive peer relationships in schools.
- Supervised and monitored student fieldwork in elementary recess-based interventions.
- Supported course delivery in both in-person and online formats.

CLINICAL EXPERIENCE

Pre-Doctoral Intern, Implementation Science & SEL Program Evaluation

[AAPIC – Santa Barbara Psychology Internship Consortium]

Santa Barbara Unified School District /UCSB Collaboration

Dates: August 2025 – June 2026

Supervisor: Arlene Ortiz, PhD; Deborah Umansky, PhD, Shane Jimerson, PhD

- Led research and program evaluation for Tier 2 social-emotional learning (SEL) interventions, collecting and analyzing data to assess program effectiveness.
- Directed implementation science initiatives, including monitoring fidelity, evaluating outcomes, and identifying barriers and facilitators to Tier 2 intervention delivery.
- Facilitated training sessions for educators and staff, providing guidance on evidence-based SEL strategies and Tier 2 interventions.
- Authored evaluation reports, data dashboards, and evidence-based recommendations to improve program implementation.
- Collaborated with multidisciplinary teams to ensure alignment between research, practice, and professional development goals.

Graduate Student Clinician, Parent-Child Interaction Therapy (PCIT) Clinic

University of California, Santa Barbara, 2023–2024

Supervisor: Miya Barnett Ph.D.

- Delivered evidence-based therapy to families of children with disruptive and challenging behaviors.
- Provided live parent coaching to strengthen parent–child relationships and support effective discipline strategies.
- Conducted intake assessments and maintained clinical documentation for treatment planning and progress notes.
- Monitored treatment fidelity and tracked intervention outcomes to evaluate effectiveness.

Graduate Student Supervisor

University of California, Santa Barbara, 2023–2024

Supervisor: Arlene Ortiz, Ph.D., NCSP

- Provided live supervision and case consultation to graduate trainees, supporting clinical skill development, ethical decision-making, and professional identity formation.
- Reviewed therapy sessions and clinical documentation, delivering structured feedback on case formulation, intervention strategies, and client progress.
- Facilitated reflective discussions to enhance self-awareness, cultural humility, and growth in the therapeutic process.
- Mentored peers in evidence-based practices, fostering competence and confidence in serving diverse client populations.

School Psychology Extern, North Fairview Preschool, [Goleta Unified School District]
2022–2023, 10 hrs/week

Supervisors: Erin Dowdy, Ph.D., NCSP; Kim Grant, M.A., NCSP

- Conducted comprehensive psychoeducational assessments for children ages 3–6, utilizing standardized cognitive, academic, behavioral, and social-emotional measures (e.g., rating scales, clinical interviews).
- Collaborated with multidisciplinary teams to design and implement interventions within Multi-Tiered Systems of Support (MTSS) and special education programs.
- Delivered direct behavioral interventions in classroom and recess settings, addressing moderate to severe behavior concerns and fostering prosocial skill development.
- Authored integrated psychoeducational reports with research-based recommendations and presented findings during IEP and consultation meetings with parents, teachers, and service providers.

Graduate Student Assessment Clinician, Mind and Behavior Assessment Clinic

University of California, Santa Barbara, 2022–2023

Supervisor: Miriam Thompson, Ph.D.

- Conducted comprehensive neuropsychological assessments of adults (18+) across intellectual, emotional, adaptive, and executive functioning domains.
- Administered and interpreted a range of cognitive, behavioral, social-emotional, and achievement assessments.
- Authored detailed neuropsychological reports with research-based recommendations tailored to client needs.
- Facilitated feedback sessions to communicate assessment results and recommendations to clients

School Psychology Extern, Ellwood Elementary School, Goleta Unified School District

2021–2022, 10 hrs/week

Supervisors: Erin Dowdy, Ph.D., NCSP; Joe Issacson M.A., NCSP

- Conducted psychoeducational assessments for elementary students (K–5), integrating cognitive, academic, behavioral, and social-emotional data to guide eligibility and intervention planning.
- Provided individual and group counseling to children with mild to severe emotional and behavioral challenges, using developmentally appropriate, evidence-based interventions.
- Collaborated with multidisciplinary teams and participated in MTSS and IEP meetings, contributing assessment findings and classroom observations to support early intervention and special education services.
- Authored comprehensive reports with research-based recommendations and facilitated feedback sessions with families, teachers, and administrators to promote student well-being and learning outcomes.

School Psychology Intern, Panama Buena Vista Unified School District

*Panama Elementary School, Miller Elementary School, and Stone creek Jr. High School
2020–2021, 40 hrs/week (~1200 hours)*

Supervisor: Roderick O’Handley, Ph.D., R. Brett Nelson, Ph.D., Russell Vandyke, Ph. D.

- Administered and interpreted a range of intellectual, behavioral, social-emotional, and achievement assessments, including standardized tests and rating scales.
- Participated in intervention meetings, analyzed progress-monitoring data, and assessed fidelity of academic and behavioral MTSS programs.
- Conducted in-depth student clinical interviews and records reviews to gather qualitative data for psychoeducational assessment.
- Observed and evaluated classroom behavior and academic performance at teacher requests.
- Provided individual psychotherapy and group counseling to students with mild to severe emotional and behavioral challenges.
- Facilitated consultation meetings with principals, teachers, support staff, and parents to guide interventions and support student success.

**School Psychology Practicum Student, San Bernardino Unified School District
2018–2020**

Supervisor: Fredrecio Parres, PsyD; Sean Antos, MA. NCSP

- Participated in school-based assessments, interventions, and consultation under the supervision of licensed school psychologists.
- Assisted in administering and scoring cognitive, academic, behavioral, and social-emotional measures.
- Observed classroom behavior and supported teachers with behavioral strategies and interventions.
- Contributed to multidisciplinary team meetings and collaborated on individualized education plans (IEPs).
- Supported students through individual or group counseling sessions under supervision.

PROFESSIONAL SERVICE

Graduate Mentor

Graduate Scholars Program (GSP), UC Santa Barbara

September 2025 – Present

- Serving as a mentor to first- and second-year doctoral students from diverse and underrepresented backgrounds, fostering a supportive community through monthly "mentoring families" meetings.
- Professional Development: Facilitate access to academic and professional development activities, including workshops, networking events, and resources, to enhance mentees' graduate education experience.
- Inclusive Support: Provide guidance on navigating academic challenges, balancing university work with personal life, and utilizing campus resources to support mentees' well-being and success.

Editorial Assistant

Psychology in the Schools

08/2025- Present

- Assisted in the review and organization of submitted manuscripts, ensuring adherence to publication guidelines.
- Contributed to content planning and copy-editing to maintain high editorial standards.

Editorial Member

School Psychology Review, NASP

07/2025- Present

- Collaborated with the editorial team to review, edit, and refine submissions for clarity, accuracy, and coherence.
- Supported publication workflow, including proofreading, formatting, and reference management.
- Participated in editorial meetings to plan upcoming issues and suggest thematic content ideas.

National Association of School Psychologists' Education Research Trust (ERT) Task Force

National Association of School Psychologists

04/2025- Present

- Collaborated with a diverse team of professionals to develop a strategic, actionable, and sustainable plan aimed at increasing the recruitment, retention, and support of racially and ethnically minoritized individuals in school psychology and within NASP's membership and leadership.
- Contributed lived experiences and professional expertise to inform systemic change efforts that promote equity, representation, and inclusion across the field of school psychology.
- Engaged in collaborative leadership and consensus-building, working to align task force objectives with NASP's broader mission and values.
- Participated in regular planning sessions, subcommittee work, and feedback processes to ensure the plan reflects the diverse perspectives of the profession and the communities served.

DoSEAA liaison on the AAPA Education Training Council (ETC).

APA: Division of South East Asian Association

03/2024-Present

- Attended monthly 1-hr council meetings
- Contributing toward project development
- Collaborate with Asian American Psychological Association leaders and Divisions to identify and meet needs.

School Psychology Review: Student Editorial Board Member

2024

National Association of School Psychologist

- Peer reviewed manuscripts

CASP Annual Convention Proposal Reviewer

California Association of School Psychologists

2024

- Reviewed presentation proposals for the CASP Convention 2024

Diversity Affairs Chair (Student Affiliate in School Psychology Board)

American Psychological Association, Div.16 (School Psychology)

12/ 2022 -12/2023

- Facilitating and chairing the BIPOC Equity in School Psychology Training (BEST) scholarship committee for students in school psychology.
- Successfully increased the number of applicants by 50% for BEST scholarship via dissemination through faculty, school psychology programs, and social media.
- Connecting and advocating for diverse students in school psychology programs.
- Participating in roundtable discussions regarding diversity, equity, and inclusion efforts by APA division 16.

Diversity Affairs Chair-Elect (Student Affiliate in School Psychology Board)

American Psychological Association, Div.16 (School Psychology)

12/2021-12/2022

- Organize spaces for marginalized student (students of color) groups in school psychology through social media and email.
- Advocating for a diverse student population in the field and developing annual and long-term goals to connect students across different programs.
- Collaborating with other executive board members to help plan activities (i.e., social hours) at conferences, social media/communication, and providing a platform to connect students

Access Graduate Mentor

University of California, Santa Barbara

- Mentoring undergraduate students regarding career/graduate school preparation.
- Advising on research opportunities, funding opportunities, and development in writing curriculum vitae and statements of purpose.
- Brainstorming different career paths and disciplines in professional psychology.

Counselor

Jakara Movement Non-Profit Organization

Bakersfield, CA

07/2020

- Developing and conducting workshops to support Sikh girls (13-18yrs.) in building internal strength, self-esteem, and self-worth and building sisterhood.
- Leading conversations and creating a safe place for girls to learn about themselves through workshops about self-confidence, healthy communication, social justice, and self-reflection.
- Encouraging and supporting young girls for self-advocating leadership building.

NASP Presentation Proposal Reviewer

National Association of School Psychologists

2020-2021

- Reviewed presentation proposals for the NASP Convention 2021

Coyote Research Ambassador

College of Education (CSUSB)

05/2019–06/2021

- Conducted classroom presentations to inform students about possible funding research opportunities and resources on campus.

- Provided individual advising and conducted workshops for undergraduate students about applying to graduate school, getting involved in research, funding opportunities, and writing grant proposals.

Academic Mentor

Department of Housing and Residential Education (CSUSB)

San Bernardino, CA

09/2019- 06/2020

- Provided Academic coaching and counseling for residents (i.e. transfer and graduate residents)
- Coordinated and facilitated academic programs to help residents navigate their academic transition such as transitioning from Quarter to Semester system and celebrating resident's academic success
- Assisted freshman, transfer, and international students in transitioning to university and advising and counseling at-risk students by connecting them to campus resources.

SKILLS

Language Professionally Fluent in English, Punjabi (Native), and Hindi (Native). Basic skills in American Sign Language and Korean

Research Quantitative and statistical methods, including mixture modeling, factor analysis, and multivariate analyses; experienced with SPSS, R/RStudio, MPlus, Excel, and Qualtrics for data collection, management, and analysis.

CERTIFICATE(S)

Quantitative Methods in Social Sciences
 Certificate in Inclusive Teaching - University of California, Santa Barbara
 Leadership Program Certificate- UCSB Graduate Division
 Parent Child Interaction Therapy
 Autism Diagnostic Observation System - Second Edition (ADOS-2)
 Autism Diagnostic Observation System - Toddler Module (ADOS-2: Toddler Module)
 Trauma-Focused Cognitive Behavioral Therapy
 California's Pupil Personnel Service Credential
 Crisis Prevention and Intervention Training
 NASP PREPARE Crisis Training Certificate

PROFESSIONAL ASSOCIATION

American Psychological Association- Division 16	January 2019-Present
APA- Division of South and East Asian Americans (DoSEAA)	August 2023- Present
American Education Research Association (AERA)	November 2024- Present
American Psychological Sciences (APS)	October 2024- Present
California Association of School Psychologists	September 2019- Present
International School Psychology Association	August 2021-Present
National Association of School Psychologists	March 2019- Present
Asian American Psychological Association	August 2024- May 2025

ABSTRACT

Cross Cultural Validation of the School Cultural Congruity Scale: A Cross-National Study

by

Lakhvir Kaur

Family involvement and engagement at school are each associated with student outcomes; however, few studies have examined cultural considerations at school associated with family involvement at school. Likewise, school climate is also associated with student outcomes, however, cultural considerations have largely been absent in the school climate research. No existing tools measure culturally appropriate methods to understand family engagement. This study examines the School Cultural Congruity Scale (SCCS) which measures cultural alignment between home and schools to promote family engagement. Considering cultural and contextual factors, this tool will help to provide schools with information by identifying areas for further improving family engagement, school climate, and ultimately enhancing student outcomes. Participants were from 5 countries (Australia, China, Georgia, Latvia, and USA). Study 1 employs Exploratory Factor Analysis to further understand the SCCS factor structure, which resulted in a 4-factor structure. The results indicate that the SCCS yield four factor structures: *Values/Beliefs*, *Interaction style*, *Structure of Relationships*, and *Expectations/Operational strategies*. In study 2, Confirmatory Factor Analysis (CFA) and a Multi-Group CFA were conducted to confirm the factor structure and examine validity, reliability, and measurement invariance with 17 items across five countries. Additionally, implications are discussed pertaining to science, policy, and practice exploring cultural factors associated with family engagement at school.

Keywords: Family engagement, school climate, school cultural congruity, student outcomes, psychometric properties, confirmatory factor analysis, exploratory analysis, cross-cultural validation.

TABLE OF CONTENTS

Chapter I: Introduction	1
Chapter II: Literature Review	5
Theoretical Framework	5
School Cultural Congruity Scale (SCCS)	8
Cross cultural Equivalence: Language Adaptation and Translation Procedures	12
Construct Validation	13
Content Validation	13
Cross Cultural Validation	15
Present Study	17
Chapter III: Method	21
Participants: Total Sample	21
Measure	23
Procedures	24
Scale Administration and Recruitment	24
Data Screening	24
Analytic Plan: Multiple Sample use	25
Chapter IV: Preliminary Study	27
Phase I – Initial Confirmatory Factor Analysis with all 38 items	27
Method	27
Participants: Sample I	27
Analysis Plan	27
Results: Evaluation of CFA Model Fit with all 38 items	28
Discussion	32

Next Steps	33
Chapter V: Model Refinement for Structural Validation	35
Method	35
Phase II: Exploratory Factor Analysis to Identify an Alternative Factor Structure	35
Participants: Sample II	35
Factors Extraction Method	35
Items Retention Criteria	36
Phase III: Validating the Refined Structure using CFA and Invariance Testing	37
Participants: Sample 3	37
Measurement Invariance Testing using Multi-Group CFA	37
Reliability	39
Results	40
Test of Dimensionality	40
Phase II: Exploratory Factor Analysis using Second sample to identify alternative factor structure	40
Extraction and Rotation Method:	40
<i>Model fit Indices for Exploratory Factor Analysis</i>	44
Factor Loadings and Item Evaluation	44
Factor Loadings and Item-Level Statistics	52
Revised Factor Structure (17 items) in comparison with the Initial Model (38 items)	54
Convergent Validity:	55
Phase III Part B: Measurement Invariance across countries	56
Discussion	59

Limitations and Future Research	63
Chapter VI: Implications for Science and Practice	65
Implications for Science	65
References	69
APPENDICES	82
Appendix A: Dissertation Matrix	83
Appendix B: Measure	84
Appendix C: Correlation Matrix - 38 items	85
Appendix D: Standardized Factor Loadings	86

LIST OF TABLES

Table 1. Participants' Demographic Characteristic of the whole sample (N = 3,555)	23
Table 2. Analytical Methods by Research Question and Sample	26
Table 3. Goodness of Fit Statistics of Preliminary Confirmatory Factor Analysis Model	30
Table 4. Standardized Factor Loadings	30
Table 5. Model Comparison via Chi-square Difference Test	43
Table 6. Model fit Indices for Exploratory Factor Analysis	44
Table 7. Factor Loadings for Exploratory Factor Analysis with Geomin Rotation	47
Table 8. Goodness of fit Statistics of Confirmatory Factor Analysis	51
Table 9. Reliability and Convergent Validity	56
Table 10. Goodness of Fit Statistics of Multiple Group CFA Models Evaluated	58

LIST OF FIGURES

Figure 1 Parallel analysis using eigenvalues from EFA	42
Figure 2. <i>Standardized Factor Loadings and Latent Variable Correlations of CFA Model..</i>	53

Chapter I: Introduction

School is an ideal place for equitable opportunities, where every student regardless of their background has a chance to thrive and excel. However, various systemic and institutional barriers that hinder equitable access and participation are present which jeopardize student success, learning, and relationships (Ates, 2021; Ferguson & Rodriguez, 2005; Kelty & Wakabayashi, 2020). Despite these challenges, schools must be equipped to effectively facilitate learning, cultivate a climate that values diversity, and fosters a sense of belonging. *School climate* is a multidimensional construct focused on safety, academics, community, and the institutional environment (Cohen et al., 2009; Ramsey et al., 2016; Wang & Degol, 2016). Recent school climate research emphasizes the positive relationship between students' interpersonal experience, sense of community, teaching quality, and student outcomes in the areas of academic performance and social and emotional development (Cohen et al., 2009; Thapa et al., 2013).

According to the 2020 U.S. Census Data, about 58% of the population is from ethnically minoritized backgrounds. The U.S. Census diversity index reveals an increase in diversity, from 55% in 2010 to 61% in 2020 (U.S. Census Bureau, 2022). However, most schools continue to focus on students as a homogeneous unit in their curriculum, teaching practices, and education approach, which is highly westernized despite the increased ethnically, linguistically, and culturally diverse population nationally and globally (Hayden & Thompson, 2013; OECD/European Union, 2015).

Historically, education reforms have often been driven by the viewpoints of teachers, administrators, researchers, and policymakers disregarding the role of families and students (Howard, 2001). Within the typical homogenous education system in the United States,

culturally and linguistically diverse students often face challenges particularly related to lack of culturally sensitive teaching practices, perceived racism and discrimination, teacher's interactional patterns, and a lack of personal teacher-student relationships (Phelan, Yu, & Davidson, 1994). The marginalization of diverse cultures can have a profound and lasting impact on students' cultural identities; for example, minoritized students, such as Latinx, may hide their cultural values and beliefs to assimilate into the dominant culture to succeed academically (Gloria & Robinson-Kurpis, 1996).

Due to schools' narrow focus on individual students within the education setting without the consideration of their ecological environment, education professionals often overlook crucial ecological factors such as family dynamics, community support, socioeconomic status, and cultural background that play a significant role in student learning outcomes (Phelan et al., 1994). In schools emphasizing general homogenous school climate, students often feel their culture is not valued in schools leading to cultural incongruence (Martinsone et al., 2023; Phillips, 1972). In recent years, there has been increased attention to family participation in education, as highlighted by the family engagement framework (Boberiene, 2013). This framework aims to integrate family engagement activities into educational programs, with research indicating that such families' engagement with their children's school is positively associated with improved student outcomes across various domains, including cognitive, social, emotional, and executive functioning skills (Ates, 2021; Boberiene, 2013; Ferguson & Rodriguez, 2005; Kelty & Wakabayashi, 2020)

However, parents are often criticized, but not prepared to help their children at home and be engaged in the schools to facilitate their child's learning (Epstein et al., 2011). There is a common misconception that families from minority backgrounds are less involved in

their children's education, often being viewed as bystanders rather than partners (Boberiene, 2013). It's important to recognize that there are many families from all backgrounds who desire involvement in their children's education, although barriers such as cultural and linguistic differences can limit participation, reflecting systemic influences within educational institutions (Ferguson & Rodriguez, 2005; Hinderman et al., 2012).

Prior research has shown school climate and family engagement to be bidirectional (Galindo & Sheldon, 2012; Thapa et al., 2013). Parents are more likely to become involved in their children's education when the school climate is open, inviting, and welcoming (Galindo & Sheldon, 2012). The U.S. Department of Education (2016) introduced the Dual-Capacity Framework to promote collaboration between families and schools, which encourages educators to move beyond assigning sole responsibility to parents. These efforts encourage schools to connect with families to improve student academic achievement and overall outcomes (Mapp & Kutner, 2013; Michigan Department of Education, 2016).

However, a critical factor influencing family engagement is the school climate and associated recognition of cultural heterogeneity among families, which requires education professionals to facilitate school climates that are culturally inclusive, equitable, respectful, and welcoming to diverse students and families.

The importance of culture is not only significant in the United States but is also relevant across nations (Warner, 2012). Also, there has been a shortage of diverse professionals in education despite the increase of diverse student population in the schools further contributing to inequitable and non-inclusive school climate (Franco et al., 2024; La Salle et al., 2015). Intercultural competence is defined as the ability to “shift one’s cultural perspective and appropriately adapt behavior to cultural differences” in the context of the

school (Hammer, 2015, p. 483). Frequently, teachers and staff are not adequately prepared to support diverse student populations in their schools, and this can lead to inequitable learning opportunities (Flores & Smith, 2009). Teachers encounter difficulties in identifying cultural distinctions among students while avoiding assimilation (Cartox, 2014). Needless to say, most schools function on homogeneity principles disregarding the diversity and unique cultures of the students and families it serves (Gabaldon-Esteven, 2020).

Though stakeholders, educators, and governments recognize disparities and inequities in education, changes are slow and not progressive (Warner, 2012). During the time it takes for educators to implement change, marginalized student populations often bear the burden of navigating the education system all by themselves with their academic performance at stake. Often, students from culturally and linguistically diverse populations have to assume the role of language and cultural broker between the home and schools, which can be stressful for the children (Thomas & Draxl, 2022). Therefore, educators need to be intentional about engaging families from diverse cultural backgrounds, and participate in purposeful and meaningful efforts to create a climate that is culturally inclusive and welcoming. Therefore, nurturing cultural responsiveness of existing school practices is vital for educators to shift their cultural perspectives and effectively adapt to cultural differences of students and families (Hammer, 2015).

Chapter II: Literature Review

Theoretical Framework

The VISION model of Cultural Responsiveness, which originated from anthropology (Goodenough, 1981) and counseling literature to examine individuals and families within the context of culture (Baber et al., 1997). Current study follows the framework of the VISION model of Cultural Responsiveness recognizing cultural congruity as a vital element in fostering family engagement, thereby positioning parents as essential partners in students' success. The VISION model consisted of six components: (1) *Values and beliefs* of the family, (2) *Interpretation* and understanding of experiences, (3) *Structure of Relationships*, (4) *Interaction style*, (5) *Operational strategies*, and (6) *Needs* (Baber et al., 1997). The VISION model is primarily represented in anthropology and counseling domains (Caldwell, 2017), but was not applied in other contexts. Therefore, Weber (2022) and Zhang (2022) applied the VISION theoretical framework to inform the development of a school cultural congruity scale (SCCS, Jimerson et al., 2020) to gain parents' perspectives regarding schools' integration of culturally relevant approaches in educational practices. Using this tool, educators, administrators, and stakeholders can assess their ability to meet diverse family needs, prompting targeted systematic improvements and culturally responsive parent engagement strategies. The VISION framework, operating within the lens of school cultural congruity scale is described below:

First, the *values and belief systems* component assesses shared understanding and alignment between family and school values and examines how underlying cultural beliefs shape interactions (Weber, 2022). This domain is represented in the scale by gathering information on shared alignment of cultural understanding, cultural background, and cultural

representation between home and school. Considerably, a mismatch between families' and educators' cultural ideologies can create confusion for students' cultural identity as they navigate both home and school culture, which in turn can create further issues in how students engage with families and families engage with schools (Howard, 2001). Educators' understanding and awareness of students' ecological context such as culture, language, and community resources outside schools contribute to a better and safer school climate (Sue, 2001).

The second component *Interpretation of experiences* encompasses one's internal reaction to external stimulus; in other words, how families view and interpret their own experiences, which influence their emotions and behaviors (Weber, 2022). This domain in the SCCS gathers information about how parents perceive their cultural interaction with the school (Jimerson et al., 2020; Weber, 2022; Zhang, 2022).

Third, the *Structuring Style* looks at how schools try to structure relationships to meet the diverse needs of involved parents. For example, often educators have certain expectations of families' involvement in their children's education without understanding the contextual factor of socio-economic status, language barrier, and background. Culturally and linguistically diverse families often face significant challenges when attempting to engage with educators regarding their children, due to language and cultural barriers; whereas, families fluent in the dominant language and belonging to mainstream culture are less likely to encounter such challenges (Kim, 2009). Differences in how relationships are structured between the home and school environments can result in cultural mismatch (Zhang, 2022). In the SCCS, this domain examines parent's views of their current relationship with the school.

Fourth, *Interaction is defined as* various aspects of communication and understanding; this approach delves into whether schools adopt a multimodal communication strategy when engaging with families. Often schools' interactions with parents are less frequent and when they are connected it is negative regarding behavioral or academic performance (Evans, 2011). Such interactions are not meaningful and fail to promote growth, which goes against the goal of developing strong family and school partnership (Swick, 2003). In the SCCS, this domain gathers information regarding the school's communication approach, considering various aspects such as language, content, and style to effectively convey information and foster meaningful interactions (Zhang, 2022).

Fifth, *Operational Strategies* is examining cultural match between home and schools' approach in achieving desired educational outcomes. In the SCCS, this domain gathers information on the educational environment, curriculum, and teaching strategies that align with the family's unique cultures. Several studies have highlighted the importance of incorporating culturally congruent teaching practices that does not conflict with one's cultural background within schools contribute to foster inclusive and effective learning environments, particularly for culturally and linguistically diverse students, as it can yield improved academic outcomes and a more positive learning experience (Gay, 2010; Howard, 2001).

The last dimension *Needs* examines the need to articulate desired outcomes or alignment agreed by family and school (Ballon-Harn & Garrett, 2008). In the SCCS, this delves into parents' expectations of their child, which can vary from schools' expectation of the child. The imposition of academic expectations on students and families without a deep understanding of their cultural backgrounds often leads to conflicts, resulting in a constant

attack on their cultural, racial, and linguistic identities, ultimately causing cultural discontinuity (Howard, 2001). For example, educational strategies influenced by individualistic cultural approach, which may not align with students from collective backgrounds. Marginalized students frequently face issues such as pressure to assimilate into the dominant culture, which forces them to compromise their own cultural identities (Howard, 2001).

School Cultural Congruity Scale (SCCS)

The School Cultural Congruity Scale (SCCS) is the first measure guided by the VISION-Cultural Responsiveness (Baber et al., 1997) model to help enhance home and school partnership and support schools in evaluating the degree to which their approach to educating children aligns with the needs and backgrounds of the families they serve (Weber, 2022). This prepares educators to take a comprehensive approach and tailor interventions and facilitate learning experiences that align with cultural values, cultivating a more inclusive, culturally responsive, and supportive learning climate.

It is imperative for schools to understand the bidirectional relationship between students' cultural background and classroom learning to build strong partnerships with families and communities which lends itself to integration of cultural values into schools and classrooms resulting in greater culturally relevant teaching practices. With increasingly diverse communities, educational policies and educators must adapt and restructure the school climate to foster organized and inclusive environments that promote healthy learning atmospheres, ultimately enhancing student outcomes. By fostering these partnerships, educators can gain invaluable understanding into student's cultural values, beliefs, and traditions. Schools can initiate this process by recognizing areas for improvement and

promoting equitable, inclusive, and culturally responsive learning environments that support all students' holistic development and academic success.

Measure Development

Jimerson and colleagues (2020) followed a seven-step process highlighted by Artino et al. (2014) in the development of School Cultural Congruity Scale (Jimerson et al., 2020; Weber, 2022). The process began with conducting literature review, and consulting with experts in 14 countries (Australia, Bangladesh, China, Estonia, Georgia, Greece, Italy, Jamaica, Japan, Latvia, Malta, Slovakia, and, United States; Jimerson et al, 2020). The literature review was then synthesized and a focus group was conducted to assess readability and generalizability of the items. Next, items were developed, and then expert validation procedures were conducted to assess content, readability, and interpretability of the items. Following this, cognitive interviews were conducted to check parent's comprehension of the items. Finally, the SCCS was pilot tested in the United States (Weber, 2022).

Item Development

The measure originally consists of 38 items (Jimerson et al., 2020), with 5-11 items capturing following domains following VISION theoretical model in each of five factors: values and beliefs system (8 items), communication (11 items), school relations (5 items), operational strategies/pedagogical practices teaching (7 items), and needs/school expectations (7 items) (See Appendix B).

Values and beliefs system: This dimension included items measuring shared alignment of cultural understanding, cultural background, and cultural representation between home and school.

Interpretation of experiences: This domain in the SCCS gathers information about how parents perceive their cultural interaction with the school (Weber, 2022; Zhang, 2022).

School Relations: looks at how schools try to structure relationships to meet the diverse needs of involved parents'. This domain examines parent's views of their current relationship with the school.

Interaction: This domain gathers information regarding the school's communication approach, considering various aspects such as language, content, and style to effectively convey information and foster meaningful interactions (Zhang, 2022).

Operational Strategies/Pedagogical Practices: This domain gathers information on the educational environment, curriculum, and teaching strategies that align with the family's unique cultures.

Needs and School Expectations: This domain examines parents' expectations of their child, which can vary from schools' expectations of the child.

Participants were parents and guardians from five different countries (USA, China, Georgia, Australia, and Latvia) who completed a 5-point response scale, ranging from 1(Strongly Disagree), to 5 (Strongly Agree), for all items. The structure and the items of the SCCS are guided by the five components of the VISION model; however, the sixth component, the interpretation of experiences is represented in responses to measure items. The alpha reliability of the SCCS-38 items measure is reported to be .97 (Weber, 2022). After the pilot testing and EFA analysis in the US, the measure was condensed down to 27 items, with reported reliability of .95 (Weber, 2022).

The SCCS measure was validated with the SCCS-US and the SCCS-CHN samples using half the data from each country. The five-factor model was established after removal of the following 12 items:

KR03: *The staff at this school share my family's cultural background (e.g., race, nationality, religion, etc.*

KR08: *My family values and this school's values are similar.*

COMM02: *I get information from this school in the language I prefer*

COMM03: *This school reports my child's progress to me in a way that makes sense to me (e.g., Progress updates, test scores, report cards, etc.).*

COMM05: *My child can speak the language they prefer with their peers.*

COMM06: *I feel like I can talk to school staff about my family values.*

COMM08: *I like the way the school invites discussions with me.*

COMM11: *I like the way the school invites discussions with me.*

EXPEC02: *The school's and my family's ways of solving problems are alike.*

EXPEC03: *The school's and my family's approaches to discipline are alike.*

EXPEC04: *The behavior I expect of my child matches what the school expects.*

The data on the EXPEC02 (“The school’s and my family’s ways of solving problems are alike”) was not collected in China due to its cross-loading violation in the US. The EFA for the SCCS-CHN three communication items (“The school staff speak the language I prefer,” “I get information from this school in the language I prefer,” and “My child can speak the language they prefer with their peers”) were removed because item violated the cross-loading rule. Furthermore, the measurement invariance was conducted, which established a strict invariance level across United States and China samples.

Cross cultural Equivalence: Language Adaptation and Translation Procedures

It is to be noted that the scale was developed in collaboration with international colleagues from Asian and European countries following the IRB approval process of respected countries. However, to achieve semantic and conceptual equivalence between both the original and translated surveys, researchers followed the translation procedures recommended by Meadows et al. (1996) and Beaton et al. (2000). The translation procedures were adopted in China, Georgia, and Latvia. Parents in the United States and Australia completed the survey in English.

Zhang (2022) and other scholars from Georgia followed the repeated forward-backward translation procedures recommended by Meadows et al. (1996) to create Chinese and Georgian versions of the instruments (Zhang, 2022). The steps are highlighted below:

First, a bilingual native Chinese/Georgian speaker with the expertise and knowledge and experiences in educational psychology was recruited to translate the SCCS-US English version of the scale into the three respective languages. Second, an English-speaking translator with no background in psychology and education related fields, translated the initial version back in English. The research team in each country reviewed the original and translated version of the scales for final revisions and created a preliminary version of the scale (SCCS-CHN & SCCS-GA). Preliminary data was collected through cognitive interviews with parents in each country's different geographical region for the final review in comprehension of the items.

- Please repeat the item in your own words;
- Please think aloud as you answer the question;
- Please state how you would answer this question.

Finally, research teams of individual countries reviewed the results for final modification of the scale.

The research team in Latvia followed the Beaton et al. (2000) recommendations in the translating process which consisted of the following steps: (a) initial translation from English to Latvian, (b) two translators review and agree on the results, (c) back-translation from Latvian to English was performed, and lastly (d) research committee had final discussion and agreement of the final version of the survey. The final version of the translated survey was piloted in individual interviews with parents from Latvia, for comprehension validation.

Construct Validation

Content Validation

Construct validation occurs in three different phases: substantive, structural, and external phases (Brown, 2015; Flora & Flakes, 2017). In the substantive phase, theory of the construct is examined to develop a number of test items which addresses all the theoretical aspects. The substantiated phase established as the SCCS was motivated by the VISION model to examine the domains as they relate to school settings (Baber et al., 1997; Weber, 2022). After establishing the substantive phase, the structural phase focuses on determining whether the items' empirical relations to one another are consistent with those theoretical aspects (Flora & Flakes, 2017).

In terms of statistical method to achieve structural phase, factor analysis is one of the techniques that is used for construct validation and examining whether the measurement theory is reflected in the findings (Flora & Flakes, 2017). Specifically, Exploratory Factor Analysis (EFA) is used initially for exploratory purposes to examine dimensionality of items and identify the appropriate number of underlying factors. After determining the structure

and items, Confirmatory Factor Analysis is used to test and confirm the specific hypothesis or theoretical model. The EFA is performed prior to CFA unless there is prior evidence of a factor structure and conceptual foundation to guide the specification and evaluation of a factor model; CFA is generally performed at later phases of scale development after the underlying structure has been tentatively established by prior empirical analyses using EFA (Flora & Flake, 2017).

Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) findings in the USA and China supported that items in the school cultural congruity scale (SCCS) are consistent with the VISION model's domains (knowledge and representation, communication, home-school relationships, teaching and curriculum, and expectations), and indicate that these factors are both related and different from each other (Weber, 2022; Zhang, 2022).

However, since the SCCS was developed in international context for the purpose of being universal measure and with data collection from multiple countries, the measure development phase of the SCCS is still in the structural stage to further inform our collective understanding of the construct and measurement of school cultural congruity. Since the five-factor structure was supported by the VISION theoretical model and previously established in the United States and China samples (Weber, 2022; Zhang, 2022), the first research question was proposed to confirm the factor structure of the SCCS using the CFA.

Lastly, the external phase, researchers focus on how the construct is related to other constructs, known measures, and outcomes (Brown, 2015).

Cross Cultural Validation

Cross-cultural validation refers to whether constructs initially generated in a single culture are valid, reliable, and valuable in different cultures (Huang & Wong, 2014; Matsumoto, 2003). Historically, most psychological instruments were developed in English and Western cultures, it became essential to adapt these measures to be used for multicultural and multilingual populations (Huang & Wong, 2014). Thus, the cross-cultural validation process began to validate psychological instruments that measure health status in languages other than the primary language (Beaton et al., 2000).

Though there is a chance for ecological fallacy issues in which relationships established at one level of analysis are mistakenly assumed to apply at a different level (Hofstede, 1980). However, this can be addressed if the construct is established in consideration of diverse cultures to study universal effects and driven by a strong theoretical and conceptual framework (Smith, 2002). Smith (2002) highlights the importance of conducting multilevel analyses not only enhances the validity and generalizability of findings but also facilitates meaningful cross-cultural comparisons. However, it is important to recognize that different causal factors may come into play when studying complex behaviors or phenomena (Smith, 2002). Going through the cultural adaptation and validation process means understanding the unique values of different cultures, languages, and lifestyles. However, there are some considerations such as through examination of instruments to make sure it retains its meaning, relevance, cultural sensitivity and appropriateness in the target country (Beaton et al., 2000).

Establishing cross-cultural equivalence is crucial for ensuring the validity and applicability of measurements across different cultural contexts. Thus, researchers must

follow strict procedures to ensure that the instrument aligns with the values of diverse cultures, beliefs, and languages while maintaining the original meaning (Huang & Wong, 2014; Sperber et al., 1994;). Messick (1989) mentions that cross-cultural equivalence needs to be established in cross-cultural measurements for universalism-relativism in which universalism refers to that certain constructs are universal across all cultures and relativism indicates that cultural differences may lead to variation in such constructs. Thus, Messick (1989) recommends the following steps to establish cross-cultural equivalence:

First is structural equivalence, which is important to establish internal structure, a key element in the cross-cultural validation of an instrument (Messick, 1989). This is a crucial step in understanding the underlying factor structure and examining functional equivalence. The SCCS was developed in an international context with the expertise of professionals in international settings to account for the limitations and cultural considerations of measure adaptation; structural equivalence was established in the United States and China samples with a five-factor structure. However, to advance the effective use of the measure, there is still a need to examine the consistency of the underlying structure of the SCCS across diverse cultures and linguistic groups.

The second step is functional equivalence, which explores whether the construct exists within diverse cultures (Messick, 1989); for example, examining the consistency of the psychometric properties of school cultural congruity scale across different cultural context, achieved through translation and adaptations, cognitive interviews for comprehension check, factor analysis, and measurement invariance procedures.

The third step is metric equivalence, which examines whether intervals in the numeric values of the instruments align with the same means in different cultures; for example, the

use of kilometers in one country vs miles used in other countries; in other words, comparing the relative difference between cultural groups.

Lastly, full-score equivalence is a higher form of equivalence. It examines whether the scale of the construct shares the metric and same origin between different cultural groups; for example, it understands whether the observed number refers to the same position of the construct in each of the cultural groups. This is the highest form of equivalence, which means that diverse cultural groups can be directly compared using the instrument.

Matsumoto (2003) recommends validating instruments with each cultural group is necessary to demonstrate metric and full-scale equivalence. Cross-cultural validation research employs Exploratory Factor Analysis and Confirmatory Factor Analysis (CFA) followed by Multi-Group CFA for measurement invariance to determine if the measure functions similarly across different cultural groups (Shaakumeni & Beno, 2018). Thus, the rationale to conduct multi-level analyses to assess the cross-cultural utility of the SCCS (School-Cultural Congruity Scale) not only enhances the validity and generalizability of findings but also facilitates meaningful cross-cultural comparisons.

Present Study

Cultural congruity is defined as a fit or match between students' home cultural values and their schools and is an essential component in engaging families and students to promote school climate that is educable, inclusive, safe and a respectful place for learning (Castellanos & Gloria, 2007; Gloria & Robinson-Kurpius, 1996). Cultural congruence was initially introduced to examine students' well-being, highlighting the critical role this construct plays in enhancing students' learning outcomes in college (Castellano et al., 2016; Gloria et al., 2005). Although cultural congruity has been explored from the standpoint of

students regarding teachers' practices, there has been a noticeable gap in examining it from the perspective of parents, who play a crucial role in a child's ecological framework. **Thus, the current study intends to make a significant theoretical and practical contribution by extending the current literature on the cultural congruity construct as a meaningful dimension to understand family dynamics and cultivate inclusive schools.**

To understand family engagement with the school system through a cultural lens, Weber (2022) designed the School Cultural Congruity Scale (SCCS) in collaboration with international colleagues to measure the cultural fit between families and K-12 schools. This tool assists schools in identifying areas to promote parental engagement in schools and fostering positive home and school relationships (Weber et al., 2022). The SCCS was developed with the intention of becoming a universal tool for improving family and school relationships globally; however, cultural congruity has only been examined in the United States and China individually. The goals of my proposal are to (1) examine school cultural congruity across various cultures and refine the measure to improve generalizability of the scale, and (2) quantitatively compare different cultural data and extract out cross-cultural trends to include recommendations for educators to improve their school climate. Examining this construct cross-nationally is important to not only understand how this construct impacts parental engagement in education but also promote a culturally inclusive education system with an increasingly diverse population globally.

Hypotheses and Research Questions

The aim of this study is to cross-culturally validate the School Cultural Congruity Scale across five countries (USA, China, Georgia, Australia, and Latvia) and determine the degree to which the SCCS effectively measures the cultural fit between home and school

across various cultural contexts. The current study examined cultural congruity across five countries, as data were available from these nations.

RQ1: Is there evidence of adequate construct validity for a five-factor solution of the SCCS in five countries collectively and/or independently?

H1: The School Cultural Congruity Scale (SCCS) demonstrates construct validity for five factors: beliefs/representation, communication, relationships, expectations, and teaching practices in five countries indicating that the scale accurately measures cultural congruity in schools.

RQ2: What underlying factors characterize the dimensions of cultural congruity within schools across five countries, and how do these factors manifest themselves across international educational settings?

H2: The SCCS captures underlying factors that capture various dimensions of the VISION model within international educational settings.

RQ3: Does the school cultural congruity scale (SCCS) demonstrate adequate internal consistency reliability?

H3: The SCCS will demonstrate adequate internal consistency reliability.

RQ4: Is the SCCS measurement invariant across multiple cultural groups, indicating consistent interpretation and response patterns across cultures?

H4: The SCCS measurement is invariant across multiple cultural groups, suggesting consistent interpretation and response patterns across cultures.

With an increasingly diverse population in education, the learning needs to be oriented through a culturally inclusive framework. Authentic learning flourishes in nurturing, culturally congruent school environments that embrace open education principles and diverse

cultural identities (Howard, 2001; Lee, 1999; Soo-Hoo, 1993). The dissertation studies conducted by Weber (2022) and Zhang (2022) indicated that high cultural congruity between home and schools predicts higher family engagement. Students and teachers that share a similar culture with their students are better equipped to tailor their teaching method to fit diverse student's unique backgrounds (Erickson & Mohatt, 1982). Consequently, higher cultural congruent climate positively correlates with families' higher likelihood to feel included and engaged in their children's schooling, breaking down barriers and boosts student success (Zhang, 2022).

Thus, this study not only inspects the psychometric properties of the SCCS to assess reliability and validity across different countries and cultures to understand schools' efforts in engaging families through multicultural efforts, but it also provides future educators with insight to address the needs of marginalized families and students.

Chapter III: Method

Participants: Total Sample

The total sample consisted of 3,555 parents from five countries: the United States ($n = 601$), Latvia ($n = 769$), Georgia ($n = 701$), Australia ($n = 724$), and China ($n = 760$). Within the United States sample, 54% identified as mothers, 44% as fathers, and 2% as "other parental figures." Additionally, approximately 65% of participants identified as Non-Latinx White, 21% as Hispanic or Latino, 10% as Black or African American, 4% as Asian or Asian American, and 4% as other or mixed ethnicity.

The demographic of parents of Georgia were as follows: 87% identified as mothers, 12% as fathers, and 1.6% identified their parental role as "other" or "mother role". In terms of ethnicity, 88% participants identified as Georgians (White), 4% as Azerbaijanis (White), 5% as Armenians (White) and 3% as Other. Regarding school setting, 92% of students attended public school and 8% attended private schools. Regarding parental education level, 32% of the Georgian participants have a bachelor's degree and 31% reported having a Master's degree. The parents' age ranged from 23 to 68 years, with a median age of 38. In terms of geographic region, 86% reported living in an urban setting, 9% in rural areas, and 3% in suburban areas.

The Latvian sample consisted of 769 parents of which 94% were mothers, 4% were fathers, and 3% identified their parental role as "other" or "mother role". The vast majority of participants were White (99%), which reflects racial homogeneity characteristic for Latvia. Regarding school setting, 98% of students attended public school, 1% attended private schools, and 1% report attending "other" school. About 32% of the Georgian participants have a bachelor's degree and 31% reported having a Master's degree. The parents' age ranged

from 18 to 64 years, with a median age of 38. In terms of geographic region, 77% were living in urban settings, 19% suburban, and 3% in rural settings.

The Australian sample consisted of 723 parents of which 98% were mothers, 1.5% were fathers, and 0.5% identified their parental role as “other” or “mother role”. Regarding ethnicity, 89% participants were White, 4% were Asians, 3% identified as Other. Regarding school setting, 61% of students attend public school and 30% attend private schools, and 9% reported attending “Other” school. The participants' geographic region consisted of 65% suburban, 23% urban, and 11% in rural setting.

Parents from China consisted of 760 parents of which 70% were mothers, 26% were fathers, and 4% identified their parental role as “other”. In terms of school setting, 58% of students attend public school and 50% attend private schools, and 9% reported attending “Other”. In terms of geographic region, 63% lived in urban areas, 16% lived in suburbs, and 19% in rural settings.

Table 1*Participants' Demographic Characteristic of the whole sample (N = 3,555)*

	U.S. (N = 601)	Australia (N = 724)	Georgia (N = 701)	Latvia (N = 769)	China (N = 760)
	N; %	N; %	N; %	N; %	N; %
Parental Role					
Mother	326; 54%	709; 98%	607; 87%	725; 94%	535; 70%
Father	263; 44%	12; 1.5%	83; 12%	34; 4%	203; 26%
Other-Parental figure	12; 2%	2; 0.02%	12; 1.5%	10; 1%	22; 4%
Marital Status					
Married	487; 81%	576; 79%	559; 79%	546; 71%	718; 94%
Widowed	2; 0.4%	20; 0.27%	18; 2.5%	7; 0.9%	5; 0.6%
Divorced	22; 3.6%	24; 3.3%	31; 4.4%	59; 7.6%	17; 2%
Separated	7; 1.6%	24; 3.3%	42; 6%	23; 3%	10; 1%
Single	52; 9.6%	27; 3.7%	7; 0.9%	19; 2.4%	7; 0.7%
Domestic Relationship	27; 4%	68; 9%	44; 6%	115; 15%	3; 0.3%
Geographic Location					
Urban	295; 49%	171; 23%	608; 86%	596; 77%	478; 63%
Rural	99; 16%	80; 11%	70; 9%	24; 3%	121; 16%
Suburban	201; 33%	472; 65%	23; 3%	149; 19%	144; 19%

Measure

The SCCS is a parent reported measure consists of 38 items, with 5-11 items capturing VISION theoretical model's domains in each of five factors: values and beliefs system (8 items), communication (11 items), school relations (5 items), operational strategies/pedagogical practices teaching (7 items), and needs/school expectations (7 items) (Weber, 2022; Zhang, 2022) (See [Appendix B](#)). The items are measured on a four-point, Likert-type scale (1 =strongly agree, 2 = agree, 3 = disagree, and 4 = strongly disagree).

Procedures

Scale Administration and Recruitment

Institutional Review Board (IRB) approval was obtained and research regulations and ethical guidelines were followed for each participating country prior to data collection. Each country used different avenues to administer surveys such as Amazon's Mechanical Turk, Qualtrics, google forms using snowball sampling. These avenues allow researchers to access a large diverse sampling pool of anonymous families to complete the survey (Arndt et al., 2022). The participation in the survey was voluntary and anonymous. Participants were parent(s) or guardians of children attending K-12 school in those countries. The scale included information about informed consent, which covered confidentiality statements, study purpose, risk and benefits of the participation of the study, and researchers' contact information. Aside from the cultural congruity items, demographics items were modified to fit countries' demographics.

Data Screening

The data were screened at the individual country level. The following data deletion criteria was used: (a) if respondents did not agree to the confidentiality statement (8 cases), (b) if they did not choose "strongly agree or option C" response for the items they were instructed to do so, which served as an attention check (23 cases). Data were also screened to detect missing data. In the 3555 observations, there were two missing values; however, no systematic missing data patterns were identified. *Table 1* shows a description of the samples from each country. Missing data was minimal (1%) and handled with the recommended full-information maximum likelihood (ML; Enders, 2010). The total sample size was 3,555.

Analytic Plan: Multiple Sample use

Three samples were used to conduct one exploratory factor analysis (EFA), one confirmatory factor analysis (CFA), and a multigroup- confirmatory factor analysis. Data were randomly split into three samples using SPSS. Considering the theoretical framework and previous findings establishing a five-factor structure model of the SCCS across the United States and China, the first sample (N= 1197) was used to test the five-factor model using the Confirmatory Factor model on all 38 items. Originally, the randomization of sub-sample creation was done to cross culturally validate using one third of the sample for each of the following phases: (a) Conducting CFA, (b) measurement invariance testing, (c) Mean differences across groups. However, Preliminary analysis did not substantiate the hypothesis (RQ1). Therefore, the analysis was moved into exploratory phases and the remaining sample was used to establish the factor structure of SCCS that is similar across those countries. The second sample was used for Exploratory Factor Analysis to determine the factor structure. The third sample was used to perform a confirmatory factor analysis and invariance testing to examine the plausibility of factor structure as yielded by EFA (see detailed participant information in the subsections below). Though this is not an independent sample, it allows to examine generalizability of the factor structure across different populations that differ by racial/ethnic/nationality composition.

Table 2*Analytical Methods by Research Question and Sample*

RQs	Sample	Statistical Method
RQ1: Is there evidence of adequate construct validity for a five-factor solution of the SCCS in five countries collectively and/or independently?	Sample 1	CFA
RQ2: What underlying factors characterize the dimensions of cultural congruity within schools across five countries, and how do these factors manifest themselves across international educational settings?	Sample 2	EFA
RQ3: Does the school cultural congruity scale (SCCS) demonstrate adequate internal consistency reliability?	Sample 3	Omega's Reliability
RQ4: Is the SCCS measurement invariant across multiple cultural groups, indicating consistent interpretation and response patterns across cultures?	Sample 3	CFA & MG-CFA

Chapter IV: Preliminary Study

Phase I – Initial Confirmatory Factor Analysis with all 38 items

Method

Participants: Sample I

First, for preliminary analysis and testing five factor structure (**RQ1**), 33% of the sample was used for Confirmatory Factor Analysis (CFA). Sample 1 for CFA comprised 33% ($N = 1197$) of the USA ($n = 201$), Georgia ($n = 234$), Latvia ($n = 257$), Australia ($n = 242$), and China ($n = 263$). A CFA was performed with 33% of the sample to examine the plausibility of five factor structure as previously established with the School Cultural Congruity Scale-United States (SCCS-US) and the School Cultural Congruity Scale-China (SCCS-CHN) for the 38 items. The R Studio software (RStudio Team, 2022) and the *Mplus* 8.0 (Muthén & Muthén, 2017) was used.

Analysis Plan

In pursuit of **RQ1** (Is there evidence of adequate construct validity for a five-factor solution of the SCCS in five countries collectively and/or independently?), a CFA was performed with 33% of the total sample to examine the plausibility of five factor structure as previously established with the School Cultural Congruity Scale-United States (SCCS-US) and the School Cultural Congruity Scale-China (SCCS-CHN) for the 38 items. The R Studio software (RStudio Team, 2022) and the *Mplus* 8.0 (Muthén & Muthén, 2017) was used.

Separate analyses were conducted for Georgia, Australia, and Latvia only because the same data was used in this study that was previously analyzed for China and the US establishing factor structure through EFA and CFA. Doing separate analyses allows for a

cross-cultural examination for a factor structure and ensures the generalizability and validity of the factors (Matsumoto, 2003). Furthermore, cross cultural examination of multiple countries helps provide insights into commonalities and differences in factors influencing certain phenomena across regions (Smith, 2002).

Unit-loading identification was utilized to modify the reference variable for each latent factor to a factor loading of 1 (Brown, 2015), allowing variables with the highest loading to be used as reference variables. The maximum likelihood with robust standard errors (MLR) estimation method will be used in the CFA because it is robust to non-normality. The following recommendations are adopted to determine the overall goodness of fit of the model, indicating root mean square error of approximation (RMSEA) value less than or equal to .05 indicates a good fitting model, and values up to .08 indicate adequate fitting of the model (Browne & Cudeck, 1993). Hu and Bentler (1999) recommend that a Comparative fit index (CFI) and Tucker-Lewis Index (TLI) greater than .90 indicates an acceptable fit, and CFI and TLI close to or greater than .95 indicates a good fit, additionally, Standardized Root Mean Square Residual (SRMR) value as close to zero is the desired value, indicating a good model fit. Fit indices will be assessed for all the samples to determine the overall model fit of the 5-factor solution.

Results: Evaluation of CFA Model Fit with all 38 items

A CFA analysis was estimated using Maximum Likelihood (ML) estimation. Variables specified for each factor were allowed to correlate freely, except for the reference variable for each factor, which was set to 1.0.

Fit indices were assessed for aggregated sample and sample from each country to determine the overall model fit of the 5-factor solution. The goodness of fit did not support

the the five- factor model with the set of 38 items for aggregated data: $\chi^2 (619, N = 1197) = 4085.37, p < .001$, RMSEA = .068 [90% confidence interval [CI] = .066, .070], CFI = .864, TLI = .854 and SRMR = .05. While the chi-square test results were significant, $\chi^2 = 4085.37, df = 619, p < .001$, all other fit indices were on the borderline of the recommended criteria, SRMR = .056, RMSEA = .068, 90 % CI [.066, .070], CFI = .864, and TLI = .854.

Three CFAs were conducted separately to validate the identified factor structure in the group of Georgia, Latvia, and Australia with all the 38 items which also did not yield good model-data fit. The fitness statistic for the Australia group was $\chi^2 = 1681.30, df = 619, p < .01$, SRMR = .083, RMSEA = .084, 90 % CI [.079, .089], CFI = .807, and TLI = .793. The standardized root mean square residual (SRMR) was .083, suggesting acceptable fit. The root mean square error of approximation (RMSEA) was .084, with a 90% confidence interval ranging from .079 to .089, indicating reasonable fit. The comparative fit index (CFI) was .807, and the Tucker-Lewis index (TLI) was .793, indicating poor fit with all the 38 items for Australia.

The CFA model for the Latvia group yielded the following results, $\chi^2 = 1749.61, df = 619, p < .01$, SRMR = .048, RMSEA = .084, 90 % CI [.080, .089], CFI = .869, and TLI = .859. The standardized root mean square residual (SRMR) was .048, suggesting good fit. The root mean square error of approximation (RMSEA) was .084, with a 90% confidence interval ranging from .080 to .089, indicating reasonable fit. The comparative fit index (CFI) was .869, and the Tucker-Lewis index (TLI) was .859, indicating poor fit.

The CFA model for the Georgia group yielded the following results, $\chi^2 = 1843.249, df = 619, p < .01$, SRMR = .1, RMSEA = .092, 90 % CI [.087, .097], CFI = .763, and TLI = .745. The standardized root mean square residual (SRMR) was .10, suggesting poor fit. The

root mean square error of approximation (RMSEA) was .092, with a 90% confidence interval ranging from .087 to .097, indicating suboptimal fit. The comparative fit index (CFI) was .763, and the Tucker-Lewis index (TLI) was .745, both indicating inadequate fit (see *Table 3*).

Table 3

Goodness of Fit Statistics of Preliminary Confirmatory Factor Analysis Model

	χ^2	<i>p</i>	<i>df</i>	CFI	TLI	RMSEA (90% CI)	SRMR
Overall Sample (<i>N</i> = 1197)	4085.37	<.01	619	.864	.854	.068 (.066, .070)	.05
Georgia (<i>N</i> = 234)	1843.249	<.01	619	.763	.745	.092 (.087, .097)	.1
Latvia (<i>N</i> = 257)	1749.61	<.01	619	.869	.859	.084 (.080, .089)	.048
Australia (<i>N</i> = 242)	1681.30	<.01	619	.807	.793	.084 (.079, .089)	.083

Note. χ^2 = Chi-Square Test of Model Fit; *df* = Degrees of Freedom; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation (90% Confidence Interval); SRMR = Standardized Root Mean Square Residual.

Factor Loadings

In the five-factor model, all items loaded significantly on their intended factors, with standardized loadings ranging from 0.58 to 0.87 (see *Table 4*). Overall, the factor loadings demonstrated strong correlations with their intended factors.

Table 4

*Standardized Factor Loadings for the School Cultural Congruity Scale (SCCS) using the First Sample (*N* = 1197)*

Domains	Variables	Item Descriptions	Loadings
Values and Belief Systems (Representation)	KR01	Other people at this school share similar customs as my family (e.g., dietary, traditions, holidays).	.68
	KR02	The pictures or objects around this school represent my family's culture.	.70
	KR03	The staff at this school share my family's cultural background (e.g., race, nationality, religion, etc.).	.71
	KR04	This school knows how my children's backgrounds and experiences impact them at school (e.g., developmental history, family routines, community stressors, religious practices, etc.).	.76
	KR05	This school supports parents to share their family's culture.	.77
	KR06	My child has chances to honor their culture at school.	.70
	KR07	Other students at this school share my child's cultural backgrounds (e.g., race, nationality, religion, etc.).	.70
Interaction style (Communication)	KR08	My family values and this school's values are similar.	.83
	COMM01	The school staff speak the language I prefer.	.58
	COMM02	I get information from this school in the language I prefer	.58
	COMM03	This school reports my child's progress to me in a way that makes sense to me (e.g., Progress updates, test scores, report cards, etc.).	.75
	COMM04	School documents make sense to me.	.70
	COMM05	My child can speak the language they prefer with their peers.	.58
	COMM06	I feel like I can talk to school staff about my family values.	.76
	COMM07	I feel like I can talk to school staff about family habits related to schoolwork.	.79
	COMM08	I like the way the school invites discussions with me.	.78
	COMM09	I like how often I get information about my child.	.78
	COMM10	I know clearly what the school expects of my child.	.79
Structuring Style (Relation)	COMM11	This school communicates well with me.	.82
	RELA01	The staff at this school works with my family in the way I like.	.87
	RELA02	The amount I like to be a part of my child's education and what the school expects of me is alike.	.84
	RELA03	I am comfortable with the ways I can be a part of my child's education.	.85
	RELA04	I like the way the school invites family involvement.	.85
Operational Strategies (Teaching)	RELA05	I am happy with the family-school relationship.	.90
	TEACH01	My child's classroom is a good place for them to learn.	.76
	TEACH02	I like the way the school staff works with my child.	.82
	TEACH03	My child's schoolwork is related to their background and experiences.	.75
	TEACH04	I like the way my child is taught, given my values of learning.	.85
	TEACH05	My child can access books or materials that represent their background and experiences.	.73
	TEACH06	My family's culture is correctly and respectfully included in my child's schoolwork.	.72
Needs (Expectations)	TEACH07	I like this school's approach to education.	.85
	EXPEC01	What I expect for my child's education matches what the school expects.	.86
	EXPEC02	The school's and my family's ways of solving problems are alike. (34)]	-
	EXPEC03	The school's and my family's approaches to discipline are alike.	.79

EXPEC04	The behavior I expect of my child matches what the school expects.	.80
EXPEC05	How I expect my child to build relationships with others matches what the school expects.	.84
EXPEC06	The school teaches my child the skills that are important to me for them to learn.	.83
EXPEC07	What I hope for my child matches what this school hopes for my child.	.85

Discussion

Preliminary analyses of all 38 items were completed to explore the correlations between and among the items. In summary, employing all 38 items to establish a five-factor structure did not yield adequate model fit across countries. The findings from these initial analyses did not directly confirm the ideas proposed in RQ1 as the development of items included more items than were ultimately envisioned in the SCCS, therefore, those extra items will be removed to determine whether the research questions are supported. It's important to note that even though the CFA factors were established with the SCCS-US with 27 items, the factor structures were examined using all 38 items in the CFA analysis of the current study, potentially impacting model fit due to the absence of a predetermined simple structure through collective EFA.

Often, psychological instruments are designed in one context and then validated in different context; which can have potential implication with measure's validity (Messick, 1989); however, the SCCS scale was designed in a multicultural context considering cultural factors across Europe, Australia, America, and China to ensure its relevance universally. As the SCCS is established and guided by a theoretical framework, aggregating data for multilevel analysis can provide valuable insights into larger trends and comprehensive view of the cultural congruity construct across nations, enabling to make more informed decisions based on these patterns.

However, aggregating data could have some implication especially as some items may function differently in different contexts; thus, not accounting for variations in different cultures which could compromise the validity and reliability of the findings (Hofstede, 1980). Therefore, data were also analyzed for individual countries to cross-check and ensure the robustness of the results. However, the five-factor structure did not work for individual countries.

Next Steps

Originally, the data were split into three subsamples to perform (a) confirmatory factor analysis, (b) measurement invariance, and (c) mean differences across groups. Given that five factor structures with all the items did not fit well, the next step is transitioning the analysis from a confirmatory to an exploratory phase. The findings from these initial analyses did not directly substantiate the hypothesis posited by RQ1, these served as a foundational framework for more targeted inquiries involving a narrowed selection of items in subsequent analyses. Considering that the establishment of the SCCS is still in the structural and exploratory phase of the measure development, taking the EFA approach would be preferable to determine both how many factors are needed to account for the associations among the observed variables and how strongly each variable is influenced by the factors as recommended by Flora and Flake (2017).

Thus, the data will be analyzed following stepwise procedures: First, Exploratory Factor Analysis (EFA) will be used to understand the factor structure of the school cultural congruity scale (RQ2) and detect items to be removed using a second sample. Third sample will be used for the purpose of the second and third steps. Second, confirmatory factor analysis will be used to test the simple structure factor model yielded by EFA of the SCCS.

Third, a series of multigroup-confirmatory factor analysis (MGCFA) will be used for assessing measurement invariance across groups as recommended by methodologist for cross-cultural and international comparisons (Stein, Lee, & Jones, 2006; Vandenberg & Lance, 2000)

Chapter V: Model Refinement for Structural Validation

Method

Phase II: Exploratory Factor Analysis to Identify an Alternative Factor Structure

Participants: Sample II

Exploratory Factor analysis was performed on the second sample ($n = 1166$; ~33% of the total sample) to explore the factor structure of SCCS that capture various dimensions of the VISION model within an international context. Sample 2 for EFA consisted of Australia ($n = 240$), China ($n = 239$), Georgia ($n = 236$), Latvia ($n = 256$), and USA ($n = 195$). An EFA was performed using maximum likelihood (ML) estimation because it is a preferred method that produces several fit indices (Brown, 2015; Fabrigar et al., 1999). Thus, 38 items were included in the EFA for exploratory purposes to examine dimensionality of items and identify the appropriate number of underlying factors. Furthermore, EFA examines observed variables that effectively represent latent dimensions/factors by analyzing the size and strength of factor loadings (Flora & Flakes, 2017; Preacher & Maccallum, 2003) and evaluates how the SCCS that have been used in the United States and Chinese culture applies across cultural context collectively.

Factors Extraction Method

Multiple indicators such as parallel analysis, Kaiser-Guttman rule, and Scree Test were used to determine the appropriate number of factors to retain (Brown, 2015; Fabrigar et al., 1999; Gorsuch, 1983). The Kaiser-Guttman rule indicates eigenvalues should be greater than 1 as it accounts for much variability than a single observed variable (Brown, 2015; Floyd & Widaman, 1995). The scree plot displays eigenvalues plotted on a graph and the interpretation of the number of factors to retain is based on when there is a noticeable drop in

the eigenvalues (Cattell, 1966; Gorsuch 1983). The parallel analysis involves interpreting the number of factors based on the intersection points of the slopes between observed sample eigenvalues and those generated from the random data (Horn, 1965; Humphreys & Montanelli, 1975).

Oblique rotation method will be employed to account for factor correlations in the cultural constructs, and is generally preferred over orthogonal rotation (Floyd & Widaman, 1995). As motivated by conceptual framework and past evidence, the SCCS domains are conceptually similar, and thus; oblique rotation will allow for examining the factors that are intercorrelated. Other coefficients CFI and TLI were computed to examine three, four, and five factor structures to understand the number of factors to retain. Once the number of factors is established, the extracted factors will be employed to enhance the clarity of the factor structure (Brown, 2015).

Items Retention Criteria

Factor loadings equal to or exceeding .30 will be deemed significant (Brown, 2015). In addition, the 4:3:2 rule were used to examine the strength of factor loading, which indicates that item loading on primary factor must be higher than .40 and consider cross loadings that differ by at least by .20 from the primary loading, and load on alternative factor below .30 (Brown, 2015, Howard, 2016). Gurev and Ozkan (2022) recommend removing items from the analysis one by one, starting with the item that gives high loading on multiple factors, and has the smallest difference between these loadings. This process is repeated for each item until no cross-loading items remain, thereby ensuring that each item predominantly measures a single domain of the large construct and there is no redundancy. In addition, EFA is conducted on both aggregated data and data from each cultural group individually. This

approach allows for a comparison of results to examine items showing inconsistent patterns of loadings or factor structure across groups. Through the identification and removal of such items, our goal is to retain the optimal number of factors and further improve the cross-cultural validity and reliability of the SCCS.

Phase III: Validating the Refined Structure using CFA and Invariance Testing

Participants: Sample 3

A series of confirmatory factor analyses (CFAs) and Multi-Group CFA were computed in the third sample comparing the model identified in the second sub-sample (EFA). Sample 3 consisted of Australia ($n = 242$), China ($n = 258$), Georgia ($n = 231$), Latvia ($n = 256$), and USA ($n = 205$).

Confirmatory Factor Analysis

Similar criteria was adopted to the initial CFA with the theorized Model (see above: [Analysis Plan](#)). After confirming the factor structure, a series of multi-group CFAs to analyze measurement invariance using the American, Australian, Chinese, Georgian, and Latvian samples.

Measurement Invariance Testing using Multi-Group CFA

Measurement invariance testing is used to examine how consistent individuals from different groups, cultures, or backgrounds respond to one particular instrument. Measurement invariance analysis has been used in range of educational and psychological research examining intergroup differences using various demographic variables such as age, gender, residence, educational level, and cultural variables (e.g., ethnicity, language) (Putnick & Bornstein, 2016; Schmitt & Kuljanin, 2008).

Measurement Invariance analysis is essential for assessing the validity of the School Cultural Congruity Scale when used across diverse populations in five countries. It helps determine if the relationships between observed variables and latent factors remain consistent across these groups, ensuring accurate comparisons and generalizability of the scale's findings across different cultural contexts (Berry et al., 1992; Putnick & Bornstein, 2016). The invariance testing would be conducting the following stepwise procedure (Putnick and Bornstein, 2016). However, it is important to establish the initial invariance before moving to the next one. There are four measurement invariance steps to be considered (1) *configural*, equivalence of model form; (2) *metric* (weak factorial), equivalence of factor loadings; (3) *scalar* (strong factorial), equivalence of item intercepts or thresholds; and (4) *residual* (strict or invariant unique- ness), equivalence of items' residuals or unique variances.

Configural invariance is the initial and least restrictive form of invariance and examines whether the general structure of the model is the same across groups (Putnick & Bornstein, 2016). In other words, it examines whether the same set of factors and observed variables are associated with each latent construct in different groups. Metric invariance is the second and more restrictive form and examines whether the factor loadings (the relationships between latent factors and observed variables) are equivalent across groups, and it is done where factor loadings are constrained to be equal across different groups (Putnick & Bornstein, 2016). Scalar Invariance is an advanced and strong form of invariance testing that goes a step further by examining the factor loadings and the intercepts (item means) of the observed variables (Putnick & Bornstein, 2016). Residual invariance is the fourth and most strict form of invariance, and once established, residuals for each item are similar/equivalent across groups.

Putnick and Bornstein (2016) recommends that achieving scalar invariance is crucial for making meaningful comparisons of school cultural congruity factors' means across different groups. However, comparing groups at the latent level can be achieved by fixing the latent factor mean to 0 in one group while allowing it to vary in the second group. The estimated mean parameter, which is allowed to vary freely, represents the difference in latent means across groups.

Reliability

Omega's coefficient (ω) will be computed to examine the internal consistency reliability of the SCCS. Omega's reliability is often preferred over Cronbach alpha as it accounts for the factor structure and multidimensionality of the measure and is less sensitive to non-normality assumptions (Hayes, 2020; McDonald, 1999). Omega provides a more accurate reliability estimate and is more flexible with tau-equivalence assumption which is stricter in assuming equal factor loadings across items (McDonald, 1999). It will be calculated using RStudio (RStudio Team, 2022).

Results

Test of Dimensionality

Prior to conducting EFA, visual inspections of histograms and q-q plots, and scatter plots were conducted for all variables to test assumptions of univariate normality. No variables demonstrated bimodal distributions, but the distribution was slightly negative skewed. Additional analyses pertaining to skewness and kurtosis were also within the normal range (skewness < 2 , kurtosis < 7) for all variables (Fabrigar et al., 1999; see [Appendix B](#)).

Additionally, inter-item correlations were examined to assess the appropriateness of the dataset for dimensionality reduction. The majority of item pairs showed moderate to strong positive correlations, with values ranging from $r = 0.29$ to $r = 0.81$, suggesting sufficient shared variance for factor analysis. No evidence of substantial multicollinearity was observed, as all inter-item correlations remained below the threshold of $r > .85$. Four item pairs exhibited borderline correlations: KR01 and COMM09 ($r = .29$), and EXPE03 with both COMM01 and COMM02 ($r = .30$). All of these were in the moderate range, indicating that all items were reasonably related to at least one other item. (See [Appendix C](#))

Phase II: Exploratory Factor Analysis using Second sample to identify alternative factor structure

The second sample ($n = 1166$) was used to conduct Exploratory Factor Analysis to re-evaluate the factor structure. *Mplus* (Version 8.10; Muthén & Muthén, 1998-2016) statistical software was used for all analyses.

Extraction and Rotation Method:

Maximum likelihood estimation (MLR) with robust standard errors was used as an extraction method in EFA to account for non-normality among variables because this method

is robust to non-normality. An oblique rotation was used considering factors may be interrelated.

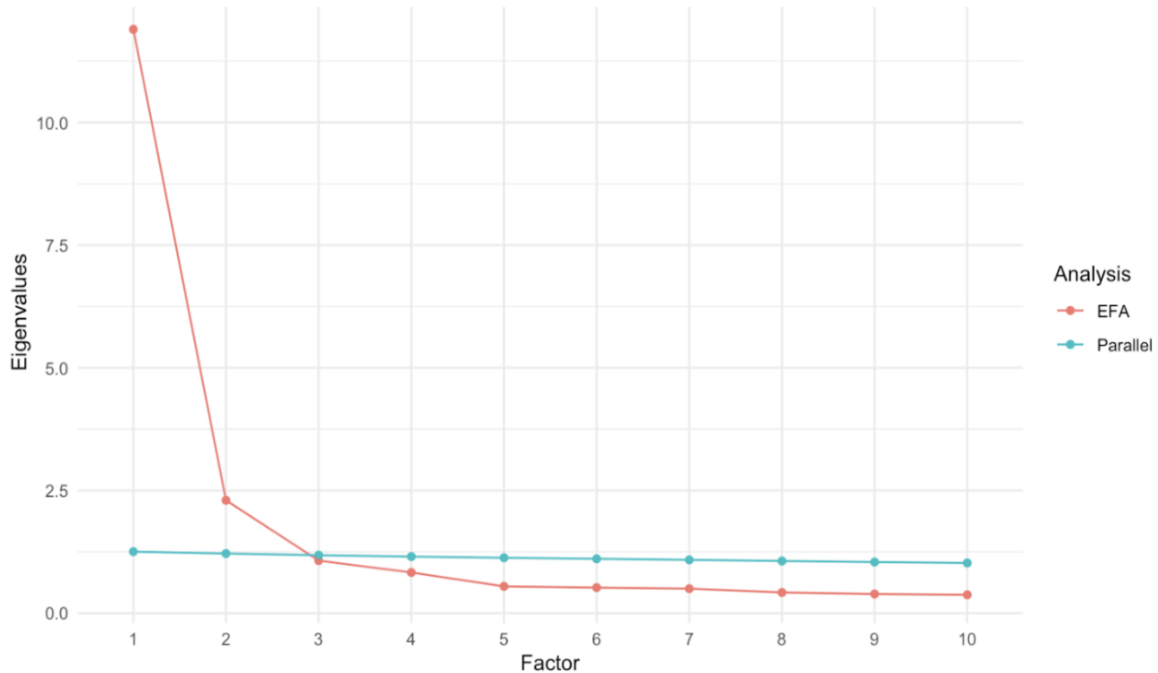
Number of Factors Extracted

Multiple statistical evidence, such as Kaiser's eigenvalues > 1 , parallel analysis, Catell's scree plot, chi square test of model fit, comparative fit index (CFI), Tucker Lewis Index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual fit index (SRMR) were used to determine the number of factors to retain. Based on 1166 random data sets, parallel analysis indicated a 3-factor model, as the eigenvalue for the fourth factor (1.24) was just below the average eigenvalue of 1.26 from the random data sets (see *Figure 1*). Actual eigenvalues from the first three factors (20.32, 2.75, and 1.43) exceeded their corresponding average random eigenvalues (1.36, 1.32, and 1.29), suggesting that only the first three factors should be retained. Though the 4-factor structure is slightly below the average random eigenvalues, 2-, 3-, 4-, and 5-factor solutions were examined more closely in subsequent analyses to determine the most parsimonious structure (see *Figure 1*).

The first four factors have eigenvalues greater than 1, suggesting meaningful and significant for the parsimonious factor structure. The fifth factor has an eigenvalue of less than 1 and contributes to the model's complexity. The fifth factor has an eigenvalue of less than 1 and contributes to the model's complexity. For example, a five-factor only had one or two items. Since a factor with so few items is not considered reliable (Kahn, 2006), models were not kept. Additionally, eigenvalues from the parallel analysis exceed the eigenvalues from our dataset after the fourth factor, supporting the fourth factor solution.

Figure 1

Parallel analysis using eigenvalues from EFA analysis from the research dataset and random data. Arrow indicates that eigenvalues from random data slightly at the eigenvalues from research data at the third factor.



Additionally, the chi square difference test was examined to determine the retaining of the factor solution. While each additional factor resulted in a significant improvement in model fit ($p < .001$), the largest reduction in chi-square occurred between the 2-factor and 3-factor models, with a substantial improvement between 3 and 4 factors. The improvement from 4 to 5 factors was statistically significant; however, it was at adding more complexity in terms of interpretability and conceptual coherence. Additionally, this may cause the issue of overfitting the model with five factors. Based on the chi-square difference tests, interpretability, and parsimony of the factor structure, the four-factor model was deemed the best representation of the underlying structure in the data (see *Table 5*).

Table 5*Model Comparison via Chi-square Difference Test*

	Chi-Square	<i>df</i>	<i>p</i>-value
1-factor vs. 2-factor	518.453	22	<.001
2-factor vs. 3-factor	584.931	21	<.001
3-factor vs. 4-factor	90.159	20	<.001
4-factor vs. 5-factor	672.733	19	<.001

Note. χ^2 = Chi-Square Test of Model Fit; *df* = Degrees of Freedom; $p < .05$

Model fit indices for the 3-, 4-, and 5-factor solutions all fell within acceptable ranges, suggesting each solution is a possible representation of the data. The fifth factor consists of two items, raising possible concerns about factor stability, complexity, and contributes minimally to the variance. Therefore, rather than deleting the factor, the items were merged with the fourth factor keeping the main components of the theory. After comparing models, the 4-factor solution (using geomin rotation) was clear and the model showed acceptable fit. The four-factor solution was selected as the final solution given its parsimonious structure and is both statistically and theoretically sound (Fabrigar et al., 1999; Kahn, 2006). Overall, the fourth factor accounted for 97% of the total variance. Fit indices were analyzed to determine the 4-factor model fit and resulted in the following values: χ^2 (51, $N = 1166$) = 1,941.32, $p < .001$, RMSEA = .04 [.044 .048], CFI = .94, and SRMR = .02 (see Table 6).

Table 6*Model fit Indices for Exploratory Factor Analysis*

Model	Par	LL	Chi ²	df	p-value	RMSEA (90% CI)	CFI	TLI	SRMR
1-Factor	114	-45,832.13	5,862.19	665	<.001	0.082 (0.080, 0.084)	0.784	0.783	0.072
2-Factor	151	-44,157.02	3,747.20	628	<.001	0.065 (0.063, 0.067)	0.871	0.855	0.041
3-Factor	187	-43,482.66	3,090.42	592	<.001	0.060 (0.058, 0.062)	0.896	0.878	0.032
4-Factor	222	-42,754.25	1,941.32	557	<.001	0.046 (0.044, 0.048)	0.943	0.934	0.022
5-Factor	256	-42,489.29	1,610.59	523	<.001	0.042 (0.040, 0.045)	0.955	0.939	0.019

Note. Par = Parameters; χ^2 = Chi-Square Test of Model Fit; *df* = Degrees of Freedom; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation (90% Confidence Interval); SRMR = Standardized Root Mean Square Residual.

Factor Loadings and Item Evaluation

During the exploratory analysis, all items were examined for their factor loadings, inter-item correlations, and theoretical relevance to the VISION model to yield a simpler structure. Factor loadings at .40 or larger were used to indicate that an item loads to a particular factor, with no cross-loadings on other factors above .30 (Brown, 2015; Tabachnick & Fidell, 2007). In addition, the 0.40: 0.30: 0.20 rule were used to examine the strength of factor loading, which indicates that item loading on primary factor must be higher than .40 and consider cross loadings that differ by at least by .20 from the primary loading,

and load on alternative factor below .30 (Brown, 2015, Howard, 2016). In the first round, KR04, KR05, KR06, KR08, COMM03, COMM06, COMM11, TEACH 02, TEACH03, TEACH 05, and TEACH06 were removed due to cross loading violations.

KR04: This school knows how my children's backgrounds and experiences impact them at school (e.g., developmental history, family routines, community stressors, religious practices, etc.).

KR05: This school supports parents to share their family's culture.

KR06: My child has chances to honor their culture at school.

KR08: My family values and this school's values are similar.

KR08: My family values and this school's values are similar.

COMM03: This school reports my child's progress to me in a way that makes sense to me (e.g., Progress updates, test scores, report cards, etc.).

COMM06: I feel like I can talk to school staff about my family values.

TEACH 02: My child's schoolwork is related to their background and experiences.

TEACH03: My child's schoolwork is related to their background and experiences.

TEACH05: My child can access books or materials that represent their background and experiences.

TEACH06: My family's culture is correctly and respectfully included in my child's schoolwork.

Additionally, following items were removed due to redundancy and higher item correlations with other items in the same factor:

KR07: Other students at this school share my child's cultural backgrounds (e.g., race, nationality, religion, etc.).

COMM07: *I feel like I can talk to school staff about family habits related to schoolwork.*

COMM08: *I like the way the school invites discussions with me.*

COMM09: *I like how often I get information about my child.*

COMM10: *I know clearly what the school expected of my child.*

COMM11: *I like the way the school invites discussions with me.*

TEACH05: *My child can access books or materials that represent their background and experiences*

EXPEC02: *The school's and my family's ways of solving problems are alike.*

Seventeen items were removed due to low loadings ($< .40$), high cross-loadings, high inter-item correlations on multiple factors, which affected interpretability and internal consistency. However, the items were kept that contribute conceptually to the model. As previously noted, item EXPEC02 was removed from the analysis because data for this item were not collected in China, and results from the United States indicated that it contributed minimally to the underlying factor.

The final rotated factor solution revealed that three items loaded on Factor 1 ("Values and belief Systems also refer to Representation"), three items loaded on Factor 2 ("Communication"), and five items loaded on Factor 3 ("Structure of Relationships"), and nine items were loaded on Factor 4 (Expectations and Operational Strategies). Items with factor loadings below 0.40 or substantial cross-loadings were removed. In addition, some items that were conceptually different were removed (Preacher & MacCallum, 2003).

Factor loadings of .50 and above represent loads to a specific factor with no cross-loadings on other factors above .30. The four factors consisted of (a) **Values and Beliefs**

System (Factor 1; three items). Items in this factor represents parent's perception of match between their cultural values and beliefs with that of their children's school; (b) **Interactions/Communication** (Factor 2, four items), measures parent's perceptions on methods of language and communication school engage with them; (c) **Structure of Relationships** (Factor 3, five items), items regarding parent's perception of their relationships with the schools; and (d) **Expectations and Operational Strategies** (Factor 4, nine items), items relating parent's perception of alignment of match of school's approach to education and disciplines match. The final factor structure and item loadings are presented in *Table 7*. The factor loadings were all above .49 and all loadings were statistically significant.

Table 7

Factor Loadings for Exploratory Factor Analysis with Geomin Rotation

Item Description	Factor 1	Factor 2	Factor 3	Factor 4	h^2
Factor 1: Values and Beliefs					
KR01: Other people at this school share similar customs as my family (e.g., dietary, traditions, holidays).	.71	-.00	-.03	.05	.50
KR02 The pictures or objects around this school represent my family's culture.	.69	-.02	.03	.06	.48
KR03: The staff at this school share my family's cultural background (e.g., race, nationality, religion, etc.).	.78	.06	-.00	-.02	.61
Factor 2: Interactions/Communication					
COMM01: The school staff speak the language I prefer.	.04	.85	.00	-.00	.73
COMM02: I get information from this school in the language I prefer	-.04	.93	-.01	.02	.87
COMM04: School Documents make sense to me	.09	.49	.24	.05	.31

COMM05: My child can speak the language they prefer with their peers.	.08	.65	.10	-.00	.44
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Factor 3: Structure of Relationships

RELA01: The staff at this school works with my family in the way I like.	.03	.02	.68	.15	.48
RELA02: The amount I like to be a part of my child's education and what the school expects of me is alike.	.01	.00	.71	.12	.52
RELA03: I am comfortable with the ways I can be a part of my child's education.	-.00	.04	.77	.05	.59
RELA04: I like the way the school invites family involvement.	.01	-.02	.86	-.01	.74
RELA05: I am happy with the family-school relationship.	-.01	.02	.80	.09	.65

Factor 4: Expectations and Operational Strategies

TEACH01: My child's classroom is a good place for them to learn.	-.05	.02	.24	.56	.37
TEACH04: I like the way my child is taught, given my values of learning.	.03	.01	.12	.69	.49
TEACH07: I like the school's approach to education	.02	-.01	.26	.61	.45
EXPE01: What I expect for my child's education matches what the school expects.	.02	-.04	.20	.68	.50
EXPE03: The school's and my family's approaches to discipline are alike.	.08	-.12	.09	.71	.53
EXPE04: The behaviors I expect for my child's education matches what the school expects.	-.02	.15	-.08	.82	.70
EXPE05: How I expect my child to build relationships with others matches what the school expects.	.04	.08	-.07	.82	.69

EXPE06: The school teaches my child the skills that are important to me for them to learn.	-.00	.01	.03	.81	.67
EXPE07: What I hope for my child matches what this school hopes for my child.	-.01	.01	.03	.82	.67

Note: Factor loadings $\geq .40$ are shown in bold. ‘Maximum likelihood’ extraction method was used in combination with an ‘oblique’ rotation.

Phase III Part A: Confirmatory Factor Analysis with the third of the sample

The third of the sample ($N = 1,192$; 33%) was used for Confirmatory Factor Analysis (CFA) and to establish Measurement Invariance. Sample 3 represents a similar sample size across five countries: the United States ($n = 201$), Georgia ($n = 234$), Latvia ($n = 257$), Australia ($n = 242$), and China ($n = 263$). A CFA was performed to examine the plausibility of four factor structure as yielded by EFA for the 21 items. The R Studio software (RStudio Team, 2022) and the Mplus8.0 (Muthén & Muthén, 2017) was used. A CFA analysis was estimated using Maximum Likelihood (ML) estimation. Variables specified for each factor were allowed to correlate freely, except for the reference variable for each factor, which was set to 1.0.

Fit indices were assessed for aggregated samples and individual samples from each country to determine the overall model fit of the 4-factor solution as yielded by the EFA. The goodness of fit supported the four- factor model with the set of 21 items for aggregated data were in the acceptable range: $\chi^2 (269, N = 1197) = 1010.29, p < .001$, RMSEA = .048 [90% confidence interval $[CI] = .045, .051$], $CFI = .954$, $TLI = .949$ and $SRMR = .05$. While the chi-square test results were significant, $\chi^2 = 1010.29, df = 269, p < .001$, all other fit indices were within the recommended criteria demonstrating good fit, $SRMR = .057$, $RMSEA = .048$, 90 % $CI [.045, .051]$, $CFI = .954$, and $TLI = .949$. Though significant chi

square is not recommended, it is generally sensitive to sample size and non-normality. Therefore, alternative fit indices were used.

Additionally, item level analysis was conducted to determine item removal. A stepwise process recommended by Gurvendir and Ozkan (2022) was employed, which suggested removing items from the analysis one by one, starting with the item that gives high loading on multiple factors, and has the smallest difference between these loadings. This process is repeated for each item until no cross-loading items remain, thereby ensuring that each item predominantly measures a single domain of the large construct and there is no redundancy. Thus, the CFA was re-estimate after each deletion. In the first phase, COMM04: *“School Documents make sense to me”* was removed due to high cross loading violation. Next, TEACH 07: *“I like the school’s approach to education”* was removed due to poor loadings. Lastly, EXPE04 (*“The behaviors I expect for my child's education matches what the school expects”*) was removed as it shared high residual covariance with EXPE05 (*“How I expect my child to build relationships with others matches what the school expects”*). Lastly, RELA04 (*“I like the way school invites family involvement”*) showed high correlation with RELA05 (*I am happy with the family-school relationship*). Overall, EXPE04 and RELA04 were removed due to item redundancy with other items.

Model comparison (21 items vs. 17 item Models)

After removing the four items, CFA was conducted to examine the factor structure with four factors and 17 items (see *Table 8*). The goodness of fit supported the four- factor model with the set of 17 items for aggregated data: $\chi^2(113, N = 1197) = 286.803, p < .001$, RMSEA = .036 [90% confidence interval [CI] = .031, .041], CFI = .982, TLI = .979 and SRMR = .030.

Table 8*Goodness of fit Statistics of Confirmatory Factor Analysis*

CFA Model	Par	LL	Chi²	df	p-value	RMSEA (90% CI)	CFI	TLI	SRMR
Model 1 21 items	71	-26123.78	1326.992	204	<.001*	0.068 (.064,.071)	0.91	0.90	0.15
Model 2 17 items	57	-20219.891	286.803	113	<.001*	0.036 (.031,.041)	0.98	0.97	0.030

Note. Par = Parameters; χ^2 = Chi-Square Test of Model Fit; *df* = Degrees of Freedom; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation (90% Confidence Interval); SRMR = Standardized Root Mean Square Residual. M1 = 21-Items; M2 = 17 Items.

Three CFAs were conducted separately to validate the identified factor structure in the group of Georgia, Latvia, and Australia with the 17 items which yielded a good model fit. The fit statistic for the Australia group was $\chi^2 = 206.110$, *df* = 113, *p* < .01, *SRMR* = .046, *RMSEA* = .058, 90 % *CI* [.046, .0071], *CFI* = .954, and *TLI* = .945. The fit indices of the CFA model for the Latvia group were in the acceptable range indicating good model fit, $\chi^2 = 4120.87$, *df* = 113, *p* < .01, *SRMR* = .041, *RMSEA* = .057, 90 % *CI* [.045, .069], *CFI* = .970, and *TLI* = .964. The fit indices of the CFA model for the Georgia group were in the acceptable range indicating good model fit, $\chi^2 = 151.595$, *df* = 113, *p* < .01, *SRMR* = .057, *RMSEA* = .038, 90 % *CI* [.020, .054], *CFI* = .981, and *TLI* = .977.

Although the chi-square test was significant for individual countries, this result is expected given the test's sensitivity to sample size. When considering the conceptual model alongside other statistical indicators, the findings support the validity of the proposed four-

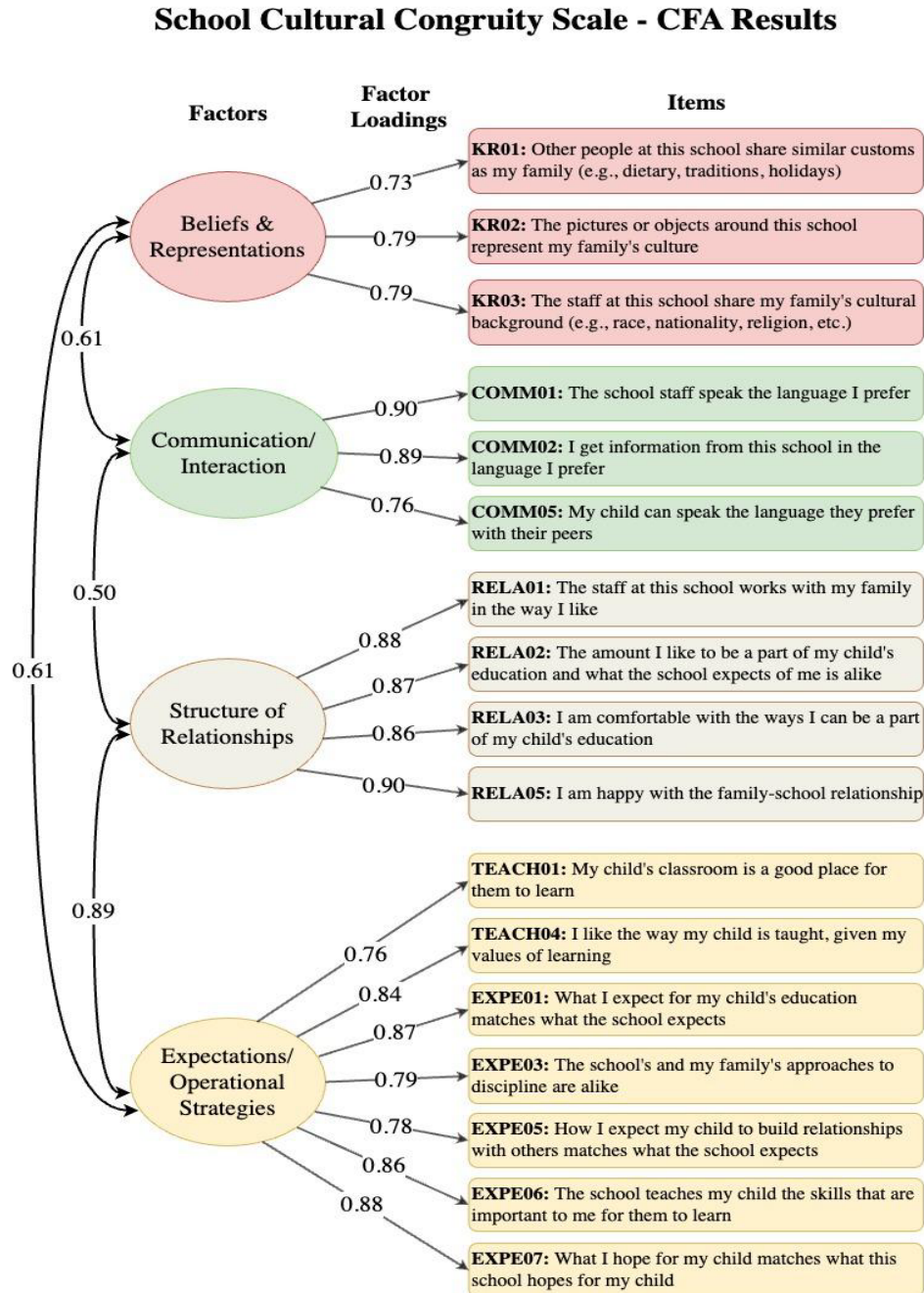
factor structure. It is to be noted that the results are still consistent with the theory as factors are closely related yet distinct.

Factor Loadings and Item-Level Statistics

Factor 1 “*Values and Beliefs*,” comprising three items, explained 59% of the variance, with factor loadings ranging from .73 to .79. The items in this factor focus on parent’s perception of how schools acknowledge and respect the cultural identity of families. Factor 2 “*Interactions*” consists of three items, explaining 73% of the variance, with factor loadings ranging from .76 to .90. This domain measures parent’s perception of language access and communication with schools, specifically, how effectively school integrates and respects the families to communicate in their heritage language. Factor 3 “*Structure of Relationships*” consists of four items, explaining 77% of the variance, with factor loadings ranging from .88 to .90. This domain examines relationship dynamics between home and school and how well school invites family engagement.

In the fourth domain “*Expectations and Operational Strategies*” consist of items from factors 4 (Expectations- items: EXPE01-EXPE07) and factor 5 (Teaching- items: TEACH01 and TEACH04) making it a major factor. Items are loaded well on the combined factor explaining 68% of the variance with standardized loadings ranging from .76 to .88, supporting the decision to merge. No cross-loadings were observed, and all items remained conceptually coherent. This domain focuses on alignment of educational expectations, discipline, and instruction between home and school. All of these domains are core components of a culturally responsive framework to educational practices. Correlations among the four factors ranged from .50 to .89. Factors correlated in expected directions as imagined conceptually indicating factors are closely related yet distinct (see *Figure 2*).

Figure 2: *Standardized Factor Loadings and Latent Variable Correlations of Confirmatory Factor Analysis Model*



Note. CFA conducting using the third sample (N = 1197)

Revised Factor Structure (17 items) in comparison with the Initial Model (38 items)

In summary, comparing revised CFA (17 items) to the initial large CFA model (38 items), revised CFA with four factors yields better model fit statistically and conceptually. Original Factor structure with 38 items with five-factor model demonstrating adequate to poor model fit: $\chi^2 (619, N = 1197) = 4085.37, p < .001$, RMSEA = .068 [90% confidence interval $[CI] = .066, .070]$, $CFI = .864$, $TLI = .854$ and $SRMR = .05$. While the chi-square test results were significant, $\chi^2 = 4085.37, df = 619, p < .001$, all other fit indices were on the borderline of the recommended criteria, $SRMR = .056$, RMSEA = .068, 90 % $CI [.066, .070]$, $CFI = .864$, and $TLI = .854$.

The revised Confirmatory Factor Analysis (Model 2-Four-Factor Model) demonstrated good to excellent overall model fit collectively and individually with each country: $\chi^2 (113, N = 1197) = 286.803, p < .001$, RMSEA = .036 [90% confidence interval $[CI] = .031, .041]$, $CFI = .982$, $TLI = .979$ and $SRMR = .030$. While both models showed adequate fit, revised CFA model demonstrated slightly better global fit based on statistical evidence and conceptual model. With further refinement to the measure following item removal via the Exploratory Factor Analysis process and CFA fit indices, SCCS with 17 items and four factor structure presents one of the validity-evidence.

Omega's Reliability

The results indicated acceptable to excellent reliability across the subscales. Specifically, the *Beliefs and Representations* demonstrated an omega of $\omega = .94$, suggesting excellent internal consistency. *Interaction Style* and *Structure of Relationships* showed $\omega = .89$ and $\omega = .81$, respectively. Lastly, the *Expectations and Operational Strategies* yielded an omega of $\omega = .89$. The total scale yielded an omega of $\omega = .97$, indicating high overall

reliability. Additionally, Omega hierarchy demonstrated an omega of $\omega = .87$ indicating presence of higher order factors. For example, Omega Hierarchical value close to 1.0 means variance in the test is explained by general/higher order factor indicating one-dimensionality of the measure.

Convergent Validity:

As recommended in the literature, factor loadings greater than .49 and Average Variance Extracted (AVE) value greater than .50 were used as a criterion to establish convergent validity (Fornell & Larcker, 1981). As shown in *Figure 3* and *Table 9*, factor loadings of all the indicators were above .49. To gain better clarity of the measurement quality, Fornell and Larcker (1981) convergent validity's criteria of Average Variance Extracted (AVE) has been adopted (Zahoor et al., 2022). Fornell and Larcker (1981) recommends the AVE value of 0.50 or higher for each factor indicates that the construct explains at least 50% of the variance in its observed indicators, thereby supporting convergent validity. Specifically, the AVE of the *Beliefs and Representations* was .59 suggesting good convergent validity. *Interaction Style* and *Structure of Relationships* showed AVE of .73 and .77. Lastly, the *Expectations and Operational Strategies* yielded the AVE of .68. Overall, all the subscale demonstrated good convergent validity.

Table 9: Reliability and Convergent Validity

Reliability and Convergent Validity of School Cultural Congruity Domains

Factor	Average Variance Explained (AVE)	Omega's Reliability
Beliefs and Representation (3 items)	.59	.94
Communication/Interaction (3 items)	.73	.89
Structure of Relationships (4 items)	.77	.81
Expectations/Operational Strategies (7 items)	.68	.93

Note: AVE = Average Variance Extracted. All constructs demonstrate acceptable reliability (Omega's $\omega \geq .70$) and convergent validity ($AVE \geq .50$), supporting the adequacy of the measurement model.

Phase III Part B: Measurement Invariance across countries

Sample three was also used to conduct Multi- group Confirmatory factor analysis (CFA) to determine the fit of the measurement model across five countries (USA, Latvia, China, Georgia, and Australia). Tests of invariance across counties were conducted in three steps: configural, metric, and scalar. Configural invariance models assume the same factor structure across 5 countries. The model fit indices were in the acceptable range, $\chi^2 = 932.987$, $df = 565$, $p < .001$, SRMR = .046, CFI = .968, TLI = .961, RMSEA = .052 (90% CI: .05, .08). This indicates that the factor structure (i.e. the pattern of free and fixed loadings) were statistically equivalent across five countries (M1; *Table 10*).

Next, Model 2 (M2) examining metric invariance was assessed, which constrains factor loadings to be equal across groups. This model also showed an acceptable fit to the

data, $\chi^2 = 1023.887$, $df = 617$, $p < .001$, SRMR = .070, CFI = .964, TLI = .960, RMSEA = .053 (90% CI: .04, .05). A chi-square difference test comparing the configural CFA (M1) and metric models (M2) revealed a significant increase in model misfit ($\Delta\chi^2 (52, N = 1197) = 91.30$, $p < .01$). However, considering that chi square is sensitive to non-normality and larger sample size, other fit indices were taken into consideration (Cheung & Rensvold, 2002). Considering the $\Delta CFI < .01$, $\Delta SRMR \leq 0.03$ for metric, ≤ 0.01 for scalar, and the $\Delta RMSEA < .01$, results suggests that there is not much change in model fit when constraining the factor loadings (*Table 10*) (Cheung & Rensvold, 2002). Therefore, there was evidence that metric invariance held.

Lastly, Model 3 (M3) examining scalar invariance was assessed, which tests whether item intercepts are equivalent across groups, showed a fit of $\chi^2 = 1209.059$, $df = 669$, $p < .001$, SRMR = .074, CFI = .952, TLI = .952, RMSEA = .058 (90% CI: .05, .06). The chi-square difference test between the metric and scalar models indicated a statistically significant increase in model misfit when the intercepts were constrained to be equal across groups. ($\Delta\chi^2 (52, N = 1197) = 223.225$, $p < .01$). However, the change in comparative fit index ($\Delta CFI = .004$) and root mean square error of approximation ($\Delta RMSEA = .002$) was below the commonly accepted thresholds (i.e., $\Delta CFI < .01$, $\Delta RMSEA < .015$; Chen, 2007). Therefore, we retained the scalar invariance model and concluded that scalar invariance was supported. In summary, the results showed that the four-factor model of SCCS demonstrated validity evidence of measurement invariance across the five countries collectively. Based on the findings above, the SCCS could be used to measure parent perceptions of school cultural congruity in the context of the five countries.

Table 10*Goodness of Fit Statistics of Multiple Group CFA Models Evaluated*

	χ^2	df	CFI	TLI	<i>Models compared</i>	$\Delta\chi^2$	Δdf	RMSEA (90% CI)	SRMR	ΔCFI	$\Delta RMSEA$
Single Group Solution											
Overall Sample (N = 1192)	286.809 ($p < .01$)	57	.94	.979	-	-	-	.036 (.031, .041)	.03	-	-
U.S. (N = 205)	164.196 ($p < .01$)	57	.926	.959	-	-	-	.045 (.030, .062)	.052	-	-
China (N = 258)	199.404 ($p < .01$)	57	.934	.955	-	-	-	.054 (.045, .069)	.034	-	-
Australia (N = 242)	206.110 ($p < .01$)	57	.954	.945	-	-	-	0.058 (.046, .071)	.046	-	-
Georgia (N = 231)	151.595 ($p < .01$)	57	.981	.977	-	-	-	0.057 (.045, .069)	.057	-	-
Latvia (N = 256)	207.917 ($p < .01$)	57	.970	.964	-	-	-	0.057 (.045, .069)	.041	-	-
Measurement Invariance											
M1 Configural	932.987 ($p < .01$)	565	.968	.961	-	-	-	.050 (.048, .053)	.046	-	-
M2 Metric	1023.877 ($p < .01$)	617	.964	.960	2 v 1	296.87	104	.050 (.048, .053)	.070	.004	.001
M3 Scalar	1209.059 ($p < .01$)	669	.952	.952	3 v 2	223.22	52	.051 (.049, .053)	.074	.012	.005

Note. χ^2 = Chi-Square Test of Model Fit; df = Degrees of Freedom; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation (90% Confidence Interval); SRMR = Standardized Root Mean Square Residual; ΔCFI = change in comparative fit index; $\Delta RMSEA$ = change in root mean square error of approximation. M1 = Configural; M2 = Metric; M3 = Scalar.

Discussion

A plethora of research has indicated the positive relationship between parental engagement and student outcome, which has led to reform policies and programs to engage families (Boberiene, 2013; Ferguson & Rodriguez, 2005; Kelty & Wakabayashi, 2020). However, the efforts of school-based professionals to engage families, particularly those from culturally diverse backgrounds are often ineffective due to a lack of exploration into cultural factors. One underexplored factor is cultural congruity — the alignment between a family's cultural values and those reflected in the school environment. Emphasizing cultural fit is crucial for fostering family engagement and enhancing the school environment. Rather than placing blame on parents for their level of involvement, educators and researchers will benefit from understanding families' experiences and engage them in meaningful ways (Epstein, 2011). Therefore, the VISION model of cultural responsiveness framework is used to construct the school cultural congruity scale (SCCS) to provides educators and researchers with a tool to measure and implement family engagement strategies to enhance parental involvement. The SCCS is the first measure guided by the VISION-Cultural Responsiveness model (Baber et al., 1997) to help inform home and school partnerships and support school-based professionals in evaluating the degree to which their approach to educating children is congruent with the needs and backgrounds of the families they serve (Weber, 2022).

Thus, the primary objective of this study is cross-national validation of the School Cultural Congruity Scale (SCCS). The aim is to better understand the utility of the scale and advance cross-national research by examining the importance of cultural factors in promoting parent engagement in diverse context. The current study uses the VISION model of cultural responsiveness framework, which recognizes cultural congruity as a vital element in

fostering family engagement, thereby positioning parents as essential partners in students' success. The VISION model consists of six components: (1) *Values and beliefs* of the family, (2) *Interpretation* and understanding of experiences, (3) *Structure of Relationships*, (4) *Interaction style*, (5) *Operational strategies*, and (6) *Needs* (Baber et al., 1997). The present study uses a series of factor analyses to examine the (a) dimensionality, (b) validity, (c) reliability, and (d) measurement invariance of the scale in an international context, providing more evidence to examine cultural factors in family engagement.

The Exploratory Factor Analysis (EFA) revealed a four-factor structure (i.e., *Values and Beliefs*, *Interactions*, *Structure of Relationships*, and *Expectations and Operational Strategies*) which reflects all the elements of the VISION model of cultural responsiveness. The key finding in the exploratory factor analysis (EFA) was the merging of two factors: Expectations and Operational Strategies. The inclusion of a fifth factor with only two items did not meaningfully contribute to the overall factor structure. Interestingly, two items (TEACH01 and TEACH04) that had originally correlated with Operational Strategies in the pre-CFA model, crossed-loaded onto the Expectation or fourth factor.

This overlap reflects the fact that items from VISION model are better represented as part of a larger single factor. Rather than consolidating into separate dimensions, these items merge into the dominant factor, reinforcing its centrality and theoretical coherence. With the close inspections of statistical evidence (scree plot, parallel analysis, inter-item correlations, cross-loadings) and theoretical framework, 17 items were removed to generate a parsimonious factor structure and to optimize a refined measure. Subsequent CFA supported this structure with an additional removal of four items (COMM04, RELA04, TEACH07, EXPE04) with fit indices (e.g., $CFI = .98$, $RMSEA = .03$) indicating an excellent model fit.

Figure 4 illustrates the final 17 items and their alignment with the intended factor structure.

School Cultural Congruity Scale -Factor Structure

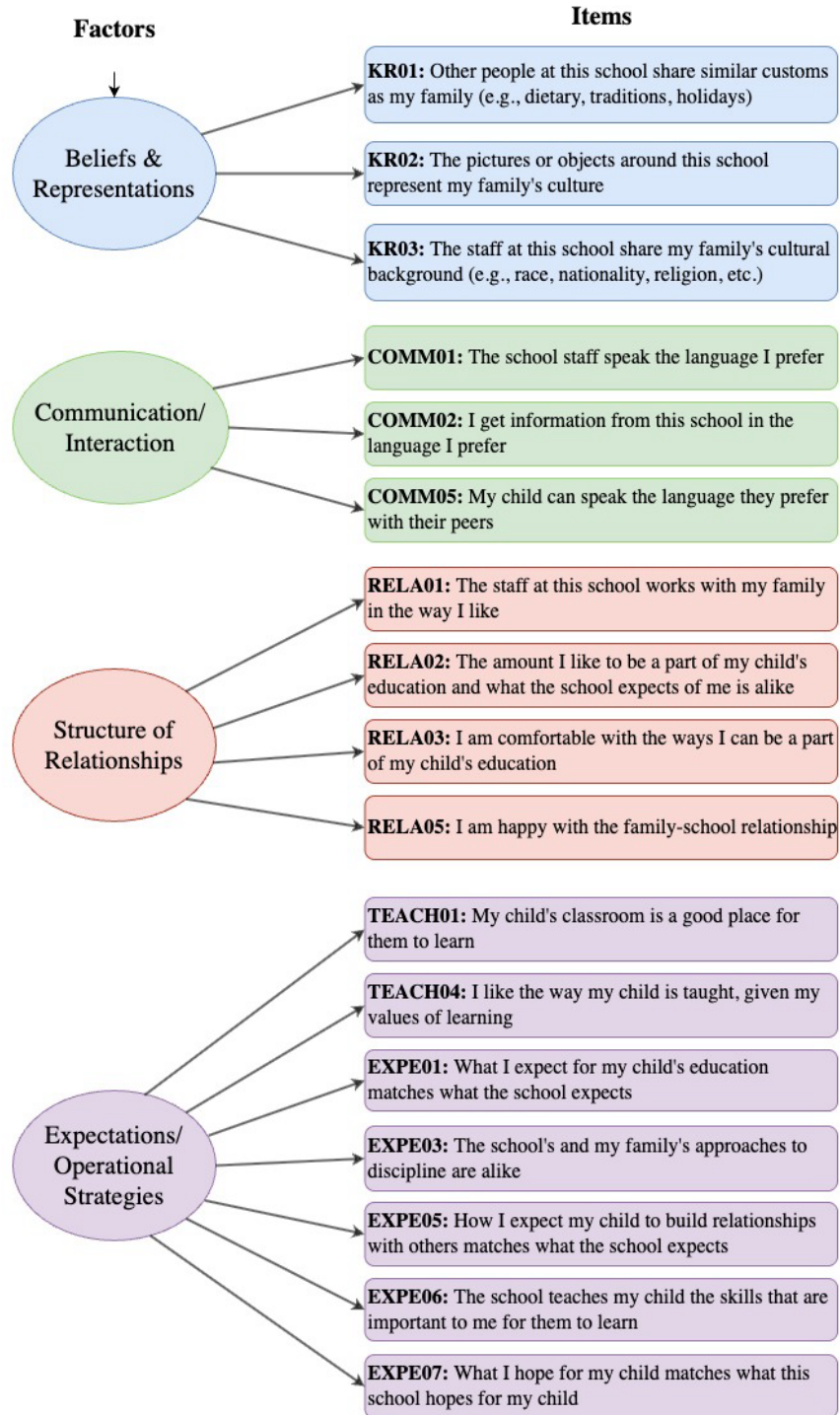


Figure 4: Path diagram of the final confirmatory factor analysis model.

Two items, TEACH01 (“my child’s classroom is a good place for them to learn”) and TEACH04 (“I like the way my child is taught, given my values of learning”) were expected to load on a separate factor measuring culturally responsive teaching strategies; however, these were converged to operational strategies suggesting a more unified underlying dimension than previously assumed. Despite the convergence of TEACH items into the Expectations factor, the revised scale is theoretically and statistically grounded. Future research should assess the stability of this factor structure across cultural contexts and explore higher-order factor models. The four-factor model is a simpler and theoretically sound model represented by four first-order factors (values and belief systems, interactional style, structuring of relationship, operational strategies / expectations).

Additionally, the present study conducted measurement invariance testing of a four-factor model representing the construct of school cultural congruity. The measurement invariance was conducted in three steps: configural invariance, metric invariance, and scalar invariance. Measurement invariance was established at the configural, metric, and scalar level. Establishing scalar invariance is desirable when doing cross cultural validation as it suggests that individuals’ scores equivalently on the latent construct and observed variable regardless of their group membership. These findings suggest that the SCCS across the five countries (a) has the similar factor structure and (b) demonstrates equivalent strength in correlations between the factors and specific scale items. The results reveal strong evidence of cross-national validity for the five countries, indicating that the SCCS yields information regarding parents' perceptions of cultural fit that is comparable in these contexts.

Limitations and Future Research

An important limitation of the present study is that measurement invariance across countries has only been examined in five countries. Future research should examine whether these results generalize to other cultural contexts. The second limitation of this study is that the sample was split to optimize scale validation, thus, further research using other independent samples is important to further investigate measurement invariance.

To summarize, the current study supports the measurement invariance of the family-school cultural congruity, as measured by the SCCS, across five countries allowing for meaningful comparisons. It is to be noted that this study was not the first to conduct measurement invariance of SCCS measure across different populations using multi-group CFA models. Previously, Zhang (2022) conducted measurement invariance establishing five factor structure across U.S. and China samples. This study extends the past research by examining the factor structure across additional countries. Notably, though the factor structure has been streamlined from five to four, it continues to represent all the elements as conceptualized. The results reported in this study provided new insights in further refining the school cultural congruity scale to be used across various contexts. These results provide more robust statistical evidence regarding the utility of the SCCS across countries and cultures. Given the evidence of measurement invariance, future research is recommended to test structural invariance to further examine variances and covariances invariance to explore whether the latent variables have the same relationship in other groups.

When students and families feel their culture is respected and reflected in the school, they are more likely to see the school climate as welcoming, inclusive, and supportive. This framework puts cultural congruity at the center of school climate studies rather

than on the periphery. Culturally congruent environments can be contingent upon the general school climate. Further research should explore the role of family-school cultural congruity, focusing on its impact on students and families' sense of belonging, academic outcomes, family engagement, and overall school climate.

Chapter VI: Implications for Science and Practice

Implications for Science

School climate research has traditionally focused on students' in-school experiences, particularly emphasizing school connectedness, safety, teaching and learning, and interpersonal relationships (Cohen et al., 2009). Though these domains are central to students' experiences, there is growing recognition that school climate is not culturally neutral — rather, it is shaped and experienced through the lens of students' cultural backgrounds and ecological contexts (La Salle et al., 2015). When families report higher cultural congruity, they are more likely to engage with the schools (Weber, 2022; Zhang, 2022) — thus, leading to better student outcomes. The present study aims to advance school climate science by moving toward a culturally responsive school climate model. This study expands the focus beyond the individual student's experience to explore the family's experience of cultural congruity — the alignment (or misalignment) between students' home cultures and the cultural norms present within the school.

There is a lack of tools to measure cultural factors to better understand diverse families and children's perspectives in schools (Franco et al., 2004). Initiatives towards enhancing cultural congruence between home and school have a significant impact in transforming schools, practices, and research agendas to promote family engagement and student outcomes (Weber et al., 2020). First, there is presently no existing measure of school cultural congruity that is available for use in research or practice. Moreover, by validating the SCCS cross-nationally using multiple quantitative methods across multiple countries, provides an opportunity to explore cultural alignment between homes and schools around the world. Thus, this study contributes in advancing the science of school climate — especially

literature centered on family-school engagement — by providing a reliable and culturally responsive parent-focused tool to measure the extent to which educational environments align with diverse families' values, beliefs, and expectations. This ensures that cultural congruity can be assessed in ways that reflect families' lived experiences. Families from culturally and linguistically diverse backgrounds often experience disconnects between home and school values (Lewis, 1997; Hindman et al., 2012). Family's experiences with school directly shape children's experiences with the schools. Rather than imagining children as individuals in school climate literature, it is essential to understand the family's points of view. This study conducted in an international context extends the findings to more than one demographic, allowing for a better understanding of cultural congruity across diverse populations.

By positioning family engagement in the broader school climate literature, the SCCS can directly support educators' efforts in creating environments that reflect and affirm diverse family identities central to high-quality, culturally responsive, family engagement practices. Also, it is essential to acknowledge that though SCCS draws from a cultural responsiveness framework by emphasizing the fit between individuals and institutional settings (Baber, 1997), cultural congruity is not a static or one-size-fits-all construct — it is dynamic, reciprocal, and changes over time. It must be examined within specific local cultural contexts to integrate better interventions and strategies that enhance family engagement in local contexts.

Further research using the SCCS will advance our understanding of cultural congruity construct within the education context to foster more inclusive and equitable education system (Weber, 2022; Zhang, 2022). Thus, the SCCS may afford both scholars and

professionals a measurement tool to examine this important dimension of school climate, and the associations with parent engagement, student engagement, and other outcomes.

Implication for Practice

Family engagement is associated with better student academic outcomes, strong school-family partnership, and better student engagement (Ates, 2021). Taking a culturally responsive framework to family engagement is a precursor to ensuring equity especially in under-resourced communities. Educators are encouraged to take appropriate measures to investigate whether school climate fosters belonging for *all* families — not just the most active or visible ones. Family engagement is at the core of school success. Often, educators assume that their understanding of family involvement aligns with that of family ignoring cultural factors contributing to family engagement. However, it is important that educators recognize that some students and families must self-navigate complex school systems (e.g., immigrant families, students with disabilities). Thus, school personnel or stakeholders should take the initiative to identify and reduce navigation burdens through personalized outreach and advocacy. The SCCS is a useful tool to identify who is disengaged and for what reasons and tailor interventions accordingly.

The importance of the development of the SCCS lies in further fostering connections between families and schools and advancing schools' mission of promoting an equitable, inclusive, and positive school climate by actively involving families in the pursuit of a shared agenda — positive student outcomes. Therefore, cultural congruity offers educators valuable tools to use to evaluate their current education infrastructure and make improvements in areas of concern, such as building intercultural competence to engage with families. The results from the SCCS are pivotal in informing the school climate literature and educators to

prioritize integrating culturally congruent values to establish a supportive and inclusive learning atmosphere where all students can thrive academically and socially (Weber et al., 2020).

Additionally, the SCCS may further inform family-school partnerships, eventually fostering better parent engagement and student outcomes. Efforts to engage families often fall short given that schools are less prepared to support or meet the needs of socioeconomically, linguistically, and culturally diverse populations (Evans, 2011). This lack of preparation exacerbates the disconnect between families and schools. Many families, especially from minority backgrounds, experiencing poverty, and families with children with disabilities report feeling marginalized by schools. These negative experiences hinder their engagement unless the schools take proactive steps to engage them (Hindman et al., 2012). Educators may use the SCCS to gain further understanding of family engagement in the context of school climate literature. At a broader level, understanding of the school cultural congruity construct will contribute significantly in informing policymakers, practitioners, and educators to design culturally responsive and inclusive programs and interventions to engage or policies that engage families into their child's education (Howard, 2001). Therefore, using the SCCS may provide valuable information to bridge the gap by fostering meaningful connection with families.

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70

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APPENDICES

Appendix A: Dissertation Matrix

Questions	Hypotheses	IV and DV	Analyses and Sample	Evidence	Results
RQ1: Is there evidence of adequate construct validity for a five-factor solution of SCCS in five countries collectively and/or independently?	The School Cultural Congruity Scale (CCS) demonstrates construct validity for five factors solutions in five countries indicating that the scale accurately measures cultural congruity in schools.	IV: Observable Continuous Latent Variables (Beliefs/Representation, Communication, Relationships, Expectations, Teaching) DV: SCCS items	CFA with The first sample	Model Fit Indices (RMSEA, CFI, TLI, SRMR), Factor correlations	Model did not fit with all 38 items and 5 factor structure. The analysis moved to exploratory phases.
RQ2: What underlying factors characterize the dimensions of cultural congruity within schools across five countries, and how do these factors manifest themselves across international educational settings?	The School Cultural Congruity Scale (SCCS) will identify underlying factors that capture various dimensions of the VISION model within international educational settings?	Observable Continuous Latent Variables (Beliefs/Representation, Communication, Relationships, Expectations, Teaching) DV: SCCS items	EFA with the second sample	Parallel Analysis, Kaiser Guttman rule, Scree Test, inter-item correlations, 4:3:2 rule inter-factor correlations, scree test	Four factor structure supported (Beliefs/Representation, Communication, Relationships, Expectations and Teaching)- 21 items.
RQ3: Does the school cultural congruity scale (SCCS) demonstrate adequate internal consistency reliability?	The SCC will demonstrate adequate internal consistency reliability.	Observable Continuous Latent Variables (Beliefs/Representation, Communication, Relationships, Expectations, Teaching)	Omega's reliability analysis		Strong Internal Consistency
RQ4: Is the SCCS measurement invariant across multiple cultural groups, indicating consistent interpretation and response patterns across cultures?	H0: The SCCS measurement is invariant across multiple cultural groups, suggesting consistent interpretation and response patterns across cultures.		CFA and Invariance testing with the third sample	Configural, Metric, Scalar	Following EFA, 4 additional items removed. CFA supported 4 Factor structure with 17 items. Metric and Scalar invariance supported the model.

Appendix B: Measure

Domains	Variables	Item Descriptions
Values and Belief Systems (Representation)	KR01	Other people at this school share similar customs as my family (e.g., dietary, traditions, holidays).
	KR02	The pictures or objects around this school represent my family's culture.
	KR03	The staff at this school share my family's cultural background (e.g., race, nationality, religion, etc.).
	KR04	This school knows how my children's backgrounds and experiences impact them at school (e.g., developmental history, family routines, community stressors, religious practices, etc.).
	KR05	This school supports parents to share their family's culture.
	KR06	My child has chances to honor their culture at school.
	KR07	Other students at this school share my child's cultural backgrounds (e.g., race, nationality, religion, etc.).
	KR08	My family values and this school's values are similar.
Interaction style (Communication)	COMM01	The school staff speak the language I prefer.
	COMM02	I get information from this school in the language I prefer
	COMM03	This school reports my child's progress to me in a way that makes sense to me (e.g., Progress updates, test scores, report cards, etc.).
	COMM04	School documents make sense to me.
	COMM05	My child can speak the language they prefer with their peers.
	COMM06	I feel like I can talk to school staff about my family values.
	COMM07	I feel like I can talk to school staff about family habits related to schoolwork.
	COMM08	I like the way the school invites discussions with me.
	COMM09	I like how often I get information about my child.
	COMM10	I know clearly what the school expects of my child.
	COMM11	This school communicates well with me.
Structuring Style (Relation)	RELA01	The staff at this school works with my family in the way I like.
	RELA02	The amount I like to be a part of my child's education and what the school expects of me is alike.
	RELA03	I am comfortable with the ways I can be a part of my child's education.
	RELA04	I like the way the school invites family involvement.
	RELA05	I am happy with the family-school relationship.
Operational Strategies (Teaching)	TEACH01	My child's classroom is a good place for them to learn.
	TEACH02	I like the way the school staff works with my child.
	TEACH03	My child's schoolwork is related to their background and experiences.
	TEACH04	I like the way my child is taught, given my values of learning.
	TEACH05	My child can access books or materials that represent their background and experiences.
	TEACH06	My family's culture is correctly and respectfully included in my child's schoolwork.
	TEACH07	I like this school's approach to education.
Needs (Expectations)	EXPEC01	What I expect for my child's education matches what the school expects.
	EXPEC02	<i>The school's and my family's ways of solving problems are alike. (34)]</i>
	EXPEC03	The school's and my family's approaches to discipline are alike.
	EXPEC04	The behavior I expect of my child matches what the school expects.
	EXPEC05	How I expect my child to build relationships with others matches what the school expects.
	EXPEC06	The school teaches my child the skills that are important to me for them to learn.
	EXPEC07	What I hope for my child matches what this school hopes for my child.

Note. EXPEC02 was not included in this analysis as no data were collected on this item in China.

Appendix C: Correlation Matrix - 38 items

Table 8: Means, standard deviations, and correlations with confidence intervals

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. KR01	-																				
2. KR02	.57** [.53, .60]	-																			
3. KR03	.56** [.52, .60]	.59** [.55, .63]	-																		
4. COMM01	.41** [.37, .46]	.64** [.59, .48]	.51** [.47, .55]	-																	
5. COMM02	.40** [.35, .45]	.42** [.38, .47]	.49** [.45, .53]	.81** [.79, .83]	-																
6. COMM04	.44** [.39, .48]	.41** [.37, .46]	.48** [.44, .52]	.59** [.56, .63]	.62** [.58, .66]	-															
7. COMM05	.43** [.38, .47]	.37** [.32, .42]	.45** [.41, .50]	.66** [.63, .69]	.67** [.64, .70]	.63** [.59, .66]	-														
8. RELA01	.39** [.34, .44]	.41** [.36, .45]	.41** [.36, .45]	.40** [.35, .44]	.39** [.34, .44]	.50** [.46, .54]	.41** [.36, .45]	-													
9. RELA02	.35** [.30, .40]	.40** [.35, .45]	.38** [.33, .43]	.37** [.32, .41]	.36** [.31, .41]	.49** [.44, .53]	.38** [.33, .42]	.72** [.69, .74]	-												
10. RELA03	.35** [.30, .40]	.41** [.36, .45]	.38** [.33, .43]	.38** [.33, .43]	.38** [.33, .43]	.48** [.44, .52]	.41** [.36, .45]	.69** [.66, .72]	.78** [.76, .80]	-											
11. RELA04	.32** [.27, .37]	.38** [.33, .43]	.36** [.31, .41]	.33** [.28, .38]	.34** [.29, .39]	.46** [.42, .51]	.35** [.30, .40]	.68** [.65, .71]	.68** [.64, .71]	.73** [.70, .75]	-										
12. RELA05	.38** [.33, .43]	.41** [.36, .46]	.40** [.35, .45]	.40** [.35, .44]	.40** [.35, .45]	.50** [.46, .54]	.41** [.36, .46]	.76** [.74, .78]	.73** [.70, .75]	.74** [.71, .77]	.79** [.77, .81]	-									
13. TEACH01	.31** [.26, .36]	.34** [.29, .39]	.31** [.25, .36]	.34** [.29, .39]	.33** [.28, .38]	.44** [.39, .48]	.37** [.32, .42]	.62** [.58, .66]	.58** [.54, .62]	.58** [.54, .61]	.55** [.51, .59]	.64** [.61, .68]	-								
14. TEACH04	.37** [.32, .42]	.42** [.37, .47]	.40** [.35, .44]	.40** [.35, .44]	.39** [.34, .44]	.48** [.44, .53]	.40** [.35, .45]	.67** [.64, .70]	.64** [.60, .67]	.62** [.58, .65]	.61** [.58, .65]	.65** [.62, .68]	.65** [.61, .68]	-							
15. TEACH07	.37** [.32, .42]	.43** [.39, .48]	.40** [.35, .45]	.38** [.33, .43]	.40** [.35, .44]	.51** [.47, .55]	.40** [.35, .44]	.70** [.67, .73]	.67** [.64, .70]	.64** [.61, .68]	.65** [.62, .68]	.73** [.70, .76]	.66** [.63, .70]	.75** [.73, .78]	-						
16. EXPE01	.34** [.29, .39]	.41** [.36, .45]	.40** [.35, .45]	.38** [.33, .43]	.36** [.31, .41]	.47** [.43, .52]	.37** [.32, .42]	.67** [.64, .70]	.67** [.63, .70]	.64** [.61, .68]	.63** [.59, .66]	.70** [.67, .73]	.63** [.59, .66]	.73** [.70, .75]	.79** [.77, .81]	-					
17. EXPE03	.34** [.29, .39]	.38** [.33, .43]	.37** [.32, .42]	.30** [.25, .35]	.30** [.24, .35]	.39** [.34, .43]	.31** [.26, .36]	.59** [.56, .63]	.57** [.53, .60]	.58** [.54, .62]	.63** [.60, .67]	.56** [.52, .60]	.61** [.57, .65]	.65** [.62, .68]	.68** [.64, .71]	.68** [.63, .70]	-				
18. EXPE04	.39** [.34, .44]	.41** [.36, .45]	.37** [.32, .42]	.43** [.38, .48]	.47** [.42, .51]	.50** [.46, .54]	.44** [.40, .49]	.59** [.56, .63]	.59** [.55, .62]	.57** [.53, .61]	.60** [.57, .64]	.57** [.53, .61]	.63** [.61, .68]	.65** [.61, .68]	.67** [.63, .70]	.68** [.65, .71]	.68** [.63, .70]	-			
19. EXPE05	.40** [.35, .44]	.41** [.36, .46]	.41** [.36, .45]	.43** [.38, .47]	.43** [.38, .48]	.49** [.44, .53]	.42** [.37, .47]	.59** [.56, .63]	.59** [.55, .63]	.56** [.52, .60]	.63** [.59, .66]	.59** [.55, .63]	.66** [.63, .69]	.66** [.63, .69]	.67** [.63, .70]	.65** [.61, .68]	.75** [.73, .78]	.67** [.63, .70]	.68** [.65, .71]	-	
20. EXPE06	.33** [.30, .40]	.40** [.35, .45]	.39** [.34, .43]	.38** [.33, .43]	.40** [.35, .44]	.47** [.43, .52]	.39** [.34, .44]	.64** [.61, .67]	.62** [.58, .65]	.60** [.57, .64]	.61** [.57, .64]	.67** [.64, .70]	.64** [.60, .67]	.73** [.70, .75]	.73** [.70, .75]	.70** [.66, .72]	.66** [.62, .69]	.67** [.63, .70]	.68** [.65, .71]	.68** [.65, .71]	-
21. EXPE07	.35** [.30, .40]	.38** [.33, .43]	.38** [.33, .43]	.40** [.35, .44]	.39** [.34, .44]	.47** [.42, .51]	.38** [.33, .42]	.65** [.62, .68]	.64** [.60, .67]	.62** [.58, .65]	.60** [.56, .64]	.67** [.64, .70]	.64** [.61, .67]	.69** [.66, .72]	.70** [.67, .73]	.72** [.69, .74]	.66** [.63, .70]	.68** [.65, .71]	.71** [.68, .73]	.76** [.74, .79]	.76** [.74, .79]
M	3.93	3.75	3.94	4.36	4.41	4.29	4.44	3.88	3.88	3.99	3.86	3.97	3.99	3.94	3.99	3.95	3.79	4.05	4.04	4.00	3.95
SD	0.93	0.97	0.99	0.91	0.89	0.87	0.84	0.98	0.99	0.97	1.04	0.97	0.98	0.96	0.97	1.00	1.02	0.93	0.88	0.94	0.95
Kurtosis	0.96	0.34	0.94	2.78	2.83	2.27	3.88	0.12	0.24	0.57	0.11	0.63	0.77	0.41	0.55	0.46	0.14	1.04	0.84	0.76	0.32
Skewness	-0.99	-0.69	-1.03	-1.68	-1.71	-1.43	-1.84	-0.73	-0.81	-0.97	-0.79	-0.95	-1.01	-0.88	-0.94	-0.94	-0.78	-1.06	-0.91	-0.96	-0.84

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$.

Appendix D: Standardized Factor Loadings

Standardized Factor Loadings for the School Cultural Congruity Scale (SCCS) using the third of the sample ($N = 1197$)

Factors	Item	Item Description	CFA Loadings
Beliefs and Representations	KR01	Other people at this school share similar customs as my family (e.g., dietary, traditions, holidays).	.73
	KR02	The pictures or objects around this school represent my family's culture.	.79
	KR03	The staff at this school share my family's cultural background (e.g., race, nationality, religion, etc.).	.79
Communication/ Interaction	COMM01	The school staff speak the language I prefer.	.90
	COMM02	I get information from this school in the language I prefer	.89
	COMM05	My child can speak the language they prefer with their peers.	.76
Structuring Style (Relation)	RELA01	The staff at this school works with my family in the way I like.	.88
	RELA02	The amount I like to be a part of my child's education and what the school expects of me is alike.	.87
	RELA03	I am comfortable with the ways I can be a part of my child's education.	.86
	RELA04	I like the way the school invites family involvement.	
	RELA05	I am happy with the family-school relationship.	.90
Expectations/ Operational Strategies	TEACH01	My child's classroom is a good place for them to learn.	.76
	TEACH04	I like the way my child is taught, given my values of learning.	.84
	EXPE01	What I expect for my child's education matches what the school expects.	.87
	EXPE03	The school's and my family's approaches to discipline are alike.	.79
	EXPE05	How I expect my child to build relationships with others matches what the school expects.	.78
	EXPE06	The school teaches my child the skills that are important to me for them to learn.	.86
	EXPE07	What I hope for my child matches what this school hopes for my child.	.88

Note. All loadings were statistically significant at $p < .05$