UNIVERSITY OF CALIFORNIA

Santa Barbara

Culturally-Responsive Practices to Support Latinx Preschool Children

A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Philosophy

in Counseling, Clinical, and School Psychology

By

Agustina Bertone

Committee in Charge:

Professor Erin Dowdy, Chair

Professor Chunyan Yang

Professor Miya Barnett

September 2020

The dissertation of Agustina Bertone is approved.

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Chunyan Yang

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Miya Barnett

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Erin Dowdy, Committee Chair

June 2019

Culturally-Responsive Practices to Support Latinx Preschool Children

ACKNOWLEDGMENTS

Mucha gente pequeña,
en lugares pequeños,
haciendo cosas pequeñas,
puede cambiar el mundo.
Eduardo Galeano

—

Thank you to all who accompanied me on and supported me through this journey. Mami y papi, gracias por su amor incondicional, por todos sus sacrificios, por creer en mis sueños, por alentarme en cada paso del camino, y por enseñarme el valor de hacer mi parte para mejorar nuestra sociedad. To my husband, Simon, thank you for your unrelenting support, your love, and your encouraging words – I can't imagine these years without you by my side and I am eternally grateful that this educational opportunity led me to you. Mati y Tommy, gracias por ser los mejores hermanxs que esta vida me podría haber dado, por las visitas a California, por comer pizza on the sidewalk when we went to see the Painted Ladies, y por always keeping it real. Thank you to Haley Meskunas for being my confidant in this graduate school journey from quite literally the first day, for the many workouts on top of the parking garage to Justin Bieber on repeat, for trips to the ocean, and for teaching me about moderation (the life skill, not the type of statistical analysis). Thank you to Kelly Edyburn for being my WWF, for your friendship, for continuously inspiring me, and for the many long, meaningful Daily Grind chats. Thank you to Stephanie Moore for being my grad school role model, for your PowerPoint teachings, and for your wisdom. Thank you to Amir Tahmasebi pour for the many errands ran together, showing me the TJ coffee stand, and the companionship during long work days spent at Starbucks, French Press, and Pete's.

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AGUSTINA BERTONE

CURRICULUM VITAE

EDUCATION

2015 - 2020	**University of California, Santa Barbara** **Santa Barbara, CA** **Doctoral Program in Clinical, Counseling, and School Psychology** APA Accredited Program/NASP Accredited Program Emphasis in School Psychology Expected Graduation: 2020 **Dissertation:** Culturally-Responsive Practices to Support Latinx Preschool Children **Advisor:** Erin Dowdy, Ph.D.
2017	**University of California, Santa Barbara** **Santa Barbara, CA** **Master of Education in School Psychology**
2011 - 2014	**University of Florida** **Gainesville, FL** **Bachelor of Science in Psychology, Summa Cum Laude** Educational Studies Minor, Communication Studies Minor **Senior Thesis:** The Effects of Familial Factors on Pediatric Obsessive-Compulsive Disorder Severity and Treatment Outcome **Committee Chair:** Joseph McNamara, Ph.D.

HONORS AND AWARDS

April 2019	Society for the Study of School Psychology Dissertation Grant
May 2018	Chicano Studies Institute Dissertation Grant
February 2017, 2018	CCSP Doctoral Student Travel Grant
February 2017	Graduate Student Association Travel Grant
2015 - 2019	University of California Regents Four-Year Fellowship
May 2014	Outstanding Scholar of the University of Florida, Class of 2014 *Selected as one of five students in the 2014 graduating class of over 5,000 students*
Spring 2014	University of Florida Honors Program Graduate
Spring 2014	University of Florida Presidential Service Award
Spring 2013	Phi Beta Kappa Academic Honor Society
2013 - 2014	Ronald E. McNair Scholar
Fall 2013	UF Division of Medical Psychology Student Researcher Award
Fall 2013	University of Florida Anderson Scholar of Highest Distinction
2012, 2014	University of Florida President's Honor Roll
2011-2014	University of Florida Dean's List

PUBLICATIONS

Bertone, A., Moffa, K., Wagle, R., Fleury, I., & Dowdy, E. (2018). Considerations for mental health screening with Latinx dual language learners. *Contemporary School Psychology.*

Consoli, A., Oromendia, M., Bunge, E., & **Bertone, A.** (2018). Argentines in the U.S.: Migration and continuity. In Arredondo, P. (Ed.) *Latinx Families in the U.S.: Transcending Processes of Acculturatio and, Xenophobia through Self-Determination*. Publisher: Springer.

Furlong, M.J., Dowdy, E., Moffa, K., **Bertone, A**., Yang, C., Kim, E., & Ito, A. (in press). Assessment of complete social emotional health: An international school psychology perspective. In C. Hatzichristou & B.K. Nastasi (Eds.) *Handbook of School Psychology in a Global Context.* Dordrecht, Netherlands: Springer.

Fayad, S., Guzick, A.G., Reid, A.M., Mason, D.M., **Bertone, A.,** Okun, M., Foote. K., Goodman, W.K. & Ward, H. (2016). Six to nine year follow-up of deep brain stimulation for Obsessive-Compulsive Disorder. *PLoS ONE, 11*(12), 1-11.

Haber, A., & **Bertone, A.** (2015). Protean career model. In Susan K. Whitbourne (Ed.). *The Encyclopedia of Adulthood and Aging*. New York: Wiley-Blackwell.

Wang, M., Penn, L. T., **Bertone, A**., & Stefanova, S. (2014). Bridge employment in the United States. In Alcover et al. (Eds.). *Bridge Employment: A Research Handbook*. London: Routledge (Taylor & Francis Group).

PROFESSIONAL PRESENTATIONS

Wagle, R., **Bertone, A.,** Edyburn, E., & Moffa, K. (2018, February). *Mental health screening in a culturally sensitive way*. Practitioner conversation presented at the National Association of School Psychologists 2018 Convention, Chicago, IL.

Bertone, A., Edyburn, K., & Dowdy, E. (2018, February). *Using the Spanish BASC-3 Behavioral and Emotional Screening System in preschool.* Poster presented at the National Association of School Psychologists 2018 Convention, Chicago, IL.

Tilley, M. & **Bertone, A.** (2018, February). *The many faces of school psychologists*. Panel presented at the National Association of School Psychologists 2018 Convention, Chicago, IL.

Bertone, A. & McLendon, K. (2018, February). *Increasing diversity recruitment in school psychology: Emerging strategies and directions.* Panel presented at the National Association of School Psychologists 2018 Convention, Chicago, IL.

McLendon, K., & **Bertone, A.** *Networking for graduate students: How to get started*. (2018, February). Poster presented at the National Association of School Psychologists 2018 Convention, Chicago, IL.

Bertone, A., Dowdy, E., Furlong, M., Moore, S., Moffa, K., & Carnazzo, K. (2017, February) *Implementing universal complete mental health screening in high schools.* Mini-Skills presentation presented at the National Association of School Psychologists 2017 Convention, San Antonio, TX.

Bertone, A. & McLendon, K. (2017, February). *Graduate student networking bootcamp.* Mini-Skills presentation presented at the National Association of School Psychologists 2017 Convention, San Antonio, TX.

Dowdy, E., Furlong, M., Moore, S., Moffa, K., & **Bertone, A.** (2016, October). *The use of complete mental health screening to promote student social emotional health.* Oral Advanced Practice Skills presentation presented at the 21st Annual Conference on Advancing School Mental Health, San Diego, CA.

Furlong, M., Schell, J., & **Bertone, A.** (2016, October). *Screening to foster student wellbeing***.** Oral presentation presented at the California Association of School Psychologists Fall Convention, Newport Beach, CA.

Bertone, A., Reid, A.M., Balkhi, A.M., McNamara, J.P., Flores, C., & Geffken G. (2014, March). *How parental stress and accommodation affect a child's Obsessive Compulsive Disorder severity*. Poster presented at Harvard University's IvyPlus Symposium, Boston, MA.

Bertone, A. & Swan, L.K. (2014, February). *Predictors of attitudes toward telemental health.* Poster presented at the Florida Undergraduate Research Conference at Florida International University, Miami, FL.

Reid, A.M., Ewigman, N., Kuhn, T., Alyka Fernandez, Snyder, A., Lafo, J., **Bertone, A.,** Gylys,J., Harman, J., Joseph, C., Davis, J., Putansu, K., & Baurer, R. (2014, January). *Using video conferencing to increase psychological care for the underserved: Updated findings from the Skype trial*. Poster presented at the Society of Student Run Free Clinics Conference, Nashville, TN.

Reid, A.M., Fernandez, A.G., & **Bertone, A.** (2014, January)**.** *The importance and feasibility of a psychology clinic in student-run free healthcare clinics*. Oral presentation presented at the Society of Student Run Free Clinics Conference, Nashville, TN.

Balkhi, A.M., Bertone, A., Reid, A.M., Flores, C, Geffken, G. & McNamara, J.P. (2013, March). Mentorship in the division of medical psychology: Inspiring students to lead. Poster presented at the Graduate Student Forum at the University of Florida. Gainesville, FL.

McNamara, J.P.,Balkhi, A. M., Reid, A.M., Flores, C., **Bertone**, A., Geffken, G. (2013, July). *Creating a winning team: Training at the University of Florida OCD Program.* Poster presented at the International Obsessive-Compulsive Disorder Foundation Conference, Atlanta, GA.

RESEARCH EXPERIENCE

Dissertation: Culturally-Responsive Frameworks of Practice to Support Latinx Preschool Children
Aug. 2018 – June 2019
Committee Members: Erin Dowdy, Ph.D., Miya Barnett, Ph.D., & Chunyan Yang, Ph.D.
Prospectus Approved: October 3rd, 2018

- Cross-sectional study investigating Latinx parental acculturative stress and parental engagement to support preschool children enrolled in Head Start programs in Central California
- Grant: Chicano Studies Institute (CSI), $2,500
- Expected tasks: communication with school administrators and teachers, recruitment of 220 participants (Latinx parents), consent processes, data collection, data analysis, dissemination of findings at CSI Symposium in May 2019

Lead Project Coordinator **Sept. 2015 – Present**
Project Act Early, UCSB
Santa Barbara, CA
Supervisor: Erin Dowdy, Ph.D.

- Four-year longitudinal study funded by the Department of Education Institute of Education Sciences focusing on universal mental health screening for preschool children with teacher and parent informants
- Tasks: Coordinated project, communicated with school administrators and teachers, data collection, data entry, data analysis, management of undergraduate lab assistants, dissemination of findings through publications and presentations

Research Assistant **Sept. 2015 – Sept. 2017**
Project Coivitality, UCSB
Santa Barbara, CA
Supervisors: Michael Furlong, Ph.D., Erin Dowdy, Ph.D., Karen Nylund-Gibson, Ph.D.

- Four-year longitudinal study funded by the Department of Education Institute of Education Sciences to investigate a strengths-based social-emotional screening measure for high school students
- Tasks: Conducted universal social-emotional screening data collection of all students at a large, comprehensive high school, created flyers incorporating research findings for teachers at a high school, data entry, dissemination of findings at conferences

Research Assistant **Sept. 2016 – June 2017**
MEXUS Collaboration with Universidad de Guanajuato and Universidad de La Salle
Santa Barbara, CA
Supervisors: Michael Furlong, Ph.D., Karen Nylund-Gibson, Ph.D., Erin Dowdy, Ph.D.

- Cross-sectional study funded by the University of California MEXUS to study the Social Emotional Health Survey for use with college students in Spanish and English
- Tasks: Cleaned and merged datasets from all sites, conducted statistical analyses with data from four universities across two countries (U.S. and Mexico), presented results at conference

Study Coordinator **Jan. 2015 – June 2015**
Florida Recovery Center, University of Florida
Gainesville, FL
Supervisor: Regina Bussing, M.D.

- Coordinated study that examined concentration and memory in patients recovering from substance abuse
- Tasks: Created and edited informed consent forms, wrote and submitted Institutional Review Board protocol

Research Assistant **Oct. 2014 – Mar. 2015**
University of Florida Division of Medical Psychology
Gainesville, FL
Supervisor: Melanie Nelson, Ph.D.

- Acted as reliability coder for Parent-Child Interaction Therapy (PCIT) simulation videos used for a program for Continuing Education credits
- Tasks: Collaborated with faculty member in beginning a research program based in PCIT, assisted in training undergraduates in Dyadic Parent-Child Interaction Coding System (DPICS)

Post-Baccalaureate Intern **May 2014 – June 2015**
University of Florida Department of Psychiatry
Gainesville, FL
Supervisors: Regina Bussing, M.D., Sarah Fayad, M.D., Dana Mason, M.S.W.

- Administered assessments for a clinical trial to patients who received Deep Brain Stimulation for Tourette Syndrome and Obsessive Compulsive Disorder (OCD) and Transcranial Magnetic Stimulation for OCD, Post-Partum Depression, and Addiction to Tobacco/Nicotine
- Tasks: Provided assistance with Institutional Review Board submissions, entered patient data into software provided by companies who sponsored the studies, recruited participants through direct patient contact and provider education, participated in the writing and editing of multiple manuscripts

Independent Study Project **Aug. 2013 – Dec. 2013**
Research Methods in Personality Psychology Lab, UF
Gainesville, FL
Supervisor: Lawton Swan, Ph.D.

- Created study and submitted IRB proposal to study adult perceptions of teletherapy
- Tasks: Designed study, designed surveys using Qualtrics Online Survey Software, managed data and ran analyses using Statistical Package for the Social Sciences (SPSS), presented findings at Florida International University

Study Coordinator: College Students Sleep and Mood **May 2013 – Aug. 2013**
Division of Medical Psychology, University of Florida
Gainesville, FL
Supervisors: Joseph McNamara, Ph.D., Amanda Balkhi, M.S.

- Tasks: Led team in consenting participants, created a survey using Qualtrics Online Survey Software, continuously updated participant databases

Research Coordinator: Skype Trial Research Study **Mar. 2013 – Oct. 2014**
Equal Access Clinic's Free Therapy Night
Gainesville, FL
Supervisors: Adam Reid, M.S., Aliyah Snyder, M.S., Jacob Lafo, M.S., Kevin Putansu, LCSW

- Assisted with study evaluating computer delivered psychotherapy
- Tasks: Consented participants, engaged in data entry and data management in SPSS, collaborated in writing manuscript for publication, communicated closely will all patients to ensure satisfaction with participation in study, monitored and maintained organization of patient folders after closing of study

Research Associate **Jan. 2013 – May 2013**
Division of Medical Psychology, University of Florida
Gainesville, FL
Supervisors: Joseph McNamara, Ph.D., Amanda Balkhi, M.S., Adam Reid, M.S.

- Selected out of forty undergraduates to be the liaison between new research assistants and lab supervisors
- Tasks: Interviewed new undergraduate applicants for entrance into the lab, trained new undergraduates, provided assistance and support for new members

Coder for Study: Improving Parent Report of Child Behavior **Oct. 2012 – May 2014**
Division of Medical Psychology, University of Florida
Gainesville, FL
Supervisor: Jill Sutton, Ph.D.

- Tasks: Completed training and active coding in DPICS, reviewed and edited IRB paperwork and protocols for submission, transcribed sessions from video

Research Assistant **Aug. 2012 – Mar. 2014**
Warrington College of Business, Human Resource Research Center
Gainesville, FL
Supervisors: Mo Wang, Ph.D., John Kammeyer-Mueller, Ph.D.

- Tasks: Delivered and collected participant surveys at the University Career Resource Center, entered data for pre-interview surveys, post-interview surveys, and interviewer ratings, collaborated in writing a chapter on Bridge Retirement and an encyclopedia entry on the Protean Career Model

Research Assistant **Sep. 2011 – May 2014**

Division of Medical Psychology, University of Florida
Gainesville, FL
Supervisors: Joseph McNamara, Ph.D., Gary Geffken, Ph.D.

- Assisted with projects investigating ADHD, Social Phobia, and OCD
- Tasks: Entered data, designed SPSS databases for team based data entry, recruited participants through direct in person and over phone interactions, obtained informed consent from participants, edited manuscripts for publication

CLINICAL EXPERIENCE

School Psychology Practicum Student **Jan. 2018 – May 2018**
Goleta Unified School District
Goleta, CA
Supervisor: Katherine Larsen, Ph.D., NCSP
Primary Presenting Problems: Autism; Speech/Language Disorders; Developmental Delays

- Conducted psychoeducational assessments for students transitioning to kindergarten
- Worked with multidisciplinary team
- Wrote reports and presented to families at IEP meetings

Mental Health Practicum Student **Aug. 2017 – June 2018**
Santa Maria Joint Union High School District
Santa Maria, CA
Supervisor: Kate Morrell, L.S.W. & Erin Dowdy, Ph.D., NCSP
Primary Presenting Problems: Autism; Emotional Disturbance; Substance Use; Conduct Problems; Anxiety; Depression

- Provided weekly counseling for students in a Therapeutic Learning Classroom with sessions ranging from 30 to 140 minutes each
- Consulted and collaborated with teachers, paraprofessionals, and social worker to coordinate care for students

Reading Assessment Specialist **Aug. 2016 – Present**
McEnroe Reading & Language Arts Clinic
Santa Barbara, CA
Supervisor: Diana Arya, Ph.D.
Primary Presenting Problems: Specific Learning Disability; Dyslexia

- Conducted 15 assessments with elementary, middle, and high school students to assess for reading difficulties
- Implemented the use of the CTOPP, GORT-5, PPVT-III, and TOWRE-2
- Wrote reports and presented information to families

Trainee **Jan. 2018 – June 2018**
Hosford Clinic – Parent-Child Interaction Therapy Clinic
Santa Barbara, CA
Supervisor: Miya Barnett, Ph.D.
Primary Presenting Problems: Conduct Problems

- Participated and coached parent in 10 sessions of Child-Directed Interaction

- Provided behavioral support for child client while parent received Parent-Directed Interaction training with other clinicians
- Participated in two-day training at UCSB

School Psychology Practicum Student **Aug. 2016 – June 2018**
Santa Barbara Unified School District
Santa Barbara, CA
Supervisor: Natasha Henley, M.Ed., Jill Sharkey, Ph.D., NCSP, & Erin Dowdy, Ph.D., NCSP
Primary Presenting Problems: Specific Learning Disability; Autism; Other Health Impairment (ADHD); Intellectual Disability

- Provided counseling for students in 1st – 6th grade
- Conducted cognitive assessments in Spanish and English
- Wrote comprehensive psychoeducational reports and presented findings at IEP meetings
- Interviewed parents and teachers as part of initial and triennial evaluations
- Provided crisis response help to students and staff on multiple occasions
- Interpreted information and conversations for parents during IEP meetings
- Consulted with teachers to help ameliorate student behavioral concerns in the classroom

Preschool Social Emotional Program Presenter **Jan. 2017 – Mar. 2017**
Santa Barbara Unified School District
Santa Barbara, CA
Supervisor: Erin Dowdy, Ph.D., NCSP, Michelle Robertson

- Implemented a 30-minute Social-Emotional Learning lesson in 5 different classrooms of preschool students ages 3-5

Observer **July 2017**
Fundación Aiglé
Buenos Aires, Argentina
Supervisor: Ana Azar, M.A.
Primary Presenting Problems: Depression; Anxiety

- Observed four live client sessions of psychotherapy with adults ages 30 – 50
- Participated in roundtable discussions with other students and clinicians about cases

Post-Baccalaureate Intern **May 2014 – June 2015**
Division of Medical Psychology, University of Florida
Gainesville, FL
Supervisors: Gary Geffken, Ph.D., Cindi Flores, Ph.D., Brian Olsen, Ph.D.
Primary Presenting Problems: Depression; Anxiety, Suicidal Ideation

- Assisted psychologists with interviews given to children and adolescents in a psychiatry in-patient unit
- Administered and scored the Woodcock Johnson Achievement Test to children
- Scored the Wechsler Intelligence Scale for Children
- Observed measure interpretation, report, and feedback

Therapy Aide **Sept. 2011 – June 2014**
Division of Medical Psychology, University of Florida
Gainesville, FL
Supervisors: Joseph McNamara, Ph.D., Gary Geffken, Ph.D.
Primary Presenting Problems: Obsessive Compulsive Disorder; Agoraphobia; Generalized Anxiety

- Participated in over 150 sessions of Cognitive-Behavioral Therapy with Exposure and Response Prevention and over 300 hours of therapy with patients 7 to 62 years of age
- Administered Child Yale Brown Obsessive Compulsive Scale (CYBOCS) and the Dimensional Yale Brown Obsessive Compulsive Scale (DYBOCS) to patients ages 7-17

SUPERVISION EXPERIENCE

Site Supervisor for Second and Third Year Doctoral Students **Sept. 2018 – June 2019**
UCSB Department of Clinical, Counseling, and School Psychology
Santa Barbara, CA
Professors: Erin Dowdy, Ph.D. & Jill Sharkey, Ph.D.

- Conduct in-person observations for practicum students and provide feedback
- Facilitate site visits with faculty members, students, and site supervisors
- Provide weekly supervisory guidance on fieldwork experiences, psychoeducational evaluations, and case conceptualizations
- Lead and facilitate group supervision for 90 minutes on a weekly basis

TEACHING EXPERIENCE

Teaching Assistant for Fieldwork Practicum Series **Sept. 2018 – June 2019**
UCSB Department of Clinical, Counseling, and School Psychology
Santa Barbara, CA
Professor: Jill Sharkey, Ph.D.

- Conduct lectures for first- and second-year doctoral students in ethical decision-making, history of Special Education, confidentiality and consent in therapy, consultation models
- Provide weekly supervisory guidance on professional development content
- Provide feedback on class assignments and psychoeducational evaluations

Teaching Assistant for Advanced Fieldwork Series **Sept. 2018 – June 2019**
UCSB Department of Clinical, Counseling, and School Psychology
Santa Barbara, CA
Professor: Erin Dowdy, Ph.D.

- Present lectures on Cognitive-Behavioral Therapy techniques, supervision, case conceptualization, progress monitoring
- Provide feedback on case conceptualizations and case study assignments
- Facilitate discussion based on weekly reflection questions

Teaching Assistant for Positive Psychology – CNCSP112 **Jan. 2016 – Mar. 2016**
UCSB Department of Clinical, Counseling, and School Psychology
Santa Barbara, CA
Professor: Michael Furlong

- Assisted in creating the syllabus and course assignments
- Proctored and graded assignments
- Created section lectures and guided class discussion
- Lectured for 120 minutes a week during discussion section over two days
- Communicated with students using web-based platform and maintained student page updated

Guest Lecturer **September 19th, 2016**
UCSB Center for Biodiversity and Ecological Restoration
Santa Barbara, CA
Kids in Nature Program

- Gave 90-minute lecture to undergraduate class of approximately 30 students on development, resiliency, and positive psychology in 5th grade students

Part-Time Teacher **Apr. 2012 – July 2014**
Baby Gator Child Development and Research Center
Gainesville, FL
Supervisor: Wendy Melchior

- Conducted educational enrichment activities through musical and didactic play
- Assisted with child behavior management activities
- Supervised children in the preschool classroom and playground
- Communicated daily with parents about children's wellbeing and progress in school

Teaching Assistant for Abnormal Psychology **Jan. 2015 – May 2015**
Department of Psychology, University of Florida
Gainesville, FL
Professor: Tessa Wimberly, M.S.

Teaching Assistant for Positive Psychology **Aug. 2014 – Dec. 2014**
Department of Psychology, University of Florida
Gainesville, FL

Professor: Kelsey Autin, M.S.

Teaching Assistant for Research Methods in Personality Psych **Aug. 2014 – Dec. 2014**
Department of Psychology, University of Florida
Gainesville, FL
Professor: Lawton Swan, Ph.D.

Teaching Assistant for Research Methods in Psychology **Jan. 2014 – May 2014**

Department of Psychology, University of Florida
Gainesville, FL
Professor: Lawton Swan, Ph.D.

Teaching Assistant for Developmental Psychology **Jan. 2013 – May 2013**
Department of Psychology, University of Florida
Gainesville, FL
Professor: Elizabeth Ford, Ph.D.

PROFESSIONAL SERVICE

National and Regional Service

July 2018 – June 2019 **Chair of the NASP Graduate Student Committee**
National Association of School Psychologists

July 2018 – June 2019 **Graduate Student Advisor to NASP Membership Committee**
National Association of School Psychologists
Committee Chair: Daniel Hyson, Ph.D.

July 2017 – June 2018 **Co-Chair of the NASP Graduate Student Committee**
National Association of School Psychologists
Committee Chair: Micah Tilley

July 2017 – June 2018 **Convention Coordinator of the NASP Graduate Student Committee**
National Association of School Psychologists
Committee Chair: Micah Tilley

July 2016 – June 2017 **Diversity Affairs Coordinator of the NASP Graduate Student Committee**
National Association of School Psychologists
Committee Chair: Katherine Larsen

July 2016 **Reviewer of Proposals for NASP Convention 2018**
National Association of School Psychologists

Sept. 2017 – June 2018 **Student Representative**
Central California Association of School Psychologists

University Service

July 2018 – June 2019 **CCSP Associated Students Co-President**
University of California, Santa Barbara

Nov. 2018 – June 2019	**Graduate Scholars Program Mentor** University of California, Santa Barbara
Sept. 2018 – June 2018	**Graduate Student Support Committee Student Rep.** University of California, Santa Barbara Committee Chair: Steve Smith, Ph.D.
Oct. 2017 – Mar. 2018	**Counseling Psychology Faculty Search Student Rep.** University of California, Santa Barbara Committee Chair: Melissa Morgan Consoli, Ph.D.
Fall 2017, Spring 2019	**Panelist for Research Methods Course** University of California, Santa Barbara Professor: Matthew Quirk, Ph.D.
Aug. 2016 – June 2017	**Faculty Executive Committee Student Rep.** University of California, Santa Barbara Committee Chair: Jill Sharkey, Ph.D.
Nov. 9th – 13th, 2016	**School Psychology Awareness Week Coordinator** University of California, Santa Barbara
Feb. 24th, 2016	**Workshop Small Group Speaker** W.E.B. DuBois Equal Opportunity Center's Day University of California, Santa Barbara
Jan. 27th & Mar. 10th, 2016	**Workshop Presenter** University of Florida McNair Scholars Program Supervisor: Samesha Barnes, Ph.D.
Nov. 7th, 2015	**Lead Volunteer Coordinator** California Forum for Diversity in Graduate Education Supervisor: Roxanna Van Norman

PROFESSIONAL AFFILIATIONS

Sept. 2017 – Present	Central California Association of School Psychologists
Sept. 2015 – Present	National Association of School Psychologists
Sept. 2015 – 2017	International School Psychologists Association
Sept. 2015 – Present	California Association of School Psychologists
May 2013 – Present	Phi Beta Kappa Honors Society, *Member*

LANGUAGES

Bilingual Spanish Speaker – Fluent in writing, reading, and speaking

ABSTRACT

Culturally-Responsive Practices to Support Latinx Preschool Children

By Agustina Bertone

There is increased awareness of the need to attend to the mental health of preschool-age children. Concurrently, there has been considerable focus on the growing Latinx student population in the U.S. However, little attention has been placed on evaluating the appropriateness of mental health screening tools for use with preschool-age Latinx children. The first study of this integrated dissertation evaluated the structural, convergent, and predictive validity of the Pediatric Symptom Checklist – 17 (PSC-17) for use with Latinx preschool children as rated by their Spanish- and English-speaking parents (N = 488). Confirmatory factor analyses demonstrated that the best-fitting model for the Spanish and English samples was a higher-order model, in which three factors (externalizing problems, internalizing problems, and attention problems) loaded onto a broader factor, social-emotional risk. However, one item was removed from each language sample in order to obtain adequate fit. Measurement invariance analyses were unable to be conducted due to problematic items that differed across samples. Evidence of convergent and predictive validity were demonstrated through relations with parent-rated instruments, although the PSC-17 was not significantly predictive of teacher-rated social emotional functioning. These findings have implications for its use as a universal mental health screening measure.

The second study sought to understand Latinx parental stress factors as they relate to three types of parental engagement in preschool (foundational education, school participation, and supplemental education). Stress was examined in the form of global stress and acculturative stress (English competence pressure and pressure to acculturate). One-hundred eighty-nine Spanish- and English-speaking Latinx parents whose children were enrolled in Head Start completed self-report paper-and-pencil surveys. Hierarchical linear

regression models were used to evaluate the main effects of stress, as well as the moderating effects of English competence pressure and pressure to acculturate on the association between global stress and the three forms of parental engagement. Results demonstrated that global stress significantly predicted foundational education and supplemental education, but not school participation behaviors. English competence pressure did not significantly predict any type of parental engagement and pressure to acculturate only significantly predicted supplemental education behaviors. Parent generation status and parent education level were the only significant predictors of school participation. These findings have implications for developing family-school partnerships with Latinx parents of preschool children.

Keywords: preschool, mental health, social-emotional, parent-informant, universal screening, Latino, parental engagement, educación, parent involvement

TABLE OF CONTENTS

Culturally-Responsive Practices to Support Latinx Preschool Children

There is increased awareness of the need to attend to the early social-emotional, behavioral, and cognitive development of preschool-aged children (McCabe & Altamura, 2011; Webster-Stratton & Reid, 2003). Meanwhile, increased focus on the Latinx community due to acknowledgement of the continuing growth and needs of this population within the U.S. has led to an expansion in the literature on Latinx students and families in recent years. However, there remains a considerable lack of research on preschool Latinx students and their families (Arias & Morillo-Campbell, 2008; Sibley & Brabeck, 2017). Considering the well-established impacts of early prevention and intervention in attenuating maladaptive long-term consequences (Jones, Greenberg, & Crowley, 2015; Schweinhart, Barnes, & Weikhart, 2005), it is important to understand the practices and factors associated to the development of Latinx preschool students.

This dissertation examined two different aspects of school psychology practice within a culturally-responsive framework to support Latinx preschool children. Both studies focused on Latinx parents with children in preschool. This dissertation sought to contribute to the field by expanding on what is currently known about a social-emotional functioning measure and its appropriateness with Latinx preschool children, as well as the role of Latinx parental global stress and acculturative stress on parental engagement behaviors when children are in preschool. Both of these studies seek to sensitively support the social-emotional functioning and mental health of young children in the Latinx community.

The following two studies comprise this integrated dissertation:

a. **Study 1:** Examining the Parent-Rated Pediatric Symptom Checklist-17 For Use with Latinx Preschoolers

b. **Study 2:** Educando a Nuestros Hijos: Examining Latinx Parental Stress Factors and Parental Engagement in Head Start Preschools

First, a psychometric study evaluating the use of a universal screening tool, the Pediatric Symptom Checklist – 17 (PSC-17), was conducted. Using data from a longitudinal study conducted in five preschools in central California, the aim of this study was to examine the psychometric properties of the scale for use with Latinx parents about their preschool children. Particularly, this study focused on the construct, structural, convergent, and predictive validity of the scale of both the English and Spanish versions. This study evaluated whether the Spanish version of the PSC-17 functions equivalently to the version in English for use with this specific population using measurement invariance analyses. The justification of this study is that, without adequate tools to evaluate the mental health of young Latinx children, the results of screening measures may inaccurately and inappropriately identify or miss students in need of mental health supports. This study is needed because few measures have been studied that focus on the mental health of this age group and more measures are needed that are appropriate for use with Latinx preschool children, both in English and Spanish.

The second study of this dissertation investigated Latinx parents' global stress, acculturative stress, and parental engagement practices. Partnering with families from Head Start programs in Central California, two-hundred twenty parents of Latinx preschool children completed surveys about their parental global stress, acculturative stress, and parental engagement practices. Using hierarchical linear regression, the aims of this study were to: examine the association between parental global stress and three types of parental

engagement, evaluate the association between parental acculturative stress and three forms of parental engagement, and to understand if and how to types of acculturative stress act as moderators to the association between parental global stress and parental engagement (*See* Study 2). The purpose of this study was to better understand the role of stress factors in Latinx parental engagement behaviors, and also to examine parental engagement from a culturally-responsive less that included forms of parental engagement not often studied in the literature. Understanding how the forces of parental acculturative stress and parental engagement play out in the lives of Latinx preschool children can help educators, school-based mental health providers, and school administrators to gain greater awareness of the needs of Latinx families. In doing so, prevention and intervention programs to support children in preschool can be created that are suitable for and well-received by Latinx parents.

Two current gaps in the literature were addressed through this integrated dissertation. The first gap is the current lack of measures available in Spanish and in English that have been studied for use with Latinx families. The second gap in the literature is understanding further some of the contextual factors that affect parental engagement in preschool. Taken together, these two studies stem from the need to further develop the foundation of culturally-responsive frameworks of practice in school psychology, which are delineated in this paper. A closer look at the assessment of Latinx preschool children's mental health and Latinx parents' engagement behaviors is provided, with the intention of providing background information for the two studies that follow.

Social Justice and the Need for Culturally-Responsive Practices

School psychologists hold the responsibility of providing supports in schools through fair and just practices that help to maintain the respect and dignity of all persons involved

(NASP, 2010). School psychologists are ethically responsible for protecting the safety and wellbeing of all children, and this includes children across racial/ethnic groups and from diverse backgrounds (NASP, 2010). They are tasked with a range of responsibilities on school campuses, including (but not limited to) conducting psychoeducational evaluations, creating and promoting positive school climates, consulting with teachers and families, and assisting with universal mental health screening efforts (NASP, 2015; Jones, 2014). Integrating culturally-responsive and -sensitive practices within all aspects of service-delivery in schools is critical to supporting children from a diverse range of backgrounds and with varying needs, identities, cultural values, and upbringings (Mayfield & Garrison-Wade, 2015).

Despite the importance of culturally-responsive practice, since the 1990s, not much research in the field of school psychology has focused on diversity and issues of social justice (Brown, Shriber, & Wang, 2007; Miranda, 2014). In the fall of 2017, the National Association of School Psychologists (NASP) adopted the strategic goal of Social Justice. This motion on behalf of the association came after psychologists continued to strongly advocate for culturally-sensitive and -responsive practices and equity for all students, despite previous work and research that had already outlined these needs (Miranda, 2014). Given this important push in the field, much attention is currently being funneled to culturally-responsive and -sensitive practice. As school psychologists actively promote and integrate culturally-responsive practices in schools, more research is needed to help guide these efforts. With increased knowledge and awareness of the need to provide culturally-responsive approaches to school-family partnerships, psychoeducational evaluations, academic instruction, and mental health supports, there is a greater need to understand how to

develop interventions that fit a culturally-responsive framework. However, *prior* to developing and researching culturally-sensitive and -responsive supports, it is necessary to understand the factors at play that should be embedded into such initiatives. One way to begin evaluating the components that should be present in culturally-responsive approaches is to understand the role of cultural values and efforts, as well as contextual factors families face (Bridges et al., 2012). In this dissertation, this aim is targeted by Study 2.

Another important aspect of culturally-responsive practice is that of mental health assessment practices. Mental health screening measures need to be evaluated to ensure that they are tailored to students from diverse backgrounds. This is the focus of Study 1. Historically, the majority of assessment practices have been developed with middle class, White students in mind (Fernando, 2010), and *by* White researchers. Over time, these ethnocentric practices have consistently ignored the perspectives and values of children and families from racial/ethnic minority families (Jiménez-Castellanos, Ochoa, & Olivos, 2016; Mancoske, Lewis, Bowers-Stephens, & Ford, 2012). Latinx students make up one of the various racial/ethnic minority groups served by the schools and whose perspectives and experiences have often gone ignored, misperceived, or misunderstood (Hill & Torres, 2010).

The Latinx community present in the U.S. has increased substantially in recent decades and the population size of this demographic continues to climb (Ennis, Vargas, & Albert, 2011). Approximately 56.5 million Latinxs resided in the U.S. in 2015 (Flores, López, & Radford, 2017; Pew Research Center, 2015) and Latinxs in the U.S. make up approximately 17.6% of the entire U.S. population. Pew Research Center projections expect the percentage of Latinxs in the U.S. to be 24 percent by 2065 to become almost a quarter of the total U.S. population (Pew Research Center, 2015). Given the large numbers of Latinx

children enrolled in schools, it is imperative that administrators, teachers, and mental health professionals employ culturally-responsive approaches to working with their Latinx students. Fortunately, the push in recent decades for the acknowledgement of the needs of this racial/ethnic minority group has led to an increase in literature on Latinx children entering the k-12 system (Perez Huber, Malagón, Ramirez, Gonzalez, Jimenez, & Vélez, 2015). However, as preschool education has been slower to take hold across the country and has not been historically as readily available to Latinx children (National Institute for Early Education Research, 2013; Nores & Barnett, 2014), research concerning Latinx preschool children has remained scarce. As state preschools have begun to expand across the U.S. (Barnett, Carolan, Squires, & Clark-Brown, 2014), enrollment of Latinx students of ages 3 to 5 has increased and continues to grow (U.S. Census Brief, 2016). More research is needed to understand the factors that impact the development of Latinx children at this stage to best support them and their families as they enter the school system in preschool.

Preschool can be the first experience children have with a formal schooling system. For parents with a first child, the preschool experience may also be their first formal introduction to the school system (as a parent). These first interactions with schooling have the potential to impact parents' perceptions of and interactions with the school for the rest of their children's academic trajectories. Despite efforts from parents' and teachers' ends to support preschool children, there can often be cultural barriers present that impact the ability for parents and teachers to work effectively together to support Latinx preschool children (Jiménez-Castellanos, Ochoa, & Olivos, 2016; Delgado-Gaitán, 1991). One way to bridge this gap is for school administrators, teachers, and staff to take a culturally-responsive approach to interacting with children and their families, by being cognizant, respectful, and

aware of families' values and ways of teaching and disciplining their children (NASP, 2017). This can also be done by carrying out culturally-responsive practices when evaluating students' mental health, such as through ensuring that mental health screening forms are appropriate for students of Latinx backgrounds (Jones, 2014).

Culturally-responsive practices begin with understanding the needs and values of the communities present within a school, and providing inviting, appropriate, and positive interactions with communities in order to support children in partnership (Arias & Morillo-Campbell, 2008). In order to best support Latinx preschool children, more research is needed on the factors that affect the Latinx community and how different factors impact parents' efforts with the school system. Furthermore, assessment practices used to evaluate Latinx preschool children's mental health must also be examined. This dissertation seeks to further examine both measures used for preschool universal screening practices and contextual factors as they relate to parent engagement of Latinx parents of preschool children.

Assessment of Latinx Preschool Children's Mental Health

Increased understanding of the importance of mental health in childhood has led to a movement to target mental health from an early age. Traditionally, mental health supports in schools have been employed once students' behaviors interfere with their ability to participate in the school environment (Stephan, Sugai, Lever, & Conners, 2015). However, a shift in the understanding of mental health has led to a more proactive approach to tackling behavioral, emotional, and social development and supports for students in schools. Presently, some schools have begun more readily applying universal screening approaches, in which all preschool students receive a brief assessment of social-emotional functioning as part of the first level of Multitiered Systems of Support (MtSS; Dadds & Roth, 2008; Steed,

Pomerleau, Muscott, & Rhode, 2013). Best practices in school-based mental health supports delineate the need for this preventive and comprehensive framework to mental health (NASP, 2015). By assessing all students for behavioral, social, and emotional concerns, schools can provide differentiated supports early on to avoid the longer-lasting impacts of problems that go unaddressed.

Brief screening measures are an essential part of the universal mental health screening process, as they are the forms sent home for parents and teachers to complete about children's social-emotional functioning. Due to the developmental age of preschool children, multiple considerations in screening for mental health need to addressed (De Los Reyes, et al., 2015). At the preschool age (ages 3 to 5), a wide range of behaviors can be expected due to the developmental stage of the child (Dougherty, Leppert, Merwin, Smith, Bufferd, & Kushner, 2015). For example, it is more common to observe a three-year-old child throwing a tantrum than it is a ten-year-old child throwing a tantrum. Additionally, because children are so young, screening efforts rely on caregivers to understand the social-emotional functioning of children at this stage. The behaviors that parents and teachers observe in the classroom and in the home can also vary, as the types of activities, expectations, and environments can often largely differ (Dougherty et al., 2015).

Another aspect that impacts screening measures is the population who completes the screening measure. The majority of screening measures have been thoroughly studied with predominantly White children and families (Rodriguez, Kettler, & Feeny-Kettler, 2017). In order to more accurately identify which students from Latinx backgrounds may need mental health supports, it is necessary that measures used to assess problem behaviors be appropriate for use with the Latinx population. Currently, few universal screening measures exist that

have been studied with the Latinx preschool population (Rodriguez, Kettler, & Feeny-Kettler, 2017). The need for further study of measures that target the social-emotional functioning of Latinx preschool children is apparent. Hence, the first study of this integrated dissertation will focus on the psychometric properties of the Pediatric Symptom Checklist-17 (PSC-17; Jellinek, Murphy, Robinson, Feins, Lamb, & Fenton, 1988).

Parental Engagement

Central to the issue of culturally-responsive practices is the concept of parental engagement. Parental engagement has been defined as the behaviors that parents partake in to support their children's development (Yamamoto, Holloway, & Suzuki, 2016). These behaviors can occur in the context of the school, but also the home. Since the inception of the study of parental engagement, this concept has been studied predominantly by White researchers on White populations (Fernando, 2010). As such, the concept has been narrowly-defined, failing to acknowledge the perspectives of the diverse experiences and cultural vantage points of parents outside the mainstream, dominant majority. One of these perspectives is that of Latinx parents, and while there is some research on barriers and outcomes of Latinx children as a result of good parental engagement practices, Latinx children comprise small subsamples of the research. As such, the central premise of the second study of this dissertation is to understand parental engagement behaviors by Latinx families through an expanded, culturally-relevant definition, as well as to understand how stress factors are related to parental engagement.

Conclusion

This dissertation aims to contribute to the field by adding to the current body of knowledge regarding the assessment and parental factors that relate to Latinx preschool

children. An already marginalized community in the U.S. (Fuller & Garcia Coll, 2010; Galindo & Fuller, 2010; Reyes & Elias, 2011), Latinx preschool children can be particularly vulnerable and face many challenges from a young age. Accurately, appropriately, and sensitively assessing the mental health of Latinx children is an imperative first step to supporting their mental health and overall success in school. Identifying the factors that can hinder or promote their optimal development is another important step. By conducting these two studies, this dissertation hopes to contribute to the literature on culturally-responsive practices for supporting Latinx preschool children.

Abstract

There is increased awareness of the need to attend to the mental health of preschool-age children. Concurrently, there has been considerable focus on the growing Latinx student population in the U.S. However, little attention has been placed on evaluating the appropriateness of mental health screening tools for use with preschool-age Latinx children. This study evaluates the structural, convergent, and predictive validity of the *Pediatric Symptom Checklist – 17* (PSC-17) for use with Latinx preschool children as rated by their Spanish- and English-speaking parents ($N = 488$). Confirmatory factor analyses demonstrated that the best-fitting model for the Spanish and English samples was a higher-order model, in which three factors (externalizing problems, internalizing problems, and attention problems) loaded onto a broader factor, social-emotional risk. However, one item was removed from each language sample in order to obtain adequate fit. Measurement invariance analyses were unable to be conducted due to problematic items that differed across samples. Evidence of convergent and predictive validity were demonstrated through relations with parent-rated instruments, although the PSC-17 was not significantly predictive of teacher-rated social emotional functioning. These findings have implications for its use as a universal mental health screening measure.

Keywords: preschool, mental health, social-emotional, parent-informant, universal screening, Latinx, Latino

Examining the Parent-Rated Pediatric Symptom Checklist-17 For Use with Latinx Preschoolers

There is evidence to support the need for early mental health intervention and prevention efforts starting as early as preschool. Longitudinal studies focusing on the long-term outcomes associated with early social-emotional functioning of children have demonstrated that positive mental health at a young age is associated with a range of positive outcomes, including better physical health and lower delinquency, substance abuse, problems with employment, incarceration rates, and involvement with violence (Heckman, 2006; Jones, Greenberg, & Crowley, 2015; Schweinhart, Barnes, & Weikhart, 2005). These findings, among others, have led to the acknowledgment of the need for early prevention and intervention efforts in monitoring preschoolers' mental health and helping children develop social-emotional skills starting in preschool.

Recognizing the importance of addressing mental health, often referred to as social-emotional functioning at an early age, school systems have launched early intervention and prevention efforts (Dadds & Roth, 2008; Powell, Dunlap, & Fox, 2006; Rapee, Kennedy, Ingram, Edwards, & Sweeny, 2005; Steed, Pomerleau, Muscott, & Rohde, 2013). In order to identify and support students who may be at risk for, or in need of, mental health interventions, some preschools across the U.S. have begun implementing a Multi-Tiered Systems of Support (MTSS) framework (Bayat, Mindes, & Covitt, 2010; Coffee, Ray-Subramanian, Schanding, & Feeny-Kettler, 2013). MTSS frameworks that target social, emotional, and behavioral health provide differentiated supports based on individual student needs. MTSS are comprised of three levels of assessment and mental health supports for social-emotional functioning, with more intensive and comprehensive assessment and

supports as each level increases (California Department of Education, 2017). The first level ("tier") of MTSS for mental health is universal screening, in which all students in a school are screened for mental health concerns. Universal screening is followed by a second level of targeted group supports or more intensive assessment, based on the students who were found to be at risk at the universal level. A third level of individual, assessment-intensive supports is intended to assist students with the highest-level needs (Sandomierski, Kincaid, & Algozzine, 2007).

To provide differentiated and individualized levels of mental health supports, it is recommended that schools start with universal screening. The goal behind universal mental health screening is to assess *all* children in a school to identify, as soon as possible, students who may be demonstrating behaviors and/or thoughts consistent with symptoms of distress. Within an MTSS framework, identifying preschool students in need of additional supports at the universal level allows for further assessment and early intervention to occur (Dowdy, Kamphaus, Twyford, & Dever, 2014). An important component of universal mental health screening is the measures used to evaluate children's mental health. For universal mental health screening to be effective, measures that adequately and sensitively detect mental health concerns are necessary. However, there are limited measures available for use with preschool students (Feeney-Kettler, Kratochwill, Kaiser, Hemmeter, & Kettler, 2010), and those employed for screening purposes have not been widely studied with diverse populations (Rodriguez, Kettler, & Feeny-Kettler, 2017). This study aims to examine one screening measure, the *Pediatric Symptom Checklist – 17* (PSC-17; Jellinek, Murphy, Robinson, Feins, Lamb, & Fenton, 1988) for use with Latinx preschool children.

Latinx Children in U.S. Preschools

The demographic makeup of U.S. schools is diverse, with more than six races and ethnicities represented in preschool through 12th grade education across the nation (National Center for Education Statistics, 2017). Latinx students comprise the largest ethnic minority group in U.S. schools, with 23.1% of children below the age of 18 identifying as Hispanic/Latinx in the most recent 2010 U.S. Census (Ennis, Ríos-Vargas, & Albert, 2011). One in four children in preschools in the U.S. identifies as Latinx, and this number is steadily increasing (Bauman, 2017). Approximately 44% of Latinx children attended preschool programs in 2013, with 22% attending full-time programs and 22% attending part-time programs (Child Trends Databank, 2015).

Given the importance of detecting mental health problems early on and the sizable number of Latinx students in U.S. schools, it is important that measures used to evaluate mental health in schools be appropriate for use with the Latinx population. To date, few studies have examined the use of mental health screeners in English for use with Latinx children and even less research has focused on evaluating the utility of Spanish versions of mental health screeners (Rodriguez, Kettler, & Feeny-Kettler, 2017). Therefore, more work is needed to understand if mental health screening tools are appropriate for use with Latinx children and by both Spanish-speaking and English-speaking Latinx parent informants. If measures are not appropriate for use with certain populations, children may be incorrectly under- or over-identified with mental health difficulties, and/or their symptoms may be inaccurately assessed. Hence, the aim of the study is to examine the validity of the PSC-17 (Jellinek, et al., 1988) for use with both Spanish-speaking and English-speaking Latinx families in the U.S.

Current Preschool Screening Measures

Feeny-Kettler and colleagues (2010) reviewed four universal screening measures in English that have been used to evaluate the mental health of preschool children: the *Behavior Assessment System for Children – 2 Behavioral and Emotional Screening System* (BASC-2 BESS; Kamphaus & Reynolds, 2007), the *Ages and Stages Questionnaire Social-Emotional* (ASQ-SE; Squires, Bricker, Twombly, Yockelson, Davis, & Kim, 2002), the *Preschool Behavior Screening System* (PBSS; Feeney-Kettler, Kratochwill, & Kettler, 2009), and the *Early Screening Project* (ESP; Walker & Severson, 1992). They used four criteria to evaluate each measure: accessibility, reliability, construct validity, and consequential validity. The BASC-2 BESS and ASQ-SE demonstrated acceptable levels of accessibility, reliability, and construct validity, while the ESP demonstrated evidence of construct and consequential validity and reliability, but not accessibility. The PBSS only demonstrated acceptable evidence of reliability and construct validity (Feeney-Kettler, Kratochwill, & Kettler, 2009). It is important to note that the usability by multiple cultures and in various languages was not mentioned in this article.

Building off the review of measures available in English, Rodriguez and colleagues identified and reviewed four screening measures that are available in Spanish for use with preschool-age children (Rodriguez, Kettler, & Feeny-Kettler, 2017). The review included the BASC-2 BESS and PBSS, described above, as well as the *Child Behavior Checklist* (CBCL; Achenbach, 1988) and the *Strengths and Difficulties Questionnaire* (SDQ; Goodman, 1997). The ASQ-SE and the ESP were not included in this review as they do not have a Spanish version for parents to complete. Rodriguez and colleagues (2017) state that the Spanish version of the BASC-2 BESS demonstrates lower internal consistency in comparison to the

English version, but still adequate internal consistency. The SDQ in Spanish demonstrated moderate internal consistency, with a Cronbach's alpha of .73, which was lower than the English version (alpha of .81; Blumert, Kettler, & Lakes, 2015, as cited in Rodriguez, Kettler, & Feeny-Kettler, 2017). In their study of the Spanish version of the PBSS, Rodriguez and colleagues' (2017) review of internal consistency revealed an overall Cronbach's alpha of .89 (the English version overall Cronbach's alpha was .95). Therefore, the Spanish version of multiple scales (i.e., BASC-2 BESS, SDQ, PBSS) consistently demonstrated lower reliability scores than the English version of the same measure.

Although all four of the measures reviewed by Rodriguez and colleagues (2017) demonstrated adequate to excellent internal consistency, research has either not demonstrated or tested for full measurement invariance of any of these scales with Latinx preschool children. Measurement invariance is a type of analysis that provides information on whether the same constructs are being measured across groups (van de Schoot, Lugtig, & Hox, 2012). It is necessary for measures to demonstrate full measurement invariance to confirm that the constructs evaluated by a screening measure in English are the same in Spanish (Reise, Widaman, & Pugh, 1993). Full measurement invariance is especially important in the context of universal mental health screening, whereby all parents in a school receive screening measures and not all may speak English. When there are monolingual Spanish speakers in a school, it is important for parents to be able to complete forms in Spanish; if a screening instrument does not demonstrate measurement invariance, schools are unable to make comparisons across grades or gender identities because the measure is not functionally equivalent in both languages.

It is likely that within a MTSS system all results are aggregated across both Spanish and English versions in order to determine who receives early intervention. However, if the constructs that are assessed are different across forms, then children who are identified as at risk may significantly differ based solely on the language of the screening form used. Even though there are Spanish versions of some universal screening measures available (i.e., BASC-2 BESS, PBSS, CBCL, SDQ), more research is needed to examine the validity of screening instruments and to ensure fairness prior to widespread use.

The Pediatric Symptom Checklist – 17

An additional screening measure that was not reviewed by Feeny-Kettler et al. (2010) or Rodriguez et al. (2017) is the *Pediatric Symptom Checklist – 17* (PSC-17; Jellinek et al., 1988). The PSC-17 was originally created, and has traditionally been used in, hospitals and pediatric settings; however, it may be a particularly useful tool for use in schools. The PSC-17 is available in both Spanish and English, and may be an ideal measure for universal screening at the preschool level because it is both brief (17 items) and free to access by school districts, which often face barriers for funding school-wide mental health screening. With the exception of the SDQ, all aforementioned scales (i.e., BASC-2 BESS, PBSS, CBCL) need to be purchased or are not easily accessible, such that a school may need to contact an investigator for potential access to their forms (i.e., PBSS).

Although the PSC-17 was originally created for completion by parents, it can be completed by both teachers and parents of preschool-age children (DiStefano et al., 2017) and is an abbreviated version of the original, 35-item scale designed to assess internalizing problems, externalizing problems, and attentional problems (Gardner et al., 2007; Jellinek et al., 1988). The PSC-17 has been widely-studied and used with medical pediatric samples

(Kostanecka et al., 2008; Reed-Knight, Hayutin, Lewis, & Blount, 2011; Simonian & Tarnowski, 2001). More recently, the PSC-17 has also been proposed and studied as a potential universal screening measure for use in schools (DiStefano, Burgess, & Wang, 2018; DiStefano, Liu, & Burgess, 2017; Liu, Burgess, DiStefano, Pan & Jiang, 2019).

Four studies to date have evaluated the use of the PSC-17 in schools (DiStefano, Burgess, & Wang, 2018; DiStefano, Liu, & Burgess, 2017; Liu, Burgess, DiStefano, Pan & Jiang, 2019; Murphy, Jelinek, & Milinsky, 1989). In the first study examining its use in schools, parents of 166 7th and 8th graders enrolled at a public middle school completed the PSC-17 about their children, and the students also completed the PSC-17 self-report measure (Murphy, Jellinek, & Milinsky, 1989). Results provided evidence that the PSC-17 is an adequate measure for use in schools with middle school students, with parent reports identifying students at-risk at the similar rates as school counselor and teacher referrals.

Although originally created for parents to complete, the remaining three studies examined the use of the PSC-17 with teachers as the raters of children's mental health in preschools (DiStefano, Burgess, & Wang, 2018; DiStefano, Liu, & Burgess, 2017; Liu, Burgess, DiStefano, Pan & Jiang, 2019). One study by DiStefano and colleagues (2018) demonstrated evidence of validity in support of the use of the PSC-17 across female and male preschool students using measurement invariance. Similarly, another study demonstrated validity evidence of the multilevel factor structure and criterion-related validity of the PSC-17 for use by teachers in preschool (Liu, Burgess, DiStefano, Pan, & Jiang, 2019). However, none of these studies in preschool have examined the use of the PSC-17 as rated by parents nor have they studied invariance across race/ethnicity.

Despite initial evidence in support of the PSC-17 for use in schools, more research is needed before recommending its use for universal screening in preschools. In universal screening efforts focused on preschool children, parent and teacher informants are common (Berg-Nielsen, Solheim, Belsky, & Wichstrom, 2012; Dougherty et al., 2015). However, it may be particularly important to gather information from parents of preschool-aged children as the types of activities occurring at home may be more varied and demand more flexibility from children, given that the environment is not as structured and often not as predictable as the classroom (Achenbach, McConaughy, & Howell, 1987; Achenbach & Rescorla, 2004; Carney & Merrell, 2002; Strickland & Keenan, 2012). Additionally, parents may have a different perspective on their children's mental health than the teacher, interpreting their children's behaviors as adaptive or dysfunctional as is congruent with their cultural worldview (Achenbach, 2017; Runco & Johnson, 2010). This can be a particularly salient issue when evaluating the mental health of Latinx children, considering that dominant mainstream cultural values may not reflect their lived experience and influence their understanding of their children's behavior. Specifically, the PSC-17 as rated by parents of preschool children warrants further investigation, as this has not been studied with Latinx parents, who are both Spanish-speaking and English-speaking, in preschools.

Prior to considering the PSC-17 for use in school-based mental health screening, a necessary first step is to study the construct validity and factor structure to ensure that the PSC-17 accurately assesses the constructs it is intended to evaluate. Multiple studies have examined the factor structure of the PSC-17 across various contexts and populations of children and adolescents, with the most commonly-studied model being a three-factor model with *internalizing problems, externalizing problems*, and *attention problems* as the three

factors (Kostanecka et al., 2008, Murphy et al., 2016; Stoppelbein, Greening, Moll, Jordan, & Suozzi, 2011). Only one study to date has evaluated the factor structure of the PSC-17 for use in preschools, and this study examined the form when used by teachers as the informant (DiStefano, Liu, & Burgess, 2017). In this study, the PSC-17 was given to teachers of preschool students, and the factor structures were examined using both Exploratory Structural Equation Modeling (ESEM) and Confirmatory Factor Analysis (CFA) based on theory and factor structures of similar screening measures and previously-established structures of the PSC-17. Results of the CFA demonstrated that the higher order model, with 17 items loading onto three factors (attention problems, internalizing problems, and externalizing problems) all loading onto one overall risk factor showed adequate fit. A three-factor model, in which the 17 items loaded onto the attention problems, internalizing problems, and externalizing problems factors was also tested, which also showed adequate fit. Furthermore, a unidimensional factor model was tested, but did not demonstrate adequate fit (*see* Figure 1 for each of the models tested). The higher-order model demonstrated slightly increased parameter values in comparison to the three-factor model, and the authors concluded that the higher-order model is more theoretically sound, as it fits better with the theoretical underpinnings of the measure itself (DiStefano, Liu, & Burgess, 2017).

Despite adequate fit, two items in this study were found to cross-load: "Daydreams too much" which falls under internalizing problems but cross-loaded onto attention problems, and "Does not listen to rules," which was created to fall under the externalizing problems construct but cross-loaded with attention problems. The authors of the study posited that, due to the nature of symptomology presented in the Diagnostic and Statistical Manual for Mental Disorders (DSM-5; American Psychiatric Association, 2013) for Attention

Deficit/Hyperactivity Disorder (ADHD), it made theoretical sense that "Does not listen to rules" would cross-load onto attention problems, as this is a behavior noted in some children who present with ADHD. Furthermore, it made theoretical sense to the authors that "Daydreams too much" would cross-load onto the latent construct of attention problems, given the individualized play children who are withdrawn may partake in (DiStefano, Liu, & Burgess, 2017). To address the cross-loadings, the two items were allowed to freely estimate in the analyses.

The study by Distefano and colleagues (2017) focused on the PSC-17 as completed by teachers. However, the PSC-17 has not yet been extensively studied for use by parents of preschool children in the school setting. If the PSC-17 is to be considered for use in universal screenings in preschools, it is imperative that the validity of the PSC-17 as completed by Latinx parents be evaluated. Because the PSC-17 has been studied with a preschool population only once previously and the study focused solely on teacher informants (DiStefano, Liu, & Burgess, 2017), more research is needed to evaluate whether the PSC-17 is appropriate for use by parents of preschool children.

The Current Study

Increased recognition of the importance of early identification of mental health concerns warrants the need for tools that accurately evaluate young children's mental health. The PSC– 17 is a readily available measure that may be appropriate for use in preschools. However, more research is needed evaluating its use with parent informants of preschool-age children. This study sought to:

1) Examine the construct validity of the Spanish and English versions (separately) of the PSC-17 for use with Latinx preschool children as rated by their parents.

2) Test whether the Spanish and English versions of the PSC-17 demonstrate measurement invariance.
3) Evaluate the convergent validity of the Spanish and English versions of the PSC-17 as rated by parents with a different mental health screening measure rated by parents and teachers.
4) Evaluate the predictive validity of the Spanish and English versions of the PSC-17 as rated by parents using mental health screening scores five months later and social-emotional kindergarten readiness one year later.

Methods

Participants

Over the course of three academic years (2016-2017, 2017-2018, and 2018-2019), 822 families at five participating preschools in Central California were invited to participate in this project. A total of 578 families in preschool consented to participate in this study (70.3% participation rate). However, as this study sought to evaluate the use of the PSC-17 for Latinx children, 90 families from non-Latinx backgrounds were removed from the sample. All parents included in this study self-identified as Latinx. A remaining total sample of 488 participants (84% of the total sample) were included in the present study.

The overall sample was split into two subsamples across language forms, as this study focused on the evaluation of psychometric properties across language versions of the PSC-17. Two-hundred ninety families completed forms in Spanish and 198 families completed forms in English. In the sample of families completing forms in Spanish, the average age of the children evaluated by their parents was 4.25 (SD = .42) and 50% were female. The average age of parents in this sample was 34.89 (*SD* = 6.38). In the sample of families

completing forms in English, the average age of the children evaluated by their parents was 4.22 (*SD* = .44) and 56% were female. The average age of parents in this sample was 29.83 (*SD* = 5.47). See Table 1 for a more detailed table with demographic information. Independent sample t-tests were run to evaluate if there were significant demographic differences across both language samples. Marital status, parent gender, child gender, and free/reduced lunch status were not significant across samples. Parent generational status, child generational status, and educational level were all significantly different across samples. Parents in the English language sample were more likely than parents in the Spanish language sample to have received higher levels of education (F (478) = 76.26, $p < .001$), more likely have been born in the U.S. (1st, 2nd, and 3rd generation; F (476) = 35.54, $p < .001$), and their children were more likely to be 2nd or 3rd generation, as opposed to 1st generation (F (477) = 11.03, $p = .001$).

A small subsample for whom data were available was used to examine predictive estimates using parent-rated (n = 34 English sample; n = 47 Spanish sample) and teacher-rated (n = 30 English sample; n = 43 Spanish sample) behavioral rating scales. Data were used from the cohort that participated in 2016-2017, as these data were only collected in that particular academic year. This subsample was also used to examine convergent validity.

Procedure

University Institutional Review Board and school district approval were received for this study prior to consent and data collection. Data collected for this study were part of a larger project conducted across California and South Carolina examining screening instruments for use in preschools (Institute of Education Sciences Grant: R305A150152). However, the data evaluated as part of this current study were only from the participating

California school sites to decrease threats to external validity. Parents at five schools in a Central California school district were recruited through school registration processes and at family event nights (i.e., school open house). Consent from parents to participate during the fall and spring of the 2016-2017, 2017-2018, and 2018-2019 academic years was received prior to completing study survey forms. All parents were asked to complete the PSC-17, the *Behavior Assessment System for Children -3 BESS* (BASC-3 BESS; Kamphaus & Reynolds, 2015), and demographic information about themselves and the child they were completing the forms for in the fall. In the Spring, the 2016-2017 cohort of participating parents was asked to complete the *Behavioral Assessment System for Children-3* (BASC-3; Reynolds & Kamphaus, 2015), which is the longer omnibus form from which the BESS was derived. Additionally, teachers completed the *Kindergarten Student Entrance Profile* (KSEP; Lilles et al., 2009) for each child in the 2016-2017 cohort in the fall of their kindergarten year (Fall 2017). Participating parents across all three years received a book for their child and were entered into a raffle for a yearly family membership to the local zoo or science museum. Parents consented for school district archival data to be shared with study team members, which included kindergarten readiness information provided by teachers.

Measures

Pediatric Symptom Checklist – 17 (PSC-17; Jellinek et al., 1988). The PSC-17 was designed to evaluate the mental health of children ages 3 to 17 in hospital and pediatric settings by asking parents about three areas of functioning: attention problems, internalizing problems, and externalizing problems. Responses on the PSC-17 are on a 3-point scale with answer choices being *Never (0), Sometimes (1)*, and *Often (2)*. The PSC-17 is scored by adding the 17 item responses for a total score ranging from 0 to 34. For the PSC-17, Gardner

and colleagues (2007) recommend a total cut-off score of 15. Scores above 15 indicate a child is at-risk of social-emotional concerns, while scores below 15 indicate normative levels of social-emotional functioning. Subscale scores can be calculated for attention risk (>7), internalizing risk (>5), and externalizing risk (>7). Strong internal consistency in previous studies has been demonstrated, ranging from .82 to .88 (Distefano, Liu & Burgess, 2017). Internal consistency for the overall score of this measure for this study was $\alpha = .78$ in the Spanish sample and $\alpha = .80$ in the English sample.

The Behavior Assessment System for Children – 3 Behavioral and Emotional Screening System - Parent Preschool Form and Teacher Preschool Form (BASC-3 BESS; Kamphaus & Reynolds, 2015). The BASC-3 BESS is a 29-item (parent) or 20-item (teacher) scale that evaluates students' internalizing behavior risk, externalizing behavior risk, and adaptive skills risk of children ages three to five. These three subscales combine to produce an overall behavioral and emotional risk score, known as the Behavioral and Emotional Risk Index (BASC-3 BESS BERI). Answers are rated on a four-point Likert-type scale with responses: *Never, Sometimes, Often*, and *Almost Always*. The scale is available for use in Spanish and English. The majority of reliability and validity evidence for the BASC-3 BESS Parent form comes from the norming sample. Internal consistency of the BASC-3 BESS Parent Preschool Form BERI is .95-.96, and internal consistency across subscales ranges from .85 to .88 (Kamphaus & Reynolds, 2015). The BASC-3 BESS has been recommended for use in school universal screening (Chin, Dowdy, & Quirk, 2013; Naser & Dever. 2019) and both the parent-rated and teacher-rated English versions have demonstrated strong validity and reliability evidence in support of its use (Dowdy, Chin, Twyford, & Dever, 2011; Kamphaus & Reynolds, 2007; King & Reschly, 2014; Naser & Dever, 2019).

Studied to a lesser extent, the parent-rated Spanish version of the BASC-3 BESS has shown some validity evidence in support of its use (Edyburn, DiStefano, Dowdy, Bertone, & Greer, 2018) and the internal consistency of the parent-rated Spanish version was .62. Both the parent-rated and teacher-rated BASC-3 BESS BERI were used to evaluate the convergent validity of the PSC-17 form, as both the BASC-3 BESS and PSC-17 measures are intended for mental health screening purposes and evaluate young children's mental health. Sum scores of PSC-17 were correlated with the BASC-3 BESS Parent and Teacher Preschool form BERI. In the English language sample, the internal consistency of the parent-rated BASC-3 BESS was .86 and teacher-rated BASC-3 BESS was .94. For the Spanish language sample, the parent-rated BASC-3 BESS internal consistency was .87 and teacher-rated BASC-3 BESS was .94.

The Behavior Assessment System for Children – Third Edition Parent Rating Scale – Preschool Form (BASC-3 PRS-P; Reynolds & Kamphaus, 2015). The BASC-3 PRS-Parent was used to evaluate how early social-emotional functioning as assessed by the PSC-17 is associated with social-emotional functioning five months later. The BASC-3 PRS-P is a measure used to evaluate the overall mental health of children ages three through five and is available in Spanish and English. There are 139 items on the form, and parents are asked to choose one of four Likert-type responses: *Never, Sometimes, Often,* or *Almost Always.* An overall score, the Behavioral Symptoms Index (BASC-3 BSI), is calculated by combining the composite scores of the following subscales: Hyperactivity, Aggression, Depression, Atypicality, Attention Problems, and Withdrawal. Reliability of the BASC-3 BSI standardization sample was .84 (Reynolds & Kamphaus, 2015). In this study, the English

version of the BASC-3 PRS-P BSI had a Cronbach's alpha of .73 and the Spanish version a Cronbach's alpha of .83.

Kindergarten Student Entrance Profile (KSEP; Lilles et al., 2009). The KSEP is an instrument designed to evaluate children's kindergarten readiness by assessing three different areas of kindergarten preparedness: social-emotional/behavioral, physical, and cognitive. The KSEP is intended to be completed by students' teachers after teachers have been in the classroom with the students and had an opportunity to observe and work with them for at least three weeks. The KSEP contains 13 items, with response items indicating a child's level of mastery: *not yet, emerging, almost mastered,* and *mastered*. The teacher is able to communicate with the child in any language to evaluate for mastery of certain areas (Quirk, Nylund-Gibson, & Furlong, 2013). Previous studies have demonstrated evidence in support of validity of the KSEP, with one study in particular finding internal consistency of .89 and subscale reliability coefficients of .85, .77, and .68 (Quirk, Nylund-Gibson, & Furlong, 2013), as well as a two factor structure composed of a social-emotional factor and a cognitive factor for use with Latinx children (Quirk, Rebelez, & Furlong, 2014). In this study, the KSEP social-emotional subscore, which is a mean score calculated from the subscore items, was used to evaluate whether the PSC-17 is predictive of social-emotional/behavioral kindergarten readiness.

Demographic Questionnaire. Parents were asked to complete demographic information about themselves and their children. They were asked to provide information about their child, including the child's date of birth, race/ethnicity, generational status, and if the child qualified for Free/Reduced Lunch. Parents were asked to report their date of birth, gender, marital status, educational status, race/ethnicity, and generational status.

Analytical Plan

Construct and structural validity. To understand whether the PSC-17 demonstrates construct validity, confirmatory factor analysis (CFA) was conducted using Mplus version 7.4 (Muthén & Muthén, 1998-2017). Aligned with previous empirical evidence and theoretical support, three separate factor structures were tested: a higher order model, a three-factor model, and a unidimensional (one-factor) model (see Figure 1). The CFAs were run on the English and Spanish samples separately using weighted least square with mean and variance estimation (WLSMV). This estimation method was chosen due to the Likert-type response options of the PSC-17 that only have three categories (i.e., never, sometimes, often; Finney & DiStefano, 2013). The following fit indices were used to evaluate model fit: chi-square test of model fit (X^2), root-mean-square error of approximation (RMSEA), comparative fit index (CFI), and Tucker-Lewis index (TLI). The sample sizes for this study were moderate in size ($n_1 = 290$; $n_2 = 198$); hence, models with significant chi-square values were retained (Fabriger et al., 1999). RMSEA values below .05 and CFI and TLI values above .95 indicate good fit, while RMSEA values below .08 and CFI and TLI values between .90 and .95 still demonstrate acceptable fit (Brown, 2006). These fit indices were used to evaluate each of the three factor structures tested, as well as to evaluate the increasingly restrictive models of measurement invariance.

Measurement invariance. To test for invariance across the two samples, multiple statistical steps should be taken that involve placing additional restrictions with each model tested (Steenkamp & Baumgartner, 1998; Cheung & Rensvold, 2002). Generally, the three levels of invariance are: 1) configural, 2) metric, and 3) scalar. Configural invariance assesses whether the factor structure is equivalent across the samples being evaluated, in this

case the Spanish and English versions of the PSC-17, as completed by parents of preschool children. Configural invariance establishes baseline models with adequate fit to then conduct metric and scalar invariance analyses. If configural invariance is met, it demonstrates that the items load onto the same factors for both samples. Following configural invariance, metric invariance is tested, which restricts factor loadings to be equivalent across groups. Metric invariance provides evidence that the relations between items and factors are the same across the two samples (Steenkamp & Baumgartner, 1998), in this case, the Spanish and English versions of the PSC-17. The third step in conducting measurement invariance is to specify scalar invariance. Scalar invariance is more restrictive than the previous two steps, as it restricts both factor loadings *and* intercepts. Scalar invariance is met when the item means and factor loadings across groups are similar enough.

Convergent and predictive validity. Convergent validity of the PSC-17 was evaluated by running bivariate correlations using Statistical Packaging for the Social Sciences 25 (SPSS 25). Based on the factor structure found when examining the PSC-17 English and Spanish versions, sum scores of the identified factors were correlated with an additional screening measure of behavioral and emotional risk, the BASC-3 BESS.

Based on measurement invariance results when examining the PSC-17 English and Spanish versions, predictive validity of the PSC-17 was evaluated using two simple linear regressions in SPSS 25. The first was a simple linear regression examining the relation between the overall PSC-17 sum score and the student's spring parent-rated. The second simple linear regression was run with the PSC-17 sum score predicting the child's social-emotional kindergarten readiness as assessed by the teacher-rated KSEP Social-Emotional Subscore. Predictive validity estimates were examined using a small subsample of the data

pulled from the cohort that participated in 2016-2017, as the BASC-3 and KSEP data were only collected in that particular academic year. These analyses will be conducted in order to understand whether the PSC-17 is useful in predicting teacher-rated social-emotional kindergarten readiness one year later and parent-rated social-emotional functioning five months later.

Results

Data Screening

Preliminary data screening was conducted to examine each item for any violations of assumptions. Frequencies, means, standard deviations, skewness, and kurtosis were examined. Four items (item 2, 3, 4, and 13) on the PSC-17 demonstrated problematic frequencies. Seven items in the Spanish sample and five items in the English sample demonstrated highly non-normal distributions (See Appendix B). For item 2, "Feels hopeless," and item 13 "Teases others," no parent who completed the PSC-17 in English endorsed the "often" response option. For item 3 "Is down on self" (*se siente mal de si mismo*) and 4 "Worries a lot" (*se preocupa mucho*), no parent who completed the PSC-17 in Spanish endorsed the "often" response option. Non-normal response patterns are particularly common with categorical variables, especially when there are few response options and there is a small study sample to begin with (DiStefano & Morgan, 2014; Múthen, 1993; Pendergast, von der Embse, Kilgus, & Eklund, 2017). Because this study consisted of two samples with a small sample size (n = 198; n = 290), and a categorical, three-choice response scale (*never, sometimes, often*), all items were retained prior to beginning confirmatory factor analyses and measurement invariance analyses. Descriptive statistics can be examined further in the Appendix.

Construct Validity for the PSC-17 Spanish Version

Using confirmatory factor analyses, three models were first tested using the Spanish sample: a three-factor model, a higher-order model, and a unidimensional (one-factor) model (See Figure 1). When the three-factor baseline model of the Spanish CFA was run, it demonstrated poor fit (X^2 (116) = 363.91; RMSEA = .086 [.076, .096]; CFI = .793; TLI = .757). This was due to highly negative correlations between items 2 and 7 (r = -.987) and between item 7 and 3 (r = -.986). Given the high negative multicollinearity, item 7 was removed. Upon removal, the three-factor model with the remaining 16 items was tested. The analyses demonstrated good fit indices (X^2 (101) = 145.06; RMSEA = .039 [.023, .052]; CFI = .959; TLI = .952), with all factor loadings above .318.

A higher-order model with all 17 items was also tested with the Spanish sample, and this model demonstrated the same problems as the three-factor model, specifically the high negative multicollinearity with item 7. Fit indices for higher order models with three factors are the same as their single-level models (DiStefano, Liu, & Burgess, 2017), unless there are issues of multicollinearity or if the model does not converge for the higher order level of the model being added. Hence, because the three-factor model and the higher-order model demonstrate the same fit indices, either model would work. Given the theoretical grounding for a higher-order factor that encompasses an overall social-emotional risk score, the higher-order model is preferred for the PSC-17 over the three-factor model.

Finally, a unidimensional model was tested, in which all 17 items loaded onto a single risk factor. This model resulted in poor fit indices (X^2 (119) = 450.131; RMSEA = .098 [.089, .108]; CFI = .723; TLI = .684) and the same multicollinearity issues with items 7 and 2 and items 7 and 3 were present. The one-factor model without item 7 was then tested; however,

although fit indices improved from the initial unidimensional model, this model still demonstrated poor fit (X^2 (104)= 227.363; RMSEA = .064 [.053, .076]; CFI = .886; TLI = .869). Individual fit indices for each model can be seen in Table 2. Considering results of all three models tested with CFA, the higher-order model with removal of item 7 demonstrates the best fit for use with Spanish-speaking Latinx parents of preschool children. In the higher order model, three factors (externalizing problems, internalizing problems, and attention problems) load onto a higher-order factor, social-emotional risk.

Construct Validity for the PSC-17 English Version

The same three models tested on the Spanish sample were tested using the English sample. The first model tested was the three-factor model, which demonstrated similar issues with multicollinearity as the Spanish sample. However, the items that were highly negatively correlated in the English sample were item 11 and item 3 (r = -.986). Despite adequate fit indices (X^2 (116) = 224.582; RMSEA = .69 [.055, .082]; CFI = .911; TLI = .895), the analyses were rerun without item 3 due to a high modification index (49.096). When removing item 3 and running a three-factor model with the remaining 16 items of the PSC-17, the model demonstrated good fit indices (X^2 (101) = 133.553; RMSEA = .040 [.018, .058]; CFI = .972; TLI = .967) and all factor loadings above .550.

A higher-order model was tested next, first with all items and then with the removal of item 3. The fit indices for the higher-order model were the same as for the three-factor model (See Table 2). As in the Spanish sample, the higher-order model is the preferred model between a three-factor and a higher order model due to the theoretical basis of the PSC-17 as a screener, in which an overall score is often used to evaluate a child's social-emotional risk.

Lastly, a unidimensional factor model was tested, with all items loading onto a single risk factor. This model demonstrated poor fit indices (X^2 (119) = 380.118; RMSEA = .106 [.094, .118]; CFI = .785; TLI = .754). Due to concerns with item 3, this model was re-run with the remaining 16 items but the model did not converge. When models do not converge, this can be due to a fixed starting value that is negative or is not estimating close to 1. Because a factor structure that demonstrated good fit was unable to be identified, further analyses with the unidimensional model for the English sample were not pursued. For the English version of the PSC-17, the best model is the higher-order model with the removal of item 3, with three factors (externalizing problems, internalizing problems, and attention problems) loading onto an overall social-emotional risk factor. Overall, findings of this study conclude that there is not sufficient structural evidence of the full PSC-17 in English nor in Spanish, but that the 16 items in each language version do measure the constructs of internalizing problems, externalizing problems, and attention problems, and that these factors load onto one overall risk factor.

Measurement Invariance

In preparation for measurement invariance, a factor structure that fit both samples needed to be identified. After careful consideration of modification indices, factor loadings, and fit indices across the two samples, CFAs were run in the two separate samples without items 3 and 7. These items were both removed as each was problematic for either the Spanish or English forms. For the Spanish sample, fit indices were X^2 (87) = 128.19; RMSEA = .041 [.024, .055]; CFI = .963; TLI = .955; for the English sample: X^2 (87) = 125.28; RMSEA = .047 [.027, .065]; CFI = .966; TLI = .959. Afterward, increasing restrictions were placed to compare the Spanish and English higher order models to each other in the first step of

measurement invariance, known as configural invariance. However, due to the different number of thresholds for the items that were missing "often" response endorsements (see Descriptive Statistics section and Appendix) for items 2, 3, 4, and 14, the configural step of measurement invariance analysis was unable to be run. Although there are suggestions for replacing zero frequency cells for polychoric correlations such as this one, there are currently no recommendations for three response options (Savalei, 2011). A model without items 2, 3, 4, 14, and 7 was tested, but the model was unable to be identified due to an issue with item 5 in the Spanish sample. With the removal of item 5, the internalizing factor would be left with a single item and it is not acceptable to have a factor with a single item (Osborne, Costello, & Kellow, 2008). Overall, measurement analyses of the PSC-17 as completed by Latinx parents in Spanish and English were unable to be completed due to an inability to find a factor structure that adequately fit both samples.

Convergent Validity of the Spanish and English Versions of the PSC-17

Convergent validity of the PSC-17 was evaluated with the Spanish and English samples separately, due to the best-fitting factor structure differing across language groups. Bivariate correlations were run between the PSC-17 sum score and the BASC-3 BESS BERI as reported by the student's parent and the BASC-3 BESS BERI as reported by the teacher. For the Spanish language sample, bivariate correlations demonstrated that the PSC-17 sum score was significantly positively correlated ($p < .01$) with the parent-rated BASC-3 BESS BERI, but was not significantly correlated with teacher-rated BASC-3 BESS BERI score. For the English language sample, bivariate correlations showed that the PSC-17 sum score was significantly and positively correlated ($p < .01$) with the parent-rated BASC-3 BESS BERI, but not with the teacher-rated BASC-3 BESS BERI (See Table 3). In summary, the

PSC-17 in both languages was only significantly positively correlated with the parent-rated BASC-3 BESS BERI and not with the teacher-rated BASC-3 BESS-BERI.

Predictive Validity of the English and Spanish Version of the PSC-17

To test the predictive validity of the PSC-17, simple linear regression models were calculated to test whether the PSC-17 can predict mental health risk five months later (parent-rated BASC-3 BSI) and kindergarten readiness, as rated by teachers, one year later (KSEP social-emotional subscore; See Table 4). Because each language sample had a different best-fitting factor structure, the analyses were run by creating a sum score of the PSC-17 with the removal of the problematic item for each sample (item 3 in English and item 7 in Spanish).

For the English version, a significant regression equation was found for the PSC-17 English overall score predicting a child's parent-rated BASC BSI ($R^2 = .243$; $F(1, 33) = 10.61$, $p < .003$). These results demonstrate that the PSC-17 English significantly predicted preschoolers' mental health five months later as rated by parents. A non-significant regression equation was found for the PSC-17 English overall score predicting the teacher-rated KSEP Social-Emotional Subscore ($R^2 = .003$; $F(1, 29) = .080$, $p < .78$).

For the Spanish version, a significant regression equation was found for the PSC-17 Spanish overall score predicting a child's parent-rated BASC BSI ($R^2 = .34$; $F(1, 46) = 23.42$, $p < .000$), demonstrating that the PSC-17 Spanish significantly predicted preschoolers' mental health five months later as rated by parents. A non-significant regression equation was found for the PSC-17 Spanish overall score predicting the KSEP Social-Emotional Subscore ($R^2 = .04$; $F(1, 42) = 1.60$, $p < .21$). Therefore, the PSC-17 Spanish did not significantly predict preschoolers' teacher-rated social-emotional kindergarten readiness,

which was evaluated a year after the PSC-17 was administered to parents. Overall, consistent findings were found across the Spanish and English language samples, with the PSC-17 predicting social-emotional functioning five months later as rated by parents, but not social-emotional aspects of kindergarten readiness one year later as rated by teachers.

Discussion

In order to understand if the parent-rated PSC-17 is an appropriate measure for use in both Spanish and English with Latinx children in preschool, this study examined the construct, structural, convergent, and predictive validity of this measure. Findings of this study demonstrate concerns with the PSC-17 for use with parent-raters of their Latinx preschoolers' social-emotional functioning for both Spanish and English versions.

Construct and Structural Validity Findings

The first step of the study was to examine the construct and structural validity of the PSC-17. Three different factor structures were studied for both theoretical and statistical reasons. CFAs of both language samples demonstrated that items clustered appropriately among the three general factors of externalizing problems, internalizing problems, and attention problems (construct validity). However, the Spanish sample did not demonstrate good fit of a three-factor or higher order model until removal of one item which asks if the child "Daydreams often" (Spanish: sueña despierto demasiado). Distefano and colleagues (2017) also found issues with this item in their examination of the teacher-rated PSC-17 for preschool children, as it cross-loaded on the Internalizing Problems and Attention Problems factors. Similar to the Spanish sample, the English sample did not demonstrate good fit until the removal of one item, which asks if the child "Is down on self" (se siente mal de sí mismo). Both the three factor and higher-order structures demonstrated good fit after

removal of the respective single items in each sample. Combining statistical and theoretical information, a higher order model was chosen to best represent the Spanish and English versions of the PSC-17. However, this study only provides evidence in support of the PSC-17 after the removal of specific items, and these are not the same items across both language samples.

Measurement Invariance Findings

Little research has been conducted on the PSC-17 with Latinx populations (Jutte, Burgos, Mendoza, Ford, & Huffman, 2003) and there is no current research on comparisons of the parent-rated English and Spanish versions of the PSC-17 at any child age. This study was the first examining Spanish-English measurement invariance of the PSC-17 with parent-raters. Measurement invariance analyses were unable to be run as a result of a number of items across language samples that did not endorse the "often" response option at all in either language. Hence, the differences in number of thresholds being compared across language samples did not allow for analyses to occur. The problematic items in Spanish asked, "Is down on self" and "Worries a lot," while the problematic items in English were "Feels hopeless" and "Teases others." It is difficult to disentangle if the inability to run measurement invariance analyses was due to the categorical response options of the scale, the translation and adaptation of the items, or the interpretation of the items by the participants when rating children in preschool. However, researchers have emphasized concerns with language translations, the culturally-bound nature of mental health, and potential misinterpretations of the intended meanings of items by parents who do not identify as part of the dominant culture (Jellinek, Murphy, Little, Pagano, Comer, & Kelleher, 1999; Rogler, 1989). This study provides evidence that the PSC-17 in Spanish does not function

equivalently to the English version, and more research is warranted before it can be used with English- and Spanish-speaking participants in the same sample.

Convergent Validity Findings

Convergent validity demonstrated that the PSC-17 in both languages was significantly and positively correlated with the BASC-3 BESS Parent form, but not the BASC-3 BESS Teacher form. On one hand, these findings provide support for the validity of the constructs in both languages, as both the Spanish and English PSC-17 were highly associated with a similar social-emotional functioning measure as rated by parents. On the other hand, the teacher-rated form was not significantly associated with the PSC-17 in either language. It is possible that, although these items cluster in three factors and load onto a higher-order factor, as well being highly, significantly correlated with another mental health screener (i.e, BASC-3 BESS Parent Form), they may be measuring different constructs across language versions due to the translations.

Predictive Validity Findings

A crucial aspect of universal mental health screening tools – beyond accurately identifying students at-risk or in need of social-emotional supports— is understanding the supports of the scores over time, which is the ability of the PSC-17 to predict later social-emotional functioning (King & Reschly, 2014). As universal mental health screenings are on a large scale and can be timely and costly, it is important that measures are predictive of future social-emotional functioning because they are not intended to be conducted often (recommended to occur at least once a year; Dever, Dowdy, & DiStefano, 2018). As such, when considering the PSC-17 as a potential measure for universal screening, its predictive validity must be weighed. In this study, predictive validity, like convergent validity, was

tested with the removal of the respective item in each language sample and the PSC-17 sum score was found to predict social-emotional functioning five months later, as rated by parents on the BASC-3 PRS-Parent and rated by teachers on the BASC-3 BESS. These findings suggest that the PSC-17 predicts future social-emotional functioning as rated by both parents and teachers, even when using another form (BASC-3 BESS and omnibus form).

Interestingly, scores on both the Spanish and English versions (with the removal of their respective single item) of the PSC-17 did not predict kindergarten social-emotional readiness a year later. One study found that the previous version of the BESS (BASC-2) preschool social-emotional screener was associated with the KSEP social-emotional subscores (Dowdy, Chin, & Quirk, 2013), but the study conducted bivariate correlations at the same time point. Additionally, Dowdy and colleagues (2013) did not run predictive analyses and also evaluated the BASC-2 BESS as completed by teachers. One reason the PSC-17 may not have been predictive of social-emotional kindergarten readiness in the current study could be that different informants completed the screening measures, with the PSC-17 being completed by parents and the kindergarten readiness forms being completed by teachers in an elementary school setting (instead of preschool) the following year. Another plausible explanation could be that the PSC-17 scores were compared with social-emotional functioning one year later rather than concurrent social-emotional functioning measures. Research on multiple informants has demonstrated low agreement across parent and teacher informants (De Los Reyes et al., 2015; Achenbach, 1987) and research on the longitudinal prediction of screeners has been mixed (Aitken, Martinussen, & Tannock, 2017; King & Reschly, 2014; Naser & Dever, 2019; Owens et al., 2015).

Implications for Practice and Research

The findings of this study have implications for the field of applied psychology and the assessment of the mental health of preschoolers. As public school systems in the U.S. continue to serve an increasingly diverse student body, serious considerations must be made when selecting mental health assessment measures that adequately evaluate their mental health needs. At this time, the PSC-17 with all items included does not demonstrate sufficient evidence of being an adequate measure to assess the mental health of preschool-age children as completed in Spanish or English by parents of Latinx backgrounds (predominantly Mexican/Mexican-American). School districts with (Spanish or English-speaking) Latinx individuals seeking to conduct universal screening should not consider the PSC-17 as an option for a screener at the preschool-level at this time. Due to both the number of problematic items on each language version of the PSC-17 and the lack of measurement invariance, additional refinement of the scale (and study of the resulting scale's psychometric properties) needs to occur before this measure can be used for universal screening with Latinx children in schools. These steps are necessary whether the PSC-17 is completed in English or in Spanish, but particularly when there is a mix of both language forms to be completed by parents.

Lack of measurement invariance across language samples causes problems in the implementation of universal screening, but also in the application of the PSC-17 on an individual basis; for example, when it is used for a single client in a community-based mental health center. For instance, if a father completed a PSC-17 in English for their child and a few weeks later their mother completed it about their child in Spanish, these scores would not be able to be compared. If practitioners choose to use the PSC-17 for Latinx clients, they may want to consider removal of item 3 in the English version and removal of item 7 in Spanish,

as after removal of one item on each form, findings showed evidence of a higher-order factor structure with three factors loading onto a single factor. The three factors intended to be measured by the PSC-17 are internalizing problems, externalizing problems, and attention problems, and the higher order factor is conceptualized as social-emotional risk. Hence, the scale with the removal of the respective items in each language version may provide insightful information to clinicians about their clients' internalizing, externalizing, and attention problems and give a meaningful overall risk score. However, if this suggestion were to be followed, the current suggested cut-off scores of the PSC-17 (Massachusetts General Hospital) would not be applicable and could not be used. Clinicians seeking to use this as a screener in isolated situations with Latinx families should proceed with caution in administering this measure and in their interpretation of the scores. They will want to consider if they intend to make any comparisons across language versions of the PSC-17.

The findings of this study have implications for research as well. First and foremost, replication of this study is needed with larger and more diverse Latinx samples to examine if the same items are still problematic across Spanish and English language samples. Also, researchers considering use of the parent-rated PSC-17 to measure mental health in preschool children from Latinx backgrounds should consider removal of item 7 in the Spanish version and removal of item 3 in the English version prior to using scores for inclusion in statistical models. Additionally, researchers should not use the PSC-17 in Spanish and English for use with this age group if they plan to make comparisons across groups, even when those groups are compared across other demographic criteria beyond language. For example, if a researcher collects information about Latinx preschool children using the PSC-17 as completed by parents in both Spanish and English and then compares the groups based on

gender identity or age, they will not be evaluating differences accurately, since there is currently no evidence that the PSC-17 functions equivalently across languages for this age group.

Researchers should consider conducting refinement of the scale and work to identify a version of the PSC-17 that can be used in Spanish and in English equally, without the removal of certain items in each language version. When a consistent version is created that shows strong psychometric properties in both Spanish and English, researchers will then be able to use the PSC-17 in Spanish and English with Latinx families and make comparisons across groups (and practitioners in schools will be able to implement the tool for universal screening). Provided that there currently exists no free universal screening measure with strong psychometric evidence in support of its use with Latinx parent-raters of preschool children, and less evidence with Spanish versions, refinement of this scale may be a worthwhile endeavor and provide a meaningful contribution to schools.

Broadly-speaking, both clinicians and researchers should be wary of employing translated measures until they have thoroughly examined how translations and adaptations of the measures were conducted and if there is sufficient evidence to support their use. For instance, although the PSC-17 is generously available in multiple languages for free on Massachusetts General Hospital's website (https://www.massgeneral.org/psychiatry/services/treatmentprograms.aspx?id=2088&display=forms), there are currently no citations or information provided on the translations on the website. Without thorough consideration prior to choosing this measure, the PSC-17 may be incorrectly used in light of lack of evidence of validity in support of its use. Mental health professionals and investigators must do their due diligence and seek out further information

on studies conducted that provide validity evidence for or against the use of a specific measure in a particular language.

Limitations

Limitations must be noted in light of the findings of this study. The English sample used for the CFA and measurement invariance analyses was composed of 199 participants, and this may be too small of a sample size to accurately compare groups. Sample size may also be partially why measurement invariance was unable to run (Cattell, 1978). Additionally, the participants of this study identified predominantly as Mexican and Mexican-American and all resided in one community in California; hence, the findings of this study are not generalizable to other Latinx subgroups or other races/ethnicities represented in U.S. preschool programs. Future studies will want to capture the diversity of the Latinx community to ensure that it is appropriate for children across Latinx subpopulations and as completed by parents from different Latinx backgrounds. Furthermore, the samples used to test the predictive validity of both samples of the PSC-17 were small, with less than 50 participants in each sample, and future studies should replicate these analyses with larger samples. Additionally, the BASC-3 BESS was used for both convergent and predictive validity analyses in this study, even though the current literature demonstrates limited evidence of adequate BASC-3 BESS psychometric properties (DiStefano, Greer, & Dowdy, 2017; Edyburn, Dowdy, DiStefano, Bertone, & Greer; under review). Lastly, the language selected for each family to complete forms was based on district data about family language. However, although parents may say they speak Spanish, they may feel equally or more comfortable speaking English. Because being bilingual can affect the interpretation of the items in both languages (Bialystok, 2017), researchers should be wary of how parents

come to complete forms in one language over the other and the confounding role of parents' bilingualism in the interpretation of items.

Future Directions

Much work remains to be done in the study of mental health screening measures for preschool children from Latinx backgrounds. First, more transparency and/or clarification is needed regarding the translation process for measures like the PSC-17. After thorough searches, we were unable to find, either on the PSC-17 website or in the literature, the translation process used for the PSC-17 Spanish version used in this study. Although highly accessible online translation platforms are continuing to be refined and may be an attractive, cost- and time-efficient manner of translating measures (i.e, GoogleTranslate), it is certainly not sufficient to enter a measure's items in English into an online translator. Proper translations of measures require an extensive and thorough process (Hambelton, 2005) and a "set of guidelines for adapting educational and psychological tests across cultures and languages" (Hambelton, 1996, p.1) has been put forth by the International Test Commission that should be closely followed by researchers hoping to use a measure in a language other than English and for a culture outside of the group it has been studied with. Published works regarding translated version of measures should be explicit and thorough in their explanation of their translation process.

Moreover, translation alone, no matter how linguistically-equivalent, is not sufficient when it comes to examining latent constructs such as those being assessed in mental health measures (Byrne, 2016). After a thorough translation, adapting the measure for the target population is needed, as having proper adaptations is important in adequately identifying children with mental health concerns across different groups. In order for adaptation to occur,

the content of items needs to be examined cross-culturally. To better understand the interpretation of items by different cultures, it is instrumental to conduct individual cognitive interviews or focus groups to understand concepts from diverse communities' and individuals' perspectives (Miller, Mont, Maitland, Altman, & Madans, 2011). Given the findings of this study, this work is necessary for the PSC-17, especially for Latinx Spanish-speaking parents of preschool-age children. Furthermore, in conjunction with the theoretical groundwork required in adaptation, researchers must conduct thorough psychometric and construct validation of instruments. As can be seen from this study and our review of the literature, there is a lack of psychometric evidence in support of the use of the PSC-17 with Latinx families, even English-speaking Latinx families, at preschool and beyond. When measures are designed and created with diverse perspectives in mind, they can more accurately and broadly screen for a range of problematic behaviors across cultural microcosms. This is particularly important in U.S. schools, where children from a range of racial and ethnic groups may participate in universal mental health screening. The decisions made from using mental health measures have the potential to significantly impact a child's life, warranting the need for thorough and accurate translations *and* adaptations. Consequently, important work remains to be done with PSC-17 prior to implementing it as a universal screening measure.

It is possible that the age group for which the PSC-17 was examined in this study (preschool) may play a role in the factor structure not holding with all items included. The PSC-17 has been used for children as young as 3 and as old as 17, yet presentation of concerning mental health symptoms can vary widely across this age range. As social-emotional universal screening efforts continue to grow, researchers may want to pursue the

creation of more age-appropriate mental health screeners. The preschool developmental stage may lend itself to a different presentation of externalizing and internalizing symptoms than seen when children are in elementary, middle, and high school (Korhonen, Luoma, Salmelin, Siirtola, & Puura, 2018; Wakschlag, Tolan, & Leventhal, 2010); thus, a developmentally appropriate screener for preschool-age children is a necessary consideration for screening (Dougherty, Leppert, Merwin, Smith, Bufferd, & Kushner, 2015). Additionally, research demonstrates high rates of comorbidity in preschool mental illness (Bufferd, Dougherty, Carlson, & Klein, 2011; Bufferd, Dougherty, Carlson, Rose & Klein, 2012), which further emphasizes the need to create and implement *preschool*-specific screeners, in which there may be age-specific overlap in the constructs targeted by a measure.

Multiple problematic items came to light during analyses for this study, further highlighting the need to consider the need for age-appropriate items. In examining the specific items of the PSC-17 (See Appendix A), the problematic item "Teases others" demonstrated a translation difference with the Spanish item. The translation in Spanish states "Bothers or makes fun of others", and did not pose the same measurement problem that the item in English did. Semantic differences present across items can drive measurement differences in which one group (i.e., Spanish) endorses an item at a different rate than another group (i.e., English). Relatedly, this item ("Teases others") also shows why a specific screening instrument for this age is necessary, as well as why the PSC-17 may not be an appropriate tool for use with preschool students as it currently stands. This item may be problematic in English because the act of "teasing" another child or adult requires a theory of mind that is not yet developed in three- to five-year-old children (and can even vary widely within the two-year age window; Wakschlag, Tolan, & Leventhal, 2010), while "bothering

others" and "making fun" of others is more developmentally appropriate for children of this age group. It would be more appropriate for parents of preschool children to answer to an item similar to the Spanish version of the item "teases others."

Development of measures should also consider incorporating items with behaviorally observable items, such that parents who may be raising their first child or who may not have extensive experience in working with children can identify certain behaviors that are concerning to a more highly-trained eye (e.g., teacher, mental health professional, parent with older children). Because the PSC-17 is used for children as young as 3 and as old as 17, some items are presented in an abstract manner that may be difficult for parents to respond (i.e., "Feels hopeless," "Seems to be having less fun"). Furthermore, a preschool screener with at least five response options may be useful, as a continuous response scale can help to avoid limitations in the study of the measurement and psychometric properties of the instrument, such as was the case in studying the functional equivalence across languages of the PSC-17, given its categorical responses (Pendergast, von der Embse, Kilgus, & Eklund, 2017). For example, a new measure may ask parents to report how often a behavior has been noticed by indicating: "In the past month, my child has demonstrated X behavior… 0 times, 1-5 times, 5-10 times, 10-20 times, more than 20 times." This can help to clarify how often a behavior tends to occur in the home, rather than using a response scale like the PSC-17 that asks, "Never," "sometimes," or "often." Asking parents to select "never," "sometimes," or "often" can also mask small nuances in behavior that at this young age can vary widely. By asking parents to specify the number of times a behavior is occurring within a week or a month, it may be clearer for clinicians to identify the severity of a cluster of behaviors. Researchers have previously posited that collecting data on the number of incidences of

behaviors can help in the assessment of preschool behavior and can also help to develop norms to identify psychopathological levels of behavior at this age (Dougherty, Leppert, Merwin, Smith, Bufferd, & Kushner, 2015).

More research is also needed on the specificity, sensitivity, and accuracy of the PSC-17. Some research of the longer PSC version, the PSC-35, provides evidence in favor of concerns with results of the use of the PSC with Spanish-speaking samples. Research focused on the positive screenings, sensitivity, and specificity of the parent-rated PSC-35 with preschool children in Spanish has demonstrated lower estimates of sensitivity and lower rates of positive PSC-35 scores in Latinx populations that differ substantially from White and Black children (for the 35-item scale; Jutte et al., 2003; Navon, Nelson, Pagano, & Murphy, 2001). One study found that PSC-35 accuracy was lowest for preschoolers with parents who were Spanish-speaking, with specificity at 53% and sensitivity at 75%, in comparison with 91% sensitivity and 65% sensitivity in the overall sample (Navon, Nelson, Pagano, & Murphy, 2001), while another study found sensitivity to be 75% and specificity 77% in a sample of 663 Latinx preschool children (Murphy, Pagano, Ramirez, Anaya, Nowlin, & Jellinek, 1999). The lower specificity and sensitivity rates for samples of preschool children with Spanish-speaking parents provide further support for concerns of translations and interpretations congruent with those raised in this study. It is important to note that none of the studies mentioned above studied measurement invariance of the PSC-35 or stated that it was present across the forms. Hence, not only is more research needed to understand if the PSC-17 is invariant for Latinx parents across languages, but also modifications to the measure are likely warranted before the PSC-17 Spanish and English versions can be widely implemented in preschools with Latinx parents.

Conclusion

In summary, the parent-rated PSC-17 warrants further refinement in both languages for Latinx preschoolers prior to its use for universal screening. There is need to 1) evaluate and update the translation and adaptation of items, 2) change some items to be developmentally appropriate, 3) revise the response scale currently used to answer the items, and 4) reevaluate the factor structure and measurement invariance across languages. Despite the recommendation to not use the PSC-17 for universal screening at this time, the PSC-17 remains a promising future screener after further refinement, given that it is accessible (free), brief, and shows evidence of predictive and convergent validity, and some evidence of construct validity.

The accurate and early identification of mental health concerns in children remains an important issue in the field of school-based mental health, especially as schools continue to grow in their acceptance and use of universal mental health screening. Efforts must continue to study the psychometric properties, validity, and reliability of both new and current measures to ensure that preschool screening measures are appropriate and sensitive for children from a range of diverse racial/ethnic backgrounds whose families speak a multitude of languages (Byrne, 2016; Levitt, Saka, Hunter Romanelli, Hoagwood, 2007).

References

Achenbach, T. M. (2017). Future directions for clinical research, services, and training: evidence-based assessment across informants, cultures, and dimensional hierarchies. *Journal of Clinical Child & Adolescent Psychology*, *46*(1), 159-169. doi: 10.1080/15374416.2016.1220315

Achenbach, T. M., & Rescorla, L. A. (2004). Empirically based assessment and taxonomy: Applications to infants and toddlers. In R. DelCarmen-Wiggins & A. Carter (Eds.), *Handbook of infant, toddler, and preschool mental health assessment* (pp. 161–182). New York: Oxford University Press, Inc.

Achenbach T.M., McConaughy S.H., & Howell C.T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin, 101*, 213–232. doi: 10.1037/0033-2909.101.2.213

Aitken, M., Martinussen, R., & Tannock, R. (2017). Incremental validity of teacher and parent symptom and impairment ratings when screening for mental health difficulties. *Journal of Abnormal Child Psychology, 45*(4), 827-837. doi: 10.1007/s10802-016-0188-y

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing. doi: 10.1176/appi.books.9780890425596

Bauman, K. (2017). School enrollment of the Hispanic population: Two decades of growth. U.S. Census Bureau Blogs. Retrieved from: https://www.census.gov/newsroom/blogs/random-samplings/2017/08/school_enrollmentof.html

Bayat, M., Mindes, G., & Covitt, S. (2010). What does RTI (response to intervention) look like in preschool? *Early Childhood Education Journal*, *37*(6), 493-500. doi: 10.1007/s10643-010-0372-6

Bialystok, E. (2017). The bilingual adaptation: How minds accommodate experience. *Psychological Bulletin, 143*(3), 233.

Birman, D. & Chan, W.Y. (2008). Screening and assessing immigrant and refugee youth in school-based mental health programs. *Center for Health and Health Care in Schools*. Washington, D.C.

Brown, T. A. (2006). *Confirmatory factor analysis for applied research.* New York, NY: Guilford Press.

Blumert, H., Kettler, R.J., & Lakes, K.D. (2015). The impact of language translation on the internal structure of a rating scale: The Strengths and Difficulties Questionnaire in Spanish. *Global Journal of Human Social Science*, 15(1), 57-68.

Bufferd, S. J., Dougherty, L. R., Carlson, G. A., & Klein, D. N. (2011). Parent-reported mental health in preschoolers: Findings using a diagnostic interview. *Comprehensive Psychiatry, 52,* 359–369. doi:10.1080/15374416.2012.759225

Bufferd, S. J., Dougherty, L. R., Carlson, G. A., Rose, S., & Klein, D. N. (2012). Psychiatric disorders in preschoolers: Continuity from ages 3 to 6. *American Journal of Psychiatry, 169*, 1157–1164. doi:10.1176/appi.ajp.2012.12020268

California Department of Education (2017). Definition of MTSS. California. Retrieved from: https://www.cde.ca.gov/ci/cr/ri/mtsscomprti2.asp

Carney, A. G., & Merrell, K. W. (2002). Reliability and comparability of a Spanish-language form of the Preschool and Kindergarten Behavior Scales. *Psychology in the Schools*, *39*(4), 367-373. doi: 10.1002/pits.10033

Cattell, R. B. (1978). The scientific use of factor analysis. New York: Plenum.

Cheung, G. W., & Rensvold, R. B. (1999). Testing factorial invariance across groups: A reconceptualization and proposed new method. *Journal of Management, 25*(1), 1-27. doi: 10.1177/014920639902500101

Child Trends Databank (2015). *Preschool and prekindergarten: Indicators of child and youth wellbeing.* Retrieved from: https://www.childtrends.org/?indicators=preschool-and-prekindergarten

Chin, J. K., Dowdy, E., & Quirk, M. P. (2013). Universal screening in middle school: Examining the behavioral and emotional screening system. *Journal of Psychoeducational Assessment, 31*(1), 53-60.

Coffee, G., Ray-Subramanian, C. E., Schanding Jr, G. T., & Feeney-Kettler, K. A. (2013). Summary and Future Directions for Early Childhood MTSS. In *Early Childhood Education* (pp. 113-118). Routledge.

Comrey, A. L., & Lee, H. B. (1992). A first course in factor analysis. Hillsdale, NJ: Erlbaum.

Dadds M. & Roth J. (2008). Prevention of anxiety disorders: results of a universal trial with young children. Journal of Children and Family Studies, *17*(3), 320–35. doi: 10.1007/s10826-007-9144-3

Davidov, E., Meuleman, B., Cieciuch, J., Schmidt, P., & Billiet, J. (2014) Measurement equivalence in cross-national research. *Annual Review of Sociology, 40.* doi: 10.1146/annurev-soc-071913-043137

De Los Reyes, A., Augenstein, T. M., Wang, M., Thomas, S. A., Drabick, D. A. G., Burgers, D. E., & Rabinowitz, J. (2015). The validity of the multi-informant approach to assessing child and adolescent mental health. *Psychological Bulletin, 141*(4), 858-900. doi:2048/10.1037/a0038498

Dever, B. V., Raines, T. C., & Dowdy, E. (2016). Factor structure and differential item functioning of the BASC-2 BESS Spanish Language Parent Form. *School Psychology Quarterly, 31*(2), 213-225. doi: 10.1037/spq0000131

DiStefano, C. (2002). The impact of categorization with confirmatory factor analysis. *Structural Equation Modeling, 9*(3), 327-346. doi: 10.1207/S15328007SEM0903_2

DiStefano, C., & Morgan, G. B. (2014). A comparison of diagonal weighted least squares robust estimation techniques for ordinal data. *Structural Equation Modeling: A Multidisciplinary Journal, 21*(3), 425-438.

DiStefano, C., Liu, J., & Burgess, Y. (2017). Investigating the structure of the Pediatric Symptom Checklist in the preschool setting. *Journal of Psychoeducational Assessment, 35*(5), 494 – 505. doi: 10.1177/0734282916647648

Dougherty, L. R., Leppert, K. A., Merwin, S. M., Smith, V. C., Bufferd, S. J., & Kushner, M. R. (2015). Advances and directions in preschool mental health research. *Child Development Perspectives, 9*(1), 14-19. doi: 10.1111/cdep.12099

Dowdy, E., Chin, J. K., & Quirk, M. P. (2013). Preschool screening: An examination of the Behavioral and Emotional Screening System preschool teacher form (BESS Preschool). *Journal of Psychoeducational Assessment, 31*(6), 578-584.

Dowdy, E., Chin, J. K., Twyford, J. M., & Dever, B. V. (2011). A factor analytic investigation of the BASC-2 Behavioral and Emotional Screening System Parent

Form: Psychometric properties, practical implications, and future directions. *Journal of School Psychology, 49*(3), 265-280.

Dowdy, E., Kamphaus, R. W., Twyford, J. M., & Dever, B. V. (2014). *Culturally competent behavioral and emotional screening.* In M.D. Weist, N.A. Lever, C.P. Bradshaw, & J. Sarno Owens (Eds.), *Handbook of School Mental Health* (311-321). Boston, MA: Springer.

Ennis, S.R., Ríos-Vargas, M., & Albert, N.G. (2011). The Hispanic population: 2010. Retrieved from: https://www.census.gov/prod/cen2010/briefs/c2010br-04.pdf

Epstein, J., Santo, R. M., & Guillemin, F. (2015). A review of guidelines for cross-cultural adaptation of questionnaires could not bring out a consensus. *Journal of Clinical Epidemiology, 68*(4), 435-441. doi: 10.1016/j.jclinepi.2014.11.021

Fabriger, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods, 4,* 272–299. doi: 10.1037/1082-989X.4.3.272

Finney, S. J., & DiStefano, C. (2013). Nonnormal and categorical data in structural equation models. In G.R. Hancock & R. O. Mueller (Eds.), *Structural equation modeling: A second course* (2nd ed., pp. 439-492). Charlotte, NC: Information Age.

Feeney-Kettler, K. A., Kratochwill, T. R., Kaiser, A. P., Hemmeter, M. L., & Kettler, R. J. (2010). Screening young children's risk for mental health problems: A review of four measures. *Assessment for Effective Intervention, 35*(4), 218-230. doi: 10.1177/1534508410380557

Feeney-Kettler, K.A., Kratochwill, T.R., & Kettler,R.J. (2009). Preschool behavior screening system. Unpublished instrument. Vanderbilt University.

Gardner, W., Lucas, A., Kolko, D. J., & Campo, J. V. (2007). Comparison of the PSC-17 and alternative mental health screens in an at-risk primary care sample. *Journal of the American Academy of Child & Adolescent Psychiatry*, *46*(5), 611-618. doi: 10.1097/chi.0b013e318032384b

Glover, T. A. & Albers, C. A. (2007). Considerations for evaluating universal screening assessments. *Journal of School Psychology, 45*, 117 – 135. doi: 10.1016/j.jsp.2006.05.005

Gorsuch, R. L. (1983). Factor analysis (2nd ed.). Hillsdale, NJ: Erlbaum.

Guilford, J. P. (1954). Psychometric methods (2nd ed.). New York: McGraw-Hill.

Haack, L. M., Kapke, T. L., & Gerdes, A. C. (2016). Rates, Associations, and Predictors of Psychopathology in a Convenience Sample of School-Aged Latino Youth: Identifying Areas for Mental Health Outreach. *Journal of Child and Family Studies, 25*(7), 2315–2326. doi: 10.1007/s10826-016-0404-y

Heckman, J.J. (2006). Skill formation and the economics of investing in disadvantaged children. *Science Magazine, 312,* 1900-1902. doi: 10.1126/science.1128898

Hu, L., & Bentler, P. M. (1995). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods, 3*, 424-453. doi: 10.1037/1082-989X.3.4.424

Jellinek, M. S., Murphy, J. M., Little, M., Pagano, M. E., Comer, D. M., & Kelleher, K. J. (1999). Use of the Pediatric Symptom Checklist to screen for psychosocial problems in pediatric primary care: a national feasibility study. *Archives of Pediatrics & Adolescent Medicine*, *153*(3), 254-260. doi: 10.1001/archpedi.153.3.254

Jellinek, M. S., Murphy, J. M., Robinson, J., Feins, A., Lamb, S., & Fenton, T. (1988). Pediatric Symptom Checklist: screening school-age children for psychosocial dysfunction. *The Journal of Pediatrics, 112*(2), 201-209. doi: 10.1016/S0022-3476(88)80056-8

Jones, D.E., Greenberg, M., & Crowley, M. (2015). Early social-emotional functioning and public health: The relationship between kindergarten social competence and future wellness. *American Journal of Public Health, 105*(11), 2283-2290. doi: 10.2105/AJPH.2015.302630

Kamphaus, R. W., & Reynolds, C. R. (2015). Behavior assessment system for children—third edition (BASC-3): Behavioral and emotional screening system (BESS). *Bloomington, MN: Pearson.*

Kim, E.S. & Yoon, M. (2011). Testing measurement invariance: A comparison of multiple-group categorical CFA and IRT. *Structural Equation Modeling: A Multidisciplinary Journal, 18(*2), 212-228. doi: 10.1080/10705511.2011.557337

King, K. R., & Reschly, A. L. (2014). A comparison of screening instruments: Predictive validity of the BESS and BSC. *Journal of Psychoeducational Assessment, 32*(8), 687-698.

Korhonen, M., Luoma, I., Salmelin, R., Siirtola, A., & Puura, K. (2018). The trajectories of internalizing and externalizing problems from early childhood to adolescence and young adult outcome. *Journal of Child and Adolescent Psychiatry, 2*(3).

Kostanecka, A., Power, T., Clarke, A., Watkins, M., Hausman, C. L., & Blum, N. J. (2008). Behavioral health screening in urban primary care settings: Construct validity of the

PSC-17. *Journal of Developmental & Behavioral Pediatrics, 29*(2), 124-128. doi: 10.1097/DBP.0b013e31816a0d9e

Levitt, J. M., Saka, N., Romanelli, L. H., & Hoagwood, K. (2007). Early identification of mental health problems in schools: The status of instrumentation. *Journal of School Psychology*, *45*(2), 163-191. doi: 10.1016/j.jsp.2006.11.005

Lilles, E., Furlong, M., Quirk, M., Felix, E., Dominguez, K., & Anderson, M. (2009). Preliminary development of the Kindergarten Student Entrance Profile. *The California School Psychologist, 14*, 71–80. doi: 10.1007/BF03340952

Liu, J., DiStefano, C., Burgess, Y., & Wang, J. (2018). Pediatric symptom checklist-17: Testing measurement invariance of a higher-order factor model between boys and girls. *European Journal of Psychological Assessment*. doi:http://dx.doi.org/10.1027/1015-5759/a000495

Liu, J., Burgess, Y., DiStefano, C., Pan, F., & Jiang, N. (2019). Validating the Pediatric Symptoms Checklist–17 in the preschool environment. *Journal of Psychoeducational Assessment*, 1-15. doi: 0734282919828234.

Naser, S. C., & Dever, B. V. (2019). A Preliminary Investigation of the Reliability and Validity of the BESS-3 Teacher and Student Forms. *Journal of Psychoeducational Assessment*, 1-7. doi: 10.1177/0734282919837825

MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods*, *4*(1), 84-99. doi: 10.1037/1082-989X.4.1.84

Miller, K., Mont, D., Maitland, A., Altman, B., & Madans, J. (2011). Results of a cross-national

structured cognitive interviewing protocol to test measures of disability. *Quality & Quantity: International Journal of Methodology, 45*, 801–815. doi: 10.1007/s11135-010-9370-4

Murphy, J. M., Bergmann, P., Chiang, C., Sturner, R., Howard, B., Abel, M. R., & Jellinek, M. (2016). The PSC-17: subscale scores, reliability, and factor structure in a new national sample. *Pediatrics, 138*(3). doi: 10.1542/peds.2016-0038

Murphy, J. M., Ichinose, C., Hicks, R. C., Kingdon, D., Crist-Whitzel, J., Jordan, P., ... & Jellinek, M. S. (1996). Utility of the Pediatric Symptom Checklist as a psychosocial screen to meet the federal Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) standards: a pilot study. *The Journal of Pediatrics, 129*(6), 864-869.

Muthén, L. K., & Muthén, B. O. (1998-2015). *Mplus Users Guide. Seventh Edition*. Los Angeles, CA: Muthén & Muthén.

Osborne, J. W., Costello, A. B., & Kellow, J. T. (2008). Best practices in exploratory factor analysis. *Best Practices in Quantitative Methods,* 86-99.

Pendergast, L.L., von der Embse, N., Kilgus, S.P., & Eklund, K.R. (2017). Measurement equivalence: A non-technical primer on categorical multi-group confirmatory factor analysis in school psychology. *Journal of School Psychology, 60*, 65-82. doi: 10.1016/j.jsp.2016.11.002

Powell, D., Dunlap, G., & Fox, L. (2006). Prevention and intervention for the challenging behaviors of toddlers and preschoolers. *Infants & Young Children*, *19*(1), 25-35. doi: 10.1097/00001163-200601000-00004

Quirk, M., Nylund-Gibson, K., & Furlong, M. (2013). Exploring patterns of Latino/a children's school readiness at kindergarten entry and their relations with grade 2

achievement. *Early Childhood Research Quarterly, 28,* 437-440. doi: 10.1016/j.ecresq.2012.11.002

Quirk, M., Rebelez, J., & Furlong, M. (2014). Exploring the dimensionality of a brief school readiness screener for use with Latino/a children. *Journal of Psychoeducational Assessment, 32*(3), 259-264. doi: 10.1177/0734282913505994

Rapee, R. M., Kennedy, S., Ingram, M., Edwards, S., & Sweeney, L. (2005). Prevention and early intervention of anxiety disorders in inhibited preschool children. Journal of consulting and clinical psychology, 73(3), 488. doi: 10.1037/0022-006X.73.3.488

Reed-Knight, B., Hayutin, L. G., Lewis, J. D., & Blount, R. L. (2011). Factor structure of the pediatric symptom checklist with a pediatric gastroenterology sample. *Journal of Clinical Psychology in Medical Settings, 18*(3), 299. doi: 10.1007/s10880-011-9242-7

Reise, S. P., Widaman, K. F., & Pugh, R. H. (1993). Confirmatory factor analysis and item response theory: two approaches for exploring measurement invariance. *Psychological Bulletin*, *114*(3), 552. doi: 10.1037/0033-2909.114.3.552

Reynolds, C. R., Kamphaus, R. W., & Vannest, K. J. (2011). Behavior assessment system for children (BASC). In *Encyclopedia of Clinical Neuropsychology* (pp. 366-371). Springer New York. doi: 10.1007/978-0-387-79948-3_1524

Reynolds, C. R., & Kamphaus, R. W. (2002). *The clinician's guide to the Behavior Assessment System for Children (BASC).* Guilford Press.

Rodriguez, J. C., Kettler, R. J., & Feeney-Kettler, K. A. (2017). Behavioral screening with a translated measure: Reliability and validity evidence for the preschool behavior screening system–parent Spanish form. *International Journal of Humanities and Social Science Invention, 6*(1), 11-21.

Runco, M. A., & Johnson, D. J. (2002). Parents' and teachers' implicit theories of children's creativity: A cross-cultural perspective. *Creativity Research Journal*, *14*(3-4), 427-438. doi: 10.1207/S15326934CRJ1434_12

Sandomierski, T., Kincaid, D., & Algozzine, B. (2007). Response to Intervention and Positive Behavior Support: Brothers from Different Mothers or Sisters from Different Misters? *Positive Behavioral Interventions and Supports Newsletter*, 4.

Savalei, V. (2011). What to do about zero frequency cells when estimating polychoric correlations. *Structural Equation Modeling: A Multidisciplinary Journal, 18*(2), 253-273. doi: 10.1080/10705511.2011.557339

Sireci, S. G., Yang, Y., Harter, J., & Ehrlich, E. J. (2006). Evaluating guidelines for test adaptation: A methodological analysis of translation quality. *Journal of Cross-Cultural Psychology, 37,* 557–567. http://dx.doi.org/10.1177/0022022106290478

Squires, J., Bricker, D., & Twombly, E. (2003). Ages and stages questionnaires: Social-emotional. Baltimore, MD: Brookes Publishing.

Steed, E. A., Pomerleau, T., Muscott, H., & Rohde, L. (2013). Program-wide positive behavioral interventions and supports in rural preschools. *Rural Special Education Quarterly*, *32*(1), 38-46. doi: 10.1177/875687051303200106

Steenkamp, J.E.M., & Baumgartner, H. (1998). Assessing measurement invariance in cross national consumer research. *Journal of Consumer Research, 25,* 78 – 90. doi: 10.1086/209528. doi: 10.1086/209528

Stoppelbein, L., Greening, L., Moll, G., Jordan, S., & Suozzi, A. (2011). Factor analyses of the Pediatric Symptom Checklist-17 with African-American and Caucasian pediatric

populations. *Journal of Pediatric Psychology, 37*(3), 348-357. doi: 10.1093/jpepsy/jsr103

Strickland, J., Hopkins, J., & Keenan, K. (2012). Mother-teacher agreement on preschoolers' symptoms of ODD and CD: Does context matter? *Journal of Abnormal Child Psychology*, *40*(6), 933-943. doi: 10.1007/s10802-012-9622-y

Schweinhart, L. J., Barnes, H. V., & Weikhart, D. P. (2005). Significant benefits: The High/Scope Perry preschool study through age 27. *Child Welfare: Major Themes in Health and Social Welfare*, 9-29.

Squires, J., Bricker, D., Twombly, E., Yockelson, S., Davis, M. S., & Kim, Y. (2002). Ages & Stages Questionnaires, Social-Emotional (ASQ: SE): A Parent-Completed, Child-Monitoring System for Social-Emotional Behaviors. Baltimore, MD: Paul H. Brookes Publishing Company.

Trent, E., Zamora, I., Tyree, A., & Williams, M. E. (2018). Clinical considerations in the psychological assessment of bilingual young children. *Professional Psychology: Research and Practice*, *49*(3), 234. doi: 10.1037/pro0000195

Van de Schoot, R., Lugtig, P., & Hox, J. (2012). A checklist for testing measurement invariance. *European Journal of Developmental Psychology*, *9*(4), 486-492.

Wakschlag, L. S., Tolan, P. H., & Leventhal, B. L. (2010). Research Review: 'Ain't misbehavin': Towards a developmentally-specified nosology for preschool disruptive behavior. *Journal of Child Psychology and Psychiatry, 51*, 3–22. doi:10.1111/j.1469-7610.2009.02184.x

Walker, H. M., Severson, H. H., & Feil, E. G. (1995). Early screening project: User manual. Longmont, CO: Sopris West.

Figure 1. Unidimensional (one-factor) model of the PSC-17 (right), 3-factor correlated model of the PSC-17 (center), and higher-order model of the PSC-17 (left).

Table 1

Parent and Child Demographic Information

Characteristic	Spanish Language Sample (*n*; %)	English Language Sample (*n;*%)
Parent Gender		
Female	258 (89%)	186 (94%)
Male	26 (9%)	10 (5%)
Unknown	5 (2%)	2 (1%)
Marital Status		
Single	41 (14%)	63 (32%)
Married/Partnered	220 (76%)	110 (56%)
Separated/Divorced	19 (6.5%)	21 (11%)
Widowed	2 (.5%)	0 (0%)
Unknown	8 (3%)	4 (1%)
Child Enrolled in Free/Reduced Lunch		
Yes	239 (82.5%)	158 (80%)
No	10 (3.5%)	16 (8%)
Unknown	41 (14%)	24 (12%)
Education Level		
Less than high school	96 (33%)	10 (5%)
High school diploma	120 (41%)	76 (38%)
Some college/professional training	19 (6%)	69 (35%)
College Degree	15 (5%)	34 (17%)
Graduate School	6 (3%)	2 (1%)
Unknown	34 (12%)	7 (4%)
Generational Status		
Born outside of the U.S.	243 (84%)	75 (38%)
First Generation	16 (5.5%)	92 (46%)
Second Generation	1 (<1%)	13 (6.5%)
Third Generation and beyond	0 (0%)	11 (5.5%)
Unknown	30 (10%)	7 (4%)
Child Gender		
Female	145 (50%)	111 (56%)
Male	140 (48%)	84 (42%)
Other	0 (0%)	1 (<1%)
Unknown	5 (2%)	2 (1%)
Child's Generational Status		
Born outside of the U.S.	12 (4%)	4 (2%)

First Generation	232 (80%)	69 (35%)
Second Generation	15 (5%)	88 (44%)
Third Generation and beyond	(<1%)	25 (13%)
Unknown	30 (10%)	12 (6%)

Table 2

CFA Fit Indices for Spanish and English Language Samples

Model	*df*	X^2	RMSEA	CFI	TLI
CFA on Spanish Sample with All Items					
Three-Factor	116	363.91	.086 [.076, .096]	.793	.757
Higher-Order	116	363.91	.086 [.076, .096]	.793	.757
One-Factor	90	450.13	.098 [.089, .108]	.723	.684
CFA on Spanish Sample with Removal of Item 7					
Three-Factor	110	145.06	.039 [.023, .052]	.959	.952
Higher-Order	110	145.06	.039 [.023, .052]	.959	.952
One-Factor	199	227.36	.064 [.053, .076]	.886	.869
CFA on English Sample with All Items					
Three-Factor	116	224.58	.69 [.055, .082]	.911	.895
Higher-Order	116	224.58	.69 [.055, .082]	.911	.895
One-Factor	119	380.12	0.106 [.094, .118]	.785	.754
CFA on English Sample with Removal of Item 3					
Three-Factor	101	133.55	.040 [.018, .058]	.972	.967
Higher-Order	101	133.55	.040 [.018, .058]	.972	.967
One-Factor	*Model did not converge*				

Table 3

Correlation Matrix for Convergent Validity of English and Spanish Versions of the PSC-17

	1	2	3
PSC-17 English Version			
1. PSC-17 Sum Score	-		
2. BASC-3 BESS BERI Parent Form	.56**	-	
3. BASC-3 BESS BERI Teacher Form	.22	.31*	-
PSC-17 Spanish Version			
1. PSC-17 Sum Score	-		
2. BASC-3 BESS BERI Parent Form	.69**	-	
3. BASC-3 BESS BERI Teacher Form	.09	.17	-

† **p<0.05; ** p<0.01*

Table 4

Summary of Simple Linear Regression Analysis to Test Predictive Validity

Variable	*F*	*df*	*p*	r^2
Spanish Sample				
BASC Behavioral Symptoms Composite	23.42	46	.00	.34
KSEP Social-Emotional Score	1.60	42	.21	.04
English Sample				
BASC Behavioral Symptoms Composite	10.61	33	.00	.23
KSEP Social-Emotional Score	.08	29	.78	.00

Abstract

The present study sought to understand Latinx parental stress factors as they relate to three types of parental engagement in preschool (foundational education, school participation, and supplemental education). Stress was examined in the form of global stress and acculturative stress (English competence pressure and pressure to acculturate). One-hundred eighty-nine Spanish- and English-speaking Latinx parents whose children were enrolled in Head Start completed self-report paper-and-pencil surveys. Hierarchical linear regression models were used to evaluate the main effects of stress, as well as the moderating effects of English competence pressure and pressure to acculturate on the association between global stress and the three forms of parental engagement. Results demonstrated that global stress significantly predicted foundational education and supplemental education, but not school participation behaviors. English competence pressure did not significantly predict any type of parental engagement and pressure to acculturate only significantly predicted supplemental education behaviors. Parent generation status and parent education level were the only significant predictors of school participation. These findings have implications for developing family-school partnerships with Latinx parents of preschool children.

Keywords: parental engagement, Latinx, preschool, educación, parent involvement

Educando a Nuestros Hijos: Examining Latinx Parental Stress Factors and Parental Engagement in Head Start Preschools

In recent decades, there has been increased acknowledgement of the importance of early childhood development, especially as it pertains to the preschool context (Yoshikawa, Weiland, & Brooks-Gunn, 2016). One important factor that can impact children from a young age is parental engagement, or the extent to which parents carry out activities and tasks to support their children's social-emotional, behavioral, and academic development (Yamamoto, Holloway, & Suzuki, 2016). There are a multitude of ways in which parents may support their children's upbringing and development in the home and as it relates to their child's schooling (Marschall & Shah, 2016). Meanwhile, there are also factors that can impinge on parents' abilities to partake in various types of parental engagement (Arias & Morillo-Campbell, 2008; Kelly-Vance et al., 2006; Smith et al., 1997). Despite an extensive literature base demonstrating the importance of parental engagement, more research is needed to understand the impact of a range of factors on parental engagement in preschool (Mendez, Stillman, LaForett, Wandersman, & Flaspohler, 2004; Waanders, Mendez, & Downer, 2007) and more work is necessary to understand parental engagement of Latinx families specifically. This study seeks to understand parental engagement of Latinx preschool families by examining how parental global stress and acculturative stress relate to parental engagement.

Parental Engagement

Parental engagement is one form of positive parental behavior that has been traditionally and broadly defined as the behaviors and activities parents carry out to support their children's learning, development, and upbringing (Yamamoto, Holloway, & Suzuki, 2016). There is consensus among researchers in the field that parental engagement, also known as *parental*

involvement, is a multidimensional concept encompassing a range of parental behaviors and activities (Marschall & Shah, 2016; Wang & Sheikh-Khalil, 2014). Parental engagement is conceptualized as multidimensional because it can occur in different contexts, including in the school, in the home, and through academic socialization. Parents engage through the school context when volunteering in a child's classroom, communicating with teachers and administrators, and participating in school events, such as parent-teacher conferences and back-to-school nights. Home engagement includes making time and space for homework and providing stimulating activities for children, such as trips to the zoo or watching documentaries (Marschall & Shah, 2016). Academic socialization includes "the communication of parental expectations about schoolwork and the importance of education, encouragement of educational and career goals, and making plans and preparations with adolescents that support their future goals" (Wang & Sheikh-Khalil, 2014, p. 611).

Extensive research on parental engagement and student outcomes provides evidence of the positive effects of parental engagement. For example, parental engagement has been found to play an important role in positive youth development (Castro et al., 2015; Wang & Sheikh-Khalil, 2014). Several studies and meta-analyses have demonstrated that various forms of parental engagement have been associated with higher academic achievement in children (Altschul, 2011; Hill & Tyson, 2009; Sheldon & Epstein, 2005), and there is some evidence to support that parental engagement is associated with positive mental health outcomes in students (Wang & Sheikh-Khalil, 2014). There is also research on the associations of parental engagement and preschoolers' mental health (Fantuzzo, McWayne, Perry, & Childs, 2004) and social interactions (Fantuzzo, Tighe, & Perry, 1999). In one study, Fantuzzo and colleagues (1999) found that parental home-based involvement was positively associated with prosocial

peer play both at school and home, and that school-based involvement was related to less disruptive play among peers at home and school. Another study examining the associations between parental engagement and preschool children's conduct problems in the classroom with a sample of 144 children found that higher parental home- and school-based involvement were related to significantly lower classroom behavior difficulties (Fantuzzo, McWayne, Perry, & Childs, 2004).

Research has also examined barriers to parental engagement at the individual and contextual levels. Smith and colleagues (1997) demonstrated that the climate of the neighborhood a family lived in was significantly related to parental engagement behaviors carried out at home and in their child's elementary school. Researchers also found in a qualitative study that families reported time constraints, the English language, and educational barriers as the most consistent forces that kept them from engaging with their elementary school-age children's development to the extent they desired (Kelly-Vance et al., 2006). Relatedly, parents' lack of access in their own education has also been found as a barrier of parental engagement, with participants noting that sometimes it is embarrassing and intimidating for parents with lower levels of educational attainment to engage in their children's schooling (Floyd, 1998). Additionally, cultural misperceptions of the role of home and school can also be a barrier to parental engagement, as some parents may be showing respect for authority when they do not impose themselves on their child's school (Nicolau & Ramos, 1993). As can be noted, the literature has outlined some barriers to parental engagement, but other factors that can serve as potential barriers remain to be studied; this is especially important given the positive outcomes associated with varying forms of parental engagement.

Shortcomings of the Conceptualization of Parental Engagement

Despite a large body of knowledge on parental engagement, the traditionally-studied definition of parental engagement is problematic for various reasons. First, research on parental engagement has focused on individuals who make up the mainstream dominant majority (Baqeurano-Lopez et al., 2013; Goodall & Montgomery, 2014). Hence, the study of parental engagement has been studied from a White, predominantly middle-class, perspective and on predominantly White, Westernized families. However, schools serve an increasingly diverse student population (Colby & Ortman, 2015), with Latinx children composing the largest racial/ethnic minority population in U.S. schools. They are the fastest-growing population in the nation and account for 23% of children enrolled in U.S. public schools (U.S. Census Brief, 2016). It is concerning that, despite their established presence in U.S. schools, Latinx children and parent engagement from their families' perspectives has not been thoroughly studied.

Relatedly, because parental engagement has been studied from a dominant culture perspective, the definition of parental engagement has been narrow in scope and has encompassed behaviors carried out by families with high levels of privilege and Westernized perspectives (Goodall & Montgomery, 2014). There is established agreement that parental engagement is a multidimensional concept, inclusive of behaviors in the home, and activities at school, and academic socialization (Marschall & Shah, 2016). Despite this understanding, parental engagement as it has been studied for decades remains very narrowly-defined and focuses largely on the school context, whether it be participatory school actions on behalf of parents or behaviors parents carry out that will result in increased academic achievement for their children. This perspective limits the scope of parental engagement to behaviors that may be more accessible to parents in the dominant culture, and actively neglects the parental efforts by families from minoritized backgrounds (Baquedano-Lopéz, Alexander, & Hernandez, 2013; Hill

and Torres, 2010). The narrow definition and approach to studying the concept of parental engagement fails to acknowledge the strengths of Latinx families and their cultural vantage point of parental engagement behaviors.

Schools have also traditionally held the erroneous belief that Latinx parents who do not participate in their children's schooling as not caring about their children's education (Chávez-Reyes, 2010). As Chávez-Reyes states, "The most dangerous and believed [myth and stereotype] is that minority and immigrant families are not involved because they do not value education" (p. 483). Unsurprisingly, school districts nationwide have paid little attention to the varying factors that can make it difficult for parents to carry out the behaviors that fall under the traditional meaning of parent engagement (Goodall & Montgomery, 2014). Although research has shown parental engagement has been studied in association to positive youth development (Castro et al., 2015; Wang & Sheikh-Khalil, 2014), prosocial peer play (Fantuzzo, Tighe, & Perry, 1999), and academic achievement (Altschul, 2011), the literature has not been as thoroughly attending to factors that may be impacting parental engagement in the Latinx community, such as lack of knowledge of the American education system, acculturative stress, or differences in cultural values (Arias & Morillo-Campbell, 2008; Zarate, 2007). Gaining clarity of potential barriers to parental engagement (even as parental engagement is traditionally defined) can help schools to reconceptualize their approach to parental engagement efforts and school-family partnerships to be more nuanced and tailored in support of Latinx students and their families (Jiménez-Castellanos, Ochoa, & Olivos, 2016).

Given the narrow conceptualization of parental engagement and the need to understand barriers to parental engagement for Latinx families specifically, the present study seeks to identify if global stress and acculturative stress are associated to a range of parental engagement

behaviors. This study focuses on parental engagement in preschool, as this is often parents' first experience interfacing with formal schooling for their children. Although the number of Latinx children enrolled in preschool has been increasing in recent years (U.S. Census Brief, 2016; Crosby & Mendez, 2016), research focusing on Latinx preschool children remains scarce. As the number of Latinx children entering preschools across the U.S. continues to climb (U.S. Census Brief, 2016), it is important to understand parental engagement at this age and for this racial/ethnic group to support the social, emotional, and cognitive development preschool students and their families in a culturally-responsive manner.

Latinx Perspective on Parental Engagement

Latinx parents make great efforts to support their children's growth and success in the U.S., often in ways that are unseen by, misunderstood by, or that do not receive merit from the school system, school administrators, teachers, and staff (Goodall & Montgomery, 2014; Hill & Torres, 2010). There can often be misconceptions about Latinx families and children from educators' perspectives (Miller, Lewis Valentine, Fish, & Robinson, 2016), and little awareness about Latinx parents' engagement behaviors from the Latinx cultural vantage point (Goldenberg, 2014; Irrizary, 2015). This is particularly important because a widely endorsed cultural value in the Latinx community is the concept of *educación,* and this value demonstrates that parents put in a great deal of effort at home to support their children's development (Auerbach, 2006). *Educación* is a form of parental engagement and refers to parental emphasis on children's manners and proper socialization in accordance with Latinx values and expectations, as well as emphasis on social-emotional, cognitive, and academic development (Reese, Balzano, Gallimore, & Goldenberg, 1995). This particular Latinx value deviates from the direct English and traditionally American meaning of "education" because there is as much weight (or more)

given to a child's development of morality, integrity, and honesty as there is to scholastic and academic development (Reese, Balzano, Gallimore, & Goldenberg, 1995). Reese and colleagues (1995) found in interviews with Latina mothers of preschool children that less emphasis is placed on academic activities, such as literacy and numbers. Mothers more commonly ranked respect, understanding the difference between right and wrong, and good manners as fundamental skills to have before entering school above learning to read, learning English, and acquiring more words (these were ranked last of 12 different options; Reese, Balzano, Gallimore, & Goldenberg, 1995). Parents begin to instill this value in children from a young age in the home, often prior to entering (pre)school. Because this type of parental engagement occurs within the home, this effort can often go unrecognized and underappreciated by educators and school staff.

Research examining the Latinx value of educación has demonstrated that being *bien educado* (well-educated) predicts high social skills ratings in preschool children (Zucker & Howes, 2009). Parental engagement differs from educación in that parental engagement has historically solely focused on how parents interact with their children's academic-related activities (e.g., volunteering at school, providing a place to do homework in the home, reading to their children, practicing ABCs). However, the Latinx value of educación includes and prioritizes fostering children's social-emotional development and proper socialization. This latter component is absent from the definition of parental engagement, and from the literature appears to be a unique aspect of educación (Reese, Balzano, Gallimore, & Goldenberg, 1995). Because preschool education largely emphasizes and focuses on the development of social skills and social-emotional development (Bulotsky-Shearer, Lopez, & Mendez, 2016), the concept of educación may be particularly salient and important in the preschool context.

Together, two researchers in the field have focused on developing a Latinx parental engagement scale that integrates the concept of educación, known as the *Parental Engagement of Families from Latino Backgrounds* (PEFL; McWayne & Melzi, 2014). McWayne and Melzi (2013; 2014) have identified four domains of parental engagement in education that parents of Latinx backgrounds living in the U.S. have a propensity to engage in: *foundational education, school participation, supplemental education,* and *future-oriented teaching*. Foundational education is the domain intended to measure the value of educación. Foundational education evaluates the extent to which parents teach children how to behave appropriately in social situations and interact with others, acquire academic knowledge, and teach about the family's culture (McWayne & Melzi, 2014). Meanwhile, school participation, which assesses the more traditionally-studied definition of parent engagement, evaluates how much parents engage in activities held at their children's school, such as volunteering in the classroom and on field trips and serving on school committees. Supplemental education evaluates whether parents embed extracurricular activities as a form of enrichment in their children's lives. Future-oriented teaching examines the extent to which parents teach their children the value of education. The essential aspect of the PEFL is that it takes into account Latinx families' perspectives to begin with, and can help to evaluate how culturally-salient forms of engagement are demonstrated by Latinx families (McWayne & Melzi, 2014). Furthermore, this scale allows the conversation to shift from one solely focused on dominant-culture parental engagement behaviors to a wider range of culturally-relevant parental engagement behaviors for Latinx families. The present study examines three of the four constructs from the PEFL (foundational education, school participation, and supplemental education) to understand barriers parents experience to varying forms of engagement.

Global Stress

Although families may take great strides to support their children's development in a variety of ways, there are also factors that can impact parents' abilities to partake in these behaviors. Global stress is defined as the extent to which experiences and situations an individual faces are perceived as stressful (Cohen, Kamarck, & Mermelstein, 1983). Parents can experience a range of stressors, including marital stress, financial stress, job stress, and parenting stress (Belsky, 1984) in their everyday lives and extant literature demonstrates that different forms of stress can affect parenting behaviors. For instance, marital stress has been associated to harsher punishments in childrearing (Kemper & Reichler, 1976), decreased parental dependability and availability (Harold, Shelton, Goeke-Morey, & Cummings, 2004), less monitoring behaviors from fathers, and overall lower parental consistency across mothers and fathers (Elam, Chassin, Eisenberg, & Spinard, 2017). Less financial stress is associated with more positive parenting behaviors for fathers (Ponnet, Wouters, Goedeme, & Mortelmans, 2016) ad parent behaviors have been found to mediate the association between family income and behavior concerns in children (Linver, Brooks-Gunn, & Dafna, 2002). A range of stressors have the potential to impact how parents engage in their children's development, and can affect engagement behaviors depending on the tasks required (i.e., home vs. school; Camacho-Thompson, Gillen-O'Neel, Gonzales, & Fuligni, 201). For example, in a study of 68 Mexican-American families, parents with greater financial stress reported increased levels of depressive symptoms, which was then associated with lower levels of parental engagement at home (i.e., monitoring and telling children the importance of school; Gilbert, Spears Brown, & Mistry, 2017). Relatedly, a study with 428 Mexican-American parents of high school students found that significant stressful life events resulted in less engagement in the home, while greater financial strain resulted in less

parent engagement in school (Camacho-Thompson, Gillen-O'Neel, Gonzales, & Fuligni, 2016). The present study sought to understand how global stress impacts parental engagement behaviors, as different forms of stress can impact individuals to a varying degrees and influence their general levels of perceived stress.

Beyond expected forms of every day stress, such as financial, professional, and marital stress, Latinx families are at increased risk for a range of additional stress factors. Latinx preschool children and their parents may also be influenced by systems of oppression and disparities present in the environments they grow up in (Reese, Garnier, Gallimore, & Goldberg, 2000), which can further compound the global stress that Latinx parents' experience. Approximately 18.3% percent of Latinxs individuals in the U.S. lived in poverty as of 2017 (U.S. Census Bureau, 2019). These numbers are higher for children, with 26% of Latinx children living in poverty in 2017 (Kids Count Data Center, 2019). This translates to more than one in four Latinx children living in poverty (Pew Research Center, 2015). Homelessness or poor housing conditions, access to underserved schools, and/or risk of exposure and involvement with violence present in communities faced with economic struggles are just a few of the factors associated with poverty (Lima, Caughy, Nettles, & O'Campo, 2010; Yoshikawa, Aber, & Beardslee, 2012). Concurrently, national statistics demonstrate that Latinx families may grapple with a host of financial and economic difficulties, such as food insecurity, lack of medical care, and insufficient mental health services (Palermo, Ispa, Carlo, & Streit, 2017), as well as live in neighborhoods where concerns of safety are high (Gonzales, Coxe, Roosa, White, & McKnight, 2011). Parents who are economically-strained are likely to experience higher levels of stress and psychological distress, which can make the demands of parenthood even more difficult for some

Latinx families (Ceballo, Kennedy, Bergman, & Epstein-Ngo, 2012). The higher risk of experiencing these forms of stress can put Latinx parents at an increased level of global stress.

Factors associated with immigration can also greatly impact Latinx families (Ramírez García, 2012) and affect their levels of global stress. Approximately 19 million of the estimated 56.5 million Latinx individuals in the U.S. were born outside of the U.S. (Flores, López, & Radford, 2017). Oftentimes, families arriving in the U.S. have fled harsh conditions in their home country, such as violence, drug trades, and severe poverty. Children and families may experience trauma from their living situations in their country of origin, from their migration to the U.S., from their arrival to the U.S., or a combination of all (Perreira, Chapman, & Stein, 2006). Latinx families can also experience a lack of social support networks in the U.S. they once had available in their home country (Perreira, Chapman, & Stein, 2006) and lack of social support has been shown to associate with less involvement in at-home activities (Grolnick, Benjet, Kurowski, & Apostoleris, 1997). In addition, as a result of the current presidential administration, families may experience concerns of documentation and deportation of their family members (Lopez & Rohal, 2017; Shear & Nixon, 2017).

Because the range of stressors Latinx families experience is unique to every parent, this study used global stress as an overall measure of parents' perceived stress. In this way, their global stress can be as a result of any of the factors mentioned above, including work, financial pressures, marital stress, family factors, living conditions, poverty, food insecurity, and lack of medical and mental health care, among others. The field has not yet examined how global levels of stress may impact parental engagement in preschool for Latinx parents in particular. Examining the role of global stress on different forms of parental engagement may allow schools to understand the potentially differentiating role of stress on parents' involvement in their

children's development, schooling, and upbringing. Demonstrating evidence of the effect of global stress on parent engagement can also help to inform policy at the state and national level.

Acculturative Stress

Parents of Latinx backgrounds often face the added stress of acculturation, as many Latinx individuals immigrate to the U.S. or may be the children or grandchildren of immigrants (Romero, Hondagneu-Sotelo, & Ortiz, 2014). *Acculturation* is defined as a multidimensional process of "cultural change that occurs when two cultural groups come into contact" (Castillo et al., 2015; p. 1), which includes acquiring the values, traditions, and practices of a new country and/or culture. Each person undergoing adaptation to a new country or environment actively or implicitly chooses, within the bounds of environmental and demographic influences, which values, traditions, and practices of their home country they maintain, while choosing which values, traditions, and beliefs from their new country to integrate into their life (Huynh, Nguyen, & Benet-Martínez, 2011; Schwartz, Unger, Zamboanga, & Szapocznik, 2010). It is important to note that the process of acculturation does not necessarily only impact immigrants; children who are born in the U.S. to immigrant parents and their children's children can experience impacts of navigating two or more cultures and developing their identities, and they may feel the removed effects of the experiences of earlier generations (Fuller & García Coll, 2010; Johnson De Feyter & Winsler, 2009; Umaña-Taylor & Alfaro, 2009).

The process of acculturation can result in acculturative stress. Acculturative stress is defined as the stress that results from undergoing the process of adapting to a new culture and reconciling one's current values, beliefs, and traditions in light of new influences (Torres, Driscoll, & Voell, 2012; Berry, 2006). Stressors resulting from the process of acculturation include adjusting to new cultural expectations, learning a new language, reconciling cultural

differences from one's country of origin and destination country, experiencing discrimination, and balancing the influence of multiple (often conflicting) cultural expectations and values (Torres, Driscoll, & Voell, 2012). Acculturative stress can affect many facets of families' lives, including jobs, education, and family cohesion (Ramirez Garcia, 2012; Szapocznik & Williams, 2000). For example, families can experience stress as a result of learning English or having difficulty acquiring English, or experiencing language barriers in their professions and everyday life (Perreira, Chapman, & Stein, 2006).

Researchers posit that aspects of acculturative stress, such as difficulties understanding English and "differences in cultural norms and cultural capital" can act as barriers to parental engagement (Arias & Morillo-Campbell, 2008; p.1), but there is not much research in this area. This study in particular seeks to understand the role of two types of stress derived from the process of acculturation: *English competence pressure* and *pressure to acculturate*. *Pressure to acculturate* is defined as the pressure families feel to carry out activities in line with American values. Parent-reported acculturative stress has not been explicitly examined in association to parental engagement, but some research delineates aspects associated with the process of acculturation that can impact parental engagement. Researchers have noted that one such factor is parents knowing how the American school system functions (Zarate, 2007) and parental value differences (Arias & Morillo-Campbell, 2008), which can be as a result of not being part of the mainstream, dominant majority. Further understanding its role in engagement can provide important insights on how American expectations of engagement can impact parents' extent to which they engage in those behaviors.

English competence pressure is defined as the pressure families feel to learn English and when interacting with individuals who speak English. This is the type of acculturative stress that

has been studied, albeit not much, in association to parental engagement. In a qualitative study that included 105 Spanish-speaking parents, Kelly-Vance and colleagues found that Spanish-speaking parents reported English language barriers as one of the top barriers out of 70 barriers mentioned. Similarly, Smith, Stern, and Shatrova (2008) found that language barriers were also the biggest reported obstacle to parental engagement in schools in a sample of Latinx parents in the rural Midwest. A third qualitative study by Zarate (2007) found that for Spanish speaking parents, "language was an insurmountable barrier to participation in their children's academic tasks" (p.9). Congruently, a study by Gilbert, Spears Brown, and Mistry (2017) demonstrated that parents with lower levels of English language proficiency engaged in less home-based academic behaviors. Other researchers have mentioned that difficulties speaking or understanding English are barriers for parents, but they were not empirical studies (Arias & Morillo-Campbell, 2008; Chavkin & Gonzalez, 1995; Hyslop, 2000). Thus, the few empirical studies that have examined language barriers have done so in a qualitative context. Using a quantitative research design, this study seeks to further understand the association of English competence pressure to different forms of parental engagement. Additionally, most studies have used English language proficiency as a proxy for parents' difficulty speaking English. The present study asked parents how much stress they experienced as a result of communicating in English. A greater understanding may be gained on how schools can support parental engagement if and when language appears to be a barrier for specific types of engagement.

Given that Latinx parents of preschool children may be experiencing varying levels of language proficiency and pressure to acculturate, more research is needed to understand how different forms of acculturative stress impact parental engagement when children are in preschool. This study aims to better understand the role of two types of acculturative stress,

English competence pressure and pressure to acculturate, on parental engagement, as well as its potential moderating effect in the association between parental global stress and the three forms of parental engagement being examined in this study.

Theoretical Foundation

This study is based in ecodevelopmental and ecocultural theories. Ecodevelopmental theory, as conceptualized by Coatsworth (2002), underscores the significant role that families have in the socialization of their children, as well as the influence of social contexts outside of the family that affect a child's upbringing. Ecocultural theory as presented by Weisner (1984, 2002) postulates the importance of the cultural context in the development of children. An ecocultural approach to examining parental engagement takes into account each family's unique culture, including daily routines and activities, and how these activities affect and mold a child. This theory also takes into account the institutional forces (e.g., schools, the economy, systems of oppression, and American society) that can impinge on parents' daily experiences, thereby affecting their parent engagement behaviors with their children's preschools. Because the family context is young children's first experience with interpersonal relationships and the physical environment, their home and the adults in them have the potential to substantially impact their world view and wellbeing (Weiss, Goebel, Page, Wilson, & Warda, 1999). Given that research has demonstrated that a host of risk factors, such as immigration, poverty, and lack of social support can significantly impact individuals' social-emotional functioning and stress (Mendoza, Dmitrieva, Perrerira, Hurwich-Reiss, & Watamura, 2017; Palermo, Ispa, Carlo, & Streit, 2017), it is important to further understand how various risk factors can specifically affect Latinx parents. Although preschool children may be too young to recognize or consciously understand many of these stressors parents experience (i.e., global stress and acculturative stress), they

indirectly experience the impact through their parents and this can have long-term effects on their development, as well as in how parents engage with their children's schooling into primary and secondary school.

Present Study

This study will examine how Latinx parents' global stress and two forms of acculturative stress (English competence pressure and acculturative stress) are associated with their parental engagement practices. Acknowledging that families from Latinx backgrounds may more readily be affected by acculturative stress and that acculturative stress could impede parents' abilities to carry out a range of parental engagement behaviors, it is important to understand more clearly what this interaction may look like. This study seeks to understand two types of acculturative stress in a moderation context because it has not been previously studied and it is unknown if different types of acculturative stress can impact the strength between global stress and different forms of parental engagement. The aims of this study are as follows (see Figure 1):

Aim 1: The first aim of this study is to examine how parents' self-reported global stress is associated with three forms of parental engagement: foundational education, school participation, and supplemental education. It is hypothesized that parental global stress will be negatively associated to all three parental engagement types, such that as parents demonstrate higher levels of global stress, parents will demonstrate lower levels of parental engagement across foundational education, school participation, and supplemental education.

Aim 2: The second aim of this study will examine the relation between two forms of acculturative stress, English competence pressure and pressure to acculturate, and three forms of parental engagement. It is hypothesized that higher levels of English competence pressure will not be significantly associated to foundational education, but that English competence pressure

will be significantly and negatively associated with school participation and supplemental education. Similarly, it is also hypothesized that higher levels of pressure to acculturate will not be significantly associated with foundational education, but will be significantly negatively related to foundational education and supplemental education. The reason for these hypotheses is that qualitative research has demonstrated that foundational education is a way in which parents from Latinx backgrounds support their children; hence, it is not expected that pressure to acculturate or English competence pressures will affect the extent to which parents engage in this form of engagement because it is rooted in cultural values that are generally congruent with the Latinx community. However, supplemental education and school participation require interactions with the American school system and often require English to be used, both of which can impact the two forms of acculturative stress being examined in this study.

Aim 3: The third aim will be to examine the moderating effects of two types of acculturative stress, English competence pressure and pressure to acculturate, on the association between parents' global stress and three types of parental engagement (foundational education, school participation, and supplemental education). It is hypothesized that both English competence pressure and pressure to acculturate will have differentiated moderating influences in the association between parental global stress and parental engagement. As such, it is hypothesized that English competence pressure will not moderate the associations between global stress and foundational education and global stress and supplemental education, but that it will moderate the association between global stress and school participation. It is also hypothesized that pressure to acculturate will moderate the association between global stress and school participation and global stress and supplemental education, but not on foundational education.

Four covariates were included in the six hierarchical linear regression models run in this study with the purpose of controlling for their influence on foundational education, school participation, and supplemental education. The covariates were child age, child gender, parent educational level, and parent generational status. Child age and child gender identity were included in this study due to research that delineates that parental engagement behaviors evolve as children get older (Núñez, Suarez, Rosario, Valle, Vallejo, & Epstein, 2015), as well as that parents may treat their children differently based on their gender and demonstrate different parental behaviors because of their child's gender identity (Schoppe-Sullivan, Kotila, Jia, Lang, & Bower, 2013). Similarly, parent educational level was included in this study because research has shown that parents with lower educational attainment feel this is a barrier to engagement with their child's school (Floyd, 1998) and because research has generally demonstrated effects of parent educational level on parental engagement behaviors (Zarate, 2007).

Method

Participants

Parents of preschool children ages three to five across 20 Head Start programs and who identified as Latinx/o/a and/or Hispanic were invited to participate in the study. Of 693 children who attend Head Start programs in Central California, 220 families participated in the study (31.7%). Thirty-one families did not provide sufficient information in the survey to be included in data analysis. Of the remaining 189 participants whose data were used in this study, 179 participants (95%) identified as the mother of the child in the Head Start program and 10 participants (5% percent) identified as the father. The average age of the parent completing the forms was 32.31 (20.43 – 56.14; SD = 6.69). The average age of the child enrolled in the preschool program was 4.36 (SD = .54), and 100 of the children were identified as female by

their parents (53%). Seventy-three of the surveys were completed by parents in English and 116 were completed in Spanish. Please see Table 1 for additional demographic information.

Procedure

Institutional Review Board and Head Start approval were received prior to the start of recruitment processes for this study. Latinx families were recruited through twenty Head Start preschools in Central California. However, one preschool did not have any participating families. Families were recruited through various methods: 1) flyers sent home by their child's teacher introducing the study, 2) recruitment by researchers on site during child pick-up and drop-off times, 3) recruitment by researchers during monthly parent meetings, and 4) through sites' Family Service Advocates (FSAs) and program supervisors. Latinx parents of preschool children were asked to complete a questionnaire composed of four measures and a demographic information portion using a paper-and-pencil format. Parents received ten dollars in compensation for their time after returning a completed packet to their child's teacher, which was then collected by the researcher. All information collected as part of this study was de-identified and kept confidentially. The research was available to walk parents through the consent process and to answer questions in both English and Spanish, in person and over the phone. Although preschool classrooms were the context used to recruit parents for the study, teachers did not complete any information about the children and schools did not provide any information about participating parents and their children.

Measures

Perceived Stress Scale - 14 (PSS-14; Cohen, Kamarck, & Mermelstein, 1983). The PSS-14 is a 14-item measure that evaluates individuals' perceived stress and is available in Spanish and English. This scale is intended to provide global stress appraisal in that it asks about

general feelings and experiences that can cause stress for the individual, instead of particular sources of stress, such as finances, marital concerns, parenting, and/or problems at work. Using a five-point scale with response options of *Never* (0), *Almost Never* (1), *Sometimes* (2), *Fairly Often* (3), and *Very Often* (4), individuals evaluate the extent to which they perceive they experience certain thoughts and feelings in the past month. For example, they reflect on questions such as, "In the past month, how often have you found that you could not cope with all the things that you had to do?" and "…how often have you been angered because of things that were outside of your control?" (Cohen & Williamson, 1988; Cohen, Kamarck, & Mermelstein, 1983). Seven items are negatively worded and seven items are positively worded. Lee reviewed the psychometric information of studies through 2012 that used the PSS-14. Twelve studies used the PSS-14, and Cronbach's alphas of all studies were above .75 (Lee, 2012). This scale has demonstrated adequate reliability estimates and convergent validity with measures of anxiety (Generalized Anxiety Disorder-7) and depression (Patient Health Questionnaire-9; Baik, 2017), and Cronbach's alpha of the subscale used for the analyses of this study was .84. In 2006, Ramirez and Hernandez examined the factor structure of the PSS-14 scale with a sample of adults living in Mexico and found support for a two-factor model with positive items grouped into one factor and negative items comprising of the second factor. Relatedly, Baik (2017) and colleagues examined the 10-item scale, as found on Cohen's website, which contains all of the items in the PSS-14 (with an additional 4 items on the PSS-14). Their Spanish-speaking sample was predominantly Mexican-American and resided in Southern California. Measurement invariance results demonstrated invariance of a two-factor model ("positive" and "negative" factors), but not a bifactor or one-factor model (Baik, 2017). Generally, this scale has been used as a unidimensional scale with one overall score created, despite increasing evidence of a two-

factor structure present (Lee, 2012). Research focusing on the Spanish version has demonstrated conflicting results and researchers conducting this work have called for more work in this area (Baik et al., 2017; Lee, 2012). Due to these previous conflicting uses of the overall global stress score and findings that point to a more adequate two-factor model present (Baik et al., 2017; Reis, Hino, & Anez, 2010), confirmatory factor analysis (CFA) was run with the current sample to identify whether a one-factor model or two-factor model was the best-fitting solution for this scale (See Appendix C). A two-factor solution demonstrated the most adequate fit for this measure, with the removal of items 4, 5, and 12 ($X^2(43) = 95.22$; RMSEA = .074 [.054, .094]; CFI = .941, TLI = .925). The items in the negative factor were used to create a mean score for the analyses of this study. As a result, a mean score was calculated of the "negative" factor items (items 1, 2, 3, 8, 11, and 14) and used as the determinant of parents' perceived stress, which is the predictor of the six models tested in this study. By including general perceived stress of parents as the predictor of the model, this study seeks to examine if parental acculturative stress acts as a moderator of the association between parents' perceived global stress and their parental engagement behaviors.

Parental Engagement of Families of Latino Backgrounds – Spanish and English (PEFL-S, PEFL-E; McWayne & Melzi, 2014). The PEFL is a 43-item scale available in Spanish and English and intended to measure parental engagement with children's learning and schooling. The PEFL evaluates four dimensions of familial educational engagement: foundational education (20 items), supplemental education (12 items), school participation (8 items), and future-oriented teaching (3 items). This study used three subscales from the PEFL in analyses: foundational education, school participation, and supplemental education. Items are on a four-point scale, with response items *never, rarely, sometimes,* and *frequently.* The validity and

reliability of this scale have been evaluated, with internal consistency scores all above .71 and the PEFL subscales demonstrating significant associations to expected variables, such as access to resources, social support, and parents' education level (McWayne, Brandon, & Melzi, 2018; McWayne & Melzi, 2014; McWayne & Melzi, 2013). Previous research has confirmed a 4-factor model with adequate fit statistics ($X^2(854) = 1134.70$, ($p < .001$); RMSEA = .031 [.026, .035]; CFI = .958, TLI = .956 (McWayne, Melzer, & Fosetr, 2014). In this study, a CFA was conducted to confirm the originally established 4-factor structure. The model in the present study demonstrated good fit after the removal of item 11 ("I or someone in my home speaks to my child in English"; $X^2(815) = 1121.04$, ($p < .001$); RMSEA = .041 [.035, .047]; CFI = .908, TLI = .903). As such, the mean score of supplemental education consisted of 11 items instead of 12 with the removal of item 11. Cronbach's alpha of the PEFL data collected for this study was .90 across the entire scale, and Cronbach's alpha of the individual subscales used in this study were: .81 (foundational education), .80 (school participation), and .82 (supplemental education).

Multidimensional Acculturative Stress Inventory (MASI; Rodriguez, Myers, Mira, Flores, & Garcia-Hernandez, 2002). The MASI is a 36-item scale that measures individuals' acculturative stress, including struggling with experiences related to speaking both English and Spanish, discrimination, reconciling multiple cultures, and feeling pressure as a result of the process of adapting to a new country and/or culture. This measure is comprised of four subscales: *Spanish Competence Pressure* (7 items), *English Competence Pressure* (7 items), *Pressure to Acculturate* (7 items), and *Pressure Against Acculturation* (4 items), and only twenty-five of the items are used for scoring (personal communication, Norma Rodriguez, Nov. 5th, 2019). When completing this scale, individuals are asked to reflect on whether they have experienced a particular scenario in the past three months and then answer on a 5-point scale,

ranging from 1 (not at all stressful) to 5 (extremely stressful). If individuals have not experienced an event in the last three months, they are asked to select "No" (does not apply). This scale was originally created for use with individuals of Mexican heritage, but has also been examined for use with other Latino and Asian American populations (Castillo et al., 2015). Internal consistency of the subscales of the MASI have been found to be within acceptable ranges with .91 for English Competency, .93 for Spanish Competency, .84 for Pressure to Acculturate, and .77 for Pressure Against Acculturation (Rodriguez et al., 2002). Another study that used the MASI demonstrated respective Cronbach's alphas of .86, .89, .86, and .73 for English Competency, Spanish Competency, Pressure to Acculturate, and Pressure Against Acculturation (Torres, 2010). Validity evidence in support of its use has been demonstrated, with MASI overall scores and three of the four subscales (all except Pressure to Acculturate) correlating appropriately with individuals' generational status and amount of years living in the U.S. (Rodriguez et al., 2002). Castillo and colleagues (2015) are currently the only researchers to test the four-factor structure in the English version using CFA. Their study found evidence in support of a 4-factor model, with the best model fit allowing for item 1 and item 4 to correlate with one another, and demonstrated measurement invariance across Latino and Asian American individuals. No study to date has studied measurement invariance of Spanish and English versions of this scale.

In the present study, a CFA was conducted to confirm the originally proposed 4-factor model structure. However, only a two factor model with the factors of English Competence and Pressure to Acculturate demonstrated good fit indices, and this was only after the removal of items 6, 7, 18, 28, and 30 ($X^2(26) = 58.056$, ($p < .001$); RMSEA = .075 [.049, .101]; CFI = .960, TLI = .945). Because the two types of acculturative stress of interest in this study were English

competence pressure and pressure to acculturate, the other two factors (pressure against acculturation and Spanish competency pressure) were removed and a 2-factor model was run. For this study, two separate mean scores were calculated. A mean score for English competence pressure was calculated using items 1, 4, 8, 10, and 11 and a mean score for pressure to acculturate was created using items 17, 22, 25, and 33. English competence pressure and pressure to acculturate were used as the moderators in the moderation models tested to investigate the aims of this study. Cronbach's alpha of English competence pressure after the removal of items in the CFA was .89 and of pressure to acculturate was .70.

Analytic Plan

All data was entered in to Statistical Packaging for the Social Sciences Version 25.0 (SPSS; IBM, 2018). A total of 220 families consented for this study and completed a survey. Of those 220 surveys, 189 surveys were kept for analysis after data cleaning. Thirty-one cases were removed due to missing child birthdates, child gender, missing parental educational level or generational status, or due to missing substantial data (more than 25% missing items) on one of the following measures: PSS-14, PEFL, MASI. Of the remaining 189 cases, mean imputations were conducted on less than 1% of the overall data points. Mean imputations were conducted for variables that were considered missing-at-random and were done by calculating the average of the remaining variables for the respective measure. Overall total mean scores were then calculated using the existing data points and the imputed means for missing values. SPSS was used to calculate correlations among variables of interest and to calculate mean, standard deviation, skewness, and kurtosis of each variable (See Appendix B).

Intracorrelation coefficient analyses (ICC) were conducted using Hierarchical Linear Modeling 7.0 (HLM 7) software to ensure that there were no significant differences in parental

engagement (foundational education, school participation, and supplemental education) across Head Start Program for data collected from each site (Scientific Software International, Inc, Skokie, IL). Confirmatory Factor Analyses (CFA) were conducted on each measure of interest using Mplus 8 (Muthén & Muthén, 2014). CFAs were carried out to ensure adequacy of the measurement model for each of the measures included in the moderation analyses of this study. Fit indices used to evaluate model fit were: chi-square test of model fit (X^2), root-mean-square error of approximation (RMSEA), comparative fit index (CFI), and Tucker-Lewis index (TLI). The sample size for this study was moderate in size ($N = 189$), so models with significant chi-square values could be retained (Fabriger et al., 1999). RMSEA values below .05 and CFI and TLI values above .95 indicate good fit, while RMSEA values below .08 and CFI and TLI values between .90 and .95 still demonstrate acceptable fit (Brown, 2006). These fit indices were used to evaluate each of the factor structures tested for the PSS-14, PEFL, and MASI. In preparation for the moderation analyses, mean scores were conducted of the PSS-14 for the predictor, for the MASI English competence pressure, MASI pressure to acculturate, and for the three subscales of the PEFL to be used as the outcomes (foundational education, school participation, and supplemental education).

Six hierarchical regression models were conducted using SPSS 25 PROCESS 3.3 (Hayes, 2018; IBM) in order to test the moderations of English competence pressure and pressure to acculturate on the associations between parental global stress and three different types of parental engagement (foundational education, school participation, supplemental education). Parent gender, parent age, child age, child gender, parent generational status, and parent educational level were included as covariates in each of the three models. Parent and child gender were both dummy-coded to help in the interpretation of the results. Generational status

was dummy coded into a binary variable, with all parents who were born outside of the U.S. in one group (n = 135) and parents who identify as 1st, 2nd, and 3rd generation in a second group (n = 54). These variables were added as covariates because of theoretical reasons or due to previous literature that has shown they are associated with parental engagement. Indirect effects were only considered significant if the confidence interval did not include 0. The moderation macro in PROCESS automatically calculates the interaction term needed for moderation analysis, and provides conditional indirect effects for prescribed moderation values (Hayes, 2018). The moderation macro also automatically centers the predictor and moderator if the researcher selects this option; thus, the predictor variable and the moderator were both mean-centered in order to aid in the interpretation of the results.

Results

Preliminary Analyses

ICC analyses were run to ensure no significant differences in parental engagement (foundational education, school participation, and supplemental education) across Head Start Programs for data collected from each site. The ICC values based on the unconditional model (Model 1) indicated that .01% of the variance in foundational education, .1% of the variance in school participation, and 0% of the variance in supplemental education could be explained by factors at the site (Head Start program) level, leaving 99.99% of the variance for foundational education, 99.90% of the variance for school participation, and all of the variance in supplemental education to be accounted for at the individual parent level. ICC analyses conducted in HLM 7.0 demonstrated no significant differences in parental engagement (foundational education, school participation, and supplemental education) across Head Start programs, so analyses proceeded in SPSS 25.

Descriptive statistics for each variable were examined for violations of assumptions of normality, including means, standard deviations, skewness, and kurtosis (See Appendix B). All variables were within expected ranges, with skewness between -2 and 2 and kurtosis between -7 and 7 (Byrne, 2010), with the exception of the variable pressure to acculturate. Pressure to acculturate had a skewness of 2.48, above the cut-off of 2, and kurtosis slightly above 7 (7.1). Bivariate correlations with all variables of interest were also examined (See Appendix B). Foundational education was highly endorsed by parents (M = 3.82; SD = .20). Supplemental education, although highly endorsed, was not as high as foundational education (M = 3.30; SD = .46). School participation was the lowest of all three types of engagement endorsed by parents (M = 2.47; SD = .67).

CFAs were conducted on each of the measures used in this study. All scales (PSS-14, PEFL, & MASI) demonstrated deviations in their proposed and previously-studied factor structures. Decisions on the CFA for each measure can be found in Appendix C. The CFA for the Perceived Stress Scale – 14, used to measure the predictor of this study (global stress parents perceived), demonstrated the most optimal fit with a two factor (positive factor and negative factor) structure with the removal of three items (4, 5, and 12). The items in the negative factor were used to create a mean score for the analyses of this study. For the PEFL, the most adequate factor structure was four factors loading onto a higher order factor with the removal of item 11. Three factors were used as the outcomes in this study: Foundational Education, School Participation, and Supplemental Education, with a mean score created for each variable. Lastly, the MASI was used to create the two moderators in this study, English Competence Pressure and Pressure to Acculturate. The CFA for this measure demonstrated that 4 factors were not present, and a two-factor model was run with the English Competence Pressure and Pressure to

Acculturate factors. This model demonstrated good fit after the removal of items 6, 7, 18, 28, and 30. Hence, two separate variables were created by calculating a mean score with the respective items in each construct. These two variables, English competence pressure and pressure to acculturate, were used as the moderators in the analyses.

Covariates

Prior to running hierarchical linear regressions, parent gender was dropped from the model because only 10 parents identified as the father of the child (5%). There were not sufficient fathers in the sample to accurately observe an effect of this covariate on the outcomes. Additionally, parent age was dropped as a covariate because it was not a significant predictor of any of the three types of parental engagement and there is not sufficient evidence in the literature that parent age makes a substantial impact on parent engagement. The final covariates added to all six hierarchical linear regression models were: child age, child gender, parent educational status, and parent generational status.

Child age and child gender were not significantly associated to any type of parental engagement. Parental educational level was not significantly associated with foundational education, but it was significantly associated with supplemental education for models with both English competence pressure and pressure to acculturate. Thus, parents with higher levels of education demonstrated higher levels of supplemental education. Parental educational level was also significantly associated with school participation when pressure to acculturate was the type of acculturative stress included in the model. However, the same was not found when English competence pressure was included in the model, with parent educational level not predicting school participation when English language pressure was included in the model. Parent generational status was significantly associated with school participation for models with both

English competence pressure and pressure to acculturate, such that parents who had been born in the U.S. demonstrated less school participation behaviors that immigrant parents. Parental generational status was not significantly associated with foundational education nor supplemental education.

Main Effects

Results of the hierarchical linear regressions demonstrated that the main effect of global stress on foundational education was significant in both the model with English competence pressure and the model with pressure to acculturate, such that as parents experienced higher levels of global stress, they demonstrated lower levels of foundational education behaviors. The main effect of global stress on school participation was not significant in either model, which demonstrated that level of global stress experienced by parents did not significantly predict how much parents partook in school participation behaviors. This finding is contrary to the hypothesis that global stress would be significantly associated to school participation. Lastly, the main effect of global stress on supplemental education was significant in both models, meaning that parents experiencing higher levels of global stress demonstrated significantly lower levels of supplemental education. To closely examine the effect of global stress in each model, see Table 2 and Table 3.

English competence pressure was examined as a main effect on the three types of parent engagement. English competence pressure was not significantly associated to any form of parental engagement (foundational education, school participation, and supplemental education). Results only support the proposed hypothesis that English competence pressure would not significantly predict foundational education, but results are contrary to the hypothesis that English competence pressure would significantly predict school participation and supplemental

education. This means that, regardless of the amount of English competence pressure parents felt, parents did not demonstrate significantly different levels of foundational education, school participation, or supplemental education. See Table 2 for more information.

Pressure to acculturate was also examined as a main effect on the three types of parental engagement. Results demonstrated that pressure to acculturate did not significantly predict levels of foundational education nor school participation. However, pressure to acculturate significantly predicted supplemental education, such that higher levels of pressure to acculturate predicted lower levels of supplemental education. The finding that pressure to acculturate did not predict school participation was contrary to the hypothesis proposed in the study. See Table 3 for more information.

English Competence Pressure as a Moderator

The first hierarchical linear regression model examined the effect of the moderator, English competence pressure, on the association between parental global stress and foundational education (See Table 2). Child age, child gender, parent educational level, and parent generational status were included in the model as covariates. Results demonstrated that the entire model accounted for 7% of the variance in foundational education ($R = .26$; $r^2 = .07$; $F(7, 181) = 1.80$; $p = .09$). The interaction between English competence pressure and global stress, which allows for understanding of the moderation effect of English competence pressure on the association between global stress and foundational education was trending toward significance, with $p = .09$ (See Figure 2).

Because these results were trending toward significance, conditional effects of the moderator were examined. Findings demonstrated that there is a significant moderating effect with low and moderate levels of English competency pressure ($p < .01$; $p = .01$, respectively).

That is, for all groups there was a negative slope—specifically, as global stress increases, a decrease in foundational education is observed. Results indicate, however, that the decrease in foundational education is steeper (larger negative slope) for lower levels (both at the mean and 1 standard deviation below the mean) of English language competency pressure as depicted in Figure X. None of the covariates significantly predicted levels of foundational education.

The second hierarchical linear regression model examined the effect of the moderator, English competence pressure, on the association between parental global stress and school participation (See Table 2). Parent age, parent gender, child age, child gender, and parent educational level were included in the model as covariates. Results demonstrated that the entire model accounted for 4% of the variance in School participation (R = .28; r^2 = .08; F(7, 181) = 2.23; p = .03). English competence pressure did not moderate the association between parental global stress and school participation (p = .63).

The third hierarchical linear regression model examined the effect of the moderator, English competence pressure, on the association between parental global stress and supplemental education (See Table 2). Child age, child gender, parent educational level, and parent generational status were included in the model as covariates. Results demonstrated that the entire model accounted for 13% of the variance in supplemental education (R = .37; r^2 = .13; F(7, 181) = 4.00, p < .001). English competence pressure did not moderate the association between parental global stress and school participation (p = .26).

Pressure to Acculturate as a Moderator

The fourth hierarchical linear regression model examined the effect of the moderator, pressure to acculturate, on the association between parental global stress and foundational education (See Table 3). Child age, child gender, parent educational level, and parent

generational status were included in the model as covariates. Results demonstrated that the entire model accounted for 6% of the variance in supplemental education ($R = .24$; $r^2 = .06$; $F(7, 181) = 1.59$, $p = .14$). Pressure to acculturate did not significantly moderate the association between global stress and foundational education. As can be seen by the trend lines on the Figure 3 in Appendix A, level of pressure to acculturate did not significantly weigh on the association of global stress on foundational education.

The fifth hierarchical linear regression model run examined the effect of the moderator, pressure to acculturate, on the association between parental global stress and school participation (See Table 3). Child age, child gender, parent educational level, and parent generational status were included in the model as covariates. Results demonstrated that the entire model accounted for 8% of the variance in supplemental education ($R = .29$; $r^2 = .08$; $F(7, 181) = 2.39$, $p = .02$). Pressure to acculturate did not moderate the relation between global stress and school participation.

The sixth hierarchical linear regression model examined the effect of the moderator, pressure to acculturate, on the association between parental global stress and supplemental education (See Table 3). Child age, child gender, parent educational level, and parent generational status were included in the model as covariates. Results demonstrated that the entire model accounted for 15% of the variance in supplemental education ($R = .38$; $r^2 = .15$; $F(7, 181) = 4.00$, $p < .001$). Results demonstrated that global stress and pressure to acculturate both significantly predicted the extent to which parents engaged in supplemental education, such that higher levels of global stress and pressure to acculturate was associates with significantly lower levels of supplemental education. However, pressure to acculturate did not moderate the association between global stress and foundational education.

Discussion

Parental engagement has been associated with a range of positive outcomes (Castro et al., 2015; Wang & Sheikh-Khalil, 2014), including higher academic achievement (Altschul, 2011; Sheldon & Epstein, 2005), and positive mental health outcomes in students (Wang & Sheikh-Khalil, 2014). However, barriers to parental engagement have not been extensively examined, especially with Latinx parents of preschool children. Given the increasing number of Latinx children in preschool, this study sought to understand how parental global stress and acculturative stress impact parental engagement behaviors. Specifically, this study focused on both Spanish and English-speaking Latinx parents with children enrolled in Head Start programs.

Global Stress and Parental Engagement

The first aim of this study sought to understand the association between parental global stress and three types of parental engagement. Contrary to the proposed hypothesis that expected global stress to be significantly associated with all types of parental engagement, global stress did not significant predict school participation. However, global stress did significantly predict foundational education and supplemental education, such that parents with higher levels of global stress engaged in less foundational education and supplemental education behaviors.

The finding that global stress significantly predicted foundational education and supplemental education levels for Latinx parents of preschool children provides evidence against the notion that Latinx parents who do not demonstrate parental engagement behaviors do not care about their children's development or schooling (Chavez-Reyes, 2010; Valencia & Black, 2002). Instead, this study highlights how global stress impacts their engagement. This is important to note because teachers who further ostracize and alienate families due to misconceptions for their "lack" of involvement are likely misconstruing the realities and

complexities present in the lives of these families. Schools have traditionally held deficit-based beliefs about Latinx children and their parents (Baquedano-Lopéz, Alexander, & Hernandez, 2013; Valencia & Black, 2002), but this finding points to the need for schools to take a more nuanced approach to understanding Latinx families.

This study did not study exact sources of stress beyond forms of acculturative stress, thus conclusions cannot be drawn about the exact nature of and contributions to their global stress. Furthermore, the finding that global stress does not predict school participation, while surprising, is also important for schools to note. This finding demonstrates that there are other factors that impact school participation directly, including a negative view of the school system and previous negative experiences with schooling (Chavkin & Gonzalez, 1995); it may be these types of experiences that more directly influence parents' propensity to engage in school participation.

Results demonstrated that parents' global stress was a significant predictor of foundational education behaviors carried out by parents. This is consistent with literature on how parental stress impacts parenting behaviors (Rodgers, 1998). English competence pressure did not predict the extent to which parents engaged in foundational education behaviors, which aligns with previous findings that parents, despite their inability to participate actively in their child's school, have great interest and dedication in their children's learning and development (Carry, Casas, Kelly-Vance, & Ryalls, 2010; Hill & Torres, 2010). For Latinx families, the high emphasis on educación means that parents, regardless of this type of acculturative stress (English competence pressure), would still demonstrate high foundational education behaviors. This includes, but is not limited to, teaching their children to respect their elders and respect other cultures, to share with others, and a host of social-emotional skills. This finding is important for various reasons: 1) it provides important evidence that parents are involved in a form of parental

engagement not commonly studied in the literature and 2) it demonstrates that parents partake in their children's upbringing to the extent that is culturally relevant for them, although this has historically not been acknowledged by school staff, teachers, and administrators (Chávez-Reyes, 2010; Valencia & Black, 2002).

Acculturative Stress and Parental Engagement

The second aim of this study was to investigate the role of two types of acculturative stress (English competence pressure and pressure to acculturate) on three types of parental engagement. As expected, English competence pressure did not significantly predict foundational education. Since foundational education behaviors are carried out predominantly in the home, it was not expected that pressures associated with learning and knowing English would impact this type of parental engagement.

Results demonstrated that English competence pressure and pressure to acculturate did not predict parental levels of school participation. Research has consistently noted English language barriers as one of the barriers to school participation in parents (Gilbert, Spears Brown, & Mistry, 2017; Zarate, 2007). As such, this was a surprising finding contrary to the hypothesis that parents with higher levels of global stress or types of acculturative stress would demonstrate lower levels of school participation. However, there are a few factors related to Head Start programs, from which the current sample was drawn, that may have influenced the findings of this study. First, Head Start programs acknowledge the importance of parent involvement and have formalized components of their program that focus on parent engagement with a child's schooling and development (U.S. Department of Health and Human Services, 2000). Activities include attending monthly parent meetings, coordinating the parent committee, and going on their children's field trips. Hence, the expectations and built-in programming from within Head

Start may motivate parents, regardless of English competence pressure and pressure to acculturate, to be engaged in their children's development directly through their preschool. Additionally, Head Start programs that participated in this particular study have a high number of Spanish-speaking staff, including supervisors, teachers, paraprofessionals, and Family Service Advocates (FSAs). Thus, families may feel comfortable participating in school initiatives in their child's classroom because they can easily communicate in their primary language (Arias & Morillo-Campbell, 2008; Zarate, 2007). This may provide another reason why English competence pressure does not predict school participation. Furthermore, the Head Start programs in this study are situated in regions with large Latinx communities. For example, 10 of the 19 programs were situated in a city where almost three-fourths of the population identifies as Hispanic and/or Latinx (U.S. Census Bureau, 2018). The high concentration of Latinx families in the communities that the Head Start programs in this study serve may potentially insulate families from pressures and stressors of acculturation, as there are many individuals who speak Spanish and whose cultural values and experiences are similar in nature and context. This may be one reason why pressure to acculturate did not predict school participation levels as was expected. Additional research is needed to understand if these same findings hold in geographical regions where Latinx families are in the minority and in Head Start programs with less Spanish-speaking staff.

English competence pressure did not significantly predict supplemental education behaviors. Pressure to acculturate, however, did significantly predict supplemental education behaviors. Interestingly, supplemental education was the only type of parental engagement that was significantly predicted by pressure to acculturate. Given that supplemental education activities include involving their child in extracurricular activities and interfacing with their

community, it is possible that parents experience dissonance between their own cultural experiences and values and those available for their children. For example, enrolling a child in ballet or a tee-ball league may not be culturally-relevant to a parent. As a parent feels more pressure to acculturate to American societal values, they may feel less inclined to engage in traditional American supplemental education activities. The activities encompassed by supplemental education remain to be studied to have a greater understanding of how and why pressure to acculturate impacts the extent to which parents carry out these behaviors with their preschool children.

Moderating Effects of Acculturative Stress

The third aim of this study was to examine the moderating effects of English competence pressure and pressure to acculturate on the association between global stress and three types of parental engagement behaviors. The purpose of testing the moderating effects of two types of acculturative stress was to understand whether they accounted for part or all of the relation between global stress and different types of parental engagement. Acculturative stress was not expected to impact parents' ability to engage in all types of parental engagement (i.e., foundational education), but different types of acculturative stress were expected to differentially affect specific parental engagement behaviors. In contradiction with hypotheses, pressure to acculturate did not moderate the association between global stress and school participation, nor between global stress and supplemental education. Most surprisingly, English competence pressure did not moderate the association between global stress and school participation nor the association between global stress and supplemental education, but it was approaching significance in moderating the association for global stress on foundational education. This was unexpected and contradictory to the hypothesis proposed. Conditional effects demonstrated that

English competence pressure moderated the association only for levels of acculturative stress one standard deviation below the mean and at the mean, but not for parents experiencing high levels of acculturative stress. Although this finding was only approaching significance, it may be indicative of the argument that parents who may have additional stressors of adapting to a new country, despite schools that do not recognize their efforts at home, continue to focus strongly on foundational education behaviors at home even when demonstrating high levels of global stress. Furthermore, these findings are in agreement with the immigrant paradox, which posits that immigrants who have recently arrived in the U.S. tend to demonstrate better outcomes than second and third generation Latinx immigrants (Hernandez, Denton, Macartney, & Blanchard, 2012). In parallel, immigrant parents may also demonstrate higher school participation behaviors than their non-immigrant counterparts.

Covariates Predicting Parental Engagement Behaviors

Four variables (i.e., child age, child gender, parental educational level, and parent generational status) were included as covariates to understand their influence on foundational education, school participation, and supplemental education. In this study, parent generational status was the only significant predictor of school participation in the model with English competence pressure, and one of two significant predictors in the model with pressure to acculturate (along with parent educational level). The finding of generational status predicting school-based involvement is congruent with previous research that has shown that Mexican American parents who are highly acculturated are less likely to participate in school-based family prevention programs than parents that are less acculturated (Dillman Carpentier et al., 2007; Dumka et al., 1997) and that Mexican immigrant parents report higher involvement in their children's schooling than U.S.-born individuals (Lopez, Sánchez, & Hamilton, 2000). This

finding may also speak to an important underlying concern of school participation for Latinx parents who were born in the U.S. There is research that demonstrates the disillusioned perspectives of 2nd and 3rd generation Latinx American students (Hughes, Newkirk, & Stenhjem, 2010). It is possible that, as families live in the U.S. longer, they may more readily understand and experience firsthand the systems of oppression that impede them from wanting to actively participate in their children's school. To illustrate, one can imagine a Latinx parent who was born and raised in the U.S. and attended school in the U.S. If this parent lived through hostile and negative messages and experiences through their own educational upbringing, this may affect their perspective when their children enter the school system (Smith et al., 1997). These personal negative educational experiences can potentially make them less likely to want to engage with their child's schools directly (Arias & Morillo-Campbell, 2008; Finders & Lewis, 1994) and to lose confidence in the educational system. Research has specifically denoted that school-based barriers, such as negative school climate and a deficit-perspective of the Latinx community, are factors that impede parental engagement (Tinkler, 2002; Zarate, 2007). This study contributes further support that generational status is an important factor in parental school participation behaviors and needs to be considered by schools when considering family-school partnerships. This finding also further delineates the need for more research to understand parental perceived experiences of schools for non-immigrant Latinx parents, especially at the preschool level.

This study demonstrated that multiple factors predicted levels of parental supplemental education. Supplemental education, as defined in this study, consists of the behaviors parents participate in when they actively involve their children in extra-curricular activities, whether this be encouraging them to build with blocks and interface with didactic materials in the home or enrolling their children in activities in the community (i.e., little league soccer, art classes).

Parent educational level, along with global stress and pressure to acculturate, was a significant predictor of supplemental education, with higher levels of education completed being associated with higher levels of supplemental education. Child age and child gender were also approaching significance, such that as children got older, parents demonstrated lower supplemental education behaviors and parents with daughters demonstrated higher levels of supplemental education. As such, findings from this study demonstrate that perhaps more factors account for the variance in parental supplemental education behaviors and speak to the complexity present in factors that affect supplemental education. More research is needed to disentangle the role and extent of individual predictors, such as child age and gender, with larger sample sizes. More research is also needed to understand the types of supplemental behaviors that families find congruent with their cultural values and which they do not, given that pressure to acculturate was significantly associated with the extent to which they engaged in supplemental education.

Parental educational level was also a significant predictor of supplemental education behaviors, such that parents who had received higher levels of education engaged in higher levels of supplemental education behaviors. Given that supplemental education encompasses activities such as "My child sees me or other family members doing reading and writing activities," "I read to my child," and "I bring home educational toys and learning materials for my child (like flashcards, books, videos, notebooks)", it is unsurprising that higher levels of education are associated with higher levels of supplemental education behaviors. This is also consistent with findings that parents who have had the opportunity to pursue more years of education engage in higher levels of parental engagement behaviors, such as helping with homework or volunteering at school (Arias & Morillo-Campbell, 2008; Floyd, 1998).

Limitations

In light of the findings of this study, limitations must be noted. First, the majority of participating families identified as Mexican and/or Mexican American (n = 173), with four families identifying their country of heritage as Guatemala, one family Puerto Rico, and two families the U.S. (n = 9 unknown). Hence, the findings of this study may not be generalizable to Latinx individuals from other Latin American countries of heritage, and more research is needed to examine if these findings are consistent across different Latin American subgroups. It is also important to note this study was conducted in Central California and additional research is needed in other geographical locations of the U.S., as these finding are not generalizable nation-wide.

Relatedly, an estimated 20 parents in Head Start programs declined participation and three participants were removed from the total of 220 participating families (did not have sufficient items completed in survey) due to their primary language being Nahuatl or Mixteco. Therefore, more research needs to be conducted with families from Mexican indigenous communities living in the United States to ensure that their experiences are adequately and rightfully captured in the literature on parent engagement, parental stress, and acculturative stress. Similarly, some parents who struggle with reading in Spanish also expressed difficulty completing forms (approximately 10). One way to address this limitation is to conduct focus groups with families so that they may share their experiences verbally instead of needing to read and interpret the items on a survey. Qualitative data collection may provide a broader and meaningful perspective about parental engagement behaviors from parents who have had less access to education and/or may speak indigenous languages.

Another limitation to this study was the measurement of the concepts of acculturative stress. Despite the multidimensional nature of acculturative stress (Rodriguez, Myers, Mira,

Flores, & Garcia-Hernandez, 2002), the present study only targeted two dimensions of acculturative stress, English competence pressure and pressure to acculturate. The variable pressure to acculturate had a non-normal distribution, which could have influenced the results to a certain extent. Additionally, the measure used to examine acculturative stress was altered through the CFA process, and not all items were kept for either of the acculturative stress variables used in this study. The problems with this measure may have been due to the paper format of the scale, in which parents did not know how to answer the two-part questions. Feedback from Head Start teachers noted that parents did not read the second question or felt some questions did not apply to them. Additionally, global stress and supplemental education were constructs that were also altered in the CFA process, as one item in each construct was dropped (item 12 and item 11, in each scale respectively).

A third limitation to this study is that it was conducted in Head Start programs, which have specific initiatives to increase parental engagement and seek to actively involve parents in their children's schooling on multiple levels (U.S. Department of Health and Human Services, 2000). Although this setting has been identified as an ideal place to study parental engagement (Waanders, Mendez, & Downer, 2007), research on parental engagement in Latinx families of preschool children needs to also be conducted in state-run preschools that may not necessarily have the same initiatives. In doing so, it can be better understood if the findings of the present study are consistent across preschool environments or if they may be associated to the initiatives already present in Head Start (i.e., parent involvement programming). This study also did not examine the number of years children were already in preschool or if they had older siblings who had attended preschool. Understanding the effects of these variables can yield important

contributions to the parent engagement literature and potential educational policy surrounding the need for early child development and education.

Implications for Practice and Research

The findings of this study have implications for school districts' approaches to working with Latinx families and supporting their parental engagement behaviors. Teachers and administrators that take a deficit-based perspective when they perceive there is a lack of parental engagement behaviors from Latinx families. Schools need to closely examine their misperceptions and recognize that there are other factors that may influence their inability to carry out parental engagement behaviors, such as global stress. This study found that global stress predicted both foundational and supplemental education behaviors, such that parents experiencing more stress were able to carry out foundational and supplemental education behaviors to a lesser extent. This finding gives evidence that parents are not necessarily negligent and apathetic about their children's schooling as teachers and administrators may think (Valencia & Black, 2002), and there are, in fact, contextual factors (e.g., global stress) that may impede them from partaking in the range of parental engagement behaviors schools expect. Further understanding the stress Latinx parents may be encountering may help schools to build empathy for Latinx families and help to eliminate the myth that Latinx parents who don't demonstrate certain parental engagement behaviors don't care about their children's development and schooling (Chávez-Reyes, 2010). Schools, being mindful of the many factors that can affect parents' global stress and knowing that global stress plays a role in their engagement behaviors at home, can help to develop initiatives that take into account families' home experiences and that seek to streamline activities for parents with their everyday lives. Although parent engagement has been framed as behaviors parents partake in that fulfill school needs (Gettinger

& Guetschow, 1998), schools must work in partnership with families to acknowledge the barriers to their participation and how they can support parents in supporting their children's development (Waanders, Mendez, & Downer, 2007). When schools diminish the behaviors that parents engage in to support their children to the extent that they are personally able to, they can further alienate the families and students they serve, potentially hindering future opportunities for communication, partnership, and involvement (Chavez-Reyes, 2010).

Schools across the United States have often struggled with applying a culturally-responsive approach when conceptualizing parental engagement (Baquedano-Lopez et al., 2013; Valencia, 2011). Schools working towards the goal of increasing parental engagement need to first reflect on their current approach to working with Latinx families. Then, schools may wish to reframe their approach to be more culturally-responsive with a more nuanced comprehension of Latinx families' experiences, needs, and cultural values. In the present study, most families endorsed many of the foundational education behaviors, such as teaching their children their actions have consequences, teaching their children to respect others, teaching their children to share, and teaching them how to ask for help. Although schools have not traditionally acknowledged foundational education as a form of parental engagement, schools need to begin to do so in order to be more culturally-receptive and to expand their perspective on what it means for a parents to be actively engaged. In a study conducted by Zarate (2007), 15 teachers, principals, and counselors from Miami, Los Angeles, and New York City were given 30-minute interviews to understand their perception of what constitutes parental engagement. They reported forms of parental involvement included being part of Parent Teacher Association (PTA), fundraising for the school, monitoring their children's attendance in school, and reviewing children's report cards. However, they did not mention many of the behaviors that fall under

foundational education beyond reporting "emotional support" and "controlling kids" (Zarate, 2007). It is imperative that schools begin to expand their conceptualization of parental engagement and recognize the engagement efforts families make in order to be more culturally-responsive.

Involving both bilingual and Spanish-monolingual parents is another way that schools can actively engage families from Latinx backgrounds. Acknowledgement by school staff and teachers that families hold a range of values, but that all of these values can contribute to their children's successful development, is a significant first step. In a study by Strand and colleagues, they found that families from collectivist backgrounds, such as that of Latinx families, demonstrated higher levels of cooperative behaviors, yet that cooperative social orientations are not valued in the preschool setting as much as individualist social orientations are (Strand, Pula, & Downs, 2015). When schools force their agendas upon families, rather than integrating their values, they may do more harm than good.

An important finding of this study was that generational status was predictive of school participation. This finding is important because if parents have historically felt undervalued and ignored by the educational system, it is imperative that schools take responsibility to rectify and ameliorate the previous lived experiences of parents by enacting cultural humility and working hard to understand their perspectives and needs. Schools that find ways to make parents feel welcome and valued at school despite linguistic and/or cultural differences (Arias & Campbell-Morillo, 2008) may be able to partner with parents more effectively and positively. When parents feel comfortable communicating with teachers and staff and participating in their children's school, they may demonstrate stronger propensities to actively participate in their children's school.

Preschools are often the first experience parents have with their children's schooling and it may be an especially critical time to engage parents in a positive, supportive, and culturally-responsive manner (Baquedano-Lopez et al., 2013). In doing so, schools can help to gain the trust and confidence of Latinx parents from the outset of their children's educational trajectory. Schools may consider asking for parent feedback often, incorporating parents' opinions and thoughts into the curriculum and educational programming for their children, and teaching them how to advocate for their children's needs in the school context when they are unaware (Zarate, 2007). When schools take initiative and actively work to engage parents in preschool, they can help set families on a strong trajectory as they move into primary school.

Foundational education needs to be acknowledged and recognized by school staff, teachers, and administrators a source of strength for parents (Arias & Morillo-Campbell, 2008). The previous decades of literature on the study of parental engagement have consistently been framed from a White, middle-class perspective (Chavez-Reyes, 2010; Hill & Torres, 2010) and with an emphasis in academic achievement (Kelly-Vance, et al., 2006). However, there is an array of behaviors that parents diligently carry out to inculcate good behavior and strong values in their children (McWayne & Melzi, 2014). In the Latinx community, this is often seen as educación, and in this study, specifically, it is regarded as foundational education. This type of parental engagement was one of the foci of this study because the field needs to continue to expand its conceptualization of parental engagement practices. It was found that neither type of acculturative stress (English competence pressure nor pressure to acculturate) predicted the extent to which parents partook in foundational education. This demonstrates that, despite experienced sources of acculturative stress, parents continue to enact engagement behaviors in the home to support their children's development to an extent that is culturally-relevant and -

congruent with their families. Foundational education, among other strengths of the Latinx community, should be celebrated and respected, rather than dismissed.

The findings of this study also have implications for policy at the state and school district level. Results demonstrated that, when pressure to acculturate was included in the model, both parent generational status and parent educational level were significant predictors of school participation. As such, parents with higher levels of education demonstrated higher levels of school participation. This finding is congruent with research that parents who have access to less formal education can feel more intimidated by aspects of school participation and have reported this is a barrier to their participation (Floyd, 1998). In light of further support that parent education level impacts school participation, schools can work to empower parents who may not have gone through the American schooling system and/or who may not have had the opportunity to receive schooling themselves. Schools can help parents understand how they can advocate for their children in school, as well as how they can be involved. There are currently states in the U.S. that have mandated parent rights in their education code. For example, according to the PTA in the state of California, these rights allow for parents to volunteer, be a part of parent-teacher conferences, "ensure safe school environments," and "participate in councils and committees" (California State Parent Teacher Association, 2019). Furthermore, part of the state's new school funding law requires school districts to get parent perspectives and opinions for the implementation of funding (California Department of Education). However, given that parents with lower levels of educational attainment may feel discouraged from participating in school initiatives, it is morally and ethically imperative that state legislators and school districts hold schools accountable in finding ways to partner with Latinx parents and give them a platform for their voices to be included (Zarate, 2007), especially when parents may not speak English. For

example, schools can hire more Spanish-speaking staff if necessary, have a family service advocate or cultural broker, send surveys home for parents who are unable to be physically present to ask for their opinions on school and district issues, and teach parents about their educational rights in schools through workshops, newsletters in multiple languages, or parent meetings. For parents in which there are time and resource constraints, meetings can be held over online platforms so that they may be able to participate as well. Schools need to actively work to identify strategies that help empower Latinx parents who have not had as much access to education themselves so they may feel that they, too, can play an important role in their child's school. States need to implement laws that hold school districts accountable for carrying out school-family partnership initiatives for children from *all* backgrounds.

Scholars conducting research on parental engagement need to re-examine how they define parental engagement and consider expanding their definition to include behaviors that may not be traditionally expected if they have not done so already. This is especially important when quantitative research is conducted, as participants do not have the opportunity to self-report how they support their children's development as they would in an open-ended, qualitative format (i.e., interview, focus group). Additionally, researchers seeking to use the MASI may want to clarify the process of completing the survey for participants, as this survey was a source of confusion for some participants.

Future Directions

Research remains to be conducted on Latinx parental engagement. Future research needs to focus on the barriers to different forms of parental engagement, as well as the levels and roles of acculturative stress, particularly in relation to school participation. More work is needed to understand facilitators of parental engagement behaviors that were not examined in this study,

such as positive school climate and accessible Spanish-speaking staff. Additional research is also needed to understand how to maximize the behaviors that parents can partake in both in the home, in the school, and in the community. Additionally, findings of this study demonstrated that generational status was a significant predictor of school participation. As such, further research is needed to examine why parents, as they live longer in the U.S., participate in their children's schooling to a lesser extent. Disentangling school factors that impact school participation for immigrant versus non-immigrant Latinx parents can help to inform approaches and initiatives on behalf of schools. Researchers conducting this type of work should consider community-based participatory research methods to ensure that they are culturally-sensitive and -responsive to the Latinx families they seek to better understand (Winslow, Poloskov, Begay, Tein, Sandler, & Wolchik, 2016).

It's important to note that this was a cross-sectional study and it is not possible to understand causality from the results of this study. Hence, longitudinal research is needed to understand the long-term impacts of school factors, such as school climate and school-initiated communication, on parental engagement behaviors from preschool into elementary school, as well as how these relate to parents' perceptions of school participation and children's long-term social-emotional and academic outcomes. Researchers should also consider studying foundational education as a potential protective factor for Latinx families and how it associates to long-term outcomes for Latinx children.

Another area that warrants further research is in the measurement of acculturative stress. This study was unable to find that the original 4-factor structure held for the MASI, which was used to measure the constructs of English competence pressure and pressure to acculturate. More research is needed to understand the factor structure of the MASI and the measurement of the

subscales of this measure. Additionally, in the PEFL, the mean score of supplemental education was calculated with the removal of item 11. Researchers should examine if this is a problematic item in larger, more diverse samples. Similarly, items were needed to be removed from the PSS-14 for the model to demonstrate acceptable fit. As such, researchers should also examine the factor structure of the PSS-14 with larger, more diverse Latinx samples. Measurement invariance analyses are necessary for all three scales (i.e., MASI, PEFL, and PSS-14) to examine if the measure functions equivalently in Spanish and English. Furthermore, replication of this study is necessary to understand if pressures families feel to acculturate play the same role that was evidenced in this study.

Conclusion

Understanding the factors that impact parental engagement behaviors of Latinx parents and the range of behaviors they engage in to support their children's development are imperative in the process of implementing school-wide supports to ensure children's long-term success. Global stress, pressure to acculturate, parent generational status, and parent educational level were four factors found to predict levels of varying types of parental engagement. School-wide supports can be implemented that take into account the many ways Latinx families make efforts to support the development of their children and facilitate programming that dismantles barriers currently present for them. By being sensitive and responsive to the cultural values, familial efforts, personal experiences, and nuances present in the Latinx community, school staff, teachers, and administrators can work in partnership with families to bridge the gap from school to home environments and set Latinx children up for success from their very first experience in (pre)school.

References

Altschul, I. (2011). Parental involvement and the academic achievement of Mexican American youths: what kinds of involvement in youths' education matter most? *Social Work Research*, *35*(3), 159-170. doi: 10.1093/swr/35.3.159

Arias, M. B., & Morillo-Campbell, M. (2008). Promoting ELL Parental Involvement: Challenges in Contested Times. *Education and the Public Interest Center.* Retrieved from https://files.eric.ed.gov/fulltext/ED506652.pdf

Auerbach, S. (2006). "If the student is good, let him fly": Moral support for college among Latino immigrant parents. *Journal of Latinos and Education, 5*(4), 275–292. doi:10.1207/s1532771xjle0504_4

Barton, A. C., Drake, C., Perez, J. G., St. Louis, K., & George, M. (2004). Ecologies of parental engagement in urban education. *Educational Researcher, 33*(4), 3-12. doi: 10.3102/0013189X033004003

Berry, J.W. Acculturative stress. In: Wong, PTP.; Wong, LCS., editors. *Handbook of Multicultural Perspectives on Stress and Coping*. Langley, BC: Springer; 2006. p. 287-298. doi: 10.1007/0-387-26238-5_12

Bulotsky-Shearer, R., Lopez, L. & Mendez, J.L. (2016). The validity of interactive peer play competencies for Latino preschool children from low-income households. *Early Childhood Research Quarterly, 34*, 78-91. doi:10.1016/j.ecresq.2015.09.002

Byrne, B. M. (2016). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Routledge.

Cabrera, N. J., Shannon, J. D., West, J., & Brooks-Gunn, J. (2006). Parental interactions with Latino infants: Variation by country of origin and English proficiency. *Child Development*, *77*(5), 1190-1207. doi: 10.1111/j.1467-8624.2006.00928.x

Castillo, L. G., Cano, M. A., Yoon, M., Jung, E., Brown, E. J., Zamboanga, B. L., ... & Whitbourne, S. K. (2015). Factor structure and factorial invariance of the Multidimensional Acculturative Stress Inventory. *Psychological Assessment*, *27*(3), 915-925. doi: 10.1037/pas0000095

California State Parent Teacher Association (2019). Family school partnerships: Making a difference together. Retrieved on May 23, 2019 from https://capta.org/focus-areas/family-engagement/family-school-partnerships/

Calzada, E. J., Huang, K. Y., Hernandez, M., Soriano, E., Acra, C. F., Dawson-McClure, S., ... & Brotman, L. (2015). Family and teacher characteristics as predictors of parent involvement in education during early childhood among Afro-Caribbean and Latino immigrant families. *Urban Education*, *50*(7), 870-896. doi: 10.1177/0042085914534862

Castro, M., Expósito-Casas, E., López-Martín, E., Lizasoain, L., Navarro-Asencio, E., & Gaviria, J. L. (2015). Parental involvement on student academic achievement: A meta-analysis. *Educational Research Review, 14*, 33-46. doi: 10.1016/j.edurev.2015.01.002

Ceballo, R., Jocson, R. M., & Alers-Rojas, F. (2017). Parental educational involvement and Latino children's academic attainment. In N. J. Cabrera & B. Leyendecker (Eds.), *Handbook of Positive Development in Minority Children and Youth* (pp. 343-360). Cham, Switzerland: Springer Publishing.

Ceballo, R., Huerta, M., & Epstein-Ngo, Q. (2010). Parental and school influences promoting academic success among Latino students. In J. L. Meece & J. S. Eccles (Eds.), *Handbook*

of research on schools, schooling, and human development (pp. 293–307). New York: Routledge. doi: 10.1007/978-3-319-43645-6_21

Ceballo, R., Maurizi, L. K., Suarez, G. A., & Aretakis, M. T. (2014). Gift and sacrifice: Parental involvement in Latino adolescents' education. *Cultural Diversity and Ethnic Minority Psychology, 20*(1), 116–127.

Chavez-Reyes, C. (2010). Inclusive approaches to parent engagement for young English language learners and their families. *Yearbook of the National Society for the Study of Education, 109*(2), 474-504.

Chavkin, N.F., & Gonzalez, D.L. (1995). Forging partnerships between Mexican American parents and the schools. West Virginia: ERIC Clearinghouse on Rural Education and Small Schools.

Colby, S.L., and Ortman, J.M. (2015). Projections of the Size and Composition of the U.S. Population: 2014 to 2060. Current Population Reports, 25–1143. Washington, DC: US Census Bureau.

Conger, R. D., Conger, K. J., & Martin, M. J. (2010). Socioeconomic status, family processes, and individual development. *Journal of Marriage and Family*, *72*(3), 685-704. doi: 10.1111/j.1741-3737.2010.00725.x

Conger, R. D., & Conger, K. J. (2002). Resilience in Midwestern families: Selected findings from the first decade of a prospective, longitudinal study. *Journal of Marriage and Family*, *64*(2), 361-373. doi: 10.1111/j.1741-3737.2002.00361.x

Crosby, D.A. & Mendez, J.L. (2016). *Hispanic Children's Participation in Early Care and Education: Amount and Timing of Hours by Household Nativity Status, Race/Ethnicity,*

and Child Age. Bethesda, MD: The National Center for Research on Hispanic Families & Children.

Crouter, A. C., Davis, K. D., Updegraff, K., Delgado, M., & Fortner, M. (2006). Mexican American fathers' occupational conditions: Links to family members' psychological adjustment. *Journal of Marriage and Family*, *68*(4), 843-858. doi: 10.1111/j.1741-3737.2006.00299.x

Curby, T. W., Brown, C. A., Bassett, H. H., & Denham, S. A. (2015). Associations between preschoolers' social–emotional competence and preliteracy skills. *Infant and Child Development*, *24*(5), 549-570. doi: 10.1002/icd.1899

Flores, A., López, G., & Radford J. (2017). Facts on U.S. Latinos, 2015. Pew Research Center. Retrieved from http://www.pewhispanic.org/2017/09/18/facts-on-u-s-latinos-trend-data/

Floyd, L. (1998). Joining hands: A parental involvement program. *Urban Education, 33*(1), 123-135.

Fuller, B. & García Coll (2010). Learning from Latinos: Contexts, families, and child development in motion. *Developmental Psychology, 46*(3), 559-565. doi: 10.1037/a0019412

Galindo, C. & Fuller, B. (2010). The social competence of Latino kindergartners and growth in mathematical understanding. *Developmental Psychology, 46*(3), 579-592. doi: 10.1037/a0017821

Garcia Coll, C., Akiba, D., Palacios, N., Bailey, B., Silver, R., DiMartino, L., et al. (2002). Parental involvement in children's education: Lessons from three immigrant groups. *Parenting: Science and Practice, 2*(3), 303–324. doi: 10.1207/S15327922PAR0203_05

Garcia Coll, C., & Marks, A. K. (Eds.). (2012). The immigrant paradox in children and adolescents: Is becoming American a developmental risk. Washington, DC, US: American Psychological Association. http://dx.doi.org/10.1037/13094-000

Gilbert, L. R., Spears Brown, C., & Mistry, R. S. (2017). Latino immigrant parents' financial stress, depression, and academic involvement predicting child academic success. *Psychology in the Schools*, *54*(9), 1202-1215. doi: 10.1002/pits.22067

Goldenberg, B. M. (2014). White teachers in urban classrooms: Embracing non-white students' cultural capital for better teaching and learning. *Urban Education*, *49*(1), 111-144. doi: 10.1177/0042085912472510

Grolnick, W. S., Benjet, C., Kurowski, C. O., & Apostoleris, N. H. (1997). Predictors of parent involvement in children's schooling. *Journal of Educational Psychology, 89*(3), 538-548. doi: 0022-0663/97/

Haack, L. M., Kapke, T. L., & Gerdes, A. C. (2016). Rates, Associations, and Predictors of Psychopathology in a Convenience Sample of School-Aged Latino Youth: Identifying Areas for Mental Health Outreach. Journal of Child and Family Studies, 25(7), 2315–2326. doi: 10.1007/s10826-016-0404-y

Halgunseth, L. C., Ispa, J. M., & Rudy, D. (2006). Parental control in Latino families: An integrated review of the literature. *Child Development, 77,* 1282–1297. doi: 10.1111/j.1467-8624.2006.00934.x

Hayes, A. F. (2017). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. Guilford Publications.

Heckman, J.J. (2006). Skill formation and the economics of investing in disadvantaged children. *Science Magazine, 312,* 1900-1902. doi: 10.1126/science.1128898

Hierarchical Linear & Nonlinear Modeling. Skokie, IL: Scientific Software International, Inc; 2004. (for Windows) computer program. Version 7.

Hill, N. E., & Torres, K. (2010). Negotiating the American dream: The paradox of aspirations and achievement among Latino students and engagement between their families and schools. *Journal of Social Issues*, *66*(1), 95-112. doi: 10.1111/j.1540-4560.2009.01635.x

Hill, N. E., & Tyson, D. F. (2009). Parental involvement in middle school: a meta-analytic assessment of the strategies that promote achievement. *Developmental Psychology, 45*(3), 740–763. doi: 10.1037/a0015362

Hornby, G., & Lafaele, R. (2011). Barriers to parental involvement in education: An explanatory model. *Educational Review, 63*(1), 37-52. doi: 10.1080/00131911.2010.488049

Huynh, Q.-L., Nguyen, A.-M. T. D., & Benet-Martínez, V. (2011). Bicultural identity integration. In S. J. Schwartz, K. Luyckx, & V. L. Vignoles (Eds.), *Handbook of Identity Theory and Research* (pp. 827-843). New York, NY, US: Springer Science + Business Media.

IBM Corp. Released 2017. IBM SPSS Statistics for Macintosh, Version 25.0. Armonk, NY: IBM Corp.

Ingoldsby, E. M. (2010). Review of interventions to improve family engagement and retention in parent and child mental health programs. *Journal of Child and Family Studies*, *19*(5), 629-645. doi: 10.1007/s10826-009-9350-2

Irizarry, J. (2015). *Latinization of US schools: Successful teaching and learning in shifting cultural contexts*. Routledge. doi: 10.4324/9781315633763

Jackson, D. L. (2003). Revisiting sample size and number of parameter estimates: Some support for the *N*:*q* hypothesis. *Structural Equation Modeling*, *10*, 128–141. doi:

10.1207/S15328007SEM1001_6

Jeynes, W. H. (2017). A meta-analysis: The relationship between parental involvement and Latino student outcomes. *Education and Urban Society*, *49*(1), 4-28. doi: 10.1177/0013124516630596

Johnson De Feyter, J. & Winsler, A. (2009). The early developmental competencies and school readiness of low-income, immigrant children: Influences of generation, race/ethnicity, and national origins. *Early Childhood Research Quarterly, 24,* 411-431. doi: 10.1016/j.ecresq.2009.07.004

Jones, D.E., Greenberg, M., & Crowley, M. (2015). Early social-emotional functioning and public health: The relationship between kindergarten social competence and future wellness. *American Journal of Public Health, 105*(11), 2283-2290. doi: 10.2105/AJPH.2015.302630

Kelly-Vance, L., Nero, C., Casas, J. F., Ryan, C. S., Ryalls, B. O., Kurien, S. A., & Ferguson, A. (2006). Parental involvement in education: A comparison of English and Spanish speaking parents. *The New Mexico Review, 14*, 15-25.

Kids Count Data Center (2019). *Children in poverty by race and ethnicity in the United States.* Retrieved on May 24, 2019 from: https://datacenter.kidscount.org/data/tables/44-children-in-poverty-by-race-and-ethnicity#detailed/1/any/false/871,870,573,869,36,868,867,133,38,35/10,11,9,12,1,185,13/324,323

Kim, S. W., & Hill, N. E. (2015). Including fathers in the picture: A meta-analysis of parental involvement and students' academic achievement. *Journal of Educational Psychology, 107*(4), 919-934.

Kim, S. Y., Schwartz, S. J., Perreira, K. M., & Juang, L. P. (2018). Culture's Influence on Stressors, Parental Socialization, and Developmental Processes in the Mental Health of Children of Immigrants. *Annual Review of Clinical Psychology*, *14*, 343-370. doi: 10.1146/annurev-clinpsy-050817-084925

Kline, R. B. (2015). *Principles and practice of structural equation modeling* (3rd edition) New York, NY: Guilford publications

Lima, J., Caughy, M., Nettles, S.M., & O'Campo, P.J. (2010). Effects of cumulative risk on behavioral and psychological well-being in first grade: Moderation by neighborhood context. *Social Science & Medicine, 71*(8), 1447-1454. doi: 10.1016/j.socscimed.2010.06.022

Lopez, M. H., & Rohal, M. (2017). Latinos and the new Trump Administration. Pew Research Center. Retireved on April 25, 2019 from https://vtechworks.lib.vt.edu/bitstream/handle/10919/83175/LatinosTrumpAdministration.pdf?sequence=1&isAllowed=y

Lorenzo-Blanco, E. I., Meca, A., Unger, J. B., Romero, A., Gonzales-Backen, M., Piña-Watson, B., … Schwartz, S. J. (2016). Latino Parent Acculturation Stress: Longitudinal Effects on Family Functioning and Youth Emotional and Behavioral Health. *Journal of Family Psychology : JFP : Journal of the Division of Family Psychology of the American Psychological Association (Division 43)*, *30*(8), 966–976. doi: 10.1037/fam0000223

Lorenzo-Blanco, E. I., Meca, A., Unger, J. B., Romero, A., Szapocznik, J., Piña-Watson, B., ... & Soto, D. W. (2017). Longitudinal Effects of Latino Parent Cultural Stress, Depressive Symptoms, and Family Functioning on Youth Emotional Well-Being and Health Risk Behaviors. *Family Process*, *56*(4), 981-996. doi: 10.1111/famp.12258

Marin, G. & Gamba, R.J. (1996). A new measurement of acculturation for Hispanics: The Bidimensional Acculturation Scale for Hispanics (BAS). *Hispanic Journal of Behavioral Sciences, 18*(3) 297-316. doi: 10.1177/07399863960183002

Marschall, M. J., & Shah, P. R. (2016). Linking the process and outcomes of parent involvement policy to the parent involvement gap. *Urban Education*, 1-31. doi: 10.1177/0042085916661386

Marsiglia, F. F., Nagoshi, J. L., Parsai, M., & Castro, F. G. (2014). The effects of parental acculturation and parenting practices on the substance use of Mexican-heritage adolescents from Southwestern Mexican neighborhoods. *Journal of Ethnicity in Substance Abuse*, *13*(3), 288-311. doi: 10.1080/15332640.2014.905215

Mayfield, V. M., & Garrison-Wade, D. (2015). Culturally responsive practices as whole school reform. *Journal of Instructional Pedagogies*, 3-16.

McCabe, L. A., & Frede, E. C. (2007). Challenging behaviors and the role of preschool education. *New Brunswick: National Institute for Early Education.*

McWayne, C.M., Melzi, G., Limlingan, M.C., & Schick, A. (2016). Ecocultural patterns of family engagement among low-income Latino families of preschool children. *Developmental Psychology, 52*(7), 1088-1102. doi:10.1037/a0040343

McWayne, C., & Melzi, G. (2014). Validation of a culture-contextualized measure of family engagement in the early learning of low-income Latino children. *Journal of Family Psychology, 28*(2), 260–266. doi: 10.1037/a0036167

McWayne, C., Foster, B., & Melzi, G. (2018). Culturally Embedded Measurement of Latino Caregivers' Engagement in Head Start: A Tale of Two Forms of Engagement. *Early Education and Development*, 1-23. doi: 10.1080/10409289.2018.1442094

Mendez, J. L. (2010). How can parents get involved in preschool? Barriers and engagement in education by ethnic minority parents of children attending Head Start. *Cultural Diversity and Ethnic Minority Psychology, 16*(1), 26-37. doi: 10.1037/a0016258

Mendoza, M. M., Dmitrieva, J., Perreira, K. M., Hurwich-Reiss, E., & Watamura, S. E. (2017). The effects of economic and sociocultural stressors on the well-being of children of Latino immigrants living in poverty. *Cultural Diversity and Ethnic Minority Psychology, 23*(1), 15. doi: 10.1037/cdp0000111

Mendez, J. L., Stillman, L., LaForett, D. R., Wandersman, A., & Flaspohler, P. (2004). Neighborhood and community influences favoring the growth and development of young children. *A Blueprint for the Promotion of Prosocial Behavior in Early Childhood*, 113-139.

Muthén, B., & Muthén, L. K. (2000). Integrating person-centered and variable-centered analyses: Growth mixture modeling with latent trajectory classes. *Alcoholism: Clinical and experimental research*, *24*(6), 882-891.

Muthén, L. K., & Muthén, B. O. (1998-2014). *Mplus user's guide* (6th Ed.). Los Angeles, CA: Muthén & Muthén.

National Center for Education Statistics (2018). Fast facts: Preprimary education enrollment. *Institute of Education Sciences*, Washington D.C.

Palermo, F., Ispa, J. M., Carlo, G., & Streit, C. (2017). Economic hardship during infancy and US Latino preschoolers' sociobehavioral health and academic readiness. *Developmental Psychology,* 1-13.

Perreira, K.M., Chapman, M.V., & Stein, G.L. (2006). Becoming an American parent: Overcoming challenges in a new immigrant Latino community. *Journal of Family Issues, 27*(10), 1383-1414. doi: 10.1177/0192513X06290041

Ramirez Garcia, J.L. (2012). Mental health care for Latino immigrants in the U.S.A. and the quest for global health equities. *Psychological Intervention, 21*(3), 305-318. doi: 10.5093/in2012a27

Reese, L., Balzano, S., Gallimore, R., & Goldenberg, C. (1995). The concept of educación: Latino family values and American schooling. *International Journal of Educational Research, 23,* 57–81. doi:10.1016/0883-0355(95)93535-4

Reese, L., & Gallimore, R. (2000). Immigrant Latinos' cultural model of literacy development: An evolving perspective on home-school discontinuities. *American Journal of Education, 108*, 103–134. doi: 10.1086/444236

Reese, L., Garnier, H., Gallimore, R., & Goldenberg, C. (2000). Longitudinal analysis of the antecedents of emergent Spanish literacy and middle-school English reading achievement of Spanish-speaking students. *American Educational Research Journal*, *37*(3), 633-662. doi: 10.3102/00028312037003633

Reyes, J.A. & Elias, M.J. (2011). Fostering social-emotional resilience among Latino youth, *Psychology in the Schools, 48*(7), 723-737. doi:10.1002/pits.20580

Rodriguez, N., Myers, H.F., Mira, C.B., Flores, T., & Garcia-Hernandez (2002). Development of the Multidimensional Acculturative Stress Inventory for Adults of Mexican Origin. *Psychological Assessment, 14*(4), 451-461. doi: 10.1037/1040-3590.14.4.451

Romero, M., Hondagneu-Sotelo, P., & Ortiz, V. (2014). *Challenging fronteras: Structuring Latina and Latino lives in the US*. Routledge. doi: 10.4324/9781315865775

Russell, B. S., Lee, J. O., Spieker, S., & Oxford, M. L. (2016). Parenting and preschool self-regulation as predictors of social emotional competence in 1st grade. *Journal of Research in Childhood Education*, *30*(2), 153-169. doi: 10.1080/02568543.2016.1143414

Schwartz, S. J., Unger, J. B., Zamboanga, B. L., & Szapocznik, J. (2010). Rethinking the concept of acculturation: Implications for theory and research. *American Psychologist*, *65*(4), 237-251. doi: 10.1037/a0019330

Shear, M. D., & Nixon, R. (2017). New Trump deportation rules allow far more expulsions. *New York Times, 21*.

Souto-Manning, M., & Swick, K. J. (2006). Teachers' beliefs about parent and family involvement: Rethinking our family involvement paradigm. *Early Childhood Education Journal*, *34*(2), 187-193. doi: 10.1007/s10643-006-0063-5

Strand, P. S., Pula, K., & Downs, A. (2015). Social values and preschool behavioral acculturative stress: A comparative investigation of Latino and European American preschool children. *Cultural Diversity and Ethnic Minority Psychology*, *21*(3), 400-408. doi: 10.1037/cdp0000017

Szapocznik, J., & Williams, R. A. (2000). Brief strategic family therapy: Twenty-five years of interplay among theory, research and practice in adolescent behavior problems and drug abuse. *Clinical Child and Family Psychology Review, 3*(2), 117-134. doi: 10.1023/A:1009512719808

Tinkler, B. (2002, April). A review of literature on Hispanic/Latino parent involvement in K-12 education. Retrieved April 16, 2019, from https://files.eric.ed.gov/fulltext/ED469134.pdf

Torres, L. (2010). Predicting levels of Latino depression: Acculturation, acculturative stress, and coping. *Cultural Diversity and Ethnic Minority Psychology*, *16*(2), 256. doi: 10.1037/a0017357

Torres, L., Driscoll, M. W., & Voell, M. (2012). Discrimination, acculturation, acculturative stress, and Latino psychological distress: A moderated mediational model. *Cultural Diversity and Ethnic Minority Psychology*, *18*(1), 17. doi: 10.1037/a0026710

Umaña-Taylor, A. J., Alfaro, E. C., Bámaca, M. Y., & Guimond, A. B. (2009). The central role of familial ethnic socialization in Latino adolescents' cultural orientation. *Journal of Marriage and Family, 71*(1), 46-60. doi: 10.1111/j.1741-3737.2008.00579.x

U.S. Census Bureau (2019). *Hispanic poverty rate hit an all-time low in 2017.* Retrieved on May 24, 2019 from https://www.census.gov/library/stories/2019/02/hispanic-poverty-rate-hit-an-all-time-low-in-2017.html

U.S. Department of Health and Human Services. (2000). Head Start performance standards (1304.40). Washington, DC.

Valencia, R. (2011). *Chicano school failure and success: Past, present, and future* (3rd ed). London, England: Routledge.

Valencia, R. R. & Black, M.S. (2002). "Mexican Americans don't value education!" On the basis of the myth, mythmaking, and debunking. *Journal of Latinos and Education, 1*(2), 81-103.

Waanders, C., Mendez, J.L, & Downer, J. (2007). Parent characteristics, economic stress, and neighborhood context as predictors of parent involvement in preschool children's education. *Journal of School Psychology, 45*, 619-636. doi:10.1016/j.jsp.2007.07.003

Wang, M. T., & Sheikh-Khalil, S. (2014). Does parental involvement matter for student achievement and mental health in high school? *Child Development*, *85*(2), 610-625. doi: 10.1111/cdev.12153

Wanless, S. B., McClelland, M. M., Tominey, S. L., & Acock, A. C. (2011). The influence of demographic risk factors on children's behavioral regulation in prekindergarten and kindergarten. *Early Education & Development*, *22*(3), 461-488. doi: 10.1080/10409289.2011.536132

Weinreich, P. (2009). 'Enculturation', not 'acculturation': Conceptualising and assessing identity processes in migrant communities. *International Journal of Intercultural Relations*, *33*(2), 124-139. doi: 10.1016/j.ijintrel.2008.12.006

Weiss, S.J., Goebel, P., Page, A., Wilson, P., & Warda, M. (1999). The impact of cultural and familial context on behavioral and emotional problems of preschool Latino children. *Child Psychiatry and Human Development 29*(4), 287-301. doi: 10.1023/A:1021397032359

White, R. M., Roosa, M. W., Weaver, S. R., & Nair, R. L. (2009). Cultural and contextual influences on parenting in Mexican American families. *Journal of Marriage and Family*, *71*(1), 61-79. doi: 10.1111/j.1741-3737.2008.00580.x

Winslow, E. B., Poloskov, E., Begay, R., Tein, J. Y., Sandler, I., & Wolchik, S. (2016). A randomized trial of methods to engage Mexican American parents into a school-based parenting intervention. *Journal of Consulting and Clinical Psychology*, *84*(12), 1094 – 1107.

Yamamoto, Y., Holloway, S. D., & Suzuki, S. (2016). Parental engagement in children's education: Motivating factors in Japan and the US. *School Community Journal*, *26*(1), 45-66.

Yoshikawa, H., Aber, J. L., & Beardslee, W. R. (2012). The effects of poverty on the mental, emotional, and behavioral health of children and youth: implications for prevention. *American Psychologist, 67*(4), 272. doi: 10.1037/a0028015

Yoshikawa, H., Weiland, C., & Brooks-Gunn, J. (2016). When does preschool matter? *The Future of Children, 26*(2), 21-35. doi: 10.1353/foc.2016.0010

Zarate, M. E. (2007). Understanding Latino Parental Involvement in Education: Perceptions, Expectations, and Recommendations. Los Angeles, CA: Tomas Rivera Policy Institute.

Zucker, E., & Howes, C. (2009). Respectful relationships: Socialization goals and practices among Mexican mothers. *Infant Mental Health Journal: Official Publication of The World Association for Infant Mental Health*, *30*(5), 501-522. doi: 10.1002/imhj.20226

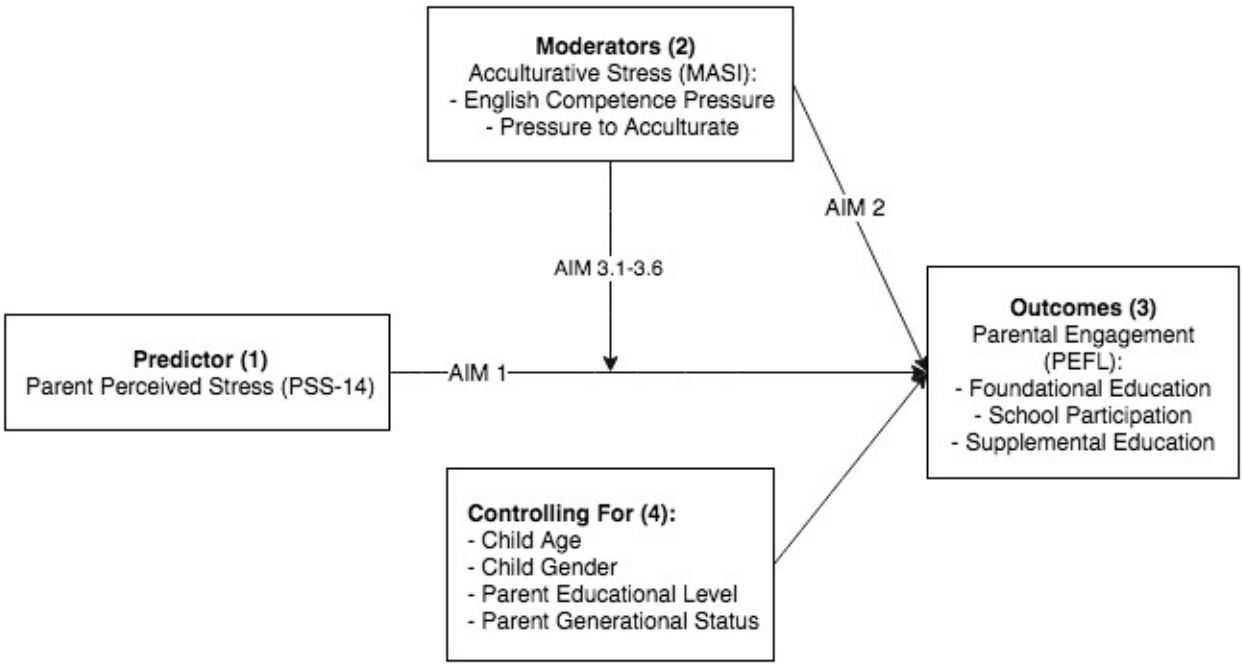

Figure 1. Hypothesized model(s).

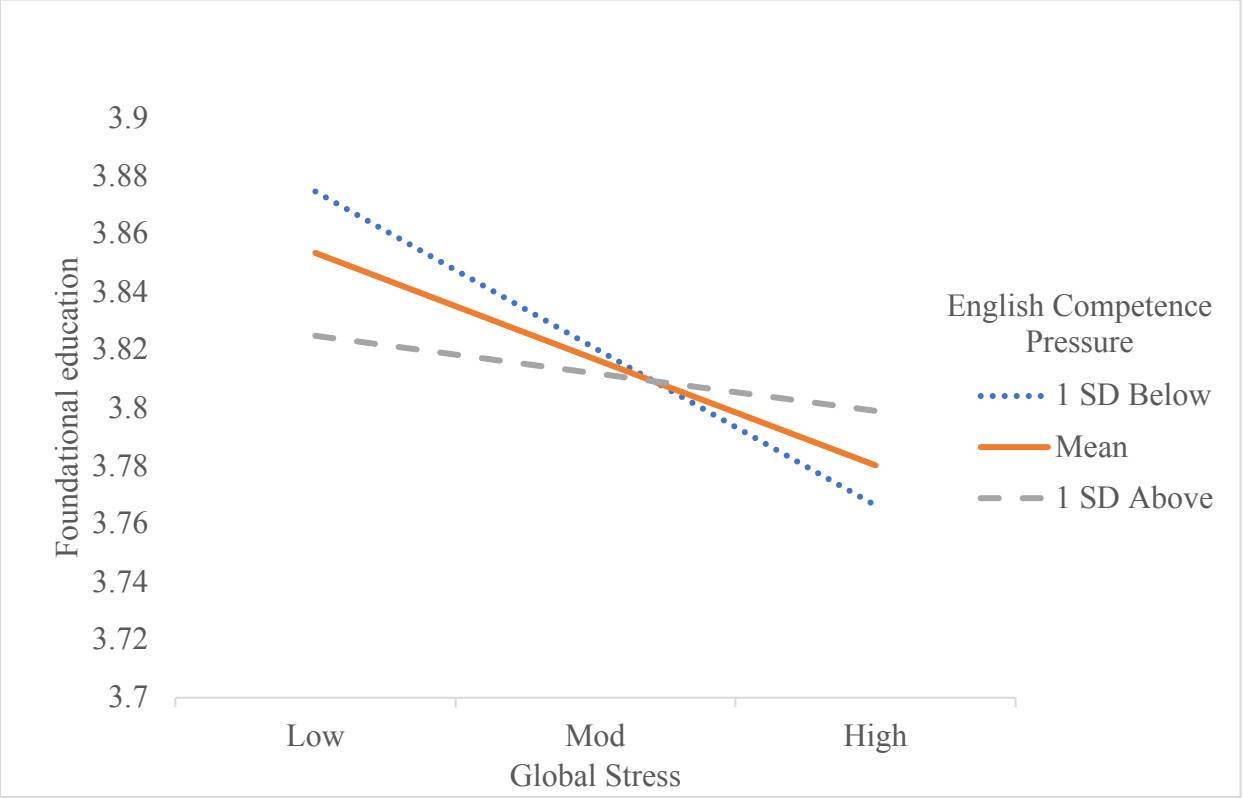

Figure 2. Graph of the moderation of English competence pressure on foundational education.

Table 1

Parent and Child Demographic Information

Characteristic	Participants (n)	Percentage (%)
Parent Gender		
Female	179	95%
Male	10	5%
Marital Status		
Single	63	33%
Married/Partnered	108	57%
Separated/Divorced	16	9%
Widowed	0	0%
Unknown	2	1%
First Child Enrolled in Preschool		
Yes	92	49%
No	95	50%
Unknown	2	1%
Education Level		
Less than high school	82	43%
High school diploma	49	26%
Some college/professional training	44	23%
College Degree	10	5%
Graduate School	4	2%
Parent's Generational Status		
Born outside of the U.S.	135	71%
First Generation	43	23%
Second Generation	6	3%
Third Generation and beyond	5	3%
Child Gender		
Female	100	53%
Male	89	47%
Child's Generational Status		
Born outside of the U.S.	13	7%
First Generation	115	61%
Second Generation	44	23%
Third Generation and beyond	14	7%
Unknown	3	2%

Table 2

Main Effects and Moderation Results With English Competence Pressure as Moderator

					95% CI bias corrected	
		Bootstrap				
Effect	Estimate	SE	*t*	*p*	LLCI	ULCI
Moderation of foundational education on global stress through English competence pressure						
Model 1: Simple moderation	3.95	.13	31.05	.000	3.70	4.20
Covariates						
Child's Gender	-.04	.03	-1.41	.16	-.10	.02
Child's Age	-.03	.03	-1.06	.29	-.08	.03
Parent Educational Level	.00	.02	.26	.79	-.03	.04
Parent Generational Status	.04	.04	.99	.32	-.04	.11
Global Stress	-.05	.02	-2.42	.02	-.09	-.01
English competence pressure	-.00	.02	-.28	.78	-.03	.02
GlobalStressXEngCompPressure	.03	.02	1.76	.08	.00	.06
Moderation of school participation on global stress through English competence pressure						
Model 2: Simple moderation	3.05	0.41	7.39	.00	2.24	3.86
Covariates						
Child's Gender	-.12	.10	-1.27	.21	-.32	.07
Child's Age	-.13	.09	-1.45	.15	-.31	.05
Parent Educational Level	.08	.05	1.48	.14	-.02	.18
Parent Generational Status	-.33	.12	-2.77	.01	-.56	-.09
Global Stress	-.04	.07	-.54	.59	-.17	.09
English competence pressure	-.03	.05	-.56	.58	-.12	.07
GlobalStressXEngCompPressure	-.02	.05	-.49	.63	-.12	.07
Moderation of supplemental education on global stress through English competence pressure						
Model 3: Simple moderation	3.68	.27	13.44	.00	3.14	4.23
Covariates						
Child's Gender	-.12	.06	-1.88	.06	-.25	.01
Child's Age	-.11	.06	-1.83	.07	-.23	.01
Parent Educational Level	.09	.03	2.53	.01	.02	.15
Parent Generational Status	-.05	.08	-.69	.49	-.21	.10
Global Stress	-.12	.04	-2.68	.01	-.20	-.03
English competence pressure	-.05	.03	-1.49	.14	-.11	.02
GlobalStressXEngCompPressure	.04	.03	1.14	.26	-.03	.10

Note. * $p < .05$; ** p <.001. SE = Standard Error. LLCI = Lower limit confidence interval. ULCI = Upper limit confidence interval.

Table 3

Main Effects and Moderation Results With Pressure to Acculturate as Moderator (N = 189)

					95% CI bias corrected	
Effect	Estimate	Bootstrap SE	*t*	*p*	LLCI	ULCI
Moderation of foundational education on global stress through pressure to acculturate						
Model 4: Simple moderation	3.96	.13	30.39	.00	3.71	4.22
Covariates						
Child's Gender	-.05	.03	-1.51	.13	-.11	.01
Child's Age	-.03	.03	1.15	.25	-,09	.02
Parent Educational Level	.00	.02	.24	.81	-.03	.04
Parent Generational Status	.03	.04	.90	.37	-.04	.10
Global Stress	-.04	.02	-2.06	.04	-.09	-.00
Pressure To Acculturate	-.03	.03	-1.23	.22	-.09	.02
GlobalStressXPressureToAcculturate	.04	.03	1.36	.17	-.02	.09
Moderation of school participation on global stress through pressure to acculturate						
Model 5: Simple moderation	2.94	.42	7.00	.00	2.12	3.78
Covariates						
Child's Gender	-.11	.10	-1.10	.29	-.30	.09
Child's Age	-.12	.09	-1.29	.20	-0.3	.06
Parent Educational Level	.10	.05	1.94	.05	-.00	.20
Parent Generational Status	-.34	.12	-2.94	.00	-.57	-.11
Global Stress	-.02	.07	-.24	.81	-.16	.12
Pressure To Acculturate	-.10	.09	-1.13	.26	-.27	.07
GlobalStressXPressureToAcculturate	.01	.09	.14	.89	-.16	.18
Moderation of supplemental education on global stress through pressure to acculturate						
Model 6: Simple moderation	3.88	.29	13.60	.00	3.32	4.44
Covariates						
Child's Gender	-.12	.06	-1.79	.08	-.24	.01
Child's Age	-.11	.06	-1.83	.07	-.23	.01
Parent Educational Level	.09	.03	2.91	.00	.03	.16
Parent Generational Status	-.05	.08	-.70	.49	-.20	.10
Global Stress	-.13	.05	-2.56	.01	-.23	-.03
Pressure to Acculturate	-.23	.11	-2.01	.05	-.45	-.00
GlobalStressXPressureToAcculturate	.07	.05	1.27	.21	-.04	.17

Note. * $p < .05$; ** p <.001. SE = Standard Error. LLCI = Lower limit confidence interval. ULCI = Upper limit confidence interval.

Summary and Concluding Discussion

The purpose of this integrated dissertation was to understand two aspects of culturally-responsive practices for supporting Latinx preschool children. The first study focused on a universal mental health screening tool and sought to understand whether it is a viable instrument for use in universal mental health screening at the preschool level, as it is a free, brief measure that is available in Spanish. Results from this study demonstrated that the parent-rated PSC-17 is currently not an adequate measure to use for universal screening as completed by Latinx parents in either English or Spanish about their preschool children. Practitioners are warned to take caution when using this screening measure at this time, as more research is needed with larger, more diverse samples. The PSC-17 needs more refinement in both languages before it can be adequately used for universal mental health screening of Latinx preschool children. Refinement procedures by researchers should include examining the current translation and updating the translation and adaptation of items, considering changes to items to be developmentally appropriate for preschool-age children, and altering the response scale to allow for more response options. Afterwards, researchers should again take steps to examine the factor structure and measurement invariance of the scale, if it intends to be used with Spanish and English-speaking parents.

The work of the first study of this dissertation shows that the field of school psychology still needs measures that can accurately capture the mental health concerns of children from diverse backgrounds. Because the field has traditionally studied mental health from a White, middle-class perspective, there has not been sufficient consideration given to the experiences and perspectives of families from minoritized backgrounds. However, with greater recognition of this existing gap and its effects on minoritized youths in our schools, more work is being

accomplished to identify mental health screening tools that can help practitioners and researchers alike to better understand the mental health of Latinx preschool children. The early identification of mental health of Latinx preschool children is an imperative area for school-based mental health. Identifying, and, more importantly, using measures with strong psychometric properties has implications for identifying, understanding, and treating the mental health concerns of some of our country's highly resilient, but marginalized and underserved, children.

The second study of this dissertation examined the role of global stress and acculturative stress on three types of parental engagement practices: foundational education, school participation, and supplemental education. This study used an expanded and culturally-relevant view of parental engagement by including foundational education, which is a form of parental engagement that has been found to be common in the Latinx community. Foundational education is a derivative of the concept of *educación*, which encompasses the extent to which families work to shape their children's moral and social-emotional development to the same or greater extent that they focus on academic development. School participation and supplemental education comprise behaviors that are traditionally expected by school administrators and teachers, such as volunteering in the classroom and helping children with reading and homework. Findings of this study demonstrated that global stress impacts the extent to which parents engage in foundational education and supplemental education, but not school participation. Pressure to acculturate was found to impact supplemental education behaviors, while English competence pressure did not significantly impact the extent to which parents engaged in any type of parental engagement. Findings of this study provide evidence against the commonly held belief that parents who do not actively participate in their children's schools do not care about their children's education. Although it is known that systems of oppression and

prejudice have long pervaded the Latinx community in the U.S., there is little recognition for the barriers that can keep parents from engaging in schools in the way administrators and teachers expect to see. This study moves the field forward by providing additional evidence that parental engagement as a concept needs to be redefined and expanded to include the concept of *educación* (foundational education). Furthermore, this study demonstrated that parents are facing a host of contextual factors (global stress, acculturative stress, generational status experiences) that can impinge on their parental engagement behaviors.

School psychologists have an important multidimensional role in their communities and hold the power to make great change for their schools. In order to create more inclusive and culturally-responsive school communities, school psychologists must begin by enacting cultural humility and continuously informing themselves of the historical processes of marginalization that have been present in the United States for decades. They must also become aware of how current state and national policies have implications for students from diverse backgrounds. The process of being a cultural being who is both self-aware and able to critically examine systems of oppression is a lifelong journey, and school psychologists must be dedicated to this lifelong process or risk doing more harm than good to the children and families they serve throughout the course of their careers. With this understanding in mind, school psychologists can put into perspective for their administrations how their schools may further marginalize historically underserved student populations, such as Latinx families. Similarly, school psychologists can help to emphasize and outline processes their schools already carry out that are culturally-sensitive and -responsive to the needs of Latinx families, and in partnership with their administrations seek out further funding to uphold programming that is effective and culturally-relevant and -sensitive. Schools psychologists are in the unique position to act as advocates for

students and families, and with the knowledge of systemic and oppressive practices in schools that perpetuate discrepancies and further marginalize Latinx students, school psychologists can be at the forefront to actively help dismantle harmful practices and improve schools. Included in the initiatives that school psychologists can advocate for and help to carry out are universal mental health screenings that use measures appropriate for use with children from diverse backgrounds and available in the languages of the families their schools serve. Furthermore, school psychologists can help to actively build school-family partnerships through collaborative parent engagement practices in culturally-sensitive manners. They can do this by, first, understanding the extent to which families are able to partake in a range of parental engagement behaviors. Then, they can help by facilitating parent meetings, holding workshops on topics that parents would like more support in, and by helping schools to better understand the perspectives of its constituents. School psychologists in schools that serve Latinx students can advocate for more hiring of Spanish-speaking bilingual staff and teachers. They can also work to repair problematic practices specific to their school communities.

Much work remains to make schools equitable, inviting spaces for Latinx families. School psychologists who work in both practitioner and researcher roles hold an important responsibility to ensure that practices in their schools facilitate the optimal growth of Latinx students. At the core of some of the biggest issues in the field of psychology is the framing of families from minoritized backgrounds, among them Latinx families. Researchers must know they hold great responsibility in the research agendas they carry out and how they frame their findings. This is important because decades of research have framed Latinx families as "not caring" about their children's education and from a deficit-based perspective in which Latinx children are consistently underachieving academically in comparison to their White peers. Their

cultural and linguistic differences have also been framed as burdensome to the school system, or as a source of difficulty for schools, rather than accepted and celebrated as unique strengths of their Latinx students.

There is promise in the recent national recognition by the largest association of school psychologists in the country, NASP, to make social justice a central goal of the association and to ensure that equitable and just practices pervade all aspects of service-delivery. At the same time, much acknowledgement is also needed for the many individuals, scholars and practitioners alike, that have worked for decades, often against majority opinion and in isolation, on initiatives to begin the critical conversations about equitable practices and social justice that the field of school psychology needs. The continued growth of the field and its expansion of culturally-responsive practices rests in the hands of school psychologists committed to equity, access, and inclusion, and has the potential to substantially change the nature of schools for Latinx families, and other children from minoritized backgrounds, for the better.

Additional References

Arias, M. B., & Morillo-Campbell, M. (2008). Promoting ELL Parental Involvement: Challenges in Contested Times. *Education and the Public Interest Center.* Retrieved from https://files.eric.ed.gov/fulltext/ED506652.pdf

Barnett, W.S., Carolan, M.E, Squires, J.H., and Clarke-Brown, K, (2014). State of Preschool 2013: First Look (NCES 2014-078). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Bridges, M., Scott, L., Mangual Figueroa, A., Cohen, S.R., Fuller, B., Anguiano, R., & Livas-Dlott, A. Home activities of Mexican American children: Structuring early socialization and cognitive engagement. *Cultural Diversity and Ethnic Minority Psychology, 21*(2), 181-190. doi: 10.1037/a0037927

Brown, S. L., Shriberg, D., & Wang, A. (2007). Diversity research literature on the rise? A review of school psychology journals from 2000 to 2003. *Psychology in the Schools, 44*, 639–650.

Bufferd, S. J., Dougherty, L. R., Carlson, G. A., & Klein, D. N. (2011). Parent-reported mental health in preschoolers: Findings using a diagnostic interview. Comprehensive Psychiatry, 52, 359– 369. doi:10.1080/15374416.2012.759225

Dadds M. & Roth J. (2008). Prevention of anxiety disorders: Results of a universal trial with young children. *Journal of Children and Family Studies, 17*(3), 320–35. doi: 10.1007/s10826-007-9144-3

De Los Reyes, A., Augenstein, T. M., Wang, M., Thomas, S. A., Drabick, D. A., Burgers, D. E., & Rabinowitz, J. (2015). The validity of the multi-informant approach to assessing child and adolescent mental health. *Psychological Bulletin*, *141*(4), 858.

Delgado-Gaitan, C. (1991). Involving parents in the schools: A process of empowerment. *American Journal of Education*, *100*(1), 20-46.

Dougherty, L. R., Leppert, K. A., Merwin, S. M., Smith, V. C., Bufferd, S. J., & Kushner, M. R. (2015). Advances and directions in preschool mental health research. *Child Development Perspectives*, *9*(1), 14-19.

Ennis, S.R., Ríos-Vargas, M., & Albert, N.G. (2011). The Hispanic population: 2010. Retrieved from: https://www.census.gov/prod/cen2010/briefs/c2010br-04.pdf

Fernando, S. (2010). Mental health, race and culture. Macmillan International Higher Education.

Flores, A., López, G., & Radford J. (2017). Facts on U.S. Latinos, 2015. Pew Research Center. Retrieved from http://www.pewhispanic.org/2017/09/18/facts-on-u-s-latinos-trend-data/

Fuller, B. & García Coll (2010). Learning from Latinos: Contexts, families, and child development in motion. *Developmental Psychology, 46*(3), 559-565. doi: 10.1037/a0019412

Galindo, C. & Fuller, B. (2010). The social competence of Latino kindergartners and growth in mathematical understanding. *Developmental Psychology, 46*(3), 579-592. doi: 10.1037/a0017821

Hill, N. E., & Torres, K. (2010). Negotiating the American dream: The paradox of aspirations and achievement among Latino students and engagement between their families and schools. *Journal of Social Issues*, *66*(1), 95-112. doi: 10.1111/j.1540-4560.2009.01635.x

Jellinek, M. S., Murphy, J. M., Robinson, J., Feins, A., Lamb, S., & Fenton, T. (1988). Pediatric Symptom Checklist: screening school-age children for psychosocial dysfunction. *The Journal of Pediatrics, 112*(2), 201-209. doi: 10.1016/S0022-3476(88)80056-8

Jiménez-Castellanos, O., Ochoa, A. M., & Olivos, E. M. (2016). Operationalizing transformative parent engagement in Latino school communities: A case study. *Journal of Latino/Latin American Studies*, *8*(1), 93-107.

Jones, J. (2014). Best practices in providing culturally responsive interventions, In P.L. Harrison & A. Thomas (Eds.), *Best Practices in School Psychology* (pp. 49-60). Bethesda, MD: National Association of School Psychologists.

Jones, D.E., Greenberg, M., & Crowley, M. (2015). Early social-emotional functioning and public health: The relationship between kindergarten social competence and future wellness. *American Journal of Public Health, 105*(11), 2283-2290. doi: 10.2105/AJPH.2015.302630

Mancoske, R. J., Lewis, M. L., Bowers-Stephens, C., & Ford, A. (2012). Cultural competence and children's mental health service outcomes. *Journal of Ethnic And Cultural Diversity in Social Work*, *21*(3), 195-211.

Mayfield, V. M., & Garrison-Wade, D. (2015). Culturally responsive practices as whole school reform. *Journal of Instructional Pedagogies*, 3-16.

McCabe, P. C., & Altamura, M. (2011). Empirically valid strategies to improve social and emotional competence of preschool children. *Psychology in the Schools*, *48*(5), 513-540.

Miranda, A.H. (2014). Best practices in increasing cross-cultural competency, In P.L. Harrison & A. Thomas (Eds.), *Best Practices in School Psychology* (pp. 9-19). Bethesda, MD: National Association of School Psychologists.

National Association of School Psychologists. (2010). Model for comprehensive and integrated school psychological services. Bethesda, MD. Retrieved from http://www.nasponline.org/standards/ 2010standards/2_PracticeModel.pdf

National Association of School Psychologists. (2015). Appropriate Behavioral, Social, and Emotional Supports to Meet the Needs of All Students Bethesda, MD. Retrieved from https://www.nasponline.org/research-and-policy/policy-priorities/critical-policy-issues/supporting-diverse-populations

National Association of School Psychologists. (2017). Who are school psychologists? Retrieved from https://www.nasponline.org/about-school-psychology/who-are-school-psychologists

National Institute for Early Education Research (NIEER). (2013). 2013 State Preschool Yearbook.

Nores, M., & Barnett, W.S. (2014). Access to High Quality Early Care and Education: Readiness and Opportunity Gaps in America (CEELO Policy Report). New Brunswick, NJ: Center on Enhancing Early Learning Outcomes.

Perez Huber, L., Malagón, M. C., Ramirez, B. R., Gonzalez, L. C., Jimenez, A., & Vélez, V. N. (2015). Still Falling through the Cracks: Revisiting the Latina/o Education Pipeline. CSRC Research Report. Number 19. *UCLA Chicano Studies Research Center*.

Reyes, J.A. & Elias, M.J. (2011). Fostering social-emotional resilience among Latino youth, *Psychology in the Schools, 48*(7), 723-737. doi:10.1002/pits.20580

Rodriguez, J. C., Kettler, R. J., & Feeney-Kettler, K. A. (2017). Behavioral screening with a translated measure: Reliability and validity evidence for the preschool behavior screening system–parent Spanish form. *International Journal of Humanities and Social Science Invention, 6*(1), 11-21.

Schweinhart, L. J., Barnes, H. V., & Weikhart, D. P. (2005). Significant benefits: The High/Scope Perry preschool study through age 27. *Child Welfare: Major Themes in Health and Social Welfare*, 9-29.

Sibley, E., & Brabeck, K. (2017). Latino immigrant students' school experiences in the United States: The importance of family–school–community collaborations. *The School Community Journal*, 1, 137-157. doi: 2017-31734-007

Steed, E. A., Pomerleau, T., Muscott, H., & Rohde, L. (2013). Program-wide positive behavioral interventions and supports in rural preschools. *Rural Special Education Quarterly*, *32*(1), 38-46. doi: 10.1177/875687051303200106

Stephan, S. H., Sugai, G., Lever, N., & Connors, E. (2015). Strategies for integrating mental health into schools via a multitiered system of support. *Child and adolescent psychiatric clinics of North America*, *24*(2), 211–231. https://doi.org/10.1016/j.chc.2014.12.002

Webster-Stratton, C., & Reid, M. J. (2003). Treating conduct problems and strengthening social and emotional competence in young children: The Dina Dinosaur treatment program. *Journal of Emotional and Behavioral Disorders*, *11*(3), 130-143.

Yamamoto, Y., Holloway, S. D., & Suzuki, S. (2016). Parental engagement in children's education: Motivating factors in Japan and the US. *School Community Journal*, *26*(1), 45-66.

Supplementary Materials: Study 1

Appendix A: Pediatric Symptom Checklist – 17 Items

Table 1

Pediatric Symptom Checklist-17 Items

		Problematic Item? English	Spanish
Answer options: Never, Sometimes, Often	*Respuestas posibles: Nunca, Algunas Veces, Frecuentemente*		
1. Feels sad, unhappy	1. Se siente triste, infeliz		
2. Feels hopeless	2. Se siente sin esperanzas	✓	
3. Is down on self	3. Se siente mal de sí mismo(a)	✓	✓
4. Worries a lot	4. Se preocupa mucho		✓
5. Seems to be having less fun	5. Parece divertirse menos		
6. Fidgety, unable to sit still	6. Es inquieto(a), incapaz de sentarse tranquilo(a)		
7. Daydreams too much	7. Sueña despierto demasiado		✓
8. Distracted easily	8. Se distrae fácilmente		
9. Has trouble concentrating	9. Tiene problemas para contresarse		
10. Acts as if driven by a motor	10. Es muy activo(a), tiene mucha energía		
11. Fights with other children	11. Pelea con otros niños		
12. Does not listen to rules	12. No obedece las reglas		
13. Does not understand other people's feelings	13. No comprende los sentimientos de otros		
14. Teases others	14. Molesta o se burla de otros	✓	
15. Blames others for his/her troubles	15. Culpa a otros por sus problemas		
16. Refuses to share	16. Se niega a compartir		
17. Takes things that do not belong to him/her	17. Toma cosas que no le pertenecen		

Appendix B: Item Descriptive Information

Table 2

Descriptive Information for Each Language Sample

	Count	Min	Max	M	SD	Skewness	Skewness SE	Kurtosis	Kurtosis SE
PSC-17 English Language Sample									
Item 1	196	0	2	.39	.50	.59	.17	-1.35	.35
Item 2	198	0	1	.06	.23	3.91	.17	13.43	.34
Item 3	197	0	2	.04	.22	6.02	.17	39.75	.35
Item 4	197	0	2	.21	.46	2.04	.17	3.45	.35
Item 5	197	0	2	.08	.28	3.87	.17	15.58	.35
Item 6	197	0	2	.60	.64	.58	.17	-.60	.35
Item 7	198	0	2	.14	.39	2.90	.17	8.28	.34
Item 8	197	0	2	.79	.57	.01	.17	-.27	.35
Item 9	196	0	2	.54	.59	.59	.17	-.59	.35
Item 10	190	0	2	.30	.56	1.74	.18	2.04	.35
Item 11	198	0	2	.38	.54	.97	.17	-.13	.34
Item 12	197	0	2	.65	.54	-.03	.17	-.85	.35
Item 13	197	0	2	.42	.56	.92	.17	-.16	.35
Item 14	198	0	1	.13	.34	2.20	.17	2.87	.34
Item 15	198	0	2	.30	.48	1.14	.17	-.05	.34
Item 16	198	0	2	.65	.57	.20	.17	-.69	.34
Item 17	198	0	2	.32	.48	.93	.17	-.78	.34

PSC-17 Spanish Language Sample

Item 1	289	0	2	.23	.50	2.12	.14	3.72	.29
Item 2	289	0	2	.03	.21	7.46	.14	59.60	.29
Item 3	287	0	1	.03	.17	5.77	.14	31.47	.29
Item 4	288	0	1	.14	.34	2.14	.14	2.61	.29
Item 5	288	0	2	.14	.38	2.68	.14	6.78	.29
Item 6	284	0	2	.48	.55	.57	.15	-.76	.29
Item 7	286	0	2	.12	.35	2.80	.14	7.43	.29
Item 8	286	0	2	.71	.56	.05	.14	-.53	.29
Item 9	284	0	2	.42	.57	.95	.15	-.10	.29
Item 10	284	0	2	1.35	.70	-.61	.15	-.79	.29
Item 11	285	0	2	.37	.51	.80	.14	-.79	.29
Item 12	285	0	2	.75	.59	.12	.14	-.47	.29
Item 13	275	0	2	.73	.68	.40	.15	-.83	.29
Item 14	289	0	2	.13	.37	2.74	.14	7.19	.29
Item 15	287	0	2	.23	.43	1.40	.14	.34	.29
Item 16	289	0	2	.64	.56	.10	.14	-.80	.29
Item 17	290	0	2	.22	.45	1.84	.14	2.50	.29

Supplementary Materials: Study 2

Appendix A: Non-Significant Moderation Graphs

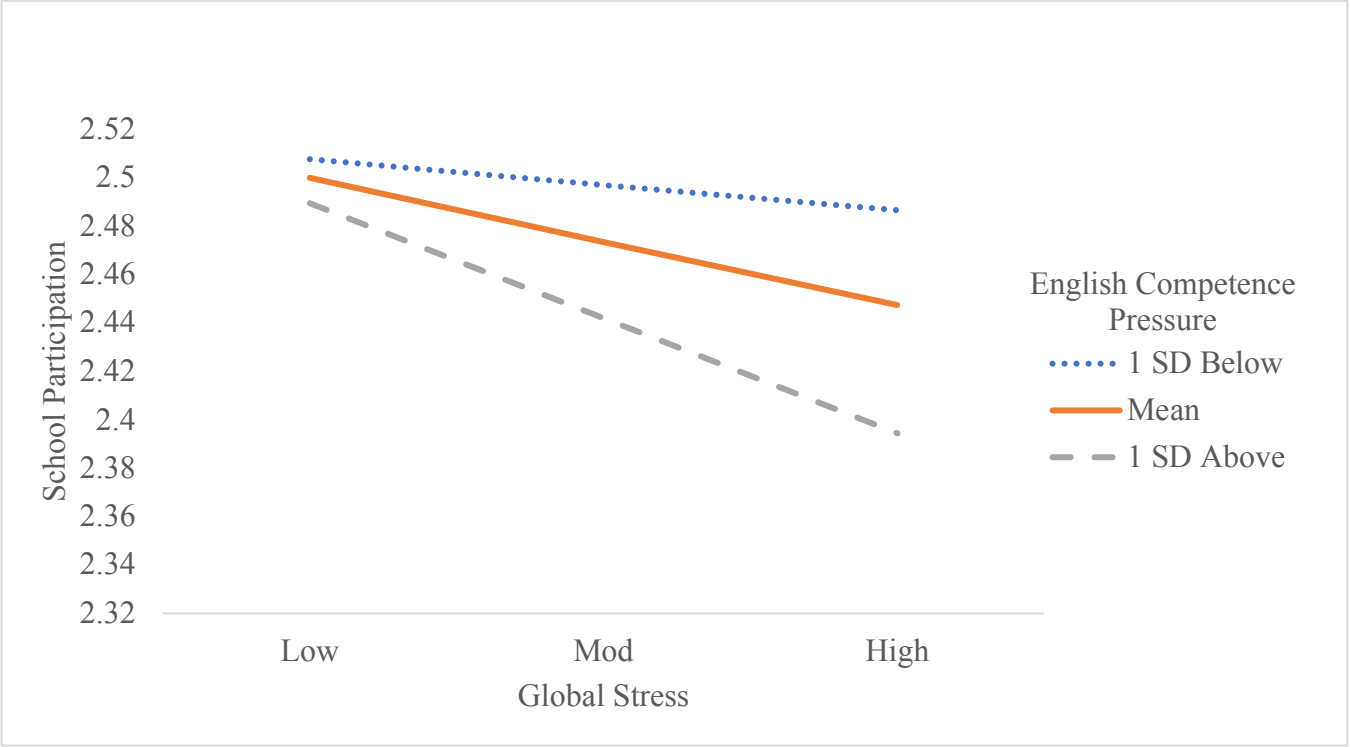

Figure 1. Non-significant result of the moderation of English competence pressure on the association between global stress and school participation.

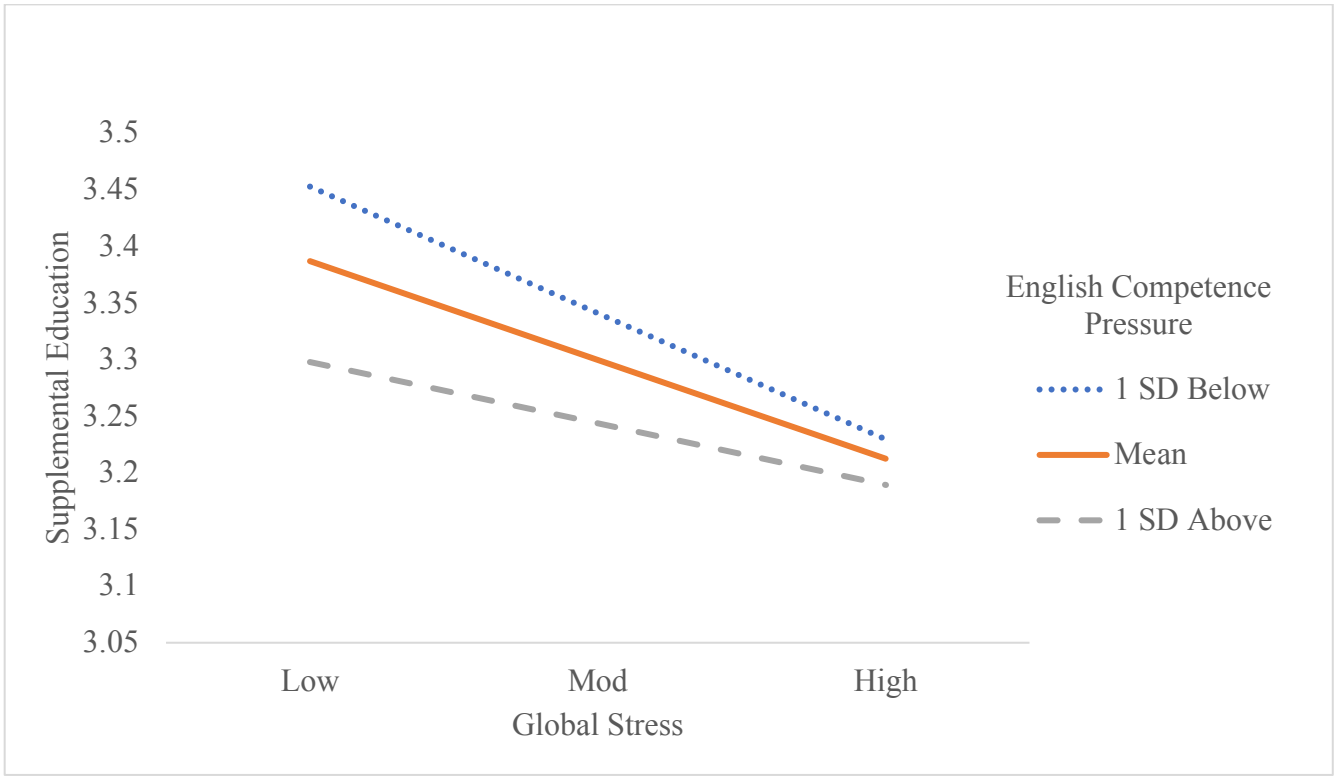

Figure 2. Non-significant result of the moderation of English competence pressure on the association between global stress and supplemental education.

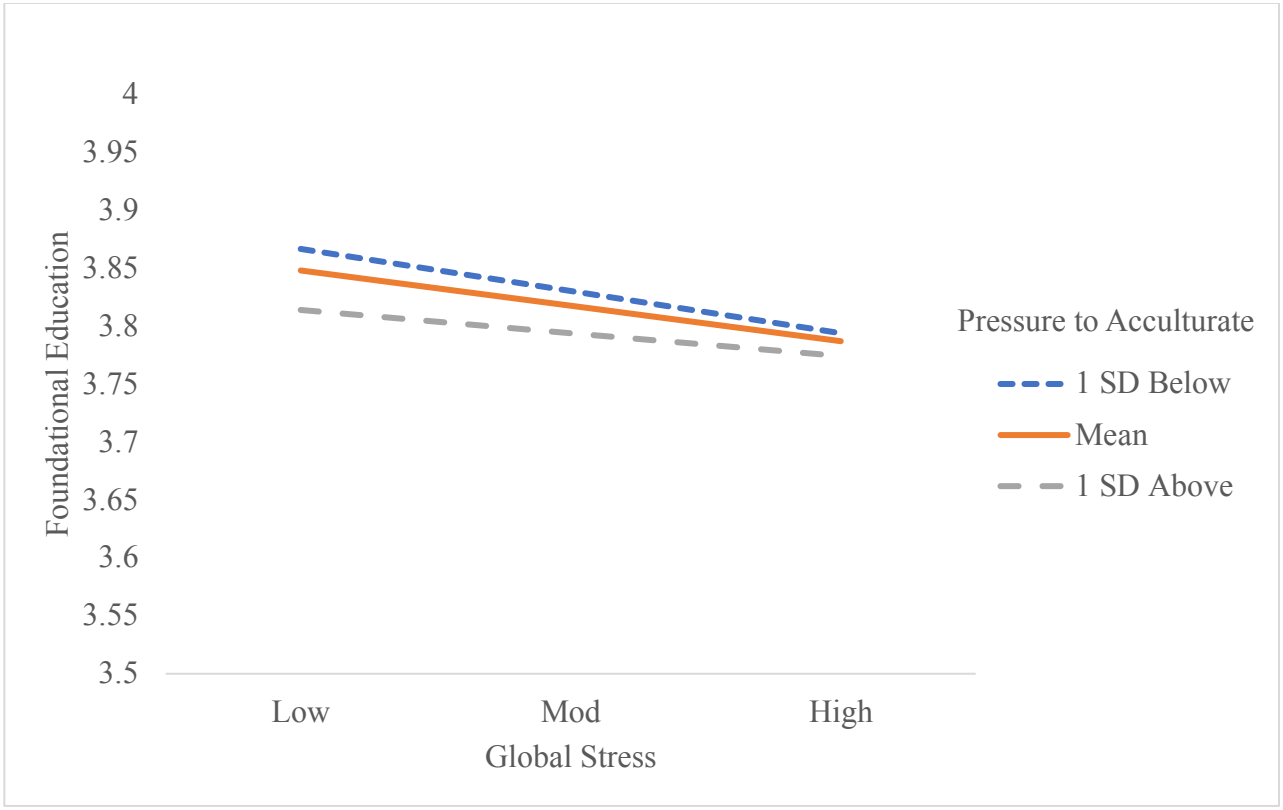

Figure 3. Non-significant result of the moderation of pressure to acculturate on the association between global stress and foundational education.

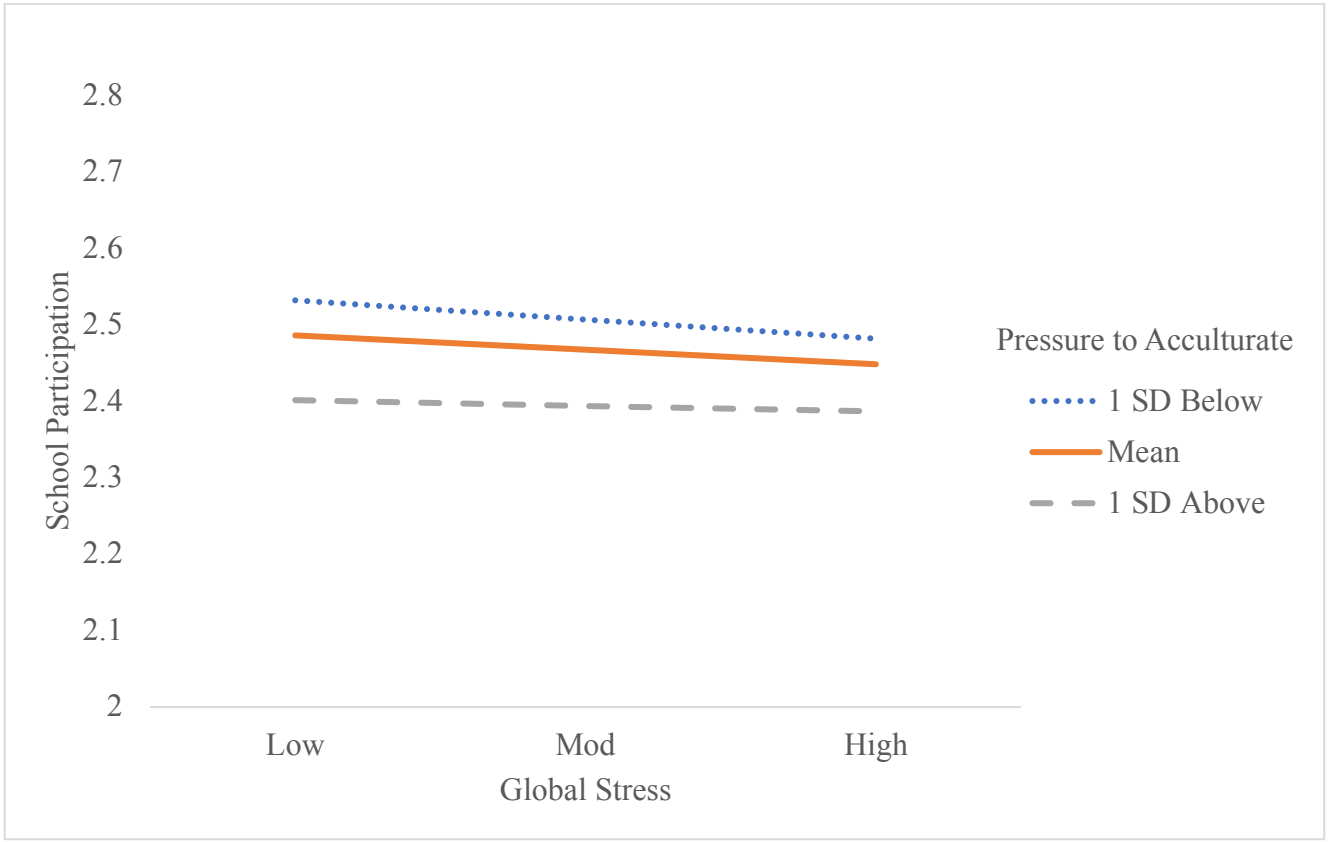

Figure 4. Non-significant result of the moderation of pressure to acculturate on the association between global stress and school participation.

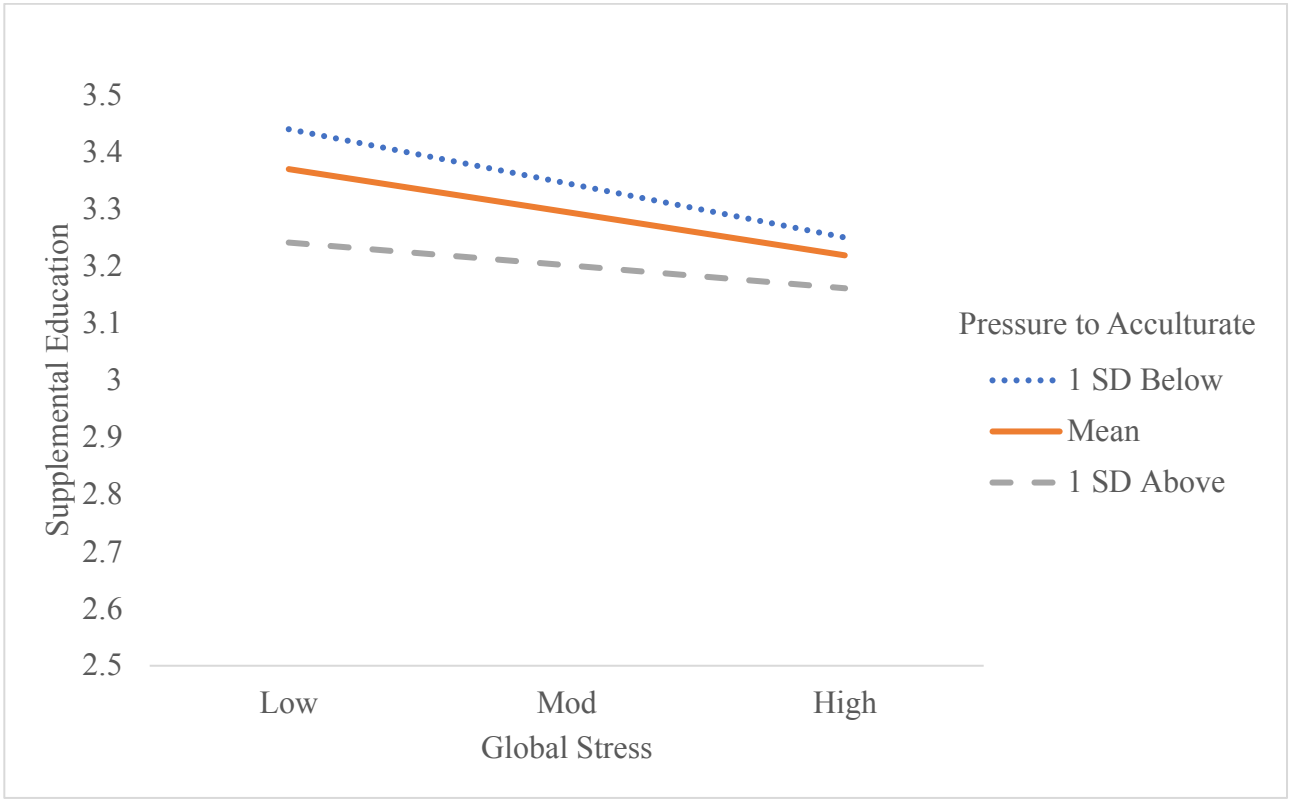

Figure 5. Non-significant result of the moderation of pressure to acculturate on the association between global stress and supplemental education.

Appendix B: Bivariate Correlation Table and Descriptive Information

Table 1

Correlation Matrix for Variables of Interest (Predictor, Outcome, Moderator, and Covariates)

	1	2	3	4	5	6	7	8	9	10
1. Foundational Education	-									
2. School Participation	.36**	-								
3. Supplemental Education	.69**	.53**	-							
4. Global Stress	-.16*	-.01	-.16*	-						
5. English Competence Pressure	-.06	-.01	-.17*	.16*	-					
6. Pressure to Acculturate	-.09	-.06	-.15	.26**	.45**	-				
7. Child Age	-.04	-.14*	-.11	-.15*	-.11	-.13	-			
8. Child Gender	-.11	-.13	-.18*	-.05	.07	.02	.12	-		
9. Parent Educational Level	.06	.08	.23**	.04	-.35**	-.07	-.05	-.14*	-	
10. Parent Generational Status	.08	-.17*	.10	-.14	-.36**	-.16*	.12	-.03	.28**	-
M	3.82	2.47	3.3	1.4	.88	.38	4.36	.47	1.97	.29
SD	.20	.67	.46	.74	1.19	.70	.54	.50	1.03	.45
Skewness	-1.83	0.24	-.79	.20	1.39	2.48	-.03	.12	.82	.96
Kurtosis	4.49	-.63	.63	.05	.92	7.16	.95'	-2.01	-.05	-1.10

+ **p<0.05; ** p<0.01*

Appendix C: Confirmatory Factor Analysis and Fit Indices

Table 2

Fit Indices for CFA of PSS-14, MASI, and PEFL

CFA of Final Models of Each Measure	**PSS-14 (2-factor)**	**MASI (2-factor)**	**PEFL (4-factor)**
df	43	26	815
X^2	95.215	58.056	1121.042*
RMSEA	.074 [.054, .094]	.0075 [.049, .101]	.041 [.035, .047]
CFI	.941	.960	.908
TLI	.925	.945	.903
CFA of Original Structure of Each Measure	**PSS-14 (2-factor)**	**MASI (4-factor)**	**PEFL (4-factor)**
df	76	941.02	854
X^2	258.325	269	1157.130*
RMSEA	.104 [.091, .119]	.107 [.099, .114]	.998
CFI	.841	.741	.909
TLI	.81	.711	.904

Note. PSS-14 – Perceived Stress Scale – 14; MASI – Multidimensional Acculturative Stress Index; PEFL – Parent Engagement RMSEA – Root Mean Square Error of Approximation; CFI – Confirmatory Fit Index; TLI – Tucker-Lewis Index.

Appendix D: Demographic Questionnaire

Parents/Guardians: Please complete the following information about YOURSELF.

1. Your name (first and last): _____

2. Your date of birth (month/day/year): _____

3. What is your gender? ○Female ○Male ○ Other:_____

4. What is your marital status? ○Single ○Married/Partnered ○Separated/Divorced ○Widowed

5. How many children do you have?_____ Ages of your children: _____

6. Is this your first child enrolled in a preschool? ○**YES** ○**NO**

7. Highest educational grade level or professional degree completed:
○ Less than high school ○ High school diploma
○ Some college/professional training ○ College degree ○ Graduate school

8. What Latin American country/countries are you and your family from?
_____

9. With what generational status do YOU identify?
○ I was born outside of the U.S. (Please specify country:_____)
○ First Generation (you were born in the U.S. and your parents were born outside of the U.S.)
○ Second Generation (you and your parents were born in the U.S., but your grandparents were not)
○ Third Generation and beyond (you, your parents, and your grandparents were born in the U.S.)

10. What language did you learn first?_____

11. What language do you feel most comfortable speaking? _____

Please complete the following information about YOUR CHILD.

1. Your child's name (first and last): _____

2. Your child's date of birth (month/day/year): _____

3. What is your child's gender? ○Female ○Male ○ Other:_____

4. With what generational status does your child identify?
○ He/she was born outside of the U.S. (Please specify country:_____)
○ First Generation (your child was born in the U.S. and you were born outside of the U.S.)
○ Second Generation (you and your child were born in the U.S., but your grandparents were not)
○ Third Generation and beyond (you, your child, and your parents were born in the U.S.)

5. What language did your child learn first?_____

6. What language does your child feel most comfortable speaking? _____