

Spring 6-10-2022

Latinx Parent-Child Acculturative Stress Profiles and their Relation to Expressed Emotion and Academic Achievement

Laura Saldana
DePaul University, lsaldan5@depaul.edu

Follow this and additional works at: https://via.library.depaul.edu/csh_etd



Part of the [Child Psychology Commons](#), and the [Clinical Psychology Commons](#)

Recommended Citation

Saldana, Laura, "Latinx Parent-Child Acculturative Stress Profiles and their Relation to Expressed Emotion and Academic Achievement" (2022). *College of Science and Health Theses and Dissertations*. 420.
https://via.library.depaul.edu/csh_etd/420

This Thesis is brought to you for free and open access by the College of Science and Health at Via Sapientiae. It has been accepted for inclusion in College of Science and Health Theses and Dissertations by an authorized administrator of Via Sapientiae. For more information, please contact digitalservices@depaul.edu.

LATINX PARENT-CHILD ACCULTURATIVE STRESS PROFILES

**Latinx Parent-Child Acculturative Stress Profiles and their Relation to Expressed
Emotion and Academic Achievement**

A Thesis

Presented in

Partial Fulfillment of the

Requirements for the Degree of

Master of Arts

By

Laura Saldana

April, 2022

Department of Psychology

College of Science and Health

DePaul University

Chicago, Illinois

LATINX PARENT-CHILD ACCULTURATIVE STRESS PROFILES

Thesis Committee

Antonio J. Polo, PhD, Chair

Jocelyn S. Carter, PhD

Acknowledgements

I am grateful to several people who supported me to complete this thesis. Thank you to my thesis chair, Dr. Antonio Polo, for his guidance through every step of this project. Thank you to Dr. Jocelyn Carter for being on my committee and providing thoughtful feedback to enhance this work. I am grateful to my family and partner for their never-ending support. Thank you to past and current CEBP lab members. Finally, I want to extend my sincerest appreciation to the families that made this project possible for their time and commitment.

Biography

The author was born in Rockville, Maryland on November 28, 1995. She graduated from the Academy of the Holy Cross High School, Kensington, Maryland, in 2013. She graduated magna cum laude from the University of Maryland, College Park in 2017, earning dual Bachelor of Arts degrees in Psychology and Spanish Language and Literature.

Table of Contents

Thesis Committee ii

Acknowledgements..... iii

Biography iv

List of Tables vii

List of Figures viii

Abstract 1

Latinx Parent-Child Acculturative Stress Profiles and their Relation to Expressed Emotion and Academic Achievement 2

 Acculturation and Acculturative Stress 2

 Parent and Child Acculturation Rates 3

 Parent-Child Acculturative Stress 4

 Examinations of Dyadic Acculturative Stress 5

 Latent Profile Analysis 7

 Acculturative Stress and Family Processes 8

 Expressed Emotion 9

 Academic Achievement 12

Rationale 13

Aims and Hypotheses 14

Method 15

 Procedure 15

 Participants 16

 Measures 17

LATINX PARENT-CHILD ACCULTURATIVE STRESS PROFILES

Results	19
Discussion	27
References	39
Appendix	53

LATINX PARENT-CHILD ACCULTURATIVE STRESS PROFILES

List of Tables

Table 1. Studies examining AS youth outcomes in Latinx-only early adolescent samples

Table 2. Means, Standard Deviations, and Correlations for Key Study Variables (N=284)

Table 3. Latent Profile Analysis Model Fit Indices

Table 4. Descriptive statistics and frequencies of demographic variables by profile

Table 5. Descriptive means of expressed emotion report by profile with MANOVA post-hoc comparisons

Table 6. MANOVA descriptive means for academic achievement variables by profile group

List of Figures

Figure 1. Latent Profile Analysis – 4 Profile Model

Abstract

A unique stressor among families of immigrant background is acculturative stress (AS), which is experienced by both adults and youth. AS results from difficulties with acculturation and is associated with negative youth outcomes. Past studies link AS to worse family functioning yet very few studies examine parent and youth AS together. The current study incorporates reports from 284 Latinx youth ($M_{\text{age}} = 11.5$; 55.6% females) and their parents to examine AS latent profiles. Four profiles emerged in this sample, characterized by high child-low parent (HLAS), low child-high parent (LHAS), moderate child-low parent (MLAS), and low child-low parent (LLAS), AS levels. LLAS emerged as the largest profile group. There were significant differences in parental education and child nativity between groups. Multivariate analyses revealed statistically significant differences in child-reported criticism (HLAS vs. LHAS; HLAS vs. LHAS; LLAS vs. MLAS) and emotional overinvolvement (HLAS vs. LLAS) as well as parent-reported emotional overinvolvement (HLAS vs. LHAS; LHAS vs. LLAS) and warmth (LHAS vs. LLAS). Finally, higher youth AS was associated with worse academic outcomes, but statistically significant differences between profile groups were not detected. Suggestions for future research and school-based recommendations are discussed.

Keywords: acculturative stress, Latinx, latent profile analysis, expressed emotion, academic achievement

Latinx Parent-Child Acculturative Stress Profiles and their Relation to Expressed Emotion and Academic Achievement

An estimated 18.3% of individuals living in the United States (U.S.) identify as Latinx with more than a third (33.2%) of this group being born outside of the U.S. ([U.S. Census Bureau, 2018a, 2018b](#)). When including U.S. territories, this percentage increases with an additional 2.9 million people born in Puerto Rico. Children and adolescents of Latinx background make up more than 18.6 million youth in this country ([U.S. Census Bureau, 2018c](#)). Given its sizeable proportion, it is imperative that research is conducted to better understand and support Latinx families.

Acculturation and Acculturative Stress

A uniquely salient factor among families of ethnic minority or immigrant background is the experience of acculturation. Acculturation refers to the adaptations an individual makes to their existing culture due to encounters with a new surrounding culture; psychological acculturation refers to the psychological changes one experiences at the individual level as a result of these adaptations (Berry, 1997). Acculturation can be measured at the group level by studying how an entire group of people adapt to a new culture, but psychological acculturation is focused on the individual because the acculturation of an individual can differ from that of the group or unit they associate with (Berry, 1997). Psychological acculturation can be distressing, depending on the level of stress that one experiences in the process of adapting to a new culture (Berry, 1997). Difficulty adapting to new cultural or social norms can result from experiences of conflicting cultural values, language difficulties, and discrimination.

Acculturative stress (AS) is a reduction in the physical, social, and psychological well-being of individuals due to challenges directly stemming from the acculturation

process (Berry et al., 1987). The Acculturative Stress Model (Williams & Berry, 1991) posits that acculturation can create stressful situations and experiences that lead to AS based on individual differences. Hovey and King (1997) extended the Acculturative Stress Model, by evaluating AS as a catalyst for poor outcomes, finding that adolescent AS significantly predicted suicidal ideation (Hovey & King, 1996). This extended model is supported by other research, in which AS predicted higher internalizing symptoms of anxiety, depression, withdrawal, and somatization among immigrant youth (Sirin et al., 2013). In addition, AS, with self-esteem, was found to mediate the relationship between cultural orientation and substance use among Latinx early adolescents (Zamboanga et al., 2009). Moreover, given that cultural conflicts within the family unit are one of the central constructs of AS (see Table 1), the impact on familial relationships are also examined in the context of AS. Hovey and King (1996) found that lower perceived family functioning predicted higher AS levels. One way that research has incorporated the familial context into acculturation research is by studying parent-child acculturation gaps.

Parent and Child Acculturation Rates

Research has shown that, in immigrant households, children acculturate faster than their parents (Bacallao & Smokowski, 2007). These differences in acculturation rate can lead to parent-child acculturative gaps (Smokowski et al., 2009). The acculturation-gap distress model posits that differences in parent and child acculturation levels can lead to family and youth maladjustment (Telzer, 2010). Parent-child acculturative gaps have been associated with a number of negative family outcomes including increased parent-adolescent conflict and lower family cohesion (Nair et al., 2018; Unger et al., 2009). Additionally, researchers have found that parent-child discrepancy in cultural orientation

were both risk factors for alcohol and marijuana use (Unger et al., 2009). Furthermore, differences in parent and child acculturation levels can alter the impact of positive parenting practices. In a study of 206 7th grade students of Mexican heritage, researchers found that the protective effect of parental monitoring on preventing marijuana use was lowest in families with the largest acculturation gap (Marsiglia et al., 2014). Yet, the evidence that parent-child acculturative gaps predict negative child outcomes remains mixed. For instance, Lau and colleagues (2005) found that parent-child acculturation differences were not predictive of youth conduct problems. Similarly, in a study of Mexican American adolescents, researchers did not find an association between parent-child acculturation gaps and poor family and youth functioning (Telzer et al., 2016). Notably, many of these studies conceptualize parent-child differences in acculturation as “gaps”, which has been operationalized in a variety of ways such as a difference in cultural affinity, language preference, or cultural involvement (Lau et al., 2005; Marsiglia et al., 2014; Smokowski et al., 2009). These definitions are important to consider because the psychological impact of acculturation experienced by multiple informants (e.g., parent and child), may be missed.

Parent-Child Acculturative Stress

Table 1 (see Appendix) summarizes 33 studies that have examined the association between AS and youth outcomes among children and early adolescents of Latinx background. Most of these studies have focused on the mental health of Latinx youth, including their internalizing symptoms, depressive symptoms, conduct problems, substance use, and self-esteem. A small number of studies have focused on academic

outcomes ($n = 7$) and an even smaller number of studies have focused on the parent-child relationship ($n = 1$).

Examinations of Dyadic Acculturative Stress

Compared to the literature on parent-child acculturation gaps, investigations evaluating the similarities and differences between parent and child AS levels are lacking. This dearth of research may be because very few studies collect AS data from both parents and children, making comparisons between informants impossible. As previously noted, The Acculturative Stress Model extension (Hovey & King, 1997), which posits that AS leads to negative outcomes, has been substantiated (Hovey & King, 1996; Lorenzo-Blanco et al., 2016, 2017; Sirin et al., 2013; Zamboanga et al., 2009). While this extended model did not specifically evaluate how an individual's AS impacts family members, previous studies have found that parental AS is detrimental to youth. For example, Feldman et al. (2010) found that parents' AS is associated with greater physical health problems in children. Gil and Vega (1996), found that higher levels of parental acculturative stress, particularly perceived discrimination, were associated with lower self-esteem in adolescents. Although AS can have spillover effects beyond the affected individual, parent and child AS levels are rarely examined together. Only three studies were identified that incorporated both parent and child AS reports when examining youth outcomes (see Table 1). Wu and colleagues (2020) studied Latinx immigrant families and found higher youth internalizing symptoms among dyads reporting both high parent and high child AS. In contrast, youth externalizing symptoms were related only to child AS levels. Lorenzo-Blanco et al. (2019) found that adolescent

cultural stress, but not parent, predicted a variety of adolescent outcomes, including depressive symptoms, hope, self-esteem, aggressive behavior, and smoking behavior.

Research comparing parent and youth's AS levels have found interesting differences in their reports. Wu et al. (2020)'s found that more than 50% of their sample were dyads of parents and youth reporting different levels of AS. Lorenzo-Blanco et al. (2019) used different acculturative stress measures in their calculation of parent and adolescent AS, which does not allow for direct comparisons between informants. It is also worth noting, that subscale-level comparisons were not provided in either of the last two studies mentioned, therefore, the ways in which youth experienced AS compared to their parents is not known. A study of Latinx male adolescents and their parents showed youth report greater acculturation conflict but similar levels of perceived discrimination to their parents (Gil & Vega, 1996). However, dyads reported opposite experiences related to language conflict and length of time in the U.S. (Gil & Vega, 1996).

Adolescent language conflict was negatively associated with length of stay in the U.S. but for parents, those who had been in the U.S. longer reported higher levels of language conflict. These findings indicate that AS domains can vary within a dyad possibly due to unique and personal experiences, thereby underscoring the importance of measuring AS from both child and parent.

These studies contributed to the AS literature by including both informants, however, there are methodological limitations to consider. Gil and Vega (1996) calculated composite AS scores by combining parent and child report for each of the three subscales that made up their AS measure. Parent and child AS reports were also combined and coded into four groupings based on if one, neither, or both informants

endorsed AS (Wu et al., 2020). Lorenzo-Blanco and colleagues (2019) examined parent and adolescent acculturative stress as separate latent constructs in their structural equation modeling analyses. Through these approaches we risk missing nuances in the AS levels within parent-child dyads and how discrepant or cumulative levels of AS influence the family household.

Latent Profile Analysis

A statistical technique that is helpful in addressing these gaps and useful for understanding AS experiences across family dyads is Latent Profile Analysis (LPA). LPA is a data-driven approach that uses participant response patterns on a continuous measure to generate groups within a sample (Fox et al., 2013). In addition, LPA provides the likelihood that a participant will fall into a particular group based on how they responded to items (Samuelsen & Raczynski, 2013). The person-centered nature and reliance on statistical fit indices set LPA apart from statistical analyses that rely on arbitrary cut-off scores to create subgroups (Nylund et al., 2007). LPA is also advantageous in that it can capture data in a non-linear fashion, which goes beyond common factor analytic techniques (Fox et al., 2013).

Given its person-centered approach, LPA has been used in acculturation research to capture the multidimensionality of acculturation among Latinx samples (Fox et al., 2013; Williams et al., 2017). Kam et al. (2017) used items related to family-based acculturative stress among its indicators to derive profiles of language brokering among Latinx adolescents. This research is notable for their analytic technique; however, all three studies were limited to one informant, parent or student. Christophe et al. (2020) serves as a model for using multi-informants in LPA. These researchers conducted LPA

to understand the relationship between reported ethnic-racial identity and socialization practices, cultural values, and group orientation within a Latinx sample. However, these latent profile analyses were conducted separately, therefore, outcomes could only be examined from mother profiles and child profiles separately and not as a dyad.

Additionally, this study did not focus on acculturative stress. Thus, our understanding of how similarities and differences in parent and child AS levels impact youth outcomes remains limited. Lui (2015) highlights the lack of parent report in studies of AS among Latinx and Asian communities. In this review, informant source (child only vs. parent and child) moderated the relationship between intergenerational cultural conflict and youth mental health outcomes. The authors suggest that this effect may be due to differences in how informants perceive and report conflict, thus underscoring the importance of evaluating both parent and child perspectives.

The current study uses LPA to identify the number of parent-child AS profiles best fit the sample. These profiles are based on characteristics shared by both reporters, which allows for the most commonly occurring parent-child AS patterns to emerge. This approach is noteworthy given that it is the first study to simultaneously examine parent and child AS reports using LPA (Gil & Vega, 1996; Lorenzo-Blanco et al., 2019; Wu et al., 2020).

Acculturative Stress and Family Processes

As a multidimensional construct, acculturative stress can be experienced differently based on one's level of language conflict, cultural conflict, and perceived discrimination. A prominent model linking stress to family processes and youth outcomes is the Family Stress Model (FSM; Conger et al., 1993). This model has been expanded

from examining economic stress to other contextual stressors such as neighborhood and cultural factors that impact parent functioning (White et al., 2009; White et al. 2015). When focusing on ethnic minority youth, and Latinx youth in particular, research is needed to evaluate how family processes are impacted by acculturative stressors. Kim et al. (2013) has already proposed that parent-child acculturation discrepancy can serve as a stressor for parents that compromises their supportive parenting practices. In their sample of Chinese American immigrant families, higher levels of parent-child American orientation discrepancy were related to lower levels of supportive parenting which in turn was related to higher depressive symptoms and lower academic performance (Kim et al., 2013). Research has also emerged connecting experiences of acculturative stress to maladaptive parenting and negative family environments. Indeed, studies incorporating the FSM have shown that parents' internalization of cultural stressors negatively impacts their parenting and youth outcomes (Lorenzo-Blanco et al., 2016; Hou et al., 2016; Wu et al., 2020). For example, parental cultural stress has been shown to predict worse family functioning including, less parental involvement, positive parenting, and family cohesion, according to both parent and adolescent-reports (Lorenzo-Blanco et al., 2016). In a sample of Mexican-origin mothers of young children, acculturative stress was positively associated with higher levels of authoritarian, but not authoritative, parenting (Calzada et al., 2019). The finding that parental AS can have negative downstream effects on youth through parenting is consistent with emerging literature indicating that AS experienced by an individual impacts more than that single individual.

Expressed Emotion

These studies demonstrate that AS can put youth and their parents at risk for poor family functioning, particularly negative parenting. Expressed Emotion (EE) is an indicator of household climate, historically evaluated as the attitudes held or comments made by parents or other relatives towards a family member with mental health problems (Butzlaff & Hooley, 1998; Peris & Miklowitz, 2015). From a family stress perspective, it can be a maladaptive form of responding to family stressors, triggering negative parent-child interactions and inhibiting positive outcomes (Peris & Miklowitz, 2015). That is, stressors can negatively impact parent-child relationships in ways measured by EE. Attitudes of criticism, hostility, emotional overinvolvement (EOI), and warmth are constructs that make up EE (Hooley & Gotlib, 2000; Peris & Miklowitz, 2015; Medina-Pradas et al., 2011). Criticism is characterized by negative affect or remarks that indicate a caregiver's dislike for something the patient does, and hostility refers to the caregiver's dislike of who the patient is as a person (López et al., 1999; Hooley & Gotlib, 2000). EOI is characterized by exaggerated emotional responses or unnecessary self-sacrificing behavior by the caregiver towards their family member with a mental illness (Hooley & Gotlib, 2000). Finally, warmth refers to the positive affect a caregiver has towards their relative with mental illness (López et al., 1999; Medina-Pradas et al., 2013).

High levels of EE (high criticism, high EOI, low warmth) have been established as robust predictors for relapse rates and treatment outcomes among adults with schizophrenia, mood disorders, and eating disorders (Butzlaff & Hooley, 1998). However, research studying Expressed Emotion in relation to child outcomes has also emerged. For example, in a study of mother-child dyads of children ages 8-12, researchers found that high levels of maternal EE were associated with mother-reported

child internalizing and externalizing symptoms (Tompson et al., 2010). EE has also been associated with poor treatment outcomes in clinical pediatric populations with depression and obsessive-compulsive disorder (Asarnow et al., 1993; Peris et al., 2012). In a review across child and adolescent psychiatric disorders, EE was found to be predictive of clinical outcomes and treatment response (Peris & Miklowitz, 2015).

It is worthwhile to study how AS impacts families because problematic parent-child relationships can in turn create worse outcomes for youth. For example, Buchanan and Smokowski (2011) found that parent-child conflict mediated the relationship between AS and risky friendships among Latinx youth. Fuentes-Balderrama and colleagues (2020) found that child-reported maternal psychological control and paternal imposition significantly predicted internalizing symptoms in a sample of Mexican preadolescents. This latter finding is important to consider in the context of the current study because psychological control and imposition parallel the EE construct of emotional overinvolvement where a parent expresses overly emotional and exaggerated concern toward their child in a way that is not developmentally beneficial to them (Peris & Miklowitz, 2015). However, when White et al. (2009) examined another EE-related construct, warmth, in relation to cultural stressors, they unexpectedly found that AS was significantly and positively associated with mother-reported parental warmth. The authors suggest this surprising relationship may be a product of mothers trying to compensate for their feelings of AS or that measuring AS solely through language conflict was too narrow. These studies show that cultural stressors do impact parenting in ways measured by EE, but this relationship may vary depending on the parental attitude in question. It is surprising that the relationship between AS and EE among Latinx

families has not yet been studied given that familism is considered a central cultural value of Latinx families (Valdivieso-Mora et al., 2016). As such, child perception of parental attitudes, like Expressed Emotion, may be of particular importance for Latinx youth.

Academic Achievement

As mentioned earlier and noted in Table 1, the negative impact of AS on mental health outcomes is well-documented, however, youth are affected by AS in ways beyond the mental health domain. For example, Katsiaficas and colleagues (2013) found that AS is negatively associated with perceptions of academic support. In a sample of Latinx middle school students, higher AS was related to lower teacher-reported academic performance and lower grades (Albeg & Castro-Olivo, 2014; Santiago et al., 2014). Relatedly, in a sample of Latinx college students, low acculturative stress has been positively associated with academic self-efficacy, emotional well-being, and grade point average (Chun et al., 2016). Discrimination, a construct closely tied to AS, has been linked to low academic performance and found to be particularly detrimental to Latinx adolescents compared to youth of other racial/ethnic minority groups (Benner et al., 2018). This research is evidencing the impactful and enduring relationship between cultural processes and academic outcomes among Latinx youth, a relationship that is less addressed in the literature than mental health outcomes. A systematic review covering a thirty-year span has called for more acculturative stress studies to focus on educational outcomes after finding that the majority of AS research has focused primarily on mental health (Lui, 2015). The association between AS and youth academic outcomes warrants investigation given AS brought on by the school environment (e.g., primary use of the English language, caregivers unfamiliar with the U.S. school system, or family obligation

to succeed as a first-generation American) that can disrupt student functioning. Notably, no study examining academic achievement among Latinx youth incorporates both parent and child AS reports (Table 1). Only three of the 33 studies identified incorporated parent and child reports of AS (Gil & Vega, 1996; Lorenzo-Blanco et al., 2019; Wu et al., 2020), and those studies did not focus on academic achievement. As a result, our understanding about the relationship between academic achievement and parental and family AS is limited.

Factors that hinder academic achievement among Latinx students is essential given that Latinx youth in the U.S. face structural and academic challenges that contribute to a large achievement gap relative to their White European American (EA) counterparts (Hemphill & Vanneman, 2011). In fact, national comparisons of 4th and 8th grade math and reading scores indicate that this gap has only marginally narrowed for almost 20 years (Hemphill & Vanneman, 2011). These disparities have shown to extend beyond elementary and middle school, with higher high school dropout and lower college enrollment rates among Latinx students compared to EA, African American, and Asian American students (Ryan & Bauman, 2016). It is critical that researchers and educators identify factors contributing to these academic disparities, as the U.S. Latinx youth population is large and rapidly growing (Colby & Ortman, 2015).

Rationale

Very few studies incorporate a dyadic perspective when studying AS and youth and family outcomes and none have utilized LPA to capture parent-child AS profiles. Parents and children can experience various levels of AS, and the effects of AS extend beyond the person experiencing it (Lorenzo-Blanco et al., 2017, 2019). Also, research has

shown that AS differentially impacts functioning depending on who is affected (Lorenzo-Blanco, et al., 2019; Wu et al., 2020). Therefore, the current study addresses gaps in the acculturative stress literature by incorporating both parent and child report to examine differences in youth and family-level variables. This approach extends existing studies that have utilized LPA with one informant to classify adults and parents (Driscoll & Torres, 2021; Capielo-Rosario & Dillon, 2020; Salas-Wright et al., 2015; Williams et al., 2017) or youth (Fox et al., 2013; Kam et al. 2017) into acculturation or language brokering profiles as well as studies that used both mother and child report to generate profiles analyzed through separate LPA models (Christophe et al., 2020). Furthermore, this study design adds to the current AS literature by examining academic achievement among Latinx middle school students as well as being the first to examine Expressed Emotion in the context of AS using both parent and child report. While research on AS among Latinx communities has grown, our understanding of its impact on academic and family functioning remains limited.

Aims and Hypotheses

1. Conduct latent profile analyses to determine the number and type of parent-child acculturative stress profiles present in the sample.
 - a) Although the profiles will be derived empirically, three potential profiles that could emerge are: low child/low parent acculturative stress (LLAS), high child/high parent acculturative stress (HHAS), and low child/high parent acculturative stress (LHAS).

- b) Describe the demographic characteristics of the Parent-Child Acculturative Stress (PCAS) profile groups that emerge. Profile groups will be described and compared across parent education, nativity, child age, and child gender.
2. Examine differences in parent and child-reported Expressed Emotion among these PCAS profile groups. It is hypothesized that profile groups characterized by high child or parent AS, will report greater parental Expressed Emotion, according to both parent and child report.
3. Examine academic achievement differences among these PCAS profile groups. Specifically, it is expected that youth in profile groups that include high AS will have significantly lower academic achievement than youth in profile groups with lower AS.

Method

Procedure

Data from this study were collected from a larger, school-based depression intervention study. These data were collected during the academic school year from classroom surveys (Time 1) administered near the beginning of the school year and subsequently followed by individual student and parent interviews (Time 2). First, DePaul research staff visited participating schools to explain the study procedures to students and provided packets with consent and assent forms for them to bring home. All students who returned a signed consent/assent packet, regardless of their final decision to participate in the study or not, received a pen as a ‘thank you’ for their consideration. After collecting all completed forms, DePaul research staff coordinated with school staff to schedule a time to complete the Time 1 classroom survey as a group with the students

who agreed to participate and who also had a parent/guardian consent to allow them to participate in the study. DePaul research staff distributed the paper surveys and read the questions and items aloud as students completed their individual survey. This classroom survey took 45 minutes to complete. As a 'thank you', students received a raffle ticket for small prizes to be given out for one of every eight students.

After the classroom surveys were completed, parents and students were contacted to participate in their own individual interview also held at school. These interviews were typically conducted after school hours, lasted about 90 minutes, and were conducted at a time convenient for the family. At the start of the interview, DePaul research staff first read and reviewed the parent consent and student assent forms. These parent and child interviews were conducted at the same time, but separately. Students received a \$25 gift card and parents/guardians received \$30 in cash as compensation for their time and participation.

Participants

Students were recruited from 10 Chicago Public Schools (CPS). The final sample included 284 parent-child dyads of Latinx background. Youth sampled were 44.4% male ($n = 126$) and 55.6% female ($n = 158$) in 5th ($n = 65$), 6th ($n = 108$), and 7th ($n = 111$) grades, and their mean age was 11.5 years old ($SD = 0.96$). Students in this sample were of Latinx only ($n = 262$; 92.3%), mixed European American and Latinx ($n = 12$; 4.2%), mixed African-American and Latinx ($n = 8$; 2.8%), and mixed Latinx and two or more ethnic ($n = 2$; 0.7%) background. Families who identified as Latinx were prompted to complete follow-up questions about their Latinx heritage. The majority were of Mexican American only ($n = 201$; 70.8%) background. The remaining were of Puerto Rican ($n =$

29; 10.2%), Central or South American ($n = 16$; 5.6%), Cuban American ($n = 1$; 0.4%), or other Latinx only ($n = 1$; 0.4%) background. A portion of the sample reported being of mixed Latinx backgrounds (e.g., Mexican and Puerto Rican; $n = 36$; 12.8%). In terms of nativity, students were mostly of immigrant backgrounds. That included first generation (foreign-born) (7.4%; $n = 21$); second-generation (U.S.-born and with one or more foreign-born parents) (77.8%; $n = 221$); third generation (10.6%; $n = 30$) (U.S.-born with U.S.-born parents and foreign-born grandparents); and a few (4.2%; $n = 12$) who were not of immigrant background.

Primary caregivers (heretofore referred to as ‘parents’) who completed the interviews were mostly biological mothers (88.4%; $n = 251$) and biological fathers (9.9%; $n = 28$). Other caregivers (1.8%; $n = 5$) sampled included four grandmothers and one stepfather. Parents reported their highest reached educational level using 12 options. Parent education was coded into two groups: low (no formal schooling up to high school or equivalent) (71.8%; $n = 204$); and high (beyond high school up to an advanced degree) (28.2%; $n = 80$).

Measures

Demographics. Participants were asked to report on basic demographic questions during the classroom surveys (students) and individual interviews (parents). Since items related to ethnicity, Latinx subgroup, and nativity, were asked of both parents and children, families were classified according to both parent and student reports.

Acculturative Stress. Levels of child and parent acculturative stress were assessed using the *Acculturative Stress Measure* (Vega et al., 1993). This measure includes language-related conflicts (2 items; e.g., “How often has it been hard to get

along with others because you don't speak English well?”), acculturation conflicts (4 items; e.g., “*How often do you feel that you would rather be more American or have a U.S way of life?*”), and perceived discrimination (3 items; e.g., “*How often do people dislike you because you are of you ethnic background?*”). Students ($\alpha = .66$) and parents ($\alpha = .74$) responded to items using a Likert-type scale from 1 (*Not at all*) to 4 = (*A lot*).

Expressed Emotion. (BDSEE). Perceived parental expressed emotion was measured using the parent and child versions of the *Brief Dyadic Scale of Expressed Emotion* (BDSEE; Medina-Pradas et al., 2011). Students and parents responded to questions (*How much do you feel loved by your _____?*) and statements (e.g., “*I feel controlled by my _____.*”) on a 1 (*Not at all*) to 10 (*Very much*) scale. The BDSEE includes total scores for child ($\alpha = .81$) and parent ($\alpha = .70$) reports, as well as subscales for warmth (4 items; child $\alpha = .81$; parent $\alpha = .69$), EOI (6 items; child $\alpha = .67$; parent $\alpha = .60$), and criticism (4 items; child $\alpha = .72$; parent $\alpha = .63$).

Academic Achievement. Academic achievement in this study was measured based on combined math and reading grade point average (GPA). Each letter grade was assigned a specific point value (*A = 4; B = 3; C = 2; D = 1; and F = 0*) and the average of the math and reading grades was used to compute a single GPA score (possible range from 0.0 to 4.0). GPA was calculated using the final letter grades a student received in math and reading on their last report card in the same academic year that the survey and individual interviews were collected.

Standardized test scores were used as a second measure of academic achievement. These scores came from the math and reading sections of the Northwest Evaluation Association (NWEA)’s Measure of Academic Progress (MAP) Growth test. The NWEA

MAP Growth test is a computerized assessment that can be administered to students in kindergarten to 12th grade to evaluate how they are learning in the subjects of math, reading, language usage, and science (NWEA, n.d.). Subtest scores are measured on the Rasch Unit Scale (RIT; NWEA, 2016). Math and reading scores of students' Spring NWEA test were obtained from the same school year that the survey and individual interviews were collected.

Results

Descriptive Statistics and Correlations

Table 2 contains the descriptive statistics and correlations among key study variables. Of note, total parent and child AS scores were not significantly correlated. Higher child AS correlated with higher child-reported parental EE, including higher criticism, lower warmth, and higher EOI. Parental AS also significantly correlated with all three subscales of parent-reported EE: criticism, warmth, and EOI. Among the EE variables, the correlation between parent and child-reports of EOI (but not criticism and warmth) was statistically significant. Higher child AS correlated with lower academic achievement as measured by both school GPA and NWEA standardized test scores. On the other hand, *higher* parent AS correlated with *higher* GPA and NWEA scores. Given the surprising direction of the parental AS and academic outcomes, a significance test comparing the correlations between child AS, parent AS, and academic outcomes was conducted. Using Fisher's *r*-to-*z* transformation, the correlations between parent AS, child AS, and academic outcomes was statically significantly different for GPA, $z = -4.1$, $p < .001$, and NWEA scores, $z = -6.39$, $p = 0.0$ (Lee & Preacher, 2013).

Table 2

Means, Standard Deviations, and Correlations for Key Study Variables (N=284)

	<i>M</i> (<i>SD</i>)	1	2	3	4	5	6	7	8	9	10
1. AS – Child	1.49 (.48)	--									
2. AS - Parent	1.65 (.59)	.01	--								
3. C-EE - Criticism	3.90 (1.80)	.37***	.00	--							
4. C-EE – Warmth	8.64 (1.48)	-.21***	.01	-.31***	--						
5. C-EE – EOI	3.57 (1.54)	.33***	.04	.55***	-.26***	--					
6. P-EE – Criticism	3.93 (1.70)	-.09	.14*	.09	-.05	.08	--				
7. P-EE – Warmth	9.18 (1.06)	-.10	-.16**	-.13*	.11	-.06	-.17**	--			
8. P-EE – EOI	3.48 (1.53)	-.01	.29***	.08	.03	.17**	.40**	-.10	--		
9. GPA ±	2.45 (.89)	-.19**	.16**	-.09	.11	-.20**	.02	-.00	.02	--	
10. NWEA±	220.17 (12.29)	-.36***	.16**	-.02	.08	-.11	.16**	-.06	.06	.57***	--

Note. *C* = Child, *P* = Parent, *EE* = Expressed Emotion. **p* < .05, ***p* < .01, ****p* < .001.

± = GPA *n* size of 270 and NWEA *n* size of 274 due to missing data.

Latent Profile Analyses

Parent-child acculturative stress profiles were derived via *MPlus* software using LPA, a person-centered approach to classifying participants into profiles based on items (or “indicators”) that get endorsed on a measure of interest. In this study, parent and child response patterns across six overlapping items on *The Acculturative Stress Measure* served as indicators for LPA to produce its models, where each model contains a different number of profiles. The LPA models were tested by iteratively adding profiles to the model to determine which number of profiles best fit the data. These profiles were generated based on how parent-child dyads endorsed items. Using Fox et al.’s (2013) approach, Bayesian Information Criteria (BIC) and Akaike Information Criteria (AIC) fit

indices, entropy values, and the Lo-Mendell—Rubin Adjusted Likelihood Ratio Test (LMRT) were examined across the different models to determine the best-fitting model. The lower the BIC and the AIC, the better the model fits the data (Akaike, 1974; Schwarz, 1978). Entropy of the different models were compared to determine how distinct the different profiles of a model are from each other (Ramaswamy et al., 1993). The higher the entropy value, the better the distinction between profiles within a model. The significance level of the LMRT p -value was used to compare the fit of the target model with a comparison model.

Models containing two, three, four, and five profiles were evaluated for fit. Four profiles emerged as best-fitting the data based the aforementioned criteria (Table 3). This model was selected using a STARTS value of 80 20, following a convention of a 4 to 1 ratio between the first and second value (Muthén, 2008). The two-profile model was considered given its stability across STARTS values in terms of class size, best loglikelihood, and fit indices. However, the four-profile model was ultimately selected because it was also stable across STARTS values, made more sense conceptually, and contained the best-fitting indices. While the five-profile model contained the lowest AIC, BIC and adjusted BIC value, its non-significant LMRT value indicates that the four-profile model is superior.

Table 3

Latent Profile Analysis Model Fit Indices

Profile Type	AIC	BIC	Adjusted BIC	Entropy	LMRT p
Two-Profile Model	7938.30	8073.31	7955.98	0.94	0.00
Three-Profile Model	7569.04	7751.49	7592.94	0.94	0.00

Four-Profile Model	7137.47	7367.35	7167.58	0.97	0.02
Five-Profile Model	7032.29	7309.61	7068.61	0.94	0.13

Note. AIC = Akaike information criterion; BIC = Bayesian information criteria; LMRT = Lo–Mendell–Rubin likelihood ratio test. The best-fitting model (4-profile) is indicated in bold.

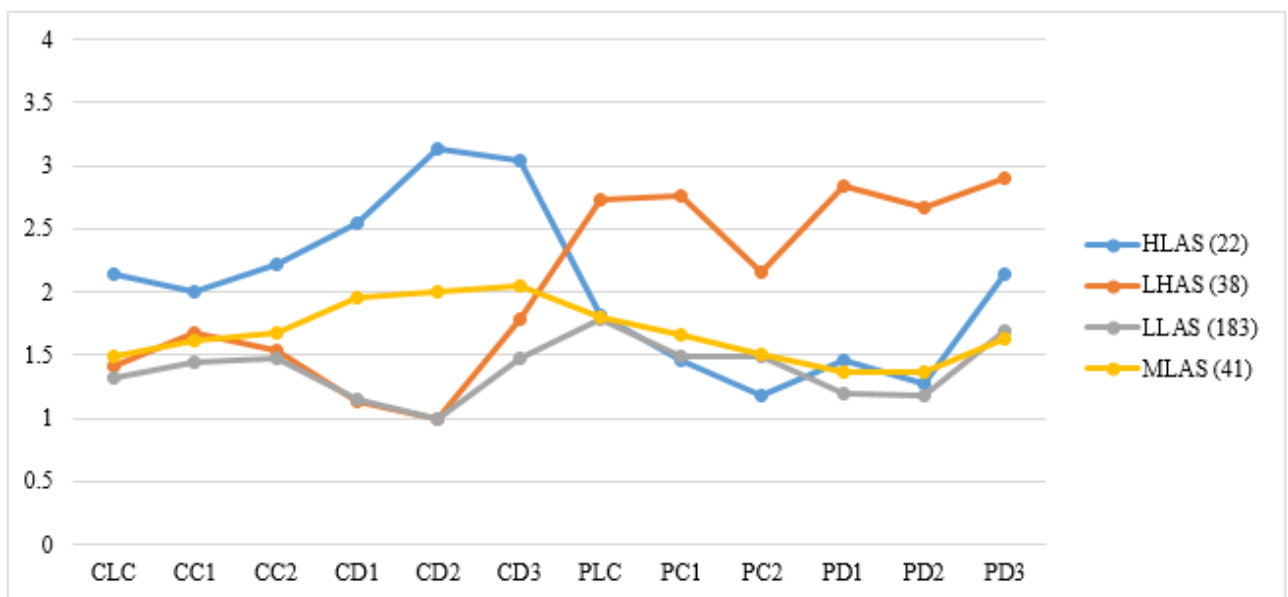
Names were assigned to the profiles based on their parent-child acculturative stress patterns of scores (see Figure 1). The Low Child-Low Parent Acculturative stress profile (Profile 3; LLAS) comprised the majority (64.4%; $n = 183$) of the sample and consisted of dyads in which both parent and child reported similar and low levels of AS. The High Child-Low Parent AS (Profile 1; HLAS) included dyads (7.7%; $n = 22$) in which the child reported high levels of AS and parent reported low levels of AS. The opposite pattern was found for the Low Child-High Parent profile (Profile 2; LHAS), in which dyads (13.4%; $n = 38$) were children who reported low AS and parents who reported high AS. The last profile (Profile 4; MLAS) had a similar but less pronounced pattern to that of the HLAS profile. In this profile (14.4%; $n = 41$), labeled Moderate Child-Low Parent AS, children reported moderate levels of AS while their parents reported low levels of AS.

As expected, a profile with low parent and low child acculturative stress emerged (LLAS) as well as a profile with low child and high parent acculturative stress (HLAS). However, contrary to predictions, no profile group in this sample was characterized by having relatively high AS across both parents and children. Notably, three of these four profiles are characterized by low levels of parental acculturative stress. Figure 1 illustrates the mean scores across items on *The Acculturative Stress Measure* among the

profile groups. Across profiles, all of the youth AS scores were rated the highest in the HLAS profile. Within the HLAS and MLAS profile groups, discrimination items (CD1 and CD2) were rated the highest. In contrast, relative to other AS items, youth in the LHAS and LLAS profile groups rated discrimination items the lowest.

Figure 1

Latent Profile Analysis – 4 Profile Model



Note. HLAS = High Child-Low Parent AS; LHAS = Low Child-High Parent AS; LLAS = Low Child-Low Parent AS; and MLAS = Moderate Child-Low Parent AS.

CLC/PLC = Child Language conflicts/Parent Language conflicts; CC/PC= Child Cultural conflicts/Parent Cultural conflicts; and CD/PD = Child Discrimination/Parent Discrimination.

Demographic Characteristics across PCAS Profile Groups

Various analyses were conducted to examine the PCAS profiles in more detail. Demographic information regarding child gender, child age, family nativity, and parental education were examined using descriptive statistics, chi-square and analysis of variance

(ANOVA) via SPSS V.25.0 (IBM Corp, 2017). Specifically, profile group, child gender, family nativity, and parent education were examined as categorical variables using chi-square. Child age was examined as a continuous predictor using ANOVA. Child gender was coded as 1 = male and 2 = female. Family nativity was recoded into 2 groups: 1 = first and second-generation, 2 = third generation and beyond. Parent education was coded 1 = Low and 2 = High.

Analyses (Table 4) revealed no significant difference in child age between the profile groups. There were significant differences in family nativity and parental education level between profile groups but no significant differences in gender. Specifically, youth of first or second-generation immigrant background were more likely to be in the LHAS or MLAS profile group. Parents of higher education background were less likely to be in the LHAS profile group.

Table 4

Descriptive statistics and frequencies of demographic variables by profile

	HLAS	LHAS	LLAS	MLAS	ANOVA or Chi- Square <i>p</i> - value
<i>M</i> age years	11.5	11.7	11.4	11.4	0.41
% Female	45.5	55.3	56.3	58.5	0.78
% 1 st or 2 nd gen.	72.7	94.7	83.1	92.7	<0.05
% High Education	36.4	10.5	31.7	24.4	<0.05

Multivariate Analyses

A multivariate analysis of variance (MANOVA) was carried out to examine differences in parent and child-reported Expressed Emotion among the four PCAS profile groups. Profile groups were entered as a categorical predictor and the parent and child Expressed Emotion subscales of criticism, warmth, and EOI scores were entered as continuous dependent variables in the same MANOVA. This analysis was followed by a multivariate analysis of covariance (MANCOVA). A second, separate MANOVA was used to study differences in academic achievement among the profile groups. Once again, profile groups were entered as a categorical predictor and GPA and NWEA scores were entered as continuous dependent variables in the same MANOVA. A MANCOVA subsequently followed this analysis. Child gender, child age, and parental education were selected as covariates for both MANCOVAs because they significantly correlated with the outcome variables of interest (see Table 2).

Profile Group Differences in Expressed Emotion

Two MANOVAs were run to separately examine differences in parent and child-report of parental criticism, warmth, and EOI across the four profile groups (Table 5). The overall test for child-reported criticism, warmth, and EOI was significant, Wilks $\lambda = .90$, $F(9, 676.73) = 3.51$, $p < .001$ indicating differences in the dependent variables across the profile groups. Specifically, profile membership was associated with child-reported parental criticism, $F(3, 283) = 8.90$, $p < .01$. Tukey post-hoc analyses indicated that youth in the HLAS profile group reported significantly higher parent criticism than both the LHAS and LLAS group. Also, youth in the MLAS group reported significantly higher parent criticism than youth in the LLAS group. Profile membership was also associated with child-reported EOI, $F(3, 283) = 4.44$, $p = .01$. Youth in the HLAS profile group

reported significantly higher parental EOI than youth in the LLAS profile group (see Table 5).

For parent-reported criticism, warmth and EOI, the overall test was also significant, Wilk's $\lambda = .92$, $F(9, 676.73) = 2.78$, $p = .003$. Specifically, profile membership was associated with parental warmth, $F(3, 283) = 3.31$, $p = .021$. Post-hoc analyses revealed that parents in the LHAS profile group reported significantly lower parental warmth than parents in the LLAS group. Profile membership was also associated with parental EOI, $F(3, 283) = 5.16$, $p = .002$. Parents in the LHAS profile group reported significantly more EOI than parents in both the HLAS and LLAS profile groups (see Table 5).

Table 5

Descriptive means of expressed emotion report by profile with MANOVA post-hoc comparisons

Outcome	df	F	p	η^2	M(SD)				Significant Profile Group Differences
					HLAS 1	LHAS 2	LLAS 3	MLAS 4	
Child									
Crit	3, 283	8.90	<.01	.09	5.23 (2.14)	3.99 (1.69)	3.56 (1.66)	4.60 (1.86)	1 > 2; 1 > 3; 4 > 3
Warmth	3, 283	2.44	.07	.03	8.31 (1.87)	8.43 (1.61)	8.81 (1.30)	8.26 (1.76)	
EOI	3, 283	4.44	<.01	.05	4.58 (1.83)	3.72 (1.60)	3.38 (1.42)	3.72 (1.63)	1 > 3
Parent									
Crit	3, 283	2.02	.11	.02	3.66 (1.49)	4.44 (1.43)	3.80 (1.67)	4.20 (2.05)	
Warmth	3, 283	3.31	.02	.03	9.06 (0.98)	8.72 (1.35)	9.30 (0.98)	9.18 (1.08)	3 > 2
EOI	3, 283	5.16	<.01	.05	3.16 (1.19)	4.34 (1.74)	3.33 (1.43)	3.50 (1.66)	2 > 1; 2 > 3

Note. MANOVA post hoc comparisons were conducted using Tukey's Honestly

Significant Difference test

Two separate MANCOVAs were also run to examine differences in child and parent-reported expressed emotion after controlling for child gender, child age, and parent education. The findings largely remained the same. Differences across the profile groups remained in child-reported criticism, $F(3, 283) = 8.83, p < .001$ and EOI, $F(3, 283) = 4.71, p = .003$, as well as parent-reported warmth, $F(3, 283) = 2.85, p = .038$ and EOI, $F(3, 283) = 4.34, p = .005$. Pairwise comparisons were examined and all but one comparison remained statistically significant. HLAS was no longer statistically significantly different than LHAS in child-reported criticism.

Profile Group Differences in Academic Achievement

A single MANOVA was run to examine both GPA and standardized test scores (Table 6). Using Wilks statistic, there were no significant differences in standardized test scores between profile groups, $\lambda = .93, F(12, 608.81) = 1.48, p = .127$.

Table 6

MANOVA descriptive means for academic achievement variables by profile group

<i>M(SD)</i> Outcome	HLAS 1	LHAS 2	LLAS 3	MLAS 4	<i>Significant Profile group differences</i>
GPA	1.91	2.55	2.43	2.34	-
NWEA	211.06	222.15	219.50	216.92	-

The MANCOVA examined differences in academic achievement after controlling for child gender, child age, and parent education. Using Wilks statistic, the overall test was not significant, $\lambda = .95, F(6, 522) = 2.09, p = .053$.

Discussion

There are a few studies that have used person-centered approaches to examine AS among the Latinx community. Those that have differ from the current study in that they examined AS among adult samples only and included different indicators of AS (e.g., fear of deportation) or used acculturation in combination with AS indicators to create “acculturation-acculturative stress” profiles (Driscoll & Torres, 2021; Capielo-Rosario & Dillon, 2020; Salas-Wright et al., 2015). Nevertheless, there are comparable findings to the current study. For example, Capielo-Rosario and Dillon (2020) identified low, moderate, and high levels of AS among their three profiles. Salas-Wright et al. (2015), like the current study, found that a sizeable proportion of their participants were experiencing AS in some way. More specifically, about a third of the current study sample reported moderate to high AS based on either parent or child reports. This finding highlights the importance of collecting dyadic perspectives by revealing that AS can commonly be experienced by one family member and not another. Moreover, akin to Salas-Wright et al.’s study, there was a significant difference in education level between profiles groups such that adults experiencing more AS were more likely to be of lower educational background.

The first aim of the study was to conduct LPA to determine which PCAS profile groups would emerge from this sample. Findings partially supported the hypothesis. LLAS and LHAS emerged as profiles, but HHAS did not. Instead, MLAS and HLAS emerged as profiles. It is surprising that a profile characterized by high parent acculturative stress did not emerge, despite most parents being foreign-born. A measure of length of stay in the U.S., which was not collected in this study, could shed light on this finding. A larger sample size or recruitment of more first-generation youth and parent

dyads may also be necessary for an HHAS profile to emerge, which would be worthwhile to identifying a potentially vulnerable parent-child group with congruent high AS levels. An HHAS profile may also emerge when recruiting from certain clinical samples. The current study examined a community sample but given the positive relationship between negative mental health outcomes and AS, it is possible that a profile characterized by heightened parent and child AS may be found in clinical settings.

While this study labeled profiles more broadly, it is possible to identify elevations in AS domain (language conflict, cultural conflict, and perceived discrimination) upon examining the LPA indicators. Driscoll and Torres (2021) characterized their profiles based on their LPA indicators and found that language conflict was the distinguishing factor between profiles of adults experiencing AS because one of its profiles was elevated only in this domain. Figure 1 illustrates that the elevations in this study's profiles are related to perceived discrimination for both youth and adults. Gil and Vega (1996) similarly detected that perceived discrimination were heightened for both adolescents and parents in a way that the other AS indicators, language and cultural conflict, were not. When considering ways to support minoritized students, perceived discrimination is critical because of its association with several negative youth outcomes (Benner et al., 2018). The implications of this study provide evidence for why it is important to examine cultural factors when evaluating outcomes among Latinx youth and families. The parallel spike in parent and child-reported discrimination items suggests that perceived discrimination may be a particularly salient feature of AS for families of Latinx background. A study with Latinx adolescents examined discrimination separately from other AS indicators (e.g., language difficulties) and found that discrimination, but not AS,

was associated with worse school attachment and greater perceived barriers to college (Stein et al., 2015). So, while school and occupational settings should be cognizant of AS generally, particular attention should be focused on how to combat discrimination. Finally, educators and school administrators interfacing with students of Latinx and/or immigrant background must be mindful of how cultural stressors may be hindering students' academic achievement and work towards creating equitable and welcoming classroom environments.

The second aim of this study was to examine differences in parent and child-reported Expressed Emotion based on the PCAS profiles. The study hypothesis was partially supported in that higher AS was associated with higher EE according to both parent and child report. That is, youth reporting higher AS were also reporting higher criticism, less warmth, and higher EOI from their parents. This pattern of correlations also emerged between parental AS and parent-reported EE subscales (Table 2). As hypothesized, the HLAS profile group had significantly higher youth-reported parental criticism than the LHAS and LLAS profile groups. The MLAS profile group had significantly higher youth-reported criticism than the LLAS profile group. The HLAS profile group had significantly higher youth-reported parental EOI than the LLAS profile group. No significant differences in youth-reported parental warmth were detected. In terms of parent-report, the LLAS profile group contained significantly higher parental warmth than the LHAS profile. The LHAS profile group had significantly higher EOI than the HLAS and LLAS profile groups. No significant differences in parent-reported criticism were detected.

This study's findings indicate that informants (parent or child) endorsing higher AS also endorsed higher EE across the three EE domains. For example, the LLAS profile group had the lowest child-reported criticism scores, lowest child-reported EOI scores and highest child-reported warmth scores of all the profile groups. Moreover, youth in the HLAS group reported the highest levels of criticism, EOI, and the lowest warmth. Parents in the LHAS profile group endorse the lowest levels of warmth and highest level of EOI and criticism. Based on the FSM, stress is expected to compromise parenting practices (Conger et al., 1993). These findings align with the FSM in that acculturative stress, the focal stressor of the present study, is associated with worse caregiver perception as measured by both parent and youth. Therefore, acculturative stress may be a potential risk factor for negative family relationships, an indicator of poor communication, or a lack of familial cohesion.

Notably, a profile group with opposite parent and child acculturative stress levels, HLAS, is also the profile with opposing parent and child EE reports. Specifically, youth in the HLAS profile group report the highest parental criticism while the parents in this profile group report the lowest parental criticism of all four profile groups. This same pattern emerged for parental EOI, revealing that dyads within this subgroup, in addition to experiencing different AS levels, are also perceiving parental attitudes completely differently. Cultural conflict, as the AS domain that measures divergent cultural preferences, may help to explain this discrepancy. For example, youth and parents may develop different cultural expectations, which can lead certain behaviors to be perceived differently than intended (e.g., a parent who checks in a lot with their child perceives this behavior as warm but may actually be viewed as overinvolved by the child). In their

study examining family cohesion and adolescent substance use, Unger and colleagues (2009) found that cultural orientation discrepancy was associated with less cohesion. This and the current study's cross-sectional design does not allow for causal inferences, therefore, longitudinal studies focused on how AS shapes perceived parental attitudes is needed. Moreover, qualitative research exploring topics of conversation (e.g., peers, school, etc.) among parent-child dyads with opposing AS levels would provide meaningful illustrations of parent-child interactions that contribute to EE perceptions and other negative family-level dynamics. These data would also provide opportunities for intervention that enhances the parent-child relationship through improved family communication. Informant discrepancy between parent and youth such as the one described here is a well-established phenomenon in the child mental health literature. As such, researchers suggest that informant discrepancies in parenting behavior and family functioning offer a window into understanding youth development and overall family dynamics (De Los Reyes, Ohannessian, & Racz, 2019). A study on parental monitoring and negative youth outcomes found that parent-child discrepancies remained consistent over a two-year period and the youth most likely to engage in delinquent behaviors were those who were reporting lower parental monitoring than their mothers (De Los Reyes et al., 2010). Thus, not only are informant discrepancies common but they can be clinically meaningful as well. Findings of the present study suggest that discrepant AS levels may be a contributing factor to discrepant perceptions of parental attitudes.

While this is the first study to examine parental Expressed Emotion in the context of acculturative stress, previous research has found that parent and youth AS have different associations with family outcomes. In their study of acculturation profiles

among Latinx parents, Williams and colleagues (2017) found that parents experiencing more acculturation challenges reported less positive parenting practices and more family conflict than parents in profiles characterized by cultural connectedness. This finding is notable and closely related to the current study because the differentiating factor between these two profiles was their level of acculturative stress, whereas their level of cultural orientation and familism were comparable. So, while this study incorporated other indicators into its acculturation profiles, AS is emerging as an evident link to family functioning. Finally, it is notable that child-reported parental warmth did not emerge as a statistically significant difference between profiles even for profiles experiencing high AS, like HLAS and LHAS. This finding suggests that even in the context of high AS and parent-child AS discrepancies, warmth is a strength for the Latinx parents of this sample.

The third and final aim of the current study was to examine differences in academic achievement based on PCAS profiles. The pattern of correlations shows that child AS is negatively correlated with GPA and NWEA test scores (Table 2). Notably, parent AS was positively correlated to both GPA and NWEA scores. It was expected that youth in profile groups of low AS would have significantly better academic outcomes than youth in profile groups with higher AS. Findings partially support this hypothesis. For example, LLAS a profile characterized by low AS by both youth and parent had the second highest academic achievement scores but was not statistically significantly different from the other profiles. The lack of statistical significance does not align with Hovey and King's (1997) extended Acculturative Stress Model, which states that AS leads to poor outcomes. One possible reason for the lack of significant difference in GPA is because students around middle school begin to have different teachers. Teachers may differ in

their grading criteria, creating variability in how student performance is being evaluated. In addition, had an HHAS profile characterized by high child-high parent AS emerged in this sample, it is possible that a statistically significant difference would have emerged between this and another profile, such as LLAS. Nevertheless, past research examining GPA have found that AS is significantly related to worse grades, particularly for U.S.-born students (Santiago et al., 2014). In a separate study, discrimination stress, but not immigration stress, predicted grades in a Latinx sample (Roche et al., 2012). Compared to the current study, Santiago and colleagues included more items about discrimination in their AS measure and Roche et al. examined discrimination stress as a standalone AS construct, both of which could explain how the significant relationships in their samples emerged. Furthermore, Albeg and Castro (2014) found that AS had an inverse relationship with academic performance. In another study, AS mediated the relationship between cultural orientation and academic grades (Schwartz et al., 2007). It is worth noting that the latter two studies used teacher and self-reported measures of academic performance. The subjectivity of these measures may explain, in part, why this study's findings are only partially in line with the literature.

Nevertheless, given past research and the negative correlation between youth AS, test scores, and GPA found in this study, it is worth considering what factors in the school environment may be contributing to students feeling perceived discrimination and cultural and language conflict. It is possible that there is a lack of bilingual services available to enhance students' learning. School districts should evaluate the level and type of resources allotted to their schools, ensuring that staff serving a large immigrant or dual-language student body are well-trained and supported to help their culturally and

linguistically diverse students. Moreover, students' perceiving discrimination may feel too alienated from teaching staff to request additional help. Measures of school climate and school belonging can help address these questions. For example, Roche and colleagues (2012) found that school belonging mediated the relationship between discrimination stress and academic outcomes among Latinx youth. Lastly, peer relationships and interactions were not examined in this study but should also be considered to understand the interplay between school environment, acculturative stress, and academic functioning.

As mentioned, parental AS was significantly positively correlated with both standardized test scores and GPA (Table 2), suggesting an association between parents' level of AS and youth academic outcomes. A possible explanation for this surprising relationship is that parents' own AS levels may push them to find ways to support their child's adjustment. Parents may intentionally provide this support in ways that bolster youth's academic functioning given that the school environment is an area where youth can be confronted with different cultural and language expectations. On the other hand, it is possible that youth who are performing well academically are losing their Spanish at a higher rate, heightening parental AS through newfound language difficulties or cultural conflict. Higher level multivariate analyses in this study did not detect significant differences in academic achievement between profiles characterized by different parental AS (HLAS vs. LHAS); however, future research should explore the surprising correlational pattern between parental AS and academic achievement to better understand how parental AS influences youth academic outcomes, especially given past research that parents' educational aspirations are predictive of students' grades among Latinx families

and parental monitoring is a protective factor for Latinx youth academic achievement (Chavira, Cooper, Vasquez-Salgado, 2016; Santiago et al. 2014). Perhaps there are intermediary factors mitigating the negative effects of parental AS on youth outcomes or parental AS is more detrimental to family dynamics than youth academic outcomes; both possibilities are avenues for building on Hovey and King (1997)'s extended Acculturative Stress Model.

Limitations

This study's findings should be considered with certain limitations in mind. First, this study examined Expressed Emotion and academic achievement outcomes cross-sectionally. As a result, one cannot make causal conclusions about how AS affects youth or parent perceptions of parental Expressed Emotion or youth academic outcomes. Additionally, cross-sectional designs do not inform us about how constructs are related or change over time. Therefore, future research can build upon the current findings through longitudinal studies. Studying AS longitudinally would reveal if changes in parent and child stress levels lead to different outcomes. For instance, do youth in an HLAS profile report lower parental criticism and EOI as their AS level decreases? Do these reports increase if their parent experiences higher AS over time, leading to a HHAS profile? Additionally, a longitudinal trajectory would indicate whether parent and youth AS level change at the same rate. Furthermore, longitudinal studies of student academic achievement in the context of acculturative stress are especially sparse and warranted. Research examining the effect of AS on academic outcomes over time can demonstrate when AS is most detrimental, revealing critical moments for intervention. Finally, the current study focused primarily on youth adjustment, thus, future research can continue

incorporating the parent perspective while evaluating parent outcomes (e.g., mental health, parenting stress).

Moreover, this sample is composed mostly of biological mothers. Therefore, the study's findings are based primarily on youth's perceptions of this parental figure and this figure's perceptions of themselves, leaving out either a second parental figure or another significant adult in the student's life. Consequently, the study results should be interpreted in the context of a specific caregiver relationship in the child's life. It is important to keep in mind the caregiver relationship as parenting beliefs and childrearing responsibilities may vary within a family.

Next, as in many studies, the measures included relied on self-report, which can create problems of social desirability. This issue is most relevant to the measure of parent-reported parental Expressed Emotion. Here, parents may respond to an interviewer's questions in an overly positive way, endorsing low criticism, low EOI, and high levels of warmth. However, the elevated levels of EE in this sample, including finding significant differences between profiles on parent-reported EOI, suggests that the research team's efforts to prevent social desirability (i.e., ensuring anonymity) were helpful.

Finally, some of the study measures do not display high internal consistency. For example, child AS, child-reported EOI, and parent-report of the three EE domains. Nevertheless, significant findings were still detected between domains for parent-reported warmth and child and parent-reported EOI, while significant findings were not detected for subscales with higher internal consistency (i.e., child-reported warmth). As for

acculturative stress, LPA derived the PCAS profiles using individual items as indicators, making the internal consistency of the overall measure less problematic.

In light of these limitations, the current study makes several contributions to the acculturative stress literature as it pertains to Latinx families and families of immigrant background. Most notably, it is the first study to use a person-centered statistical technique to derive profiles of acculturative stress among Latinx parent-child dyads. This examination provides insight into how AS is experienced within a family, and how these experiences relate to family and academic well-being. Moreover, this study was the first to examine the relationship between AS and the household climate variable, Expressed Emotion. Like with AS, this study included both parent and child perspectives to examine Expressed Emotion. The findings of both AS and EE are evidence for why dyadic perspectives are crucial to understanding family functioning. Finally, this study contributes to the AS literature by examining academic achievement as a primary outcome.

References

- Akaike, H. (1974). A new look at the statistical model identification. *IEEE transactions on automatic control*, 19(6), 716-723. <https://doi.org/10.1109/TAC.1974.1100705>
- Albeg, L. J., & Castro-Olivo, S. M. (2014). The relationship between mental health, acculturative stress, and academic performance in a Latino middle school sample. *Contemporary School Psychology*, 18(3), 178-186. <https://doi.org/10.1007/s40688-014-0010-1>
- Asarnow, J. R., Goldstein, M. J., Tompson, M., & Guthrie, D. (1993). One-year outcomes of depressive disorders in child psychiatric in-patients: Evaluation of the prognostic power of a brief measure of expressed emotion. *Journal of Child Psychology and Psychiatry*, 34(2), 129-137. <https://doi.org/10.1111/j.1469-7610.1993.tb00975.x>
- Bacallao, M. L., & Smokowski, P. R. (2007). The costs of getting ahead: Mexican family system changes after immigration. *Family Relations*, 56(1), 52-66. <https://doi.org/10.1111/j.1741-3729.2007.00439.x>
- Barrett, A. N., Kuperminc, G. P., & Lewis, K. M. (2013). Acculturative stress and gang involvement among Latinos: US-born versus immigrant youth. *Hispanic journal of behavioral sciences*, 35(3), 370-389. <https://doi.org/10.1177/0739986313488086>
- Basáñez, T., Warren, M. T., Crano, W. D., & Unger, J. B. (2014). Perceptions of intragroup rejection and coping strategies: Malleable factors affecting Hispanic adolescents' emotional and academic outcomes. *Journal of youth and adolescence*, 43(8), 1266-1280. <https://doi.org/10.1007/s10964-013-0062-y>
- Benner, A. D., Wang, Y., Shen, Y., Boyle, A. E., Polk, R., & Cheng, Y. P. (2018).

Racial/ethnic

discrimination and well-being during adolescence: A meta-analytic

review. *American Psychologist*, 73(7), 855. <https://doi.org/10.1037/amp0000204>

Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied*

psychology, 46(1), 5-34. <https://doi.org/10.1111/j.1464-0597.1997.tb01087.x>

Berry, J. W., Kim, U., Minde, T., & Mok, D. (1987). Comparative studies of

acculturative stress. *International migration review*, 21(3), 491-511.

Butzlaff, R. L., & Hooley, J. M. (1998). Expressed emotion and psychiatric relapse: a

meta-analysis. *Archives of general psychiatry*, 55(6), 547-552.

<https://doi.org/10.1001/archpsyc.55.6.547>

Buchanan, R. L., & Smokowski, P. R. (2011). Pathways from acculturation stress to

negative friend associations among Latino adolescents. *Child and Adolescent*

Social Work Journal, 28(5), 375. <https://doi.org/10.1007/s10560-011-0239-8>

Calzada, E. J., Sales, A., & O'Gara, J. L. (2019). Maternal depression and acculturative

stress impacts on Mexican-origin children through authoritarian

parenting. *Journal of Applied Developmental Psychology*, 63, 65-75.

<https://doi.org/10.1016/j.appdev.2019.05.001>

Capielo Rosario, C., & Dillon, F. (2020). Ni de aquí, ni de allá: Puerto Rican

acculturation-acculturative stress profiles and depression. *Cultural Diversity and*

Ethnic Minority Psychology, 26(1), 42. <http://dx.doi.org/10.1037/cdp0000272>

Chavira, G., Cooper, C. R., & Vasquez-Salgado, Y. (2016). Pathways to achievement:

Career and educational aspirations and expectations of Latina/o immigrant parents and early adolescents. *Journal of Latinos and Education*, 15(3), 214–228.

<https://doi-org.ezproxy.depaul.edu/10.1080/15348431.2015.1131693>

Christophe, N. K., Stein, G. L., Kiang, L., Supple, A. J., & Gonzalez, L. M. (2020).

Latent profiles of American and ethnic–racial identity in Latinx mothers and adolescents: Links to behavioral practices and cultural values. *Journal of Latinx Psychology*, 8(2), 142. <https://doi.org/10.1037/lat0000136>

Chun, H., Marin, M. R., Schwartz, J. P., Pham, A., & Castro-Olivo, S. M. (2016).

Psychosociocultural structural model of college success among Latina/o students in Hispanic-serving institutions. *Journal of Diversity in Higher Education*, 9(4), 385–400. <https://doi.org/10.1037/a0039881>

Colby, S. L., & Ortman, J. M. (2015). Projections of the Size and Composition of the US Population: 2014 to 2060. Population Estimates and Projections. Current Population Reports. P25-1143. *US Census Bureau*.

Conger, R. D., Conger, K. J., Elder Jr, G. H., Lorenz, F. O., Simons, R. L., & Whitbeck, L. B. (1992). A family process model of economic hardship and adjustment of early adolescent boys. *Child Development*, 63(3), 526-541.

Conger, R. D., Conger, K. J., Elder, G. H., Lorenz, F. O., Simons, R. L., & Whitbeck, L. B. (1993). Family economic stress and adjustment of early adolescent girls. *Developmental Psychology*, 29(2), 206–219. <https://doi.org/10.1037/0012-1649.29.2.206>

De Los Reyes, A., Goodman, K. L., Kliewer, W., & Reid-Quinones, K. (2010). The

longitudinal consistency of mother–child reporting discrepancies of parental monitoring and their ability to predict child delinquent behaviors two years later. *Journal of youth and adolescence*, 39(12), 1417-1430.

<http://doi.org/10.1007/s10964-009-9496-7>

De Los Reyes, A., Ohannessian, C. M., & Racz, S. J. (2019). Discrepancies between adolescent and parent reports about family relationships. *Child Development Perspectives*, 13(1), 53-58. <https://doi.org/10.1111/cdep.12306>

Driscoll, M. W., & Torres, L. (2021). Cultural adaptation profiles among Mexican-descent Latinxs: Acculturation, acculturative stress, and depression. *Cultural Diversity and Ethnic Minority Psychology*, 28(2), 248–258. <https://doi.org/10.1037/cdp0000503>

Feldman, J. M., Ortega, A. N., Koinis-Mitchell, D., Kuo, A. A., & Canino, G. (2010). Child and family psychiatric and psychological factors associated with child physical health problems: results from the Boricua youth study. *The Journal of Nervous and Mental Disease*, 198(4), 272. <https://doi.org/10.1097/NMD.0b013e3181d61271>

Figueroa, R., Isasi, C. R., Perreira, K. M., McClain, A. C., Gallo, L. C., Sotres-Alvarez, D., ... & Mattei, J. (2020). Targeting family functioning, acculturative stress, and sugar-sweetened beverage consumption for obesity prevention: Findings from the Hispanic community children’s health study/study of Latino youth. *BMC public health*, 20(1), 1-8. <https://doi.org/10.1186/s12889-020-09658-6>

Forster, M., Dyal, S. R., Baezconde-Garbanati, L., Chou, C. P., Soto, D. W., & Unger, J. B. (2013). Bullying victimization as a mediator of associations between

cultural/familial variables, substance use, and depressive symptoms among Hispanic youth. *Ethnicity & health*, 18(4), 415-432.

Fox, R. S., Merz, E. L., Solórzano, M. T., & Roesch, S. C. (2013). Further examining Berry's model: The applicability of latent profile analysis to acculturation. *Measurement and Evaluation in Counseling and Development*, 46(4), 270-288. <https://doi.org/10.1177/0748175613497036>

Fuentes-Balderrama, J., Castillo, C. C. D., García, A. O., Loving, R. D., Plaza, B. T., & Cardona, J. R. P. (2020). The effects of parenting styles on internalizing and externalizing behaviors: A Mexican Preadolescents Study. *International Journal of Psychological Research*, 13(1), 9-18. <https://doi.org/10.21500/20112084.4478>

Gil, A. G., & Vega, W. A. (1996). Two different worlds: Acculturation stress and adaptation among Cuban and Nicaraguan families. *Journal of Social and Personal Relationships*, 13(3), 435-456. <https://doi.org/10.1177/0265407596133008>

Hawley, S. R., Chavez, D. V., & St. Romain, T. (2007). Developing a bicultural model for academic achievement: A look at acculturative stress, coping, and self-perception. *Hispanic Journal of Behavioral Sciences*, 29(3), 283-299. <https://doi.org/10.1177/0739986307303805>

Hemphill, F. C., & Vanneman, A. (2011). Achievement Gaps: How Hispanic and White Students in Public Schools Perform in Mathematics and Reading on the National Assessment of Educational Progress. Statistical Analysis Report. NCES 2011-459. *National Center for Education Statistics*.

Hooley, J. M., & Gotlib, I. H. (2000). A diathesis-stress conceptualization of expressed

emotion and clinical outcome. *Applied and Preventive Psychology*, 9(3), 135-151.

[https://doi.org/10.1016/S0962-1849\(05\)80001-0](https://doi.org/10.1016/S0962-1849(05)80001-0)

Hou, Y., Kim, S. Y., & Wang, Y. (2016). Parental acculturative stressors and adolescent adjustment through interparental and parent–child relationships in Chinese American families. *Journal of youth and adolescence*, 45(7), 1466-1481.

<https://doi.org/10.1007/s10964-016-0441-2>

Hovey, J. D., & King, C. A. (1996). Acculturative stress, depression, and suicidal ideation among immigrant and second-generation Latino adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, 35(9), 1183-1192.

Hovey, J. D., & King, C. A. (1997). 10 suicidality among acculturating Mexican Americans: current knowledge and directions for research. *Suicide and Life-Threatening Behavior*, 27(1), 92-103. [https://doi.org/10.1111/j.1943-](https://doi.org/10.1111/j.1943-278X.1997.tb00506.x)

[278X.1997.tb00506.x](https://doi.org/10.1111/j.1943-278X.1997.tb00506.x)

Hurwich-Reiss, E., & Gudiño, O. G. (2016). Acculturation stress and conduct problems among Latino adolescents: The impact of family factors. *Journal of Latina/o Psychology*, 4(4), 218. <https://doi.org/10.1037/lat0000052>

IBM Corp. (2017). *IBM SPSS Statistics for Windows*. Armonk, NY: IBM Corp. Retrieved from <https://hadoop.apache.org>

Kam, J. A., Marcoulides, K. M., & Merolla, A. J. (2017). Using an acculturation-stress-resilience framework to explore latent profiles of Latina/o language brokers. *Journal of Research on Adolescence*, 27(4), 842-861.

<https://doi.org/10.1111/jora.12318>

Katsiaficas, D., Suárez-Orozco, C., Sirin, S. R., & Gupta, T. (2013). Mediators of the

relationship between acculturative stress and internalization symptoms for immigrant origin youth. *Cultural Diversity and Ethnic Minority Psychology*, 19(1), 27–37. <https://doi.org/10.1037/a0031094>

Kim, S. Y., Wang, Y., Chen, Q., Shen, Y., & Hou, Y. (2015). Parent–child acculturation profiles as predictors of Chinese American adolescents’ academic trajectories. *Journal of youth and adolescence*, 44(6), 1263-1274. <https://doi.org/10.1007/s10964-014-0131-x>

Lau, A. S., McCabe, K. M., Yeh, M., Garland, A. F., Wood, P. A., & Hough, R. L. (2005). The acculturation gap-distress hypothesis among high-risk Mexican American families. *Journal of family psychology*, 19(3), 367. <https://doi.org/10.1037/0893-3200.19.3.367>

Lee, I. A., & Preacher, K. J. (2013, September). Calculation for the test of the difference between two dependent correlations with one variable in common [Computer software]. Available from <http://quantpsy.org>.

López, S. R., Nelson, K. A., Snyder, K. S., & Mintz, J. (1999). Attributions and affective reactions of family members and course of schizophrenia. *Journal of abnormal psychology*, 108(2), 307. <https://doi.org/10.1037/0021-843X.108.2.307>

Lorenzo-Blanco, E. I., Meca, A., Unger, J. B., Romero, A., Gonzales-Backen, M., Piña-Watson, B., ... & Villamar, J. A. (2016). Latino parent acculturation stress: Longitudinal effects on family functioning and youth emotional and behavioral health. *Journal of Family Psychology*, 30(8), 966. <https://doi.org/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.

<https://doi.org/10.1111/famp.12258>

Lorenzo-Blanco, E. I., Meca, A., Unger, J. B., Szapocznik, J., Cano, M. Á., Des Rosiers, S. E., & Schwartz, S. J. (2019). Cultural stress, emotional well-being, and health risk behaviors among recent immigrant Latinx families: the moderating role of perceived neighborhood characteristics. *Journal of youth and adolescence, 48*(1), 114-131. <https://doi.org/10.1007/s10964-018-0907-5>

Lorenzo-Blanco, E. I., & Unger, J. B. (2015). Ethnic discrimination, acculturative stress, and family conflict as predictors of depressive symptoms and cigarette smoking among Latina/o youth: The mediating role of perceived stress. *Journal of youth and adolescence, 44*(10), 1984-1997. <https://doi.org/10.1007/s10964-015-0339-4>

Lui, P. P. (2015). Intergenerational cultural conflict, mental health, and educational outcomes among Asian and Latino/a Americans: Qualitative and meta-analytic review. *Psychological Bulletin, 141*(2), 404. <https://doi.org/10.1037/a0038449>

Marsiglia, F. F., Nagoshi, J. L., Parsai, M., Booth, J. M., & Castro, F. G. (2014). The parent–child acculturation gap, parental monitoring, and substance use in Mexican heritage adolescents in Mexican neighborhoods of the Southwest US. *Journal of community psychology, 42*(5), 530-543.

<https://doi.org/10.1002/jcop.21635>

Medina-Pradas, C., Navarro, J. B., López, S. R., Grau, A., & Obiols, J. E. (2011). Further

development of a scale of perceived expressed emotion and its evaluation in a sample of patients with eating disorders. *Psychiatry research*, 190(2-3), 291-296.

[https://doi.org/ 10.1016/j.psychres.2011.06.011](https://doi.org/10.1016/j.psychres.2011.06.011)

Muthén, L.K. (2008). *Re: Random Starts*. [Online comment]. Retrieved from:

<http://www.statmodel.com/discussion/messages/14/2778.html?1582670692>

Nair, R. L., Delgado, M. Y., Wheeler, L. A., & Thomas, R. (2021). Prospective links between acculturative stress and academic well-being among Latinx adolescents. *Journal of Applied Developmental Psychology*, 73, 101254.

<https://doi.org/10.1016/j.appdev.2021.101254>

Nair, R. L., Roche, K. M., & White, R. M. (2018). Acculturation gap distress among Latino youth: Prospective links to family processes and youth depressive symptoms, alcohol use, and academic performance. *Journal of youth and adolescence*, 47(1), 105-120. [https://doi.org/ 10.1007/s10964-017-0753-x](https://doi.org/10.1007/s10964-017-0753-x)

Nylund, K., Bellmore, A., Nishina, A., & Graham, S. (2007). Subtypes, severity, and structural stability of peer victimization: What does latent class analysis say?. *Child development*, 78(6), 1706-1722. <https://doi.org/10.1111/j.1467-8624.2007.01097.x>

NWEA (2016). *RIT Reference Charts*. MAP Growth. [Brochure]

https://cdn.nwea.org/docs/RIT+Reference+Brochure_July19.pdf

NWEA (n.d.) *MAP Growth: Precisely measure growth and performance*.

<https://www.nwea.org/map-growth/>

Peris, T. S., Yadegar, M., Asarnow, J. R., & Piacentini, J. (2012). Pediatric obsessive

compulsive disorder: Family climate as a predictor of treatment outcome. *Journal of Obsessive-Compulsive and Related Disorders*, 1(4), 267-273.

<https://doi.org/10.1016/j.jocrd.2012.07.003>

Peris, T. S., & Miklowitz, D. J. (2015). Parental expressed emotion and youth psychopathology: New directions for an old construct. *Child Psychiatry & Human Development*, 46(6), 863-873. <https://doi.org/10.1007/s10578-014-0526-7>

Piña-Watson, B., Gonzalez, I. M., & Manzo, G. (2019). Mexican-descent adolescent resilience through familismo in the context of intergeneration acculturation conflict on depressive symptoms. *Translational Issues in Psychological Science*, 5(4), 326. <https://doi.org/10.1037/tps0000210>

Ramaswamy, V., DeSarbo, W. S., Reibstein, D. J. and Robinson, W. T. (1993), An Empirical Pooling Approach for Estimating Marketing Mix Elasticities with PIMS Data, *Marketing Science*, 12, 103–124.
<https://doi.org/10.1287/mksc.12.1.103>

Roche, C., & Kuperminc, G. P. (2012). Acculturative stress and school belonging among Latino youth. *Hispanic Journal of Behavioral Sciences*, 34(1), 61-76.
<https://doi.org/10.1177/0739986311430084>

Ryan, C. L., & Bauman, K. (2016). Educational attainment in the United States: 2015.

Salas-Wright, C. P., Clark, T. T., Vaughn, M. G., & Córdova, D. (2015). Profiles of acculturation among Hispanics in the United States: Links with discrimination and substance use. *Social psychiatry and psychiatric epidemiology*, 50(1), 39-49.
<https://doi.org/10.1007/s00127-014-0889-x>

Samuelsen, K. & Raczynski, K. (2013). Latent class/profile analysis. In Y. Petscher, C.

Schatschneider & D. L. Compton (Eds.), *Applied quantitative analysis in education and the social sciences* (pp. 304-328). Taylor and Francis Group.

Santiago, C. D., Gudiño, O. G., Baweja, S., & Nadeem, E. (2014). Academic achievement among immigrant and US-born Latino adolescents: Associations with cultural, family, and acculturation factors. *Journal of community psychology, 42*(6), 735-747. <https://doi.org/10.1002/jcop.21649>

Schwartz, S. J., Zamboanga, B. L., & Jarvis, L. H. (2007). Ethnic identity and acculturation in Hispanic early adolescents: mediated relationships to academic grades, prosocial behaviors, and externalizing symptoms. *Cultural Diversity and Ethnic Minority Psychology, 13*(4), 364. <https://doi.org/10.1037/1099-9809.13.4.364>

Schwarz, G. (1978). Estimating the dimension of a model. *Annals of Statistics, 6*, 461–464.

Sirin, S. R., Ryce, P., Gupta, T., & Rogers-Sirin, L. (2013). The role of acculturative stress on mental health symptoms for immigrant adolescents: A longitudinal investigation. *Developmental Psychology, 49*(4), 736–748. <https://doi.org/10.1037/a0028398>

Smokowski, P. R., & Bacallao, M. L. (2006). Acculturation and aggression in Latino adolescents: A structural model focusing on cultural risk factors and assets. *Journal of Abnormal Child Psychology, 34*(5), 657-671. <https://doi.org/10.1007/s10802-006-9049-4>

Smokowski, P. R., Bacallao, M., & Buchanan, R. L. (2009). Interpersonal mediators

- linking acculturation stressors to subsequent internalizing symptoms and self-esteem in Latino adolescents. *Journal of Community Psychology*, 37(8), 1024-1045. <https://doi.org/10.1002/jcop.20346>
- Stein, G. L., Gonzalez, L. M., Cupito, A. M., Kiang, L., & Supple, A. J. (2015). The protective role of familism in the lives of Latino adolescents. *Journal of Family Issues*, 36(10), 1255-1273. <https://doi.org/10.1177/0192513X13502480>
- Telzer, E. H. (2010). Expanding the acculturation gap-distress model: An integrative review of research. *Human Development*, 53(6), 313-340.
- Telzer, E. H., Yuen, C., Gonzales, N., & Fuligni, A. J. (2016). Filling gaps in the acculturation gap-distress model: Heritage cultural maintenance and adjustment in Mexican–American families. *Journal of youth and adolescence*, 45(7), 1412-1425.
- Tompson, M. C., Pierre, C. B., Boger, K. D., McKowen, J. W., Chan, P. T., & Freed, R. D. (2010). Maternal depression, maternal expressed emotion, and youth psychopathology. *Journal of abnormal child psychology*, 38(1), 105-117. <https://doi.org/10.1007/s10802-009-9349-6>
- Unger, J. B., Ritt-Olson, A., Soto, D. W., & Baezconde-Garbanati, L. (2009). Parent–child acculturation discrepancies as a risk factor for substance use among Hispanic adolescents in Southern California. *Journal of Immigrant and Minority Health*, 11(3), 149-157. <https://doi.org/10.1007/s10903-007-9083-5>
- U.S. Census Bureau (2018a). *ACS Demographic and Housing Estimates*. <https://data.census.gov/cedsci/table?q=Hispanic%20or%20Latino&hidePreview=false&t=Hispanic%20or%20Latino&tid=ACSDP1Y2018.DP05&vintage=2018>

U.S. Census Bureau (2018b). *Place of Birth (Hispanic or Latino) in the United States*.

<https://data.census.gov/cedsci/table?q=Hispanic%20or%20Latino&hidePreview=false&t=Hispanic%20or%20Latino&tid=ACSDT1Y2018.B06004I&vintage=2018>

U.S. Census Bureau (2018c). *Sex by Age (Hispanic or Latino)*.

<https://data.census.gov/cedsci/table?q=Hispanic%20or%20Latino&hidePreview=false&t=Hispanic%20or%20Latino&tid=ACSDT1Y2018.B01001I&vintage=2018>

Valdivieso-Mora, E., Peet, C. L., Garnier-Villarreal, M., Salazar-Villanea, M., &

Johnson, D. K. (2016). A systematic review of the relationship between familism and mental health outcomes in Latino population. *Frontiers in psychology*, 7, 1632. <https://doi.org/10.3389/fpsyg.2016.01632>

Vaughn, C., & Leff, J. (1976). Measurement of expressed emotion in families of psychiatric patients. *British Journal of Social & Clinical Psychology*, 15(2), 157–165. <https://doi.org/10.1111/j.2044-8260.1976.tb00021.x>

Vega, W. A., Zimmerman, R., Gil, A., Warheit, G. J., & Apospori, E. (1993).

Acculturation strain theory: Its application in explaining drug use behavior among Cuban and other Hispanic youth. *Drug abuse among minority youth: Advances in research and methodology*, 130, 144-166.

White, R., Liu, Y., Nair, R. L., & Tein, J. Y. (2015). Longitudinal and integrative tests of family stress model effects on Mexican origin adolescents. *Developmental Psychology*, 51(5), 649. <https://doi.org/10.1037/a0038993>

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. <https://doi.org/10.1111/j.1741-3737.2008.00580.x>

Williams, L. R., Ayón, C., Marsiglia, F. F., Kiehne, E., & Ayers, S. (2017). Acculturation profiles and associations with parenting among immigrant Latinos. *Hispanic Journal of Behavioral Sciences*, 39(4), 452-469. <https://doi.org/10.1177/0739986317725509>

Williams, C. L., & Berry, J. W. (1991). Primary prevention of acculturative stress among refugees: application of psychological theory and practice. *American psychologist*, 46(6), 632. <https://doi.org/10.1037/0003-066X.46.6.632>

Wu, S., Marsiglia, F. F., Ayers, S., Cutrín, O., & Vega-López, S. (2020). Familial acculturative stress and adolescent internalizing and externalizing behaviors in Latinx immigrant families of the Southwest. *Journal of Immigrant and Minority Health*, 22(6), 1193-1199. <https://doi.org/10.1007/s10903-020-01084-5>

Zamboanga, B. L., Schwartz, S. J., Jarvis, L. H., & Van Tyne, K. (2009). Acculturation and substance use among Hispanic early adolescents: Investigating the mediating roles of acculturative stress and self-esteem. *The journal of primary prevention*, 30(3-4), 315-333. <https://doi.org/10.1007/s10935-009-0182-z>

Appendix

Table 1

Studies examining AS youth outcomes in Latinx-only early adolescent samples

Study	Age Group	Family Member AS Measured	AS constructs or domains	Primary Youth Outcomes
Albeg & Castro-Olivo (2014)	11-15 years old	Child Acculturative Stress (self-report)	Discrimination Family conflict Language conflict Other (sense of belonging)	Academic performance (teacher-report) & internalizing symptoms
Schwartz, Zamboanga, & Jarvis (2007)	NR Grades 6 th -8 th	Child Acculturative Stress (self-report)	Cultural conflict	Academic achievement (grades), self-esteem, externalizing behavior, prosocial behavior
Roche & Kuperminc (2012)	$M = 13.6$ years	Child Acculturative Stress (self-report)	Discrimination Other (immigration-related stress)	Academic achievement (GPA), school belonging
Hawley, Chavez, & St. Romain (2007)	8-11 years	Child Acculturative Stress (self-report)	Cultural conflict Discrimination	Academic achievement (teacher-report)
Santiago, Gudiño, Baweja, & Nadeem (2014)	$M = 11.4$ year	Child Acculturative Stress (self-report)	Discrimination Language conflict Other (peer stressor)	Academic achievement (GPA)
Basáñez, Warren, Crano, & Unger (2014)	NR Range 14-16 years old	Child Acculturative Stress (self-report)	Cultural conflict	Academic achievement (grades), depressive symptoms, college aspirations
Nair, Delgado, Wheeler, & Thomas (2021)	$M = 13.7$ years	Child Acculturative Stress (self-report)	Cultural conflict Language conflict	Academic achievement (GPA), academic aspirations, academic identity

Stein, Gonzalez, Cupito, Kiang & Supple (2015)	<i>M</i> = 14.1 years	Child Acculturative Stress (self-report)	Family conflict Language conflict	School belonging, depressive symptoms, perception of barriers to college
Hovey & King (1996)	<i>M</i> = 16.8 years	Child Acculturative Stress (self-report)	Cultural conflict Discrimination	Depressive symptoms, suicidal ideation
Piña-Watson, Gonzalez & Manzo (2019)	<i>M</i> = 16.2 years	Child Acculturative Stress (self-report)	Family conflict	Depressive symptoms
Stein, Gonzalez & Huq (2012)	<i>M</i> = 14.0 years	Child Acculturative Stress (self-report)	Cultural conflict Language conflict	Depressive symptoms
Schlautd, Suarez-Morales, & Black (2020)	<i>M</i> = 12.2 years	Child Acculturative Stress (self-report)	Discrimination Other (immigration-related stress)	Anxiety symptoms
Hurwich-Reiss, Eliana, & Gudiño (2016)	<i>M</i> = 11.4 years	Child Acculturative Stress (self-report)	Discrimination Language conflict Other (peer stressor)	Conduct problems
Zamboanga, Schwartz, Jarvis & Van Tyne (2009)	<i>M</i> = 12.6 years	Child Acculturative Stress (self-report)	Cultural conflict	Substance use
Smokowski & Bacallao (2006)	<i>M</i> = 15.0 years	Child Acculturative Stress (self-report)	Cultural conflict Discrimination Family Conflict	Aggression
Gil, Vega, & Dimas (1994)	NR Grades 6 th -7 th	Child Acculturative Stress (self-report)	Cultural conflict Discrimination Family conflict Language conflict Other (perception of a closed society, perception of parent-child acculturation gap)	Self-esteem

Barrett, Kuperminc, & Lewis (2013)		Child Acculturative Stress (self-report)	Discrimination Other (adaptation stress)	Gang involvement
Figueroa et al. (2020)	NR Range 8-16 years old	Child Acculturative Stress (self-report)	Cultural conflict Language conflict Discrimination	Sugar consumption
Feldman, Ortega, Koinis-Mitchell, Kuo & Canino, G. (2010)	$M = 9.2$ years	Parent Acculturative Stress (self-report)	Cultural conflict Family conflict	Physical health problems
Martinez (2006)	$M = 12.7$ years	Parent Acculturative Stress (self-report)	Family conflict Other (immigration-related stress, parenting stress)	Substance use
Gil & Vega (1996)	$M_{\text{Cuban}} = 11.0$ years) $N_{\text{Nicaraguan}} = 12.0$ years)	Child & Parent Acculturative Stress (self-report)	Cultural conflict Discrimination Family conflict Language conflict	Parent/child cultural conflicts, family functioning self-esteem, perceived teacher derogation
Wu et al. (2020)	$M = 15.8$ years	Child & Parent Acculturative Stress (self-report)	Cultural conflict	Depressive symptoms, anti-social behavior
Sirin, Ryce, Gupta, & Rogers-Sirin (2013)	$M = 16.2$ years	Child Acculturative Stress (self-report)	Cultural conflict	Depressive symptoms, anxiety, somatic symptoms
Forster, Dyal, Baezconde-Garbanati, Chou, Soto, & Unger (2013)	$M = 14.0$ years	Child Acculturative Stress (self-report)	Cultural conflict Family conflict	Depressive symptoms, substance use
Kam & Cleveland (2011)	$M = 12.3$ years	Child Acculturative Stress (self-report)	Cultural conflict	Substance use

Kam & Lazarevic (2014)	<i>M</i> = 12.4 years	Child Acculturative Stress (self-report)	Family conflict	Substance use, risky behavior
Buchanan & Smokowski (2011)	<i>M</i> = 15.0 years	Child Acculturative Stress (self-report)	Cultural conflict Discrimination Family conflict Language Conflict	Risky friendships Self-esteem & internalizing symptoms
Smokowski, Bacallao, Buchanan (2009)				
Lorenzo-Blanco et al. (2016, 2017)	<i>M</i> = 14.5 years	Parent Acculturative Stress (self-report)	Cultural conflict Discrimination Family conflict Language conflict Other (negative context of reception)	Depressive symptoms, self-esteem, aggressive and rule-breaking behavior, substance use
Lorenzo-Blanco et al. (2019)		Child & Parent Acculturative Stress (self-report)		Depressive symptoms, sense of hope, self-esteem, aggression, substance use
Lorenzo-Blanco & Unger (2015)		Child Acculturative Stress (self-report)		Depressive symptoms, cigarette smoking

Katsiaficas, Suárez-Orozco, Sirin, & Gupta (2013)	M = 15.7 years	Child Acculturative Stress (self-report)	Cultural conflict	Depressive symptoms, anxiety symptoms
---	----------------	--	-------------------	---------------------------------------