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Farin Bakhtiari

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**The Dissertation Committee for Farin Bakhtiari Certifies that this is the
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**Alcohol Use Among Latina/o Adolescents: The Role of Immigration, Family,
and Peer Stressors**

Committee:

Aprile D. Benner, Supervisor

Su Yeong Kim

John Schulenberg

Fatima Varner

Mary Velasquez

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and Peer Stressors**

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Farin Bakhtiari

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Dedication

To my host country, my new home, the United States of America.

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Abstract

Alcohol Use Among Latina/o Adolescents: The Role of Immigration, Family, and Peer Stressors

Farin Bakhtiari, Ph.D.

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Supervisor: Aprile D. Benner

Immigration is a radical change in context, which can take place for the sake of children to improve their life quality. In the U.S., approximately one in four individuals are members of immigrant families, and Latinos are one of the largest immigrant groups (Trevelyan et al., 2016). Latino individuals in the U.S. display relatively high rates of high-risk drinking and can suffer health or social consequences of alcohol use or alcohol use disorders as a result (Chartier & Caetano, 2010; Miech et al., 2018; Spillane et al., 2020). Families and peers are two primary contexts influencing Latino adolescents' substance use in general (Parsai et al, 2009; Pereyra & Bean, 2017), but Latino adolescents in immigrant families may specifically experience immigration-related stressors that can influence their families' dynamics, and, in turn, their alcohol use either

directly (Salas-Wright & Schwartz, 2019) or indirectly through peers given that the family and peer contexts are interconnected (Paat, 2013). The three dissertation studies presented here explored the effects of general and immigration-related family conflict on Latino youth's alcohol use while considering the potential mediating role of friends' alcohol use.

In Study 1, I used data from 872 Latino adolescents who participated in the national study of Monitoring the Future, who were followed from the age of 18 to 30. I examined general parent-child conflict in relation to Latino adolescents' and young adults' alcohol use and alcohol use trajectories and the potential mediating role of friends' alcohol use. The results showed that general parent-child conflict was indirectly—through friends' alcohol use—associated with annual alcohol use in 12th grade but not with 12th grade binge drinking. The links to the trajectories were limited and complex, and they are explained in Study 1.

For Study 2, I moved beyond general parent-child conflict through a three-phase scale-development study that included 12 Latino young adults for focus groups and item generation, 353 Latino young adults for survey data and psychometric evaluation, and 10 Latino adolescents for semi-structured interviews and feedback on items. Study 2 resulted in two subscales for the measure assessing immigration-related parent-child conflict (i.e., 4-item subscale of parent-child conflict about immigration-related expectations and sacrifices and the 5-item subscale of parent-child conflict about acculturation-related topics) as well as a 5-item scale on immigration-related interparental conflict.

Finally, in Study 3, I brought Study 1 and Study 2 together and examined the role of general versus immigration-related interparental conflict and parent-child conflict in relation to Latino adolescents' alcohol use and considered the potential mediating role of close friends' alcohol use. Study 3 was part of an on-going community study, and data were collected from 171 Latino adolescents in 10th grade who were members of immigrant families. In Study 3, the results provided some, albeit limited, evidence that general interparental conflict and general parent-child conflict took their toll on alcohol use indirectly and through friends' alcohol use, whereas immigration-related interparental conflict yielded a direct (rather than indirect) link with alcohol use. There were no significant direct or indirect associations between immigration-related parent-child conflict and alcohol use. The results from Study 3 must be interpreted with caution, and more research is needed to examine the associations between immigration-related family conflict and Latino adolescents' alcohol use.

The findings from these three studies provide some evidence, albeit limited and primarily cross-sectional, that Latino youth may face unique stressors such as immigration-related interparental conflict (e.g., whether immigration to the USA has been good for their family) and immigration-related parent-child conflict (e.g., their parents thinking adolescents should appreciate their immigration sacrifices more), which have the potential to be distinctly linked with alcohol use among Latino adolescents. Additionally, the results point to the importance of implementing multisystem approaches

that target both family and peer contexts in prevention and intervention programs that aim to curtail alcohol use among Latino youth, particularly those in immigrant families.

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CHAPTER 1: INTEGRATIVE SUMMARY

Introduction

In the U.S., approximately one in four individuals are members of immigrant families (either the individual or at least one of their parents are foreign-born), and Latinos are one of the largest immigrant groups (Trevelyan et al., 2016). Latino individuals in the U.S. display relatively high rates of high-risk drinking, and many Latinos are at risk to suffer health or social consequences of alcohol use or alcohol use disorders (Chartier & Caetano, 2010; Young-Hee & Chiung, 2016; Spillane et al., 2020). The etiology of alcohol use disorders and premature alcohol-related death is rooted in adolescence (Marshall, 2014), and research shows that some Latino adolescents struggle with some aspects of alcohol use, particularly binge drinking (Miech et al., 2018; Patrick & Schulenberg, 2014). The reasons for the heightened risk for alcohol issues in Latino populations are complex (Chartier & Caetano, 2010), but researchers suggest that youth in immigrant families may face unique culture- or immigration-related stressors that may influence their families' dynamics and, in turn, the individuals' substance use behaviors (Salas-Wright & Schwartz, 2019; Schwartz et al., 2012). Peer risk factors have also been found to have a major influence on alcohol use among Latino adolescents in immigrant and non-immigrant families (Parsai et al, 2009; Jacobs et al., 2016; Paat, 2013). Little research has simultaneously examined family conflict and peer stressors in the lives of adolescents in Latino immigrant families. Moreover, research on alcohol use or abuse among individuals in immigrant families in the U.S. remains relatively limited, and scholars have highlighted a need for further investigation of this population, while taking into consideration the complexities and nuances of immigration (Salas-Wright & Schwartz, 2019; Szaflarski et al., 2010; Zemore et al., 2018).

The three dissertation studies presented here heed the call for further investigation of alcohol use among youth in immigrant families by exploring the effects of general and immigration-related family conflict on Latino youth's alcohol use while considering the potential mediating role of peer risk factors. Specifically, in Study 1, I examined general parent-child conflict in relation to Latino adolescents' and young adults' alcohol use and alcohol use trajectories and the potential mediating role of peer risk factors (i.e., association with friends who engaged in alcohol use). Next, in Study 2, I moved beyond general parent-child conflict and developed and tested two new measures to assess immigration-related parent-child conflict and immigration-related interparental conflict. Finally, in Study 3, I brought Study 1 and Study 2 together and examined the role of general versus immigration-related interparental conflict and parent-child conflict in relation to Latino adolescents' alcohol use while considering the mediating role of peer risk factors (see Figure 0.1).

Family and Peer Stressors and Alcohol Use

Developmental and contextual theories (e.g., the integrative model for the study of developmental competencies in minority children; the cultural stress theory) that emphasize the role of immigration-related stressors in relation to human development suggest that family is a particularly important context for child development in immigrant families (Garcia Coll et al., 1996; Salas-Wright & Schwartz, 2019). Interparental conflict and parent-child conflict may be stressful for adolescents in Latino immigrant families, who may particularly value family cohesion and harmony (Stein et al., 2014). Adolescents may engage in drinking as means to reduce the negative emotions associated with perceived family conflict (Colder, 2001; Repetti et al., 2002). Study 1 was focused on the link between parent-child conflict and alcohol use among

Latino youth during late adolescence and alcohol use trajectories as Latino adolescents transitioned to young adulthood.

Interparental conflict—or disagreement between parental figures—also may influence adolescents’ alcohol use both directly (Fosco & Feinberg, 2018) or indirectly through undermining the quality of parent-child relationship (Gerard et al., 2006). Although both interparental conflict and parent-child conflict have been studied in relation to adolescents’ risky behaviors in immigrant families (e.g., Hou et al., 2016), little attention has been given to the *content* of family conflict, especially the content of interparental conflict in Latino immigrant families. Immigration often takes place with an explicit intention for creating better lives for children (Bacallao & Smokowski, 2007; Fuligni, 1998); therefore, immigration-related family conflict may be a unique stressor for Latino adolescents in immigrant families. Study 2 and Study 3 were specifically focused on examining the role of the *content* of interparental conflict and parent-child conflict (i.e., general versus immigration-related) in relation to Latino adolescents’ alcohol use.

Finally, although families have a central socialization role in adolescents’ lives, the peer context is of heightened importance during adolescence (Brown & Larson, 2009). Prior research has consistently shown that peer alcohol use is a risk factor for adolescents’ alcohol use (Brooks-Russell et al., 2015), and engagement in delinquent activities with peers has long been recognized as a bonding activity that helps adolescents feel accepted and provides them with opportunities to make social connections that are meaningful to them (Baumeister & Leary 1995). Family conflict may indirectly influence adolescents’ alcohol use through association with delinquent peers. Study 1 and Study 3 explored the associations between family conflict and Latino youths’ alcohol use while considering the mediating role of friends’ alcohol use.

Overview of Dissertation Studies

For my dissertation, I took a risk-centered approach to adolescents' and young adults' alcohol use (Cardoso et al., 2016). First, I identified a group at relative risk (Latino adolescents and young adults, particularly those in immigrant families), and next I isolated two critical contexts of development (family, peer) that rarely have been studied simultaneously when examining Latino adolescents' and young adults' alcohol use (see conceptual model, Figure 0.1). Understanding the role of family and peer stressors through a risk-centered approach may contribute to enhancing prevention and intervention programs that aim to curb alcohol use among Latino youth, particularly those in immigrant families.

Study 1

In study 1, I examined the role of general parent-child conflict in relation to Latino adolescents' and young adults' alcohol use and alcohol use trajectories and the potential mediating role of peer risk factors. I used data from the Monitoring the Future (MTF) study in which participants were followed up for up to six waves after the base year of data collection (i.e., 12th grade), when the majority were 29/30 years old. To address the first research question, I used growth mixture modeling followed by latent growth curve modeling to establish the trajectories of annual alcohol use and binge drinking as Latino youth transitioned from late adolescence to young adulthood (see Figure 1.1 and Figure 1.2). Next, I addressed the second research question regarding the potential mediating role of friends' alcohol use, by conducting mediation analyses in a structural equation modeling framework and examined the direct and indirect associations of parent-child conflict in 12th grade with annual alcohol use and binge drinking in 12th grade as well as their trajectories during the transition to adulthood. Finally, I conducted three sets of sensitivity analyses to address potential cohort differences, to investigate

monthly alcohol use as an additional outcome, and to replicate the analyses with a limited sample that only included the participants who had at least one wave of follow-up data ($n = 608$).

In sum, Study 1 explored the associations between parent-child conflict in adolescence on Latino adolescents' alcohol use and alcohol use trajectories as they transitioned from late adolescence to young adulthood while also considering the mediating role of friends' alcohol use. For some Latino families, immigration can be a stressful life event, and it can take its toll on the whole family system even if some family members (e.g., children) never personally experience the immigration process (Lui, 2015; Kia-Keating et al., 2016). Given that immigration can be initiated with the intention for creating better lives for children (Bacallao & Smokowski, 2007; Fuligni, 1998), immigration-related family conflict may be particularly stressful for youth in immigrant families. Thus, Study 2 was conducted to develop new scales to measure immigration-related family conflict.

Study 2

In study 2, I developed and tested two new measures to assess immigration-related parent-child conflict and immigration-related interparental conflict for use with Latino adolescents in immigrant families. Although prior research has documented a multitude of stressors that Latino immigrant families may confront (see the immigrant version of the Hispanic Stress Inventory; Cervantes et al., 1991), the ways that these stressors influence family dynamics are not well-understood. More specifically, there is a gap in the literature regarding whether immigration-related stressors constitute the topics of family conflicts, particularly in the interparental dyad (e.g., arguments about sending money to the home country). Study 2 aimed to fill this gap through a three-phase study. Phase 1 was item generation that was conducted using two focus groups with Latino young adults. The items generated in Phase 1 were then used in

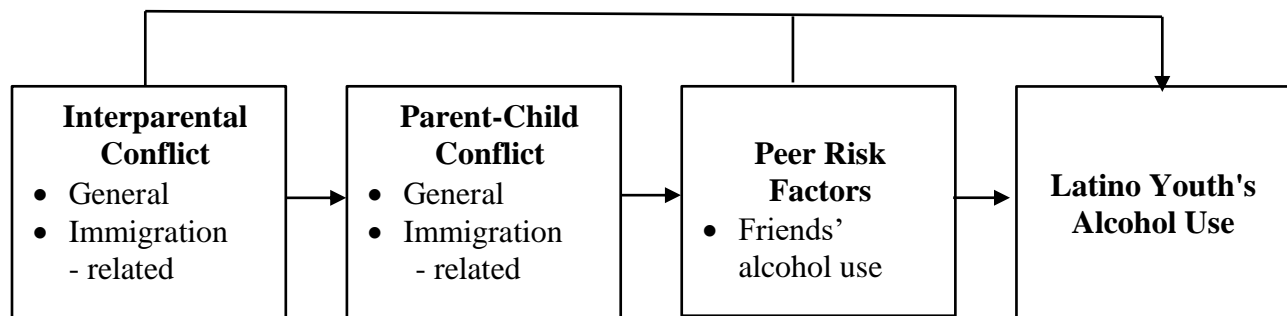
Phase 2, which was the psychometric evaluation stage that included exploratory factor analyses, confirmatory factor analyses, and invariance testing (across gender and immigration status) using data collected from Latino university students. Phase 3 encompassed semi-structured interviews with Latino adolescents to ensure that the items were understandable for this younger age group. After the immigration-related interparental conflict and immigration-related parent-child conflict measures were developed, Study 3 brought Study 1 and Study 2 together and examined the overall conceptual model for these set of dissertation studies (see Figure 0.1).

Study 3

In study 3, I examined the role of general versus immigration-related interparental conflict and parent-child conflict in relation to Latino adolescents' alcohol use while considering the potential mediating role of close friends' alcohol use. I collected primary data as part of an ongoing community study (i.e., Preventing Inequalities in School Climate and Educational Success; Project PISCES) from Latino adolescents in immigrant families. I investigated a multi-mediated model to examine the associations among general and immigration-related interparental conflict, general and immigration-related parent-child conflict, and close friends' alcohol use in relation to alcohol use among Latino adolescents in immigrant families (see Figure 1.3).

Overall, the findings from these dissertation studies have the potential to inform effective prevention and intervention efforts aimed at decreasing the risk of alcohol use among Latino adolescents and young adults, in particular the significant population of Latino youth who are members of immigrant families.

Figure 0.1: Overall Conceptual Model



Note. The figure is depicting the combination of the three dissertation studies and the hypothesized links between general and immigration-related interparental conflict and parent-child conflict, peer risk factors, and alcohol use among Latino adolescents and young adults.

**CHAPTER 2: STUDY 1 - LATINO YOUTH'S ALCOHOL USE TRAJECTORIES
DURING THE TRANSITION FROM LATE ADOLESCENCE TO YOUNG
ADULTHOOD IN THE CONTEXT OF PARENT-CHILD CONFLICT AND PEER RISK
FACTORS**

Introduction

The etiology of alcohol use disorders and premature alcohol-related death is rooted in adolescence (Marshall, 2014), and alcohol use among adolescents and young adults in the U.S. is a major public health concern (Delker et al., 2016). Although alcohol use can have negative consequences for adolescents from all ethnic groups, alcohol consumption patterns and its consequences can be unique for some ethnic minorities (Chartier & Caetano, 2010). Depending on the dataset and year of the study, researchers suggest that Latino adolescents' high rates of binge drinking are either nearing or surpassing their White counterparts (Clark Goings et al., 2019; Miech et al., 2018; Patrick & Schulenberg, 2014). Furthermore, Latinos may experience unique or intense consequences for their drinking behaviors. The death rate due to alcohol-related liver cirrhosis has been the highest among Latino men compared to their White or Black counterparts in the U.S. (Young-Hee & Chiung, 2016; Spillane et al., 2020). Another distinctive consequence of alcohol use may apply to a subgroup of Latinos, such as those who are immigrants and in the process of citizenship naturalization, because alcohol-related offenses including underage drinking can potentially put immigrants' naturalization at risk (U.S. Citizenship and Immigration Services, 2020).

The reasons for the alcohol-related issues in Latino populations are varied, but one explanation is that when various stressors undermine youth's fundamental need to belong, this

may contribute to negative affect and self-medicating alcohol use behaviors (Benner & Wang, 2015; Cooper et al., 1995; Hamilton & DeHart, 2016). During the adolescent years, families and peers are two primary contexts where one's belonging needs may be met (Baumeister & Leary 1995; Sentse et al., 2010). Given the importance of familism in Latino immigrant families (Stein et al., 2014), the stressors that undermine this sense of family cohesion may be particularly detrimental to adolescents' sense of belonging. Parent-child conflict may be a sign of poor parent-child relationship quality that has been linked with lower family belonging (King & Boyd, 2016), which may directly or indirectly contribute to adolescents' alcohol use (Stock et al., 2015). The direct link between parent-child conflict and adolescents' alcohol use may be a demonstration of adolescents' attempt to self-medicate. On the other hand, parent-child conflict may indirectly influence adolescents' alcohol use through association with delinquent peers. When adolescents' belongingness inside the family context is challenged, adolescents may turn to their peers to fulfill their desire for acceptance and belonging. Engagement in delinquent activities with peers has been recognized as a bonding activity that helps adolescents feel accepted and provides them with opportunities to make social connections that are meaningful to them (Baumeister & Leary 1995). The current study will explore the associations between parent-child conflict in adolescence on Latino adolescents' alcohol use and alcohol use trajectories as they transition from late adolescence to young adulthood while also considering the mediating role of friends' alcohol use (see conceptual model in Figure 1.1).

Transition to Young Adulthood and Alcohol Use

The transition period from adolescence to young adulthood is a unique stage of life that can be filled with instability and change, which can influence youth's alcohol use behaviors (Arnett, 2000; Schulenberg & Maggs, 2002; Schulenberg et al., 2018). During this

developmental period, individuals' health-related behaviors are likely to change. For example, it is established that on average, binge drinking increases, peaks, and then decreases as youth in the U.S. transition from 18 to 30 years old (Patrick & Schulenberg, 2011). More recent research, however, suggests some cohort differences, with later cohorts having an extended binge drinking period that remains relatively high into later ages during young adulthood (Patrick et al., 2019; Schulenberg et al., 2020). Some national-level research has revealed that the average trajectory of increase, peak, and drop during the transition to young adulthood has been consistent across various alcohol use behaviors such as annual use, binge drinking, and 30-day use (Maggs & Schulenberg, 2005a). However, using a multi-trajectory approach may be valuable because understanding more specific trajectories that are potentially embedded in this typical trajectory is important in order to more carefully examine the origins of adolescents' and young adults' alcohol use (Magg & Schulenberg, 2005b). An important benefit of multi-trajectory approaches is that they move beyond the assumption that all individuals follow one similar pattern (Magg & Schulenberg, 2005b). Alcohol use is a dynamic phenomenon, and evidence suggests that it may be characterized by individual variation in trajectories through potentially different onsets and progression patterns (Crosnoe et al., 2017). In the current study, I focused on trajectories of annual alcohol use and binge drinking among Latino adolescents as they transitioned to young adulthood. Moreover, although researchers have identified multiple factors during adolescence that can contribute to alcohol use trajectories across the transition to young adulthood (Tucker et al., 2003; Jager et al., 2015), they have rarely focused on factors that may be specifically problematic for Latino youth. One family factor that may be particularly stressful for Latino youth is parent-child conflict given that family harmony and connectedness are highly valued among many Latino families (Hernández et al., 2010).

Parent-Child Conflict and Alcohol Use

Family is one of the most influential contexts of development for ethnic minority children (Garcia Coll et al., 1996), and family qualities and dynamics can play an important role in development of adolescents' substance use behaviors. One family dynamic that has been linked with youth's alcohol use (including Latino youth) is parent-child conflict (Cruz et al., 2018; Marsiglia et al., 2009). Parent-child conflict may be related to lower sense of connectedness to the family (Bakhtiari et al., 2018; Li & Warner, 2015), and this may translate to adolescents' higher alcohol use as means for coping with stress and negative emotions (Colder, 2001; Cooper et al., 1995). One study focused on Mexican origin adolescents' alcohol use trajectories showed that parent-child conflict contributed to trajectory class membership, such that adolescents with higher levels of mother-child conflict and father-child conflict during late childhood were more likely to be a member of a high-risk alcohol use trajectory group as they transitioned to adolescence (Cruz et al., 2018). Less is known about whether and how parent-child conflict during adolescence may contribute to Latino youth's alcohol use and alcohol use trajectories as they transition into young adulthood, and that is the focus of the current study. It may be likely that if alcohol use becomes established as an acceptable strategy of negative coping when responding to interpersonal stressors during adolescence, it may carry on as a habitual reactionary behavior to stress during the transition to young adulthood (Kuntsche et al., 2006). In the current study, I examined the association between parent-child conflict in 12th grade with Latino youth's annual alcohol use and binge drinking in 12th grade and the trajectories of change in annual alcohol use and binge drinking across young adulthood (i.e., transition from age 18 to 30). Although the transition to young adulthood is often characterized by continued connections with family, this period also often entails spending increasing amounts of time with friends and

peers (Fuligni & Masten, 2010; Tsai et al., 2012). As such, youth in families with high levels of parent-child conflict may be motivated to invest more in their peer relations to gain acceptance and develop satisfying social connections outside their family context (Baumeister & Leary 1995). Ultimately, the qualities and behaviors of those peers can impact young people's decisions around alcohol use (Montgomery et al., 2020), and this is another focus of my study.

Peer Risk Factors and Alcohol Use

Association with delinquent peers has been recognized as a method for satisfying adolescent's need to belong, and it has been studied in relation to various delinquent behaviors ranging from substance use (Benner & Wang, 2015) to extreme terrorist activities (García Coll & Marks, 2017). It appears that delinquent peer groups can offer unique opportunities for social bonding, which may attract youth who are looking for a place to feel accepted and significant (Eckstein et al., 1999). Additionally, although peers can be a source of interpersonal support when there is conflict at home, they may also be a risk factor depending on their own alcohol use behaviors. Peer alcohol use is a key contributor to adolescents' alcohol use and alcohol use trajectories (Montgomery et al., 2020; Tucker et al., 2003), particularly given that association with peers who drink can provide ample opportunities for drinking (Todd et al., 2014).

According to the prototype willingness model, adolescents' substance use is not always an intentional or planned behavior, as it can be an unintended reaction to opportunities in the social context (Gerrard et al., 2008; Gibbons et al., 1998). Thus, adolescents surrounded by peers who drink alcohol may have more opportunities to engage in unplanned drinking when they experience stressful conflict within their families. Furthermore, affiliation with deviant peers may increase the chances of drinking through modeling because peers' drinking behaviors may communicate that alcohol use is an acceptable or even desired way to cope with stress (Ary et

al., 1993). In Study 1, I examined change in alcohol use (i.e., annual alcohol use, binge drinking) among Latino youth during their transition from late adolescence to young adulthood as a function of parent-child conflict and friends' alcohol use.

The Current Study

In Study 1, the first research question asked, "Does parent-child conflict during adolescence influence alcohol use in adolescence and alcohol use trajectories from adolescence through young adulthood?" I hypothesized that higher parent-child conflict in 12th grade would be directly related to higher annual alcohol use as well as binge drinking, and it would increase one's chances to be classified in a higher-risk drinking group. The hypotheses were informed by the theoretical frameworks that emphasized the importance of the family context in ethnic minority or immigrant families (Garcia Coll et al., 1996) as well as the role that adolescents' need to belonging plays in relation to engaging in risky behaviors (Baumeister & Leary 1995; Stock et al., 2015). The hypotheses were also informed by prior research focused on parent-child conflict and alcohol use among Latino youth, but in a younger sample compared to the sample in Study 1 (Cruz et al., 2018).

The second research question was, "Do peer drinking behaviors mediate the link between parent-child conflict and alcohol use and alcohol use trajectories?" I hypothesized that higher parent-child conflict would be linked with engagement with more friends who engaged in alcohol use or got drunk, placing youth at higher risk for annual alcohol use and binge drinking as well as membership in higher-risk drinking trajectory groups. These hypotheses were based on prior theoretical and empirical research that has suggested when youth's sense of belonging is challenged within one proximal developmental context, they may turn to other contexts, such as friends, to meet their need for belonging (Baumeister & Leary 1995). When the friend context

encompasses more alcohol use, it can contribute to youth's alcohol use behaviors through both socialization and situational opportunities for drinking (Ary et al., 1993; Gibbons et al., 1998; Montgomery et al., 2020).

Methods

Procedures

The Monitoring the Future (MTF) study uses a multistage random sampling design to obtain nationally representative samples. MTF has collected data annually from more than 13,000 12th grade students in public and private schools across the nation since 1975. To reduce respondent burden, the MTF project uses six questionnaire forms randomly assigned within classrooms at 12th grade. Every year, a proportion of participants (2,400 to 2,450) is targeted for biannual follow-ups for eleven or twelve years after the initial data collection (often corresponding with age of 29 or 30 years old; Schulenberg et al., 2020). The follow-up sample is randomly stratified to include diverse adolescents who choose or do not choose to go to college. The follow-up groups are divided into two cohorts, with one cohort contacted one year after the base year of data collection (i.e., one year after 12th grade), and the other cohort contacted two years after the base year. More detailed descriptions regarding MTF procedures are available elsewhere (see Schulenberg et al., 2020).

Participants

MTF panel data were requested and accessed through the National Addiction and HIV Data Archive Program (NAHDAP). Available data spanned from 1976 to 2015. I selected Latino students who were in 12th grade sometime between 1976 to 2004. This allowed all 12th grade participants (approximate age of 18 years) to have had the chance to participate in the final

follow-up wave at the expected age of 29-30. The final sample for the current study included 872 participants. To reach this sample size, multiple inclusion criteria were implemented.

Sample inclusion criteria

MTF used six different questionnaire forms, and the parent-child conflict item was only included in one of the six forms. So, although each year approximately 2,400 participants were targeted in 12th grade for the panel study, only a random one-sixth of them (approximately 400) received the necessary questionnaire form for this study. Furthermore, this study included the participants who were in 12th grade no later than 2004. Given that the focus of the current study was on trajectories, the analytic sample was limited to adolescents who attended 12th grade between 1976 to 2004 (and thus completed the final wave between 1987-2015). These two criteria reduced the possible analytic sample to 12,960 participants. The final inclusion criterion was being from Latino background. Participants reported about their ethnicity during the base year (i.e., 12th grade) by answering to the question that asked, "How do you describe yourself?" For this study, I chose those who selected one of the following options: Mexican American or Chicano, Cuban American, Puerto Rican, or other Hispanic or Latino. This resulted in a final analytic sample size of 872 Latino participants. The age for the analytic sample during the base year of data collection (i.e., 12th grade) ranged from 16.4 to 22.3 ($M = 18.1$, $SD = 0.7$). More than half of the sample were female individuals (53%), and the majority identified as Mexican American or Chicano (66%). In addition, in 12th grade, the majority lived with two parents (65%) and attended public schools (90%). Furthermore, more than half of the participants (56%) had at least one parent with a high school degree or less, 22% had a parent with some college education, and 22% had a parent who had completed college or had a graduate degree (see more details in Table 1.1).

Sample attrition

The majority of the participants in the analytic sample (70%) had at least one wave of follow-up data. In total, 30% ($n = 264$) only had data on the base year, 11% ($n = 99$) had one wave of follow-up, 9% ($n = 81$) had two waves, 8% ($n = 70$) had three waves, 11% ($n = 98$) had four waves, 12% ($n = 108$) had five waves, and finally 17% ($n = 152$) had all six possible waves. For the most part, when a limited number of waves were available, they were continuous (e.g., waves one to four), but sometimes students were not responsive for one or two waves and then re-entered the study in later waves. Multiple patterns of missing data due to attrition were present in the dataset. A weight-outlier variable, which was used to identify participants with relatively high attrition weights, was created based on that variability in attrition weight scores. Attrition weights ranged from .46 to 10.79, and the increases in attrition weight scores were gradual, with the vast majority ranging from .46 to 7.76; however, four cases had attrition weight scores between 9.20 to 10.72, and these were identified as weight outliers. I conducted the primary analyses with and without these four cases, and ultimately decided to retain all the cases in the sample because the four cases did not significantly change the trajectory results. Additional sensitivity analyses were conducted with a subsample of participants who had at least one follow-up wave of data available ($n = 608$).

Measures

Bivariate correlation results and descriptive statistics for the main constructs under study are shown in Table 1.2.

Annual alcohol use and binge drinking

The MTF data include measures to examine various dimensions of alcohol use. For the current study, I focused on students' annual alcohol use and binge drinking. At base year (i.e.,

12th grade) and every follow-up survey (i.e., 6 waves), participants reported about their annual alcohol use and binge drinking behaviors. Specifically, they were asked, “On how many occasions (if any) have you had any alcoholic beverage to drink—more than just a few sips, during the last 12 months” Response options were: 0 (*0 occasions*), 1 (*1-2 occasions*), 2 (*3-5 occasions*), 3 (*6-9 occasions*), 4 (*10-19 occasions*), 5 (*20-39 occasions*), and 6 (*40 or more*). Binge drinking was measured by asking participants to think back over the last two weeks and report how many times they had five or more drinks in a row? The response options were: 0 (*none*), 1 (*once*), 2 (*twice*), 3 (*three to five times*), 4 (*six to nine times*), and 5 (*ten or more times*). Each alcohol use behavior (i.e., annual use, binge drinking) was modeled separately for all analyses.

Parent-child conflict

In 12th grade, the frequency of parent-child conflict over the past year was measured using a single item that asked, “During the last 12 months, how often have you argued or had a fight with either of your parents?” The response options ranged from 0 (*not at all*) to 4 (*5 or more times*).

Friends’ alcohol use

Participants reported about the number of friends they had who engaged in drinking alcohol (Johnston et al., 1993). Specifically, the participants responded to, “How many of your friends would you estimate...a) drink alcoholic beverages (liquor, beer, wine) and b) get drunk at least once a week?” Response option ranged from 0 (*none*) to 4 (*all*). The average score for the two items was calculated to represent this construct given that the two items were highly correlated ($r = .70$), and higher composite scores indicated more friends who engaged in alcohol use.

Covariates

A host of covariates were included in all analyses. Time invariant covariates at 12th grade included: age, gender (0 = *male*, 1 = *female*), Latin country of origin (0 = *not Mexican American or Chicano*, 1 = *Mexican American or Chicano*), residential status (0 = *did not live with two parents*, 1 = *lived with two parents*), college plans (self-reported likelihood to graduate from a four year college with response options ranging from 1 = *definitely won't* to 4 = *definitely will*), high school grades (self-reported GPA ranging from 1 = *D* to 9 = *A*), high school sector (0 = *private*, 1 = *public*), region (dichotomized variables indicating Northeast, Midwest, South, West (reference group)), and urbanicity (i.e., large metropolitan statistical area [MSA], non-MSA, other MSA (reference group)). I also included parental education (1 = *completed grade school or less* to 6 = *graduate or professional school after college*) as a time invariant covariate. In addition, three cohorts of 12th grade participants (i.e., 1976 to 1985, 1986 to 1995, 1996 to 2004) were integrated in the analyses as covariates (see Patrick et al., 2019 for rationale); the last cohort was used as the reference group given that it had the largest sample size due to the fact that the number of Latino adolescents in each cohort increased over time (see Table 1.1).

I also controlled for a group of time-varying covariates that were self-reported at each follow-up wave from age 19/20 through 29/30. These were five important social roles during the young adulthood years (i.e., marital status, living status, employment status, college status, parental status). Informed by Jager and colleagues (2015), I dichotomized the social role variables to represent whether or not the participant was married, attended a four-year college full-time, was employed full-time, was a parent (i.e., had a child), or lived with at least one parent at each follow-up wave. There were some shifts in social roles over time, and Table 1.3 provides details for each social role in every follow-up wave.

Two additional time-varying covariates were included—religiosity and state minimum legal drinking age (MLDA). Religiosity tapped into the importance of religion in one’s life with response options ranging from 0 (*not very important*) to 3 (*very important*), and it was included as a time-varying covariate because the importance of religion in one's life can potentially change over time. An abundance of prior research suggests that youth who report higher religiosity are less likely to engage in drinking (see Russell et al., 2020 for meta-analysis). Also, state MLDA was coded based on self-reported state residency in combination with available data on state-level changes in minimum legal drinking age that were compiled by others (Hedlund et al., 2001; Wagenaar & Toomey, 2002). The participants in this study came from 17 states in the base year, and the majority lived in California, Texas, Arizona, or Florida. Based on the available data, 12% of the participants moved across different states throughout the study, and the MLDA variable took participants' mobility into consideration. If a participant's state of residence at a given wave was missing, the state from the latest available wave was used to create the MLDA variable. See more details about MLDA in Jager et al. (2015) and Patrick et al. (2019).

Analysis Plan

First, I examined the trajectories of annual alcohol use and binge drinking among Latino youth during their transition from late adolescence to young adulthood. Next, I assessed whether these trajectories were directly influenced by parent-child conflict, and whether the link between conflict and annual alcohol use/binge drinking was mediated by friends’ alcohol use.

Research question one—alcohol use trajectories and the role of parent-child conflict

To answer this first research question, I first conducted growth mixture modeling (GMM; Muthen, 2004) to examine trajectories separately for annual alcohol use and binge drinking. Instead of modeling individuals’ change across time around a single mean growth curve, GMM

is a person-centered approach that allows for the possibility that there may be multiple mean growth curves for different subpopulations or classes of subjects (Muthen, 2004). To determine the number of classes, various information criteria were used, which were: Bayesian Information Criterion (BIC), the sample size Adjusted BIC (ABIC), and the Lo-Mendel-Rubin log likelihood-based test (Enders & Tofighi, 2008; Muthen, 2004; Nylund et al., 2007). One of the debates of GMM centers on identifying the appropriate number of classes (see Nylund et al., 2007 for discussion), but using these statistical criteria in combination with an investigation of the substantive meaning of the identified classes strengthens the confidence in selecting a given GMM model (Muthen, 2003). For the GMM, the intercept was set at the first wave (i.e., 12th grade) to indicate Latino adolescents' starting levels of annual alcohol use and binge drinking, and the trajectories were examined across seven waves (from approximately age 18 through age 30). I integrated slope and quadratic latent factors to assess potential linear and curvilinear changes in annual alcohol use and binge drinking among Latino adolescents during their transition to young adulthood (see Figure 1.1).

When no evidence for multiple classes (trajectories) for annual alcohol use and binge drinking was observed, I conducted latent growth curve modeling (LGCM) as a follow-up analysis (see Figure 1.2 for conceptual model). LGCM uses longitudinal data to determine change in a phenomenon across time (Bollen & Curran, 2006). As with the GMMs, I included three growth factors: intercept, the linear slope, and a quadratic term. For GMMs and LGCMs, I selected the intercept to be at 12th grade because this was the time point when parent-child conflict and friends' alcohol use were measured. The loadings for the linear slope factor for both GMMs and LGCMs were fixed at 0, 1.5, 3.5, 5.5, 7.5, 9.5, 11.5, and the loadings for the quadratic factor loadings were set to the squared values of each of these factor loadings. The

unconditional growth curve models provided estimated means for the intercepts, linear slopes, and quadratic terms. Conditional models then integrated a host of time-invariant and time-varying covariates.

Research question two—parent-child conflict, friends' alcohol use, and alcohol use trajectories (mediation model)

To address research question two, “Do peer drinking behaviors mediate the link between parent-child conflict and alcohol use and alcohol use trajectories?” I conducted mediation analyses and examined the direct and indirect associations of parent-child conflict with annual alcohol use, binge drinking, and their trajectories. The indirect association between parent-child conflict, through friends' alcohol use, and the outcomes were tested using the *Mplus* estimation of indirect effects using the delta method standard errors (Muthen & Muthen, 1998–2017).

Sensitivity analyses

In addition to the primary analyses for the current study, I conducted three sets of sensitivity analyses: examination of past 30-day alcohol use as an additional outcome, investigation of cohort differences for the study's two research questions, and examination of the study's two research questions with a limited sample size that included the participants who had at least one wave of follow-up data ($n = 608$).

Past 30-day alcohol use

Given that the level of annual alcohol use and alcohol use in the past 30-days were highly correlated (e.g., $r = .85$ in 12th grade), I decided to select annual alcohol use as the primary outcome and test 30-day use as part of the sensitivity analyses. Prior research has documented seasonal variations in alcohol use (Carpenter, 2003), and thus reports of annual alcohol use would be less affected by seasonal variation versus monthly use. Furthermore, the parent-child

conflict item referred to conflict in the past 12 months, and thus annual alcohol use paralleled this reference time. However, examining 30-day use versus annual use may have a potential benefit because participants may have remembered their behaviors during the past month more accurately than the past year. Therefore, I conducted sensitivity analyses with past 30-day alcohol use as an additional outcome. The question for 30-day use, asked students, “On how many occasions (if any) have you had any alcoholic beverage to drink—more than just a few sips, during the last 30 days?” Response options were from 0 (*0 occasions*) to 6 (*40 or more occasions*). All analyses paralleled those described for research questions one and two above.

Cohort differences

In the current study, 29 cohorts spanned across 28 years, which could translate to historical (i.e., cohort) differences in alcohol use and alcohol use trajectories and their predictors. Prior research has investigated and established some potential cohort differences in alcohol use related to various factors such as gender (Patrick et al., 2019) or changes in social roles and minimum legal drinking age (Jager et al., 2015). To examine the potential cohort effects for the current study, I investigated whether similar patterns existed for adolescents who were in 12th grade in 1976 to 1985 versus 1986 to 1995 versus 1996 to 2004 (see Patrick et al., 2019 for rationale for cohort cut-off years). Multiple group analyses were conducted to determine potential differences among the three cohorts in the unconditional, conditional, and mediation annual alcohol use and binge drinking models. For each of the multiple group analyses, a model was conducted where all paths were allowed to freely vary across the three cohorts. Next, for the unconditional models, intercepts, slopes, and quadratic terms were constrained to be equal across the three groups. Then for the conditional and mediation models, the association between parent-child conflict and friends' alcohol use with the outcomes were constrained. Given the nested

nature of the data, I used the Satorra-Bentler scale chi square tests of parameter constraints to determine whether the inclusion of these constraints resulted in poorer fitting models (Satorra & Bentler, 2010). If the constrained model fit the data worse than the unconstrained model, then each path was constrained one-at-a-time to determine the specific differences between the three cohort groups.

Limited sample

Given the study's focus on trajectories, I conducted a final set of sensitivity analyses with a limited analytic subsample including those who had at least one wave of follow-up data ($n = 608$). Because 30% of the primary sample did not have any follow-up data, I conducted the unconditional, conditional, and mediation latent growth curve models for annual alcohol use and binge drinking using this limited analytic sample.

All analyses were conducted in *Mplus* version 8.2 (Muthen & Muthen, 1998–2017), and I used full information maximum likelihood estimations to address the missing data (Enders, 2010). All of the analyses were weighted using attrition weights that were calculated for the original full sample before any of the inclusion criteria for this study were implemented. The attrition weights were the inverse of the probability of participation at the last follow-up wave (i.e., corresponding with the age of 29/30; see Patrick et al., 2019 for example), based on the following variables that were measured at the base year: gender, race/ethnicity, college plans, truancy, high school grades, number of parents in the home, religiosity, parental education, alcohol use, cigarette use, marijuana use, other illicit drug use, region, cohort, and sampling weight correcting for over-sampling of age 18 substance users. In all of the analyses, the estimator was Maximum Likelihood-Robust or MLR with robust standard errors (Muthen & Muthen, 1998–2017).

Results

Alcohol Use Trajectories Across Late Adolescence to Young Adulthood and the Role of Parent Conflict (Research Question One)

To examine trajectories of change in annual alcohol use and binge drinking across the transition from late adolescence to young adulthood among Latino youth, I first conducted growth mixture modeling to identify the potential multiple trajectories of change in average growth curves for potentially different subpopulations. As shown in Table 1.4, I did not find evidence of multiple trajectories of change in annual alcohol use or binge drinking among Latino youth. For annual alcohol use, I was only able to conduct the analyses up to the two-class model, with the three-class model generating an unresolvable error. Additionally, for binge drinking, an unresolvable error emerged for the two-class model. Thus, I was not able to proceed with GMM analyses for annual alcohol use or binge drinking, and, as planned, I then conducted latent growth curve modeling to investigate an average pattern of change among all Latino youth in the sample. First, I examined the unconditional models to assess the intercepts, linear slopes, and quadratic terms for annual alcohol use and binge drinking as Latino adolescents transitioned to young adulthood. Next, I investigated the role of parent-child conflict and friends' alcohol use in the conditional and mediation models.

Alcohol Use Trajectories Across Late Adolescence to Young Adulthood (Unconditional Model)

For annual alcohol use, results from the unconditional latent growth curve model indicated excellent model fit ($\chi^2(19) = 20.34, p = .374$; comparative fit index (CFI) = 1.00; root mean square error of approximation (RMSEA) = .01 [CI: .00-.03]). Intercept at 12th grade was 2.7, which corresponds to drinking between 3-5 *occasions* and 6-9 *occasions* during the past 12

months. The linear slope ($M = .17, p < .001$) and quadratic term ($M = -.01, p < .001$) were significant, meaning that annual alcohol use among Latino youth increased from 12th grade (age 18) until mid-twenties (age 25/26) peaking at a score of 3.3 (corresponding with a score between *6-9 occasions* to *10-19 occasions* of alcohol use during the 12 months). Furthermore, the trajectory of annual alcohol use declined after the mid-twenties, and the average 29/30-year-old Latino youth was likely to report drinking *6-9 occasions* in the past year (see the upper portion of Figure 2.1).

For binge drinking, results from the unconditional latent growth curve model indicated excellent model fit ($\chi^2(19) = 22.40, p = .264$; CFI = .99; RMSEA = .02 [CI: .00-.04]). The estimated results suggested that binge drinking among Latino adolescents started at 0.9 indicating that on average Latino 12th graders reported binge drinking *once* during the past two weeks, which was significantly different from zero ($p < .001$). The non-significant linear slope ($M = .01, p = .517$) and the non-significant quadratic term ($M = -.00, p = .096$) indicated that there were no noteworthy changes in average binge drinking among Latino youth as they transitioned from late adolescence through young adulthood (see the upper portion of Figure 1.4).

Parent-Child Conflict and Alcohol Use Trajectories (Conditional Model)

To address whether parent-child conflict during adolescence influenced alcohol use in adolescence and alcohol use trajectories from adolescence through young adulthood, I conducted separate conditional models for annual alcohol use and binge drinking. The models included time-varying and time-invariant covariates as well as parent-child conflict as the predictor.

For annual alcohol use, given that the intercept, linear slope, and quadratic term were all significant in the unconditional model, I included parent-child conflict as a predictor for all of

these terms in the conditional model. Furthermore, the covariates were placed on the observed or the latent variables, and the decisions regarding where to place each covariate were made using prior literature, particularly studies focused on trajectories of alcohol use that used the MTF datasets (e.g., Patrick et al., 2019). Specifically, students' age in 12th grade, school type, urbanicity, region, college plans, and family form were placed on the intercept only (i.e., time-invariant covariates related to the school context or individual characteristics that could be specifically relevant to alcohol use in 12th grade). Parental education, nationality background, average grades in 12th grade, gender, and cohort were predictors of the intercept as well as slope and quadratic latent terms (i.e., time-invariant covariates that had the potential to influence alcohol use in 12th grade as well as the trajectory of use over time). I also included time-varying covariates of religiosity and five important social roles during the young adulthood years—these covariates were predictors of annual alcohol use and binge drinking at their corresponding follow-up waves (e.g., employment status at the first follow-up wave was a control variable for annual alcohol use during the same wave). I also placed marital status and religiosity during 12th grade as control variables on alcohol use in 12th grade. Finally, I controlled for MLDA and included the corresponding MLDA variables as covariate predictors of annual alcohol use and binge drinking in 12th grade as well as the first two follow-up waves. I did not include MLDA as a covariate for the follow-up waves at which the participants had reached the age of 21.

The results showed that the conditional model fit the data well ($\chi^2(347) = 496.73, p < .001$; CFI = .91; RMSEA = .02 [CI: .02-.03]). The results from this conditional model indicated that higher parent-child conflict in 12th grade was significantly related to higher reports of annual alcohol use in the same year ($\beta = .23, p < .001$). Parent-child conflict in 12th grade was not related to the linear slope or the quadratic term for annual alcohol use. This means that parent-

child conflict in 12th grade did not contribute to the trajectory of annual alcohol use among Latino youth as they transitioned from late adolescence to young adulthood.

For binge drinking, given that only the intercept was significant in the unconditional model, I examined the direct association of parent-child conflict in 12th grade with binge drinking in 12th grade using regression analyses in structural equation modeling (SEM) framework rather than using the latent growth curve model. Also, to take advantage of the longitudinal nature of the study, I ran further analyses with binge drinking at the last follow-up wave (i.e., age of 29/30) as the outcome in a separate model. Model fit was not available for these two models since they were just identified. The findings showed that higher parent-child conflict in 12th grade was associated with higher binge drinking in 12th grade ($\beta = .15, p < .001$) but not at age 29/30 ($\beta = -.00, p = .983$).

Parent-Child Conflict, Friends' Use, and Alcohol Use Trajectories (Mediation Model)

Next, I conducted analyses to address the second research question that asked, “Do peer drinking behaviors mediate the link between parent-child conflict and alcohol use and alcohol use trajectories?” When examining the mediation model for annual alcohol use, I found that the model fit was acceptable at $\chi^2(484) = 2369.02, p < .001$; CFI = .88; RMSEA = .03 [CI: .02-.03]. The results showed that higher reports of parent-child conflict in 12th grade was linked with increased likelihood of association with more friends who engaged in drinking ($\beta = .26, p < .001$). Association with more friends who drank in 12th grade was linked with higher annual alcohol use in 12th grade ($\beta = .56, p < .001$). Participants with more friends who drank in 12th grade had a less rapid increase in their annual alcohol use trajectory (i.e., slope) as they transitioned from their late adolescence to young adulthood ($\beta = -.30, p < .001$). Association with more friends who engaged in drinking in 12th grade was not related with the quadratic term for

annual alcohol use ($\beta = .16, p = .066$). Additionally, parent-child conflict was indirectly and significantly associated with higher reports of annual alcohol use in 12th grade (i.e., intercept) as well as the slope or the rate of increased annual alcohol use, through association with more friends who engaged in drinking behaviors (see Table 1.5 for details). In addition to the indirect effects, parent-child conflict in 12th grade continued to have a direct positive association with annual alcohol use in 12th grade ($\beta = .11, p = .024$) but not the linear slope ($\beta = -.08, p = .354$) or the quadratic term ($\beta = .14, p = .162$).

When examining the mediation models for binge drinking, the model fit for the two models (outcomes at age 18 versus at 29/30) were both poor ($\chi^2(18) = 72.53, p < .001$; CFI = .73; RMSEA = .06 [CI: .05-.07] and $\chi^2(18) = 69.68, p < .001$; CFI = .36; RMSEA = .06 [CI: .04-.07], for age 18 and age 29/30, respectively). Although the model fit improved somewhat if some of the covariates were dropped, because the inclusion of covariates was theoretically or empirically driven, the results from these models were not interpretable and thus are not presented here.

Sensitivity Analyses

Three sets of sensitivity analyses were conducted. First, I investigated alcohol use during the 30-day as an additional outcome. Next, I conducted multiple group analyses on the primary models across three cohorts (adolescents who were in 12th grade in 1976 to 1985 versus 1986 to 1995 versus 1996 to 2004) to establish any potential cohort differences. Finally, I repeated the primary analyses using a subsample of the participants who had at least one wave of follow-up data available ($n = 608$) to test the potential replicability the results compared to the full sample that included those with no follow-up data.

Past 30-day alcohol use

I conducted similar analyses to annual alcohol use and binge drinking for past 30-day alcohol use. Specifically, I first conducted growth mixture modeling analyses, and I found the same unresolvable error as in the annual alcohol use and binge drinking models. Thus, I did not find enough evidence for existence of more than one classes (see Table 1.4). Next, I switched to the alternative analyses (i.e., latent growth curve modeling).

Results from the unconditional latent growth curve model revealed excellent model fit for the 30-day alcohol use model ($\chi^2(19) = 35.74, p = .011$; CFI = .97; RMSEA = .03 [CI: .02-.05]). The intercept at 12th grade was 1.4, which corresponds to *1-2 occasions* to *3-5 occasions* of alcohol use during the past 30 days. The linear slope ($M = .08, p = .001$) and quadratic term ($M = -.01, p = .005$) were significant, which indicated that the estimated results suggested that monthly alcohol use increased starting from 12th grade until mid-twenties (approximately age 23/24). Average monthly drinking peaked at 1.6 (corresponding with a score between *1-2 occasions* to *3-5 occasions*) and then declined as the Latino youth aged (see Figure 1.5). The conditional and mediation models for 30-day alcohol use did not converge (even after increasing the number of iterations to 100,000). I was able to achieve convergence in the conditional model after dropping the time-varying covariates but dropping the covariates did not help with convergence in the mediation model. The results from the models without the covariates are not reported because inclusion of every covariate was justified and necessary due to theoretical or empirical reasoning.

Cohort effects

I examined potential cohort differences (i.e., 12th grade in 1976 to 1985 versus 1986 to 1995 versus 1996 to 2004) in alcohol use trajectories and the role of parent-child conflict and friends' alcohol use among Latino youth as they transitioned from late adolescence to young adulthood. For the multiple group analyses for annual alcohol use, the unconditional model was

not significantly different across the three cohorts ($\chi^2(6) = 11.12, p = .08$), which means that the trajectory found in the primary analyses was consistent for students across all cohorts (see Figure 1.3). The multi-group analyses for the conditional and mediation models did not converge. As a follow-up, I ran the annual alcohol use models with one cohort at-a-time to see which cohort was problematic; none of the models converged when the time-varying covariates were included, but they converged when the time-varying covariates were removed; as discussed above, given the theoretical and empirical rationale for including the covariates, results from these models are not reported. For the multiple group analyses for binge drinking, I found no evidence for cohort differences in the unconditional model ($\chi^2(6) = 5.58, p = .47$), the conditional model ($\chi^2(2) = 0.14, p = .93$), or the mediation model ($\chi^2(6) = 3.19, p = .79$).

Limited sample

Finally, I conducted latent growth curve analyses (unconditional, conditional, and mediation) for annual alcohol use and binge drinking with a limited analytic sample of participants with at least one wave of follow-up data ($n = 608$). For the annual alcohol use unconditional model, the model fit was excellent ($\chi^2(19) = 20.50, p = .37$, CFI = 1.00, RMSEA = .01 [CI: .00-.04]), and the findings were similar to the unconditional model with the full sample. Specifically, intercept at 12th grade was 2.6, which corresponds to drinking between 3-5 *occasions* and 6-9 *occasions* during the past 12 months. The linear slope ($M = .18, p < .001$) and quadratic term ($M = -.01, p < .001$) were significant, indicating that annual alcohol use among Latino youth increased from 12th grade (age 18) until mid-twenties (age 25/26), peaked at 3.3 (corresponding with a score between 6-9 *occasions* to 10-19 *occasions* of alcohol use during the 12 months), and then declined after the mid-twenties, with the average 29/30-year-old Latino youth likely to report drinking 6-9 *occasions* in the past year (see lower portion of Figure 1.3).

The conditional model for annual use with parent-child conflict as the predictor also had a good model fit ($\chi^2(347) = 494.80, p < .001, CFI = .91, RMSEA = .03 [CI: .02-.03]$). Consistent with findings for the full sample, the results from this conditional model with the limited sample indicated that higher parent-child conflict in 12th grade was significantly related to higher reports of annual alcohol use in the same year ($\beta = .22, p < .001$). Parent-child conflict in 12th grade was not related to the linear slope or the quadratic term for annual alcohol use. When examining the mediation model for annual alcohol use with the limited sample, the model fit was acceptable ($\chi^2(407) = 601.80, p < .001, CFI = .89, RMSEA = .03 [CI: .02-.03]$), and the results were comparable to findings with the full sample, such that parent-child conflict was indirectly, through association with more friends who engaged in drinking behaviors, associated with higher reports of annual alcohol use in 12th grade and higher rates of increased annual alcohol use over time (see lower portion of Table 1.5).

Results from the binge drinking unconditional latent growth curve model with the smaller sample size revealed excellent model fit ($\chi^2(19) = 21.93, p = .29, CFI = .99, RMSEA = .02 [CI: .00-.04]$). Similar to the results from the full sample, the intercept at 12th grade was 0.9, which corresponds to *one time* of binge drinking over the past two weeks. Consistent with the results from the full sample, the linear slope ($M = .14, p = .17$) was not significant, but contrary to the results from the primary analyses, the sensitivity analyses revealed a significant quadratic term ($M = -.20, p = .03$). Specifically, the estimated results with the limited sample indicated a peak and then a decline in annual binge drinking as Latino adolescents transitioned from late adolescence to young adulthood, although the overall slope for the trajectory was not significantly different from zero (see lower portion of Figure 1.4).

For the conditional and mediation models for binge drinking with the limited sample, I found that the model fits were relatively low, particularly the CFI scores ($\chi^2(358) = 527.58, p < .001$, CFI = .82, RMSEA = .03 [CI: .02-.03]; ($\chi^2(419) = 644.52, p < .001$, CFI = .78, RMSEA = .03 [CI: .03-.03]). Thus, I did not present or interpret the results of the conditional or mediation models with the limited sample size.

Discussion

Latino youth are a growing part of the U.S. population. Like many young people, some Latino youth engage in risky alcohol use during adolescence and young adulthood. What is unique about the Latino population is their relatively high rates of risky drinking (Patrick & Schulenberg, 2014) and the potentially severe and long-lasting consequences that some may face, which may be health-related for some and immigration-related for others (U.S. Citizenship and Immigration Services, 2020; Spillane et al., 2020; Young-Hee & Chiung, 2016). Latino youth's alcohol use behaviors and the factors that may contribute to their drinking remain relatively understudied. Using the MTF dataset, I examined the trajectories of annual alcohol use and binge drinking among Latino youth during their transition from late adolescence to young adulthood. Specifically, I focused on the direct effect of parent-child conflict and indirect effect of parent-child conflict through friends' alcohol use in 12th grade on annual alcohol use and binge drinking in 12th grade and on the trajectories of these behaviors across the transition to young adulthood.

In considering change over time, I did not find evidence for the existence of multiple trajectories of alcohol use or binge drinking as Latino adolescents transitioned to young adulthood. Some studies have found multiple trajectories of alcohol use among ethnically diverse youth as they transitioned from early adolescence to young adulthood (e.g., Park et al., 2018),

but others have documented a single trajectory with variation in intensity, rate of change, and peak age (Chen & Jacobson, 2012; Niño et al., 2017). The possibility of the presences of multiple trajectories of alcohol use in a sample (e.g., chronic drinkers versus abstainers) is to some extent dependent upon the range of within-group variability. Thus, lack of evidence for existence of multiple trajectories of annual alcohol use and binge drinking in this sample may have been related to sample size, selection effect, or the targeted period for alcohol trajectories (i.e., 18 to 30). Some Latino youth's trajectory of alcohol use may have already been shaped during their early adolescence years (Cruz et al., 2018), which may have contributed to their potential self-selection out of the study by the beginning of this study in 12th grade. Thus, more research is needed with a larger sample size to reveal whether or not multiple trajectories of alcohol use among Latino youth exist that I may have failed to detect.

The average trajectory of annual alcohol use among Latino youth observed here showed that as Latino adolescents reached their mid-twenties (i.e., 25/26 years old), they reported their highest levels of annual alcohol use, but the average rates declined as they transitioned to later years of their young adulthood. The unique feature of the trajectory of annual use among Latino youth was that the peak-age appeared at mid-twenties versus early twenties, the peak age commonly found in earlier nationally representative samples (see Maggs & Schulenberg, 2005a); however, this later peak-age was in line with findings from studies that have taken ethnic differences in alcohol use trajectories into consideration (see Chen & Jacobson, 2012). Latino youth tend to live with their parents for relatively long periods of time and well-through their young adulthood years (Lei & South, 2016). Moving out of parental residence may be associated with lower levels of parental monitoring, which has been found to be linked with higher drinking (Petrova et al., 2019), thus later move-out-age among average Latino youth may partially explain

the later peak-age of drinking in this population. Furthermore, it is common among Latino youth to attend two-year colleges (Krogstad, 2016), which may delay the age of entry for those who transition to a four-year-college, and environment where many students are further exposed to college drinking culture (Crosnoe et al., 2017).

In addition to changes in annual alcohol use, I also examined the trajectory of binge drinking among Latino youth. Prior literature suggests that Latino adolescents and young adults tend to particularly struggle with binge drinking, especially compared to their Black and Asian counterparts (Patrick & Schulenberg, 2014; Patrick & Terry-McElrath, 2017). The results from my limited sample that included those who had at least one wave of follow-up data revealed a downward curvilinear trajectory with a peak-age of 21/22, and these findings were in line with trajectories of binge drinking in nationally representative samples (Patrick et al., 2019). Binge drinking in early adulthood is particularly risky because it can be detrimental to young people's developing brains, and it has been associated with increased chance of alcohol use disorder in later life (Jones et al., 2018).

In considering the predictors of annual alcohol use and binge drinking in 12th grade, parent-child conflict in 12th grade emerged as a key contributor to these alcohol use behaviors cross-sectionally. Prior research has shown that higher parent-child conflict can be linked with higher family disengagement (or lower family cohesion) in immigrant families (Bakhtiari et al., 2018; Wagner et al., 2010). Given that familism and family connectedness is an important part of Latino youth's lives (Stein et al., 2014), I expected that higher parent-child conflict in 12th grade would be related to higher reports of alcohol use in 12th grade and less desirable trajectories of alcohol use. Indeed, higher parent-child conflict in 12th grade was related to higher reports of annual alcohol use and binge drinking in 12th grade. Poor parent-child relationship quality may

undermine adolescents' sense of connectedness or belongingness within the family unit (King & Boyd, 2016; Li & Warner, 2015) and prompt adolescents to drink as means for addressing their stress and negative emotions (Colder, 2001; Cooper et al., 1995). Parent-child conflict in 12th grade was not directly linked to changes in annual alcohol use over time. Given that young adulthood is when many individuals are leaving home and transitioning into romantic partnerships, conflict in these new potential family units may be more impactful on alcohol use behaviors compared to conflict in the family of origin. Prior research has shown a positive correlation between conflict with romantic partners and alcohol use (Fischer & Wiersma 2012), and as such, future research should examine how conflict within different interpersonal contexts (e.g., family of origin, romantic relationships) might directly and conjointly influence the changes in young adults' alcohol use behaviors as they transition from late adolescence through young adulthood.

Finally, some evidence emerged that the link between parent-child conflict and youth's annual alcohol use was due, in part, to association with peers who drink alcohol, wherein higher parent-child conflict in 12th grade was linked with having more friends who engaged in alcohol use in 12th grade and having more friends who engaged in alcohol use was related to higher reports of annual alcohol use in 12th grade. Prior research with Asian American youth in immigrant families suggests that parent-child conflict may create a sense of alienation in adolescents from their parents (Hou et al., 2016). Furthermore, a disrupted family system may drive adolescents to associate with deviant peers who may provide an alternative context for belonging or stability outside of the family (Baumeister & Leary, 1995; Vakalahi, 2001). Association with deviant peers has been linked to higher alcohol use due to increased opportunity for alcohol and social learning (Gerrard et al., 2008; Trucco et al., 2011; Vakalahi,

2001). The findings reported here are consistent with this line of research. Somewhat surprisingly, adolescents who reported higher parent-child conflict and had more friends who engaged in drinking in 12th grade, in turn, reported less steep increases in their annual alcohol use behaviors over time. This could be because those with more friends who engaged in alcohol use in high school were already in a high-risk-context for drinking, displaying higher mean levels of alcohol use, suggesting that this group of youth may be experiencing a ceiling effect in their alcohol use levels (Kaplan, 2000; Bray et al., 2003).

Strengths, Limitations, and Future Directions

This study had many strengths including its longitudinal nature that facilitated examination of alcohol use trajectories across late adolescence and young adulthood. The focus on Latino youth is another key contribution, as it is suggested that an important step in addressing health disparities across ethnic groups is to conduct methodologically-strong-research within ethnic groups to better identify and address relevant stressors (Zemore et al., 2018). Another strength of the study was its incorporation of both the family and peer contexts simultaneously as potential contributors to alcohol use and alcohol use trajectories, which is important for informing more comprehensive intervention and prevention programs (Hale et al., 2014). Additionally, the inclusion of a comprehensive set of time varying and time invariant covariates at the personal and structural levels provides a more rigorous test of the key study constructs and heightens confidence in the observed findings regarding the role of parent-child conflict and peer alcohol use in relation to higher alcohol use among Latino youth.

Despite these strengths, some limitations must be acknowledged. The relatively high attrition rate across time is a potential limitation, but analyses adjusted for inverse probability of attrition weights. Adjusting for attrition rates is a relatively effective form of accounting for

biases associated with differential attrition (Patrick et al., 2019), but future researchers should consider using other bias analyses, such as imputation, to account for participants who dropped out of the study (Keyes et al., 2020). Next, the mediator (i.e., friends' alcohol use) and the key predictor in Study 1 (i.e., parent-child conflict) were both measured during the same time point (i.e., 12th grade); thus, the mediational findings linking parent-child conflict, friends' alcohol use, and alcohol use in 12th grade were cross-sectional in nature. The potential for a reciprocal relation between perceived parent-child relationship quality and adolescents' delinquent behaviors exists and cannot be evaluated with cross-sectional data (Gault-Sherman et al., 2012). Moreover, I examined parent-child conflict as the only representative factor for how the quality of family relationships may influence Latino youth's alcohol use. A more comprehensive approach would be to account for other important family dynamics, such as parental monitoring behaviors, that have been shown to be related to adolescents' alcohol use (Martin et al., 2019; Pereyra & Bean, 2017).

Another important limitation of the sample for Study 1 was that students who dropped out of high school before the spring of 12th grade could not be sampled in the MTF panel study given the data collection started in the spring of 12th grade. Additionally, participants in the current study did not report on potentially important covariates such as parental alcohol use behaviors, parental monitoring, and parental alcohol-related rules, which have all been linked to higher rates of alcohol use and binge drinking (Mahedy et al., 2018; Sharmin et al., 2017). Also, Latino adolescents' immigration status was not queried, and this was particularly a limitation given that a significant proportion of Latino youth are members of immigrant families (Child Trends, 2018). It has been shown that immigrant generational status may play a role in how family dynamics influence Latino youth's alcohol use. For example, prior research on immigrant

paradox has shown that U.S.-born Latino adolescents are more likely to engage in alcohol use compared to their foreign-born counterparts (Bacio et al., 2013). On the other hand, Latino youth in immigrant families may engage in greater or different types of family conflict due to the acculturation gap between parents and children (Telzer, 2010), which has been linked to higher adolescents' alcohol use (Gil et al., 2000; Martinez, 2006).

Finally, the primary focus of this study were two proximal environmental contexts (i.e., family, peers), and information on participants' genes or other environmental contexts such as neighborhood should be considered in future work. Genetics play an important role in adolescents' use and abuse of alcohol as they transition to young adulthood (Dick et al., 2013), and more research is needed that consider a multitude of environmental contexts, particularly exposure to alcohol use at the community and societal levels (Chartier et al., 2017). Thus, future research focused on alcohol use among Latino youth in immigrant families will benefit from designs that consider the role of genes and a host of contexts that go beyond family and peers, including neighborhood and school.

Conclusions

The findings from the current study made a valuable contribution to the extant literature about alcohol use and alcohol use trajectories among Latino adolescents as they transition from late adolescence to young adulthood. Given the findings regarding the role of parent-child conflict in relation to annual alcohol use and binge drinking among Latino youth, it may be beneficial to continue to invest in programs that are encompassing of relatively collectivistic cultures and consider the important role of family dynamics when targeting Latino youth's risky behaviors (Petrova et al., 2019). The results from this study must be interpreted with caution given that the significant findings were primarily cross-sectional in nature. As such, more

research is needed to draw conclusions regarding the role parent-child conflict in relation to alcohol use trajectories among Latino youth as they transition from adolescence to young adulthood. Prior research indicates that programs that intervene in several contexts of adolescents' lives are scarce (Hale et al., 2014), but the findings from this current study provided some evidence for the importance of simultaneously addressing multiple contexts (i.e., family, peers) in intervention and prevention programs that aim to address alcohol use among Latino youth.

Table 1.1: Sample Characteristics in the Base Year for Study 1 ($N = 872$)

Variable	<i>N</i>	Frequency (<i>Valid %</i>)
Gender		
Male	407	46.70
Female	465	53.30
Country of origin		
Mexican American or Chicano	575	65.90
Cuban	128	14.70
Puerto Rican	64	7.30
Other Hispanic or Latino	105	12.00
Cohort		
1976 to 1985	168	19.30
1986 to 1995	351	40.30
1996 to 2004	353	40.50
Follow-up for year 1		
One year after 12 th grade	433	49.70
Two years after 12 th grade	439	50.30
Marital status		
Married	--	--
Not married	837	--
College plans		
Definitely will not	129	16.10
Probably will not	130	16.30
Probably will	231	28.90
Definitely will	309	38.70
Living status		
With two parents	565	64.79
Not with two parents	295	33.83
Religiosity		
Not important	66	8.60
Little important	164	21.30
Pretty important	266	34.60
Very important	273	35.50
Parental Education		
Completed grade school or less	125	15.30
Some HS	156	19.10
Completed HS	178	21.80
Some College	176	21.60
Completed college	97	11.90
Graduate school	83	10.20
School		
Public	783	89.80
Private	89	10.20
Urbanity		
Large MSA	311	35.67
Other MSA	460	52.75
Non MSA	101	11.58
Region		
South	268	30.73
Northeast	145	16.63
Midwest	79	9.06
West	380	43.58

Note. MSA = metropolitan statistical areas, and large MSA is essentially urban, non MSA rural, and other MSA suburban.

Table 1.2: Correlations, Means, and Standard Deviations

Variable	1	2	3	4	5	6	7	8	9
1. Annual/Binge – BY	--	.41***	.41***	.31***	.24***	.29***	.26***	.13***	.39***
2. Annual/Binge – FU1	.66***	--	.47***	.48***	.27***	.35***	.20***	.02	.37***
3. Annual/Binge – FU2	.47***	.61***	--	.61***	.43***	.46***	.33***	.02	.24***
4. Annual/Binge – FU3	.45***	.55***	.63***	--	.49***	.56***	.44***	.04	.20***
5. Annual/Binge – FU4	.48***	.55***	.61***	.71***	--	.46***	.33***	.01	.16**
6. Annual/Binge – FU5	.40***	.44***	.54***	.67***	.75***	--	.52***	.01	.24***
7. Annual/Binge – FU6	.37***	.42***	.46***	.60***	.70***	.75***	--	-.02	.13*
8. PC conflict – BY	.22***	.12**	.09	.10	.16**	.12*	.17**	--	.23***
9. Friends' use – BY	.52***	.43***	.30***	.23***	.30***	.18***	.21***	.23***	--
<u>Annual alcohol use</u>									
<i>Mean</i>	2.85	2.90	3.21	3.33	3.21	3.19	3.05	2.68	2.31
<i>SD</i>	2.12	2.13	2.13	2.10	2.13	2.23	2.19	1.45	1.19
<i>N</i>	807	473	438	390	352	311	315	792	734
<u>Binge drinking</u>									
<i>Mean</i>	0.97	0.75	0.77	0.82	0.62	0.68	0.54	2.68	2.31
<i>SD</i>	1.43	1.23	1.25	1.19	1.10	1.21	1.04	1.45	1.19
<i>N</i>	782	473	437	390	349	311	312	792	734

Note. Annual = alcohol use in the past 12 months is presented below the diagonal. Binge = binge drinking is presented above the diagonal. BY = base year (i.e., 12th grade). FU = follow-up wave. PC = parent-child.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 1.3: Sample Characteristics in the Follow-up Waves for Study 1 ($N = 872$)

Variable	FU1		FU2		FU3		FU4		FU5		FU6	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Marital status												
Married	42	4.8	83	9.5	98	11.2	118	13.5	140	16.1	174	20.0
Not married	452	51.8	377	43.2	304	34.9	244	28.0	184	21.1	143	16.4
Living status												
With parent(s)	345	39.6	250	28.7	178	20.4	122	14.0	93	10.7	64	7.3
Not with parent(s)	145	16.6	209	24.0	224	25.7	240	27.5	230	26.4	250	28.7
Employment status												
Employed full time	182	20.9	232	26.6	255	29.2	260	29.8	239	27.4	233	26.7
Not employed full time	286	32.8	203	23.3	138	15.8	93	10.7	76	8.7	80	9.2
College status												
Attending a 4-year college	113	13.0	118	13.5	53	6.1	--	--	--	--	--	--
Not attending a 4-year college	372	42.7	332	38.1	346	39.7	321	36.8	304	34.9	297	34.1
Parental status												
Parent	44	5.0	85	9.7	111	12.7	124	14.2	140	16.1	175	20.1
Not a parent	446	51.1	372	42.7	292	33.5	236	27.1	185	21.2	142	16.3
Religiosity												
Not important	31	3.6	--	--	30	3.4	--	--	--	--	31	3.6
Little important	92	10.6	101	11.6	88	10.1	78	8.9	62	7.1	64	7.3
Pretty important	186	21.3	154	17.7	123	14.1	105	12.0	98	11.2	98	11.2
Very important	184	21.1	174	20.0	156	17.9	150	17.2	131	15.0	122	14.0

Note. FU = follow-up. -- = unavailable information due to disclosure risk. The percentages do not add up to 100% because they take into account missing data.

Table 1.4: Growth Mixture Modeling to Establish the Potential Number of Classes (i.e., Patterns of Use) in Annual Alcohol Use, Binge Drinking, and 30-Day Use

Alcohol use trajectories	1 Class	2 Classes	3 Classes
<i>Annual use (N = 855)</i>			
Loglikelihood	-5615.59	-5540.39	error
# of parameters	22	26	
BIC	11379.71	11256.30	
ABIC	11309.84	11173.74	
Entropy	--	.77	
LMR <i>p</i>	--	<i>p</i> < .001	
VLMR <i>p</i>	--	<i>p</i> < .001	
Distribution	100	60%, 40%	
<i>Binge drinking (N = 844)</i>			
Loglikelihood	-4326.76	error	
# of parameters	22		
BIC	8801.76		
ABIC	8731.90		
Entropy	--		
LMR <i>p</i>	--		
VLMR <i>p</i>	--		
Distribution	100		
<i>Sensitively analyses – past 30-day use (N = 855)</i>			
Loglikelihood	-4944.77	error	
# of parameters	22		
BIC	10038.07		
ABIC	9968.20		
Entropy	--		
LMR <i>p</i>	--		
VLMR <i>p</i>	--		
Distribution	100		

Note. BIC = Bayesian information criterion; ABIC = sample size adjusted BIC; LMR = Lo-Mendel-Rubin test; VLMR = Vuong-Lo-Medell Rubin test.

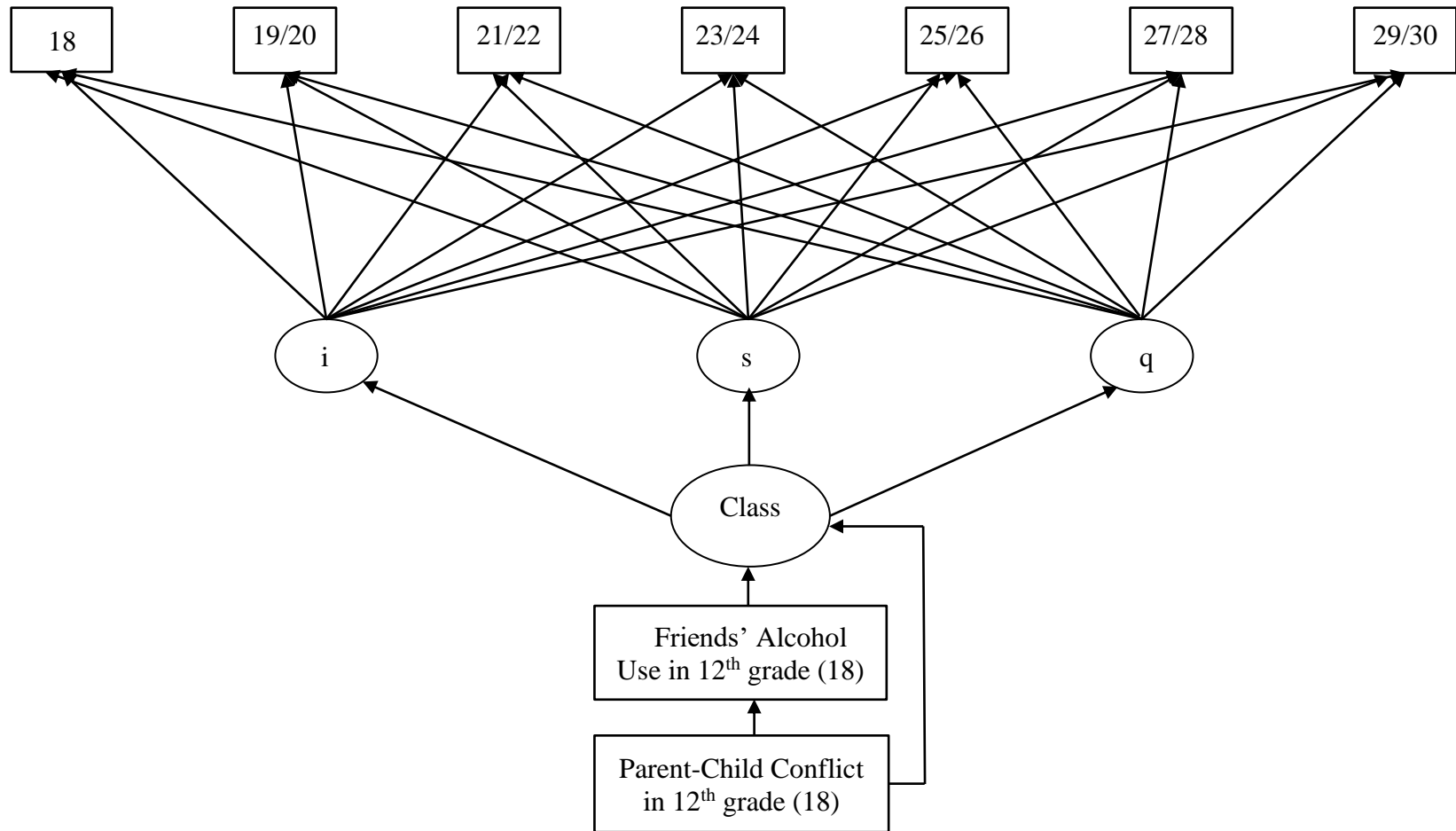
Table 1.5: Indirect Effect of Parent-Child Conflict on Latino Youth's Annual Alcohol Use Trajectories Across Late Adolescence to Young Adulthood

	Indirect	Direct	Total
<i>Full sample (N = 872)</i>			
PC → fr alc use → annual use intercept in 12th grade	.14***	.11*	.25***
PC → fr alc use → annual use linear slope	-.07**	-.08	-.15
PC → fr alc use → annual use quadratic term	.04	.14	.18
<i>Sensitivity analyses with the limited sample (n = 608)</i>			
PC → fr alc use → annual use intercept in 12th grade	.11**	.11*	.22***
PC → fr alc use → annual use linear slope	-.05*	-.09	-.14
PC → fr alc use → annual use quadratic term	.03	.15	.18

Note. Standardized results are reported. PC = parent-child conflict and fr alc use = friends' alcohol use was measured in 12th grade. Covariates included students' age in 12th grade, school type, urbanity, region, college plans, family form, parental education, nationality, average grades in 12th grade, gender, cohort, marital status, living status, employment status, college status, parental status, religiosity, and MLDA. **Bold** indicates a significant indirect association between parent-child conflict and an aspect of Latino youth's alcohol use through friends' alcohol use.

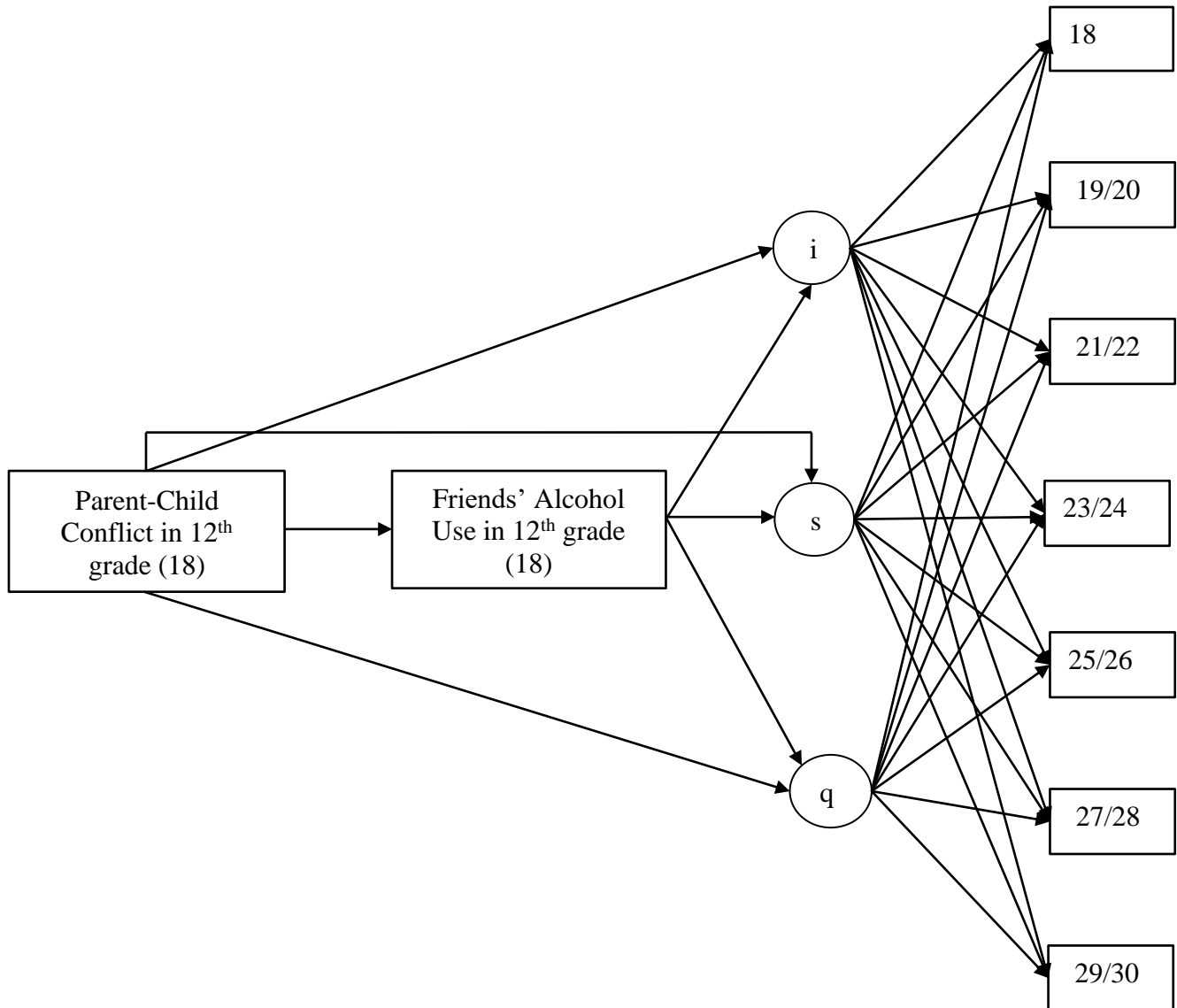
* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 1.1: Conceptual Model When Using Growth Mixture Modeling



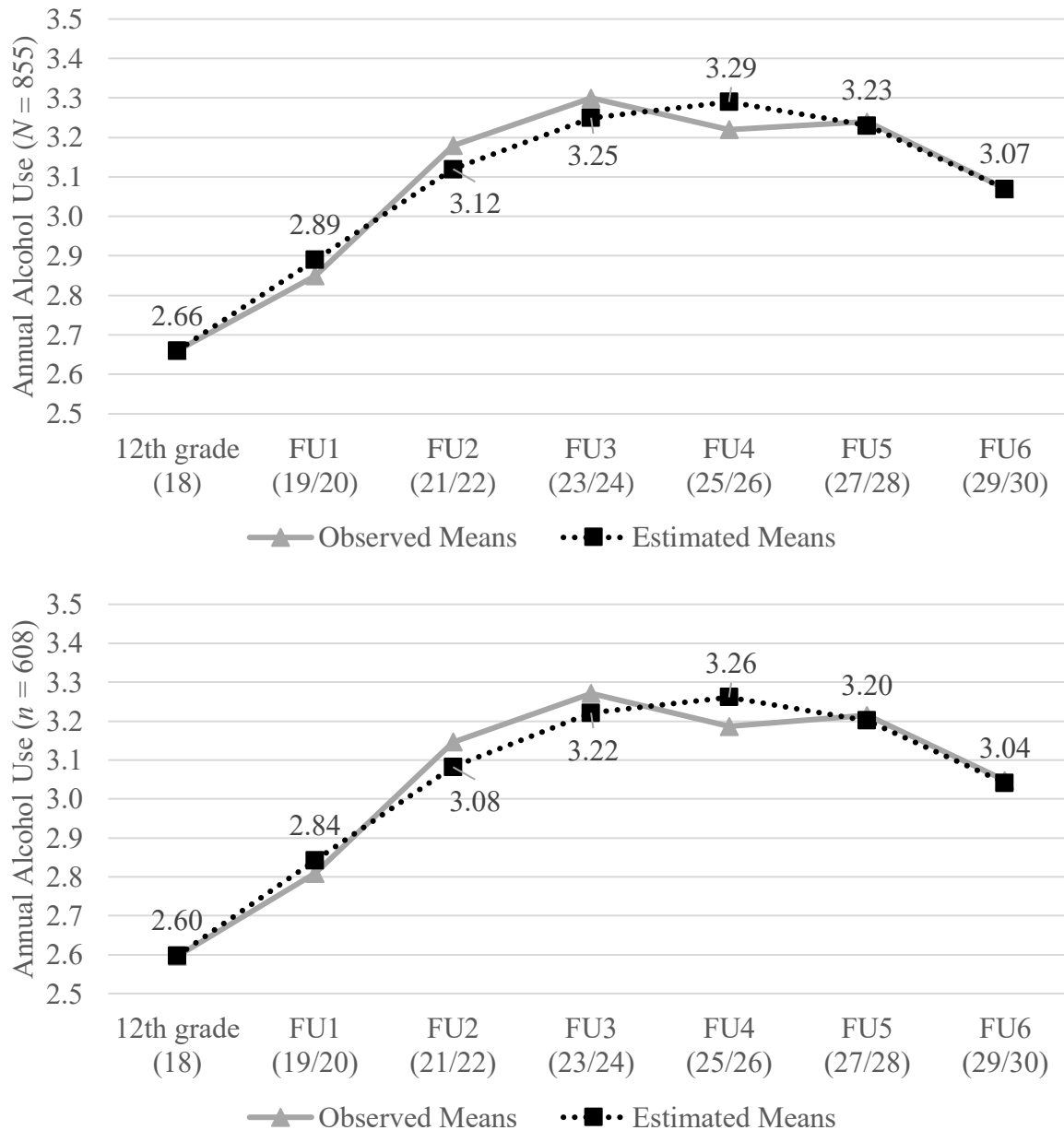
Note. The conceptual model is depicting the potential class trajectories of Latino youth's alcohol use as they transition from late adolescence to young adulthood (i.e., 18 to 30 years old) and the direct association of parent-child conflict in 12th grade (age 18) with class trajectories as well as indirect association of parent-child conflict with membership in these classes through friends' alcohol use in 12th grade.

Figure 1.2: Conceptual Model When Using Latent Growth Curve Modeling



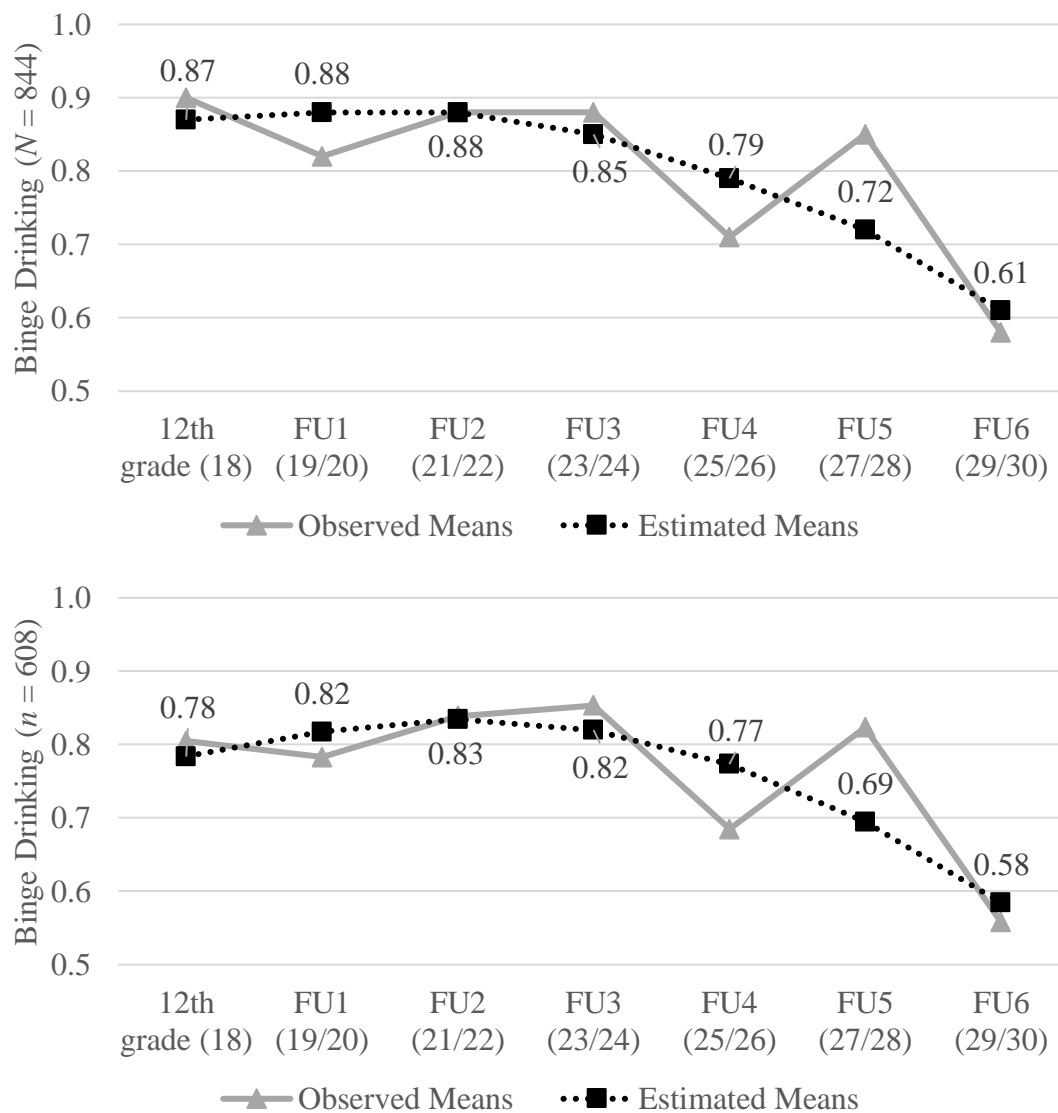
Note. The conceptual model is depicting the average trajectory of Latino youth's alcohol use as they transition from late adolescence to young adulthood (i.e., 18 to 30 years old) and the direct association of parent-child conflict in 12th grade (age 18) with intercept, slope, and quadratics term of the trajectory as well as indirect association of parent-child conflict with these aspects of the trajectory through friends' alcohol use in 12th grade.

Figure 1.3: Unconditional Latent Growth Curve Model of The Trajectory of Annual Alcohol Use Among Latino Youth as They Transitioned from Late Adolescence to Young Adulthood



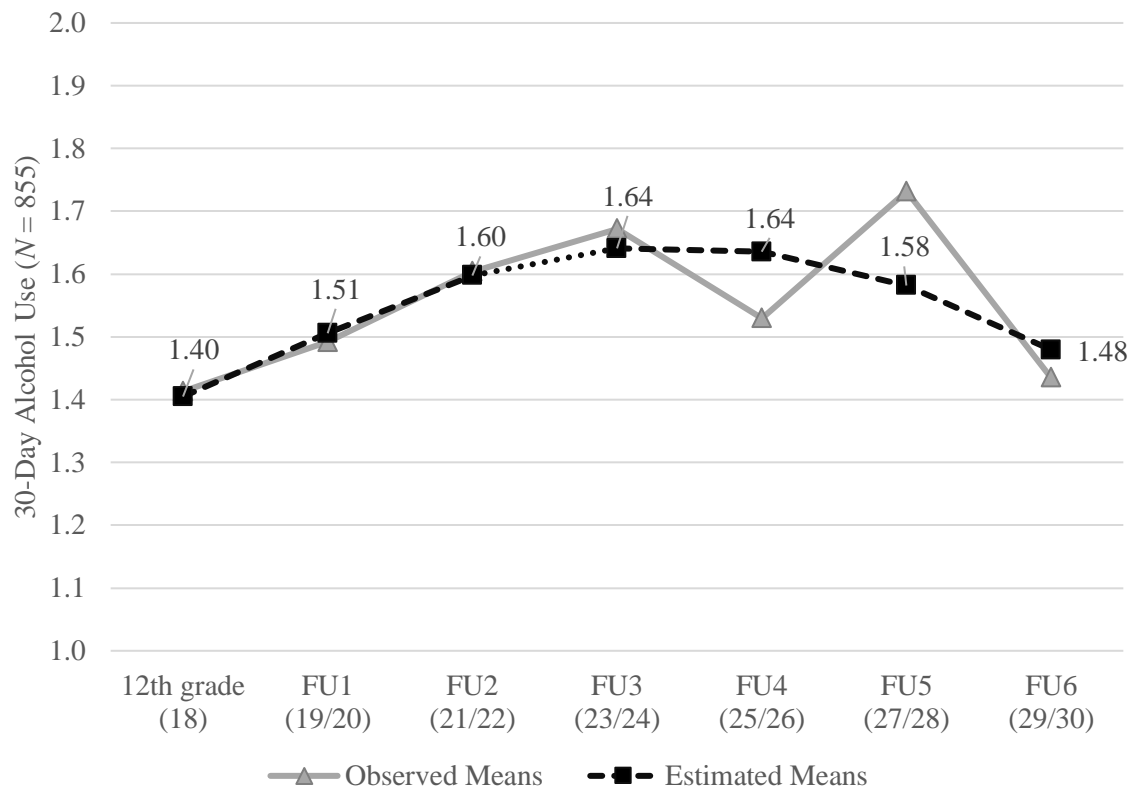
Note. FU = follow-up wave. The number in parentheses indicate the estimated age for that wave. The response options for annual alcohol use were 0 (0 occasions), 1 (1-2 occasions), 2 (3-5 occasions), 3 (6-9 occasions), 4 (10-19 occasions), 5 (20-39 occasions), 6 (40 or more). The lower figure depicts sensitivity analyses with a limited sample of participants that had at least one wave of FU data. The model fit for the full sample (upper portion) and the limited sample (lower portion) were both excellent at $\chi^2(19) = 20.34, p = .374$; CFI = 1.00, RMSEA = .01 [CI: .00-.03] and $\chi^2(19) = 20.50, p = .365$; CFI = 1.00, RMSEA = .01 [CI: .00-.04] respectively. Intercept, linear slope, and quadratic term were significant in both figures.

Figure 1.4: Unconditional Latent Growth Curve Model of The Trajectory of Binge Drinking Among Latino Youth as They Transitioned from Late Adolescence to Young Adulthood



Note. FU = follow-up wave. The number in parentheses indicate the estimated age for that wave. The response options for annual alcohol use were 0 (*none*), 1 (*once*), 2 (*twice*), 3 (*three to five times*), 4 (*six to nine times*), 5 (*ten or more times*). The lower figure depicts sensitivity analyses with a limited sample of participants that had at least one wave of FU data. The model fit for the full sample (upper portion) and the limited sample (lower portion) were both excellent at $\chi^2(19) = 22.40, p = .265$; CFI = .99, RMSEA = .02 [CI: .00-.04] and $\chi^2(19) = 21.93, p = .288$; CFI = .99, RMSEA = .02 [CI: .00-.04] respectively. The intercepts were significant in both figures, and linear slopes were not significant in either figure. The quadratic term was not significant for the full sample (upper figure), but it was significant in the limited sample (lower figure).

Figure 1.5: Unconditional Latent Growth Curve Model of The Trajectory of Alcohol Use in the past 30-Days Among Latino Youth as They Transitioned from Late Adolescence to Young Adulthood (Sensitivity Analyses – Part I)



Note. FU = follow-up wave. The number in parentheses indicate the estimated age for that wave. The response options for 30-day alcohol use were 0 (0 occasions), 1 (1-2 occasions), 2 (3-5 occasions), 3 (6-9 occasions), 4 (10-19 occasions), 5 (20-39 occasions), 6 (40 or more). $\chi^2(19) = 35.74, p = .011$; CFI = .97, RMSEA = .03 [CI: .00-.04] and $\chi^2(19) = 21.93, p = .288$; CFI = .99, RMSEA = .02 [CI: .02-.05]. Intercept, linear slope, and quadratic term were significant.

CHAPTER 3: STUDY 2 - ASSESSING IMMIGRATION-RELATED FAMILY CONFLICT: INITIAL SCALE DEVELOPMENT AND TESTING

Introduction

Approximately, one out of every four individuals in the U.S. are members of immigrant families, meaning either the individual or at least one of their parents are foreign-born, and Latinos are the largest and one of the fastest-growing immigrant groups in the U.S. (Child Trends, 2018; Trevelyan et al., 2016). Immigration can be a stressful life event, and it can take its toll on the whole family system even if some family members (e.g., children) never personally experience the immigration process (Lui, 2015; Kia-Keating et al., 2016). Given that immigration often takes place with an explicit intention for creating better lives for children (Bacallao & Smokowski, 2007; Fuligni, 1998), immigration-related family conflict may be particularly stressful for youth in immigrant families. Currently, there are no scales available that assess youth-reported immigration-related family conflict. In the current study, I developed and tested two new scales to measure immigration-related parent-child conflict and immigration-related interparental conflict in Latino immigrant families.

Assessing Immigration-Related Parent-Child and Interparental Conflict

Developmental theories that take the role of immigration into consideration suggest that family is a particularly important context for child development in immigrant families (Garcia Coll et al., 1996). Family discord may be especially stressful for adolescents in immigrant families who already must manage the stressors tied to immigration (Cervantes et al., 2013). Prior research has shown that the *content* of conflict plays an important role in the extent to which conflict between family members influences children's well-being. For example, interparental conflict is more distressing for a child when the content of conflict is about the

child, such as custody issues (Grych, 2005; Mueller et al., 2014). Just as divorcing families face unique interpersonal stressors, children in immigrant families are also a subpopulation who may be exposed to distinct sources of family conflict specifically in relation to immigration. For example, measures of acculturation-based parent-child conflict, mainly developed with Asian American immigrants, have identified topics of parent-child conflict that are uniquely relevant to immigrant families, such as parent-child disagreements about parents' expectations for children to follow traditions from the home country (see Lui & Rollock, 2019). Although acculturation gaps are one potential consequence of immigration that can contribute to conflict and conflictual feelings among parents and children, immigration-related stressors may be broader and become the topic of both parent-child conflict and interparental conflict.

These relatively broad immigration-related stressors are varied, and they can influence family dynamics and individuals' well-being. Examples of immigration-related stressors include, perceived discrimination linked to immigrant generational status (Szaflarski & Bauldry, 2019), potential challenges related to immigration legal status (Suárez-Orozco et al., 2011; Van Hook & Glick, 2020), language barriers (Kamimura et al., 2020), sense of loss and longing for the home country (Aroian, 2003; Wang et al., 2014), financial difficulties intensified by the urge to help family and community members left behind (Grzywacz et al., 2005), separation from family or community members (Arbona et al., 2010; Van Hook & Glick, 2020), acculturation gaps among family members (particularly children and parents; Lui, 2015), and shifts in gender roles and family power dynamics as a result of immigration (Rojas et al., 2016). Although prior research has documented a multitude of stressors that Latino immigrant families may confront (see the immigrant version of the Hispanic Stress Inventory; Cervantes et al., 1991), the ways that these stressors influence family dynamics are not well-understood. One family dynamic that has been

studied in the context of immigration is family conflict. Researchers have documented that immigration-related stressors can precede family conflict (e.g., financial stress in the context of immigration contributing to marital conflict; Helms et al., 2014), but there is a gap in the literature regarding whether these immigration-related stressors constitute the topics of family conflicts (e.g., arguments *about* immigration-related financial stress such as sending money to the home country).

Immigration can take a toll on the parent-child relationship as well as the marital/interparental relationship, and prior work has delved into immigration issues in the family context. For example, two scales have been developed with adolescents from immigrant families of Asian descent to examine the acculturation-gap between parents and their children as a source of intergenerational conflict (e.g., see Chung, 2001; Lee & Liu, 2001), and the current study expanded on these scales by considering immigration as a broader stressor that extends beyond potential acculturation gaps within Latino immigrant families that can become a source of parent-child conflict. For example, when parent(s) immigrate to create better lives for their children, they may expect certain behaviors from the child as “repayment” for their sacrifices (Flores, 2018; Oso, 2011). If children do not meet parental immigration-related expectations, then immigration-related parent-child conflict may arise. Furthermore, parents in Latino immigrant families face many immigration-related stressors that may become the topics for marital/interparental conflict (Flores et al., 2004). For example, changes in gender roles brought on by the norms and opportunities in the host versus home country can contribute to conflict among couples with at least one immigrant member, such that women may be taking on working roles outside the household and challenging the established financial dynamics in the family (Flores et al., 2004). In sum, when at least one partner is foreign-born, couples may face unique

decisions or stressors tied to immigration, which may lead to conflict between the couple. Hence, when studying conflict in immigrant families, it is important to go beyond the parent-child dyad, which has been the primary focus in the extant literature and consider the parental dyad as well. As the family systems theory indicates, family members are interconnected, and the dynamics in one subsystem can affect other subsystems (e.g., parent-parent dyad influencing the parent-child dyad; Gerard et al., 2006). Moreover, empirical research has found that interparental conflict and parent-child conflict are commonly correlated but also distinct concepts with unique predictive powers (Bradford et al., 2008; Kouros et al., 2014). Thus, Study 2 took both the interparental and the parent-child dyads into consideration when developing new scales to measure immigration-related family conflict.

More specifically, in the current study, I aimed to develop two separate scales to assess immigration-related parent-child conflict and immigration-related interparental conflict. Prior research has shown that the *content* of family conflict can change the way family conflict affects individuals' behaviors and well-being (Grych, 2005; Williamson et al., 2013). Immigration-related family conflict is likely to be a distinct factor that may contribute to well-being of family members in immigrant families. I conceptualized immigration-related family conflict as disagreements among family members (i.e., parent-child, parent-parent) about topics directly linked to immigration and immigration-related stressors. *Immigration-related* topics differ from *general* topics of conflict because of their distinctive relevance to immigrant families. For example, although all families may argue about money (general), only immigrant families may argue about sending money to the home country (immigration-related). The development of these two scales could help future researchers examine these potentially unique sources of stress in relation to youth's well-being in immigrant families.

The development of these scales may also benefit intervention, prevention, and education programs that are focused on helping youth in managing or coping with immigration-related stress. Prior research has shown that family education programs that target specific family forms, such as divorcing families, are most effective when concentrating on matters particularly relevant to that type of family (e.g., child being put in the middle of interparental conflict during the divorce; Grych, 2005). As such, the results from the development of immigration-related family conflict scales may suggest that Latino immigrant families may benefit from programs in which families' immigration-related stressors are considered and integrated into support activities.

An Overview of Measurement Development and Testing

Measurement development scholars suggest that in order to develop original valid and reliable scales, multiple steps must be taken, including item generation, invariance testing, and reliability and validity checks (Hinkin, 1998). In the current study, I conducted a review of literature focused on immigration-related stressor as well as semi-structured focus groups to generate items and develop the initial scales (Phase 1: focus groups). Next, in Phase 2, to test the scales' validity and reliability, I collected online survey data from Latino university students in immigrant families to test the scales' factor structure and measurement invariance (i.e., configural, metric, scalar) across groups based on gender (women, men) and generation status (1st generation, 2nd generation). Additionally, in Phase 2, I tested the scales' concurrent predictive validity, which represents the predictive validity in correlational studies (Elia & Stratton, 2011). Finally, in Phase 3, I checked the appropriateness and comprehensibility of the developed scales for adolescents by conducting interviews with high school Latino students, given that the earlier phases were conducted with young adults.

Item generation

Carefully designed and executed focus groups can provide opportunities for participants with shared experiences to interact and generate ideas for measurement development (Streiner et al., 2015). When individuals with shared experiences are given the opportunity to hear each other's thoughts and build on others' ideas, common themes regarding various topics can emerge. The current study explored immigration-related family conflict with a sample of Latino young adults (i.e., 18 to 21 years old) in immigrant families. The selection of young adults was purposeful, as young adults are in a good position to carefully reason and reflect on their current and past immigration-related family conflicts. This made them ideal candidates to provide insights in focus groups, as, generally, conducting focus groups are particularly beneficial for item generation (Wang et al., 2015). The focus groups had two parts, part 1 was a conversation with the participants when they generated ideas for potential immigration-related family conflict items without being primed, and part 2 was when the participants provided feedback on a list of items drafted based on literature focused on immigration-related stressors that families may face.

Invariance testing across demographic groups

In developing measures of immigration-related parent-child and interparental conflict, it was important to examine measurement equivalence (Miller & Lee, 2009). I examined measurement equivalence across men and women for two reasons. First, some immigration-related stressors may be unique to one gender. For example, prior research has shown that immigrant parents are more likely to expect daughters (compared to sons) to follow the home country's traditions, and thus this pressure may contribute to conflict between daughters and parents but not sons and parents (Dion & Dion, 2001). Second, some researchers argue that girls

are more sensitive to maintaining harmony in interpersonal relationships (Buchanan et al., 1991), which may translate to girls' higher vigilance to detect certain aspects of family conflict.

I also conducted invariance testing based on immigrant generational status because first-generation immigrants (the youth and the parents are all foreign-born) and second-generation immigrants (the youth is U.S.-born but at least one of the parents is foreign-born) may experience different immigration-related stressors that may result in unique immigration-related family conflict. For example, first-generation youth may feel pressured to help the family navigate the novelties in the host country while personally struggling with English, but second-generation youth may not experience the stressors associated with learning a second language after immigration (Martinez et al., 2008). In addition, immigration-related stressors that are directly tied to the home country (e.g., missing the home country) may not be relevant to second-generation Latino youth (Stewart, 2017).

Assessing concurrent predictive validity

While establishing internal structural validity and reliability within and between groups is important, examining concurrent validity (predictive validity of the measure for relevant outcomes) is also necessary for rigorous and comprehensive scale development (Whitely, 1983). I tested the association of a few established family conflict measures and the newly developed immigration-related family conflict scales with two outcomes (i.e., stress, quality of life). The selection of stress and quality of life as outcomes for the current study was intentional, as prior research has shown that cultural parent-child conflict in immigrant families was linked with university students' higher perceived stress and lower quality of life (Bakhtiari et al., 2018).

The Current Study

In the current study, I developed and tested two scales to measure immigration-related parent-child conflict and immigration-related interparental conflict. The development and testing of the scales had three phases. In the first phase, after review of literature focused on immigration-related stressors and drafting potential items for immigration-related parent-child conflict and immigration-related interparental conflict, I conducted two focus groups with 12 Latino young adults to generate the most relevant items to capture immigration-related family conflict among Latino youth in immigrant families. The main hypothesis for Phase 1 was that I would acquire information about what immigration-related topics of parent-child and interparental conflict in Latino immigrant families, and the data would form the basis for item generation and scale development. During the second phase, I collected survey data from 353 Latino university students at a Hispanic serving institution in Southern California in order to test the immigration-related parent-child conflict and immigration-related interparental conflict scales' reliability and validity. Specifically, I tested the scales' factor structure and measurement invariance (i.e., configural, metric, scalar) across groups based on gender and immigrant generational status. I also tested the scales' concurrent predictive validity, and I hypothesized that the links between the immigration-related family conflict scales and the outcomes would be in the same direction and potentially comparable magnitude to the links between the established general and/or acculturation-based family conflict scales and the outcomes. This is in line with prior research that has indicated the importance of studying the content of conflict in relation to family members' well-being versus the links between the mere frequency of general conflict and the outcomes (Juang et al., 2012, Hqu et al., 2016). After the scales were developed and tested with young adults, in Phase, I conducted semi-structured interviews with 10 adolescents

participating in an ongoing longitudinal community study in a Southwestern state. This final step helped me ensure that the items were likely understandable for adolescents.

Methods

Item Generation (Phase 1)

Participants (Phase 1)

In Phase 1 of the scale development process, in Fall 2018, after a review of literature focused on immigration-related stressors that may contribute to immigration-related family conflict, I collected primary focus group data from 12 Latino university students in immigrant families attending a public university in a Southwestern state. Focus groups occurred in two sessions (58% first session; 42% second session), and each session had two parts. The first part encompassed semi-structured conversations, and second part requested participants' feedback on developed items based on literature focused on immigration-related stressors. The age range for the sample was 18 to 21, and the majority were female participants (75%). All participants identified as Latina or Latino, and the majority were born in the U.S. (75%), followed by Mexico (17%), and Ecuador (8%). All participants were members of immigrant families, meaning that they had at least one foreign-born parent. Students were asked to identify their primary mother and father figures, with all participants (100%) identifying their mother figure as their birth mother and the vast majority (92%) identifying their birth father as their father figure (followed by 8% reporting their grandfather as their father figure). Participants reported that the parental figures were from six different countries (i.e., Argentina, Colombia, Ecuador, Mexico, U.S., Italy) with the majority of parents having been born in Mexico (67% of mothers and 58% of fathers). First-generation participants had been in the U.S. from 8 to 17 years ($M = 12$ years). Length of residence in the U.S. was between 11 and 40 years for participants' mothers ($M = 25$

years) and 17 to 36 years for participants' fathers ($M = 25$ years). The majority of the participants (83%) reported that they did not live with their parent(s) during the time of data collection.

Procedures (Phase 1)

Participants were recruited through (a) a flyer posted in the hallways of the Departments of Psychology and Human Development and Family Sciences (HDFS) at the university where data collection took place, and (b) a short presentation delivered to a research practicum course in the Department of HDFS. Both focus group sessions occurred during the same week and during the same time of the day. The author (i.e., Middle Eastern woman in her late twenties from an immigrant family) was the moderator for both sessions, and each session had a different notetaker. Both notetakers were Latinas in their early twenties from immigrant families who were fluent Spanish speakers. In order to build rapport with the participants, the moderator clearly pointed out this shared characteristic within the group (Kim et al., 2008) by emphasizing that all the participants, the moderator, and the note-taker were members of immigrant families. Each focus group lasted approximately 60 minutes, and they were primarily conducted in English. Each session was divided into two parts. First, participants were asked to discuss potential immigration-related topics of parent-child conflict and immigration-related topics of interparental conflict. The second part was devoted to participants providing specific feedback on a list of items that were developed during the literature review process focused on the unique stressors related to immigration that individuals in immigration-related families face, which I hypothesized had the potential to become a topic of immigration-related family conflict. Both focus groups were audio-taped and transcribed later by trained research assistants. All participants received nominal monetary compensation for their time (\$20), and pizza was available during each session.

Measures (Phase 1)

During the first task of the focus group, the participants provided insights for potential topics of family conflict that were specifically related to immigration (see Focus Group Protocol in Appendix A). I asked the participants to first think about some of the stressors that immigrant families face. Next, I asked whether they have ever argued about those immigration-related stressors with their parents. I encouraged the participants to think about their peers who are in immigrant families and consider examples of immigration-related parent-child conflict that are beyond their own families. I then asked the participants to think back about their adolescent years and whether they can think of any immigration-related topics that were not already covered in the earlier discussions. An identical process was used for better understanding immigration-related interparental conflict.

During the second task in the focus groups, participants received a list of items that were developed during the literature review process for this study (see Focus Group Surveys in Appendix B). Participants were asked two main questions in the survey portion of the focus groups. First, they were asked, "Do you think this item is a good example of immigration-related parent-child conflict? Do you think it is worth including this item in the scale (meaning it is a relevant and prevalent topic of conflict)?" Response options were 0 (*no*) and 1 (*yes*). Empty space was provided below each item and participants were encouraged to offer their own wording if an item was confusing or could be said better in their opinion. In addition, students were asked to rate the relevance of each item to their own family by responding to, "Families argue about many different topics. Children and parents in immigrant families sometimes argue about topics that are specifically related to immigration. As a member of an immigrant family,

how frequent are the disagreements you have with your parents on the following issues?"

Response options ranged from 1 (*never*) to 5 (*most of the time*).

Analysis plan (Phase 1)

As part of data reduction processes, the notetakers and the author identified broad themes after conducting the focus groups and reviewing the transcribed focus group data. I then developed more detailed themes and specific items by reviewing the focus group transcripts. I used matrices to display the data in a visual format (LaRossa, 2005; Miles et al., 2014) in order to organize the information, identify the emerging themes, and determine the most common topics of immigration-related family conflict.

Psychometric Evaluation (Phase 2)

Participants (Phase 2)

In Phase 2 of the scale development process, survey data were collected from a group of Latino university students in immigrant families in a Hispanic serving institution. The final sample size for this phase was $N = 353$ (see below the inclusion criteria regarding how the final sample size was reached). Participants' age ranged from 18 to 25 ($M = 19.2$, $SD = 1.5$). The majority of the participants were women (77%), and most were of Mexican origin (75%). The participants were only included in the sample if they identified both a mother and a father figure and if they reported living with at least one parental figure. In this sample, the majority identified their biological mother (98%) and their biological father (87%) as their parental figures, and the majority reported living with two parental figures both during the time of data collection (84%) and when retrospectively reporting about their high school years (86%). The majority of the participants in the sample were U.S.-born. Those who were first-generation immigrants in the U.S. (8%) reported residing in the U.S. between five and 20 years ($M = 5.9$, $SD = 4.7$). All

participants had at least one foreign-born parent, and the mothers' number of years in the U.S. ranged from five to 60 years ($M = 26.6$, $SD = 8.6$) versus fathers' number of years ranging from zero to 55 years ($M = 28.6$, $SD = 9.4$). For more details see Table 2.1.

Inclusion criteria

The online survey was posted on the psychology department's human subject pool website at a Hispanic Serving Institution in Southern California. Students were instructed to only take the survey if they were a member of an immigrant family, but birth country questions were also included in the survey for verification purposes. Furthermore, I included two "attention-check-questions" in the survey (e.g., If you are reading this question select, please select never). The sample also was limited using other inclusion criteria including identifying as Latino, being 18 to 25 years old, living with at least one parent, and having two parental figures. Out of the 723 students who completed the survey, I excluded 50 students because they were not from an immigrant family, and 74 because they did not answer at least one of the check-questions correctly. An additional 246 students were excluded because they did not meet at least one of the other inclusion criteria, which brought the final sample size to $N = 353$.

Sample breakdown for analyses

Using the random case selection function in SPSS Version 25.0, I selected approximately half the full sample in order to conduct exploratory factor analyses (EFA) and the other half to conduct confirmatory factor analyses (CFA). The EFA sample ($n = 167$) included 78% female participants and 6% first-generation immigrants, which was comparable to the CFA sample ($n = 186$) with 75% female and 10% first-generation immigrant participants. For more details about the breakdown of these two subsamples see Table 2.1.

Procedures (phase 2)

Items that were generated during Phase 1 (i.e., focus groups) were submitted to the data collection site's Institutional Review Board (IRB) as an amendment to an ongoing project. In Spring 2020, an online survey, which targeted university students in immigrant families, was posted on the psychology subject pool website of a Hispanic serving university in Southern California. The participants were registered in one of two introductory courses that required either participation in research studies or completing an alternative assignment. The online survey lasted about 20 minutes, which was the equivalence of two research credits.

Measures (Phase 2)

As shown in Table 2.1, the participants reported about various aspects of their personal characteristics (e.g., gender, birth country), and Table 2.2 shows the correlations between the main constructs in Phase 2 of Study 2.

Immigration-related parent-child conflict

The initial measure to assess immigration-related parent-child conflict included 19 items, with the stem stating, "How frequently do you have disagreements with your parents about..." An example item was, "Your parents thinking you are not taking advantage of the opportunities in the USA that were made possible by their immigration efforts," and the response options ranged from 0 (*never*) to 3 (*often*). This was a new scale developed and tested in the current study, and the full scale appears in Appendix C.

Immigration-related interparental conflict

The original set of items that assessed immigration-related interparental conflict included 17 items, and the stem stated, "How often do your parents have disagreements with each other about..." An example item was, "Sending money to family or friends in the country where your

parent(s) were born," and the response options ranged from 0 (*never*) to 3 (*often*). This measure that was developed and tested in this study, and the full measure appears in Appendix C.

General parent-child conflict

Two measures were used to assess frequency of general parent-child conflict. One scale was a modified version of the Parent-Adolescent Conflict Scale that assessed the frequency of conflict about specific everyday topics such as chores or homework (Bámaca-Colbert et al., 2012). Participants responded to 14 items that tapped into general topics of parent-child conflict. One item was dropped from the original 15-item scale because it asked about culture. I expected that culture would be an important item in the immigration-related parent-child conflict scale, and thus I omitted it from the general conflict scale for this study. Response options were slightly revised to match the immigration-related scales and ranged from 0 (*never*) to 3 (*often*). Items were averaged, and higher scores indicated more general parent-child conflict. In addition to this scale, a single item measure of parent-adolescent conflict was included in the survey (Bush et al., 2013). The stem for the slightly modified version of this single item was "How often do you argue with your parents? My parents and I have arguments and fights..." And response options ranged from 0 (*rarely or never*) to 5 (*several time a day*). The inclusion of the single item was purposeful because it could help me with future research measurement selection decisions.

Acculturation-based parent-child conflict

Using the 10-item parent-version of the Family Conflicts Scale (Lee & Liu, 2001), participants were asked to report about acculturation-based parent-child conflict topics. The slightly revised stem for this scale stated, "The following statements are parent-child situations that may occur in your family. Consider how frequently each situation occurs in your present relationship with your parents." An example item was, "Your parents expect you to behave like a

traditional male or female from your ethnic group, but you feel your parents are being too traditional." The response options ranged from 0 (*almost never*) to 4 (*almost always*), and the items were averaged with higher scores representing more acculturation-based parent-child conflict ($\alpha = .92$).

General interparental conflict

General interparental conflict was assessed using two measures. The first was a 12-item scale, and the stem was, "Parents often disagree about many things in family life. How often do the parent(s) you live with disagree about each of these things?" (Ahrons, 1983). An example item was, "Your (or one of your siblings) behavior in public or at school." The response options ranged from 0 (*never*) to 3 (*very often*), and the items were averaged to create a composite score for general interparental conflict ($\alpha = .89$). I also included a single item to measure interparental conflict that was parallel to the single item assessing parent-child conflict: "How often do your parents argue? My parents have arguments and fights..." The response options ranged from 0 (*rarely or never*) to 5 (*several time a day*).

Stress

Participants reported about their perceived level of stress using two measures. One was a single item using a visual analog scale (VAS; Chambers et al., 2016). Participants were asked, "How would you rate the amount of stress in your life?" The end points on the VAS scale were 0 (*no stress*) and 100 (*extreme stress*). There were tick marks at 10-point-intervals (i.e., 10, 20 ... 80, 90). Participants were able to move a sliding bar that represented their levels of stress with the specific number shown on the right side of the bar. In addition, the 10-item Perceived Stress Scale (Cohen et al., 1983) was used to measure students' ability to manage stress. The stem for the items was, "In the last month, how often have you..." and an example item was, "Felt that

you were unable to control the important things in your life?” The response choices ranged from 0 (*never*) to 4 (*very often*), and the items were averaged with higher scores representing less ability to manage stress or higher perceived stress ($\alpha = .86$).

Quality of life

Participants reported about their quality of life using a single item (Zimmerman et al., 2006), which asked the participants, “In general, how would you rate your overall quality of life during the last six months?” The response choices ranged from 0 (*very good, my life could hardly be better*) to 4 (*very bad, my life could hardly be worse*).

Analysis plan (Phase 2)

All quantitative analyses were conducted in *Mplus* version 8.2 (Muthén & Muthén, 1998–2017). *Mplus* was ideal for the analyses, as it allowed me to handle missing data using full information maximum likelihood estimations, which is a preferred method for dealing with missing data (Enders, 2010). I randomly selected approximately half the primary sample ($n = 167$) to conduct exploratory factor analyses (EFAs) with a promax rotation for parent-child and interparental conflict items separately. EFAs allowed me to examine whether items loaded as one factor or as multiple subscales for each of the measures. Eigenvalues, scree plots, and a combination of model fit statistics (i.e., chi-square, comparative fit index (CFI), root mean square error of approximation (RMSEA)) were used to determine the number of factors (Hu & Bentler, 1999). I then conducted confirmatory factor analyses (CFAs) with the other random half of the sample ($n = 186$) to assess whether the proposed factor structure provided an adequate fit to the data (Floyd & Widaman, 1995).

Measurement equivalence (i.e., invariance testing) was conducted for the scales using the full sample ($N = 353$). I specifically explored measurement equivalence for both scales (and any

emerging subscales) for gender. Multi-group confirmatory analyses were used to test factor invariance using the following steps. Three aspects of invariance testing (i.e., configural, metric, and scalar) were tested sequentially, from the least restrictive to the most. If data did not fit the model well for either of the groups in any of the steps, I stopped the invariance testing analyses, as this suggested that the scales functioned differently across groups. I examined configural invariance by testing whether the same set of items loaded well on the latent factor(s). Metric invariance was established by testing whether the factor loading of each item was invariant across groups. Finally, to examine scalar (strong) invariance, I examined whether the intercept of each item (means) was invariant across groups. I used chi square difference test to establish whether the model fit was worsened across configural, metric, and scalar invariance tests. Additionally, I paid special attention to the change in CFI scores, which was considered relatively high if the change (i.e., worsening of the model fit) was more than 0.01 (Chen, 2007).

For immigrant generational status, I conducted multiple-indicators multiple-causes (MIMIC) modeling. MIMIC is a potential substitute for invariance testing when the sample sizes of certain groups are too small (Kim et al., 2011); given that only 8% of the sample were first-generation immigrants, MIMIC analyses were deemed most appropriate. MIMIC analyses (Joreskog & Goldberger, 1975; Willse & Goodman, 2008) were conducted by using the grouping variable (i.e., dichotomous immigration-related generational status) as the predictor of the latent factors, which were the immigration-related parent-child conflict and interparental conflict measures.

Lastly, I conducted bivariate correlations to examine the concurrent predictive validity of the new scales/subscales by correlating them to stress and quality of life. Additionally, by assessing the correlations among the established family conflict measures and the outcomes, I

was able to determine whether the new scales had predictive power that would be comparable to established family conflict scales.

Adolescents' Input about the Items (Phase 3)

Participants and Procedures (Phase 3)

In Summer and Fall of 2019, semi-structured qualitative interviews were conducted with a sample of 10 adolescents (70% Latino; 30% Latina) in immigrant families to determine relevance and comprehensibility of the immigration-related family conflict items for adolescents. all members of immigrant families (30% first-generation; 70% second-generation), and they were largely Mexican American (70%). All participants were part of an ongoing mixed method longitudinal community project (Preventing Inequalities in School Climate and Educational Success Project; Project PISCES) in a Southwestern state. The majority of the interview participants for this study were in 10th grade (90%), and the rest were in 9th grade.

Interview questions were focused on confirming that scale items were comprehensible and meaningful to adolescents. One of two Spanish-speaking Latina research assistants conducted each interview, and I (Middle Eastern woman) was the note-taker. Participants were given the option to do the interviews in either English or Spanish; all participants chose English, but a few participants said some Spanish words or phrases throughout their interviews. The interviews were conducted in a place of participants' choosing (e.g., library). The full interviews focused on a range of topics related to Project PISCES, and the portion of the project focused on immigration-related conflict scales typically lasted 15 to 20 minutes. The participants received \$20 for attending the full interview, and the interviews were recorded, transcribed, and checked by trained research assistants.

Measures (Phase 3)

Adolescents were asked to review a laminated piece of paper with a list of items (one side included the immigration-related parent-child conflict items and the other side had the immigration-related interparental conflict items), while the interviewer read each item for them. Given the limited time for the interviews, a select number of items were presented to the participants (i.e., 10 items from the immigration-related parent-child conflict measures and 12 items from the immigration-related interparental conflict measure; see Appendix D). Due to delays in IRB approval in Phase 2, the timing for data collection in Phase 3 was compacted, and thus I was not able to make final decisions regarding Phase 3 item inclusion based on Phase 2 results. As such, I chose the items that seemed potentially confusing for adolescents for Phase 3 review (see Appendix D). All of the items in the final Subscale 1 of the immigration-related parent-child conflict measure were included in Phase 3, but none of the items from the final Subscale 2 of immigration-related parent-child conflict measure were selected for Phase 3 review. In addition, four out of five of the items from the immigration-related interparental conflict scale were selected for Phase 3 review (see the bolded items in Appendix D). The participants were asked to comment on, (a) whether the item made sense to them (if not, what would they change about it?) and (b) whether they could provide an example for the item from their own lives or someone else that they know in an immigrant family. Phase 3 allowed me to confirm that the items that were initially developed with young adults were potentially comprehensible for adolescents as well.

Analysis plan (Phase 3)

Qualitative analyses were centered on documenting whether the proposed questions made sense to adolescents and whether the type of examples that the participants came up with were consistent with the intended meaning of each item. If some adolescents reported that one or more

items were not relevant or comprehensible to them, then I considered testing the scale(s) from Phase 2 without those items to confirm reliability and validity of the measures.

Results

As noted above, the current study had three phases (i.e., item generation, psychometric evolution, adolescent feedback) to develop and test two new measures of immigration-related interparental conflict and parent-child conflict. The results for each phase are described below.

Item Generation (Phase 1)

The focus group data provided an opportunity to identify the immigration-related topics of parent-child conflict and interparental conflict that were most relevant to the target population (i.e., Latino youth in immigrant families). Themes for topics of conflict were developed using both the discussion section of the focus groups (see Appendix A) and the participants' feedback on the list of drafted items (see Appendix B).

Immigration-related parent-child conflict

As shown in Figures 2.1 to 2.3, four themes were identified for immigration-related parent-child conflict: immigration-related parental expectations for children, acculturation gaps, immigration-related experiences/desires related to the home country, and miscellaneous immigration-related topics. The draft immigration-related parent-child conflict measure started with 20 items (see the first part of Appendix B). After the focus groups, two of the 20 items remained untouched, eight items were edited for clarity, 10 items were dropped, and nine items were added. These changes translated to a measure with 19 items focused on immigration-related parent-child conflict that were then tested in Phase 2.

Immigration-related parental expectations for children

Five different topics were captured under the theme of immigration-related parental expectations for children: opportunities, education, language, family obligation, and immigrant generational status. While general parent-child conflict can relate to general parental expectations about youth's education or career paths, youth in immigrant families may face these expectations with a unique spin that results in immigration-related disagreements. Note that all quotes were edited for clarity (i.e., removing filler words such as um or uh) and brevity (denoted by an ellipsis). As one participant stated:

"[My mom says] 'well you need to do this so you can have money, so you can have this future.' Because she didn't have that complete future that she wanted. And so not that she lives through me, but in a way, I feel like it is kind of that, and that leads to more problems because I don't want to do that. I want to do this. I know *you* wanted to do that, but *I* want to do this."

The participant may have viewed the parental expectations as immigration-related because immigrant parents can either directly say or indirectly imply that they made sacrifices and immigrated to the U.S. for their children's sake. Thus, it is the children's responsibility to take advantage of the opportunities in the U.S., so the parent(s) can see the results of their immigration efforts. One participant noted that immigrant parent(s) may expect children to take part in moving the family towards the American dream:

"They [the participant's parents] leave this place to go somewhere else where they're gonna try to get a better life, and then they have a certain mentality that we have to keep working to get better, to get to a better place, and then I just feel like for a long time they don't leave that. So, right now, I feel with my family, they're still in that mentality like they want to keep climbing because they feel that there's a long way to climb, and so I think that's that mentality that you have to do this after you go to college or you have to do that because of that mentality that they already had before they left. Just the fact that they're here doesn't mean that they accomplished the American dream—you know, they're still working towards it."

Acculturation gap

Four topics were captured under the theme of acculturation gap: culture, social relationships, holidays and food, as well as education and career. When I initially developed items based on the available literature, many articles focused on acculturation gaps as a stressor and a topic of parent-child conflict (see Lui, 2015 for a meta-analytic review). Given my conceptualization that immigration-related conflict was a larger umbrella that encompassed acculturation-based issues, I made a concentrated effort to keep the number of items focused on acculturation gap limited in the initial list of items. After the focus groups, however, topics related to acculturation gap between parents and children emerged as a strong theme, which was not sufficiently covered in the original list of items. Although the focus on acculturation gaps may have been due to the relative over-representation of second-generation immigrant participants in the focus group sample, I chose to be responsive to the participants' feedback and added multiple items that were related to acculturation gaps (see Figure 2.2). For example, multiple participants spoke about acculturation gaps related to education and career as an immigration-related topic of for parent-child conflict, as one participant indicated that "In a different country, jobs are more successful than they are here, so your family will try to persuade you to choose a different career path just because it's more successful in their country."

Moreover, when the participants were primed to think about their adolescent years, they offered examples related to going to college away from home and staying in dorms, which was not an acceptable option for some of their parents:

"With my family, usually you stay at home. In Mexico, you stay within the city. Like if you go to college, you go to the college in your city. So, when I was applying to colleges, I got into other schools. [This school] wasn't my first choice, but I ended up compromising with them staying in [this state]. That's a topic we'd argue a lot about."

These examples informed the addition of two items focused on parent-child conflict about: "Expectations for your future career that are based on values and opportunities in the country where your parent(s) were born versus the USA" and "Where you would live when you graduate from high school and possibly go to college."

Immigration-related experiences/desires related to the home country

As shown in the upper portion of Figure 2.3, four different topics were initially captured under the theme of immigration-related experiences/desires related to the home country: sending money, traveling to the parent(s)' home country, moving back to the parent(s)' home country, and friends and family. Two of these topics (i.e., sending money to the home country, friends and family) were dropped after the focus groups because participants indicated that these were topics that parents would argue about with one another rather than with their children. The items about traveling and moving back to the home country were edited from "Traveling to the home country" and "Your parent(s) wanting to move back to the home country either now or in the future" to revised items that read, "Your parents or you *traveling* to the country where your parent(s) were born" and "Your parents or you *moving back* to the country where your parent(s) were born." The first-generation participants, in particular, emphasized that sometimes they were the ones, who wanted to travel or move back to the home country and not their parents.

Miscellaneous immigration-related topics

As shown in the lower portion of Figure 2.3, two different topics were captured under the theme of miscellaneous immigration-related topics: (a) immigration decision and (b) immigration policies; however, both items were subsequently dropped because they were not mentioned during the focus groups.

Immigration-related interparental conflict

As shown in Figures 2.4 and 2.5, two themes were initially identified for immigration-related interparental conflict: (a) immigration-related experiences/desires related to the home country and (b) immigration-related experiences/desires related to the host country. The initial immigration-related interparental conflict draft included 22 items (see the second section of Appendix B). After the focus groups, two items were retained as originally drafted, twelve items were edited, eight items were dropped, and three items were added. The immigration-related interparental conflict measure that was generated after the focus groups included 17 items.

Immigration-related experiences/desires related to the home country

As shown in Figure 2.4, four topics were captured under the theme of immigration-related experiences/desires related to the home country in the context of interparental conflict: sending money, traveling to the home country, moving back to the home country, and friends and family. Participants offered different reasonings for why they considered these topics to be immigration related. For example, multiple participants suggested that traveling to the home country was a topic of conflict between the parents, but depending on the participants' characteristics, experiences, and views about immigration, they offered different examples and reasoning for why it was considered immigration related. For example, one participant mentioned documentation as the barrier to traveling, stating: "You can't really go anywhere [when undocumented]. Like you could only go within the states." Another discussed finances as a challenge for traveling, noting that "My parents are the only ones of our extended family that live in the U.S., and so I could almost never see my grandparents so that was just difficult. Or when my grandpa died, my mom didn't have enough money to go, so she had to raise up money to go eventually." Thus, given the variability in reasoning behind why traveling to the home

country could cause conflict, I decided to focus on the *topic* (e.g., traveling to the home country) rather than the reason behind it (e.g., documentation, finances, missing friends and family).

Although the reasoning for traveling was generally omitted from the revised items, some participants seemed to consider traveling to see a doctor as a separate issue from traveling to the home country for other reasons. As one participant stated:

"So, I don't live by the border. I live in [name of the city], so it's kinda far from Mexico. Cause my dad gets sick a lot, sort of. And so, my mom is always like, 'just go to the doctor.' Better safe than sorry. Right? But then my dad is like, 'No, it's too expensive.' And so, since we don't live by the border, he'd rather wait it out until like whenever he can go to Mexico and whenever he really needs to go over there and then get it checked out."

The participants identified health-related expenses in the U.S. as the potential reason that going to the doctor in the home country could become a topic of conflict between the parents, and thus a new item was created to capture going to the doctor (see Figure 2.4).

In addition to new topics that emerged during the focus groups, some topics that were already captured by the original items were reiterated in focus group data. For example, participants discussed interparental conflict about sending money to the home country:

"My parents also argue about the money they're sending back to Mexico—like when my dad sends money to his mom or when my mom sends money to her family, so I feel like that's where an immigration conflict arises for me."

Immigration-related experiences/desires related to the host country

As shown in Figure 2.5, five topics emerged under the theme of immigration-related experiences/desires related to the host country in the context of interparental conflict: doubts and regrets, happiness, jobs and responsibilities, acculturation, and other miscellaneous topics. In relation to happiness, one participant emphasized ongoing parental sacrifices during the immigration process and ways that could influence a parent's happiness:

"She [my mother] had to completely give up everything, her whole lifestyle that they were living. I feel she got a taste of what it feels like to be living like a good life because of education and hard work, and it was all stripped from her. And she had to start again. I feel like she didn't get to re-start her life the way she wanted it to. And so, it caused stress for her and it caused stress on our family just because she was used to that lifestyle. My grandparents always tell her [my mother] it's the kids first, don't find happiness yet, you have to make sure they're well off first. Nothing else matters."

When speaking about jobs and responsibilities in the U.S., participants brought up the role of gender and the concept of machismo in the context of immigration-related interparental conflict. One participant noted that "Hiring people to do stuff was always a contentious issue. Like if you [are] hiring an electrician or a plumber it was like, No! We can do this ourselves." Another participant added, "Yeah, my mom would be like, let's call someone. And my dad would be like, I can do it, I got this." And the first participant then reflected, "So a little bit of machismo comes in."

Acculturation differences between the parents were also mentioned as a potential topic for immigration-related interparental conflict. The two examples below illustrate how conflict can emerge between parents when parents disagree about cultural or religious beliefs and traditions or differences in parenting styles that are more valued in the home versus the host country.

"Like also some religious stuff too. Cause people would come over and they'd be like, 'Wow. You guys have a lot of statues.' Here's the thing. That's a straight up shrine in there. [The moderator interjects about whether this causes interparental conflict] It was a little bit of both cause my dad was like; can we get rid of those? And my mom is like, No! We are keeping them. And finally, when I said something, she was like, Okay. I will take them down."

Another participant noted:

"So, I lived with my mom, my sister, and my brother in Mexico for eight years, while my dad lived here [U.S.], and he would visit us over December. And basically, when we finally moved to [name of a state], it was just a weird transition because my mom and my dad weren't used to living together all the time, so a lot of arguments arose from that. So,

my dad wasn't used to dealing with children, so that was where the problems arose – why are you doing like this? Why are you doing this like this?"

A few participants also summarized the challenges associated with decisions surrounding potentially helping friends or family members in the home country, and ways those decisions could become sources of stress and conflict. For example, one participant said:

"I feel not necessarily that it's caused arguments between my parents and I or any of my siblings, but mostly between my parents...mom trying to help her family that is still in Mexico because they are trying to come over here or they want their children to study in the U.S. And it's, it's complicated, because so we live in a border town, and what they do is a lot of the families who try and bring the families to school in the U.S., they'll put down an American address, so they can go to school. And so, we've had family members ask my mom or my parents to do that, and I feel like my mom has wanted to do it because if it were her trying to come here because she was the one that wasn't born in the U.S., I feel like she puts herself in that position, but it's dangerous for a family that's already here. It's illegal, and so that's what was an argument when I was younger between the both of them – whether it was okay to do it, or whether they should. I know you want to help, but it's hard, you know. We went through so much to get to where we are, and we don't want anything bad to happen to us, and just that conversation of like do they do it the right way or do we help them. What's going to happen to us? But, you know, they are family."

This example highlights the internal struggle that some immigrant families may experience when considering helping others from the home country to get access to the resources that are available in the U.S., while also trying to stay law-abiding members of the U.S. society.

As a final point, after the focus groups were completed, I made the decision to not directly ask about documentation as a potential topic for conflict in Phase 2, specifically revising the original item of "Your parents argue about immigration and documentation processes," to omit the reference to documentation. The focus groups helped me better understand the sensitivity of the issue for some participants. Additionally, those who were undocumented seemed to view the reason for their challenges as an extension of their documentation/legal status, rather than a consequence of immigration per se.

Psychometric Evaluation (Phase 2)

Reports about college versus high school

After the focus groups, the two measures of immigration-related parent-child conflict (19 items) and immigration-related interparental conflict (17 items) were finalized for use in Phase 2. In this phase, Latino college students reported on the frequency of immigration-related parent-child conflict and immigration-related interparental conflict currently (i.e., when in college) and retrospectively (i.e., when they were in high school). They were asked about high school to assess whether some items were more relevant for the college rather than the high school context, the focal time period for the final measure. Paired sample t-tests compared the answers for each item across college versus high school time periods. For both measures, for the vast majority of items (i.e., 94% in the parent-child conflict items, 95% of the interparental conflict items), there were no significant mean differences between college versus high school reports. In cases that there were differences, the means for the high school reports were higher than college reports; thus, the results from the paired sample t-tests confirmed that all items were potentially relevant for youth experiences during high school as well. Given these findings, I conducted the subsequent scale development analyses using the prospective data (i.e., college) rather than the retrospective reports about family conflict during high school.

Factor structure of the immigration-related parent-child conflict scale

To explore the factor structure of the immigration-related parent-child conflict scale, I conducted EFA with approximately half the sample. Five factors emerged based on the criterion of Eigenvalues exceeding 1.0 (i.e., eigenvalue ranged from 1.08 to 6.17), but I selected the two-factor solution because it was the most conceptually meaningful factor structure. The two-factor model had an eigenvalue of 1.74, and factor loadings ranged from .22 to .84 (see Table 2.3). Given the large range of the factor loadings and the exploratory nature of the study, ten of the 19

original items were dropped at this step. Specifically, two items were double barreled questions, five items cross-loaded across the two factors, and three items were conceptually overlapping with other items. In Phase 1 (i.e., focus groups), the goal was to generate and cover a comprehensive list of immigration-related topics, but at this stage of the scale development process (i.e., Phase 2), I aimed to limit the number of items to keep the scales short for future researchers. I then conducted a second EFA with only the selected nine items, and two subscales emerged, which were parent-child conflict about immigration-related expectations and sacrifices (4-items) and parent-child conflict about acculturation-related topics (5-items).

Next, using the other half of the randomly selected sample, CFA was conducted to establish goodness of fit for the two factors that emerged from the EFA. I introduced correlated residuals within a factor to improve model fit (Brown, 2006) by correlating the residuals between "What holidays to celebrate (American versus those from the country where your parent(s) were born)" and "What types of foods to eat (American versus those from the country where your parent(s) were born)." The two-factor model showed an acceptable fit ($\chi^2 (25) = 58.42, p < .001$; Root Mean Square Error of Approximation (RMSEA) = .085 [CI: .06-.11]; Comparative Fit Index (CFI) = .91). As shown in Figure 2.6, all factor loadings were above .30 and significant, which was desirable (Brown, 2006). Reliabilities were acceptable for both subscales ($\alpha = .77$ for the 4-item expectations/sacrifices subscale and $\alpha = .66$ for the 5-item acculturation gap subscale).

Factor structure of the immigration-related interparental conflict scale

To explore the factor structure of the immigration-related interparental conflict scale, I conducted EFA with approximately half the sample. An EFA was conducted with all 17 items. In examining the initial results, I realized that a second factor was emerging due to inconsistent wording in some of the items, with three items beginning with the phrase, "one parent" loading

onto a unique factor. This formatting was contrary to the rest of the items that more clearly focused on the topic of conflict (e.g., whether immigration to the USA has been good for your family) versus on laying blame on a single parent (e.g., one parent thinking the other is too Americanized). After dropping the three items with the inconsistent wording, I re-ran the EFA with the first 14 items shown in Table 2.4. Although the model fit indices suggested that the two-through four-factor models fit the data better than the one-factor model, I chose the one factor model because there was not enough conceptual evidence supporting the existence of more than one factor.

The one-factor model had an eigenvalue of 5.88, and factor loadings ranged from .45 to .73 (see Table 2.4). Given the relatively high factor loadings and the high number of items, I used a statistical cut off point for the loadings to limit the number of items in this scale (i.e., item with loading less than .63 were dropped). According to Tabachnick and Fidell (2007), meaningful loadings can be determined using the criteria of .32 (poor), .45 (fair), .55 (good), .63 (very good), or .71 (excellent). In total, out of the original 17-item scale, three were dropped due to wording inconsistencies, eight were dropped because their loadings were less than .63, and one was dropped because it was conceptually overlapping with another item, which resulted in a 5-item scale to be tested in the next step. The CFA with the 5-item immigration-related interparental conflict scale revealed a good model fit ($\chi^2(5) = 9.50, p = .09$; RMSEA = .07 [CI: .00-.14]; CFI = .98). All factor loadings were relatively high (i.e., .43 and above; see Figure 2.7), and internal reliability of the scale was relatively high ($\alpha = .77$).

Measurement equivalence

Gender

After establishing the factor structure of the immigration-related conflict scales, I conducted invariance testing to explore measurement invariance across men and women using multi-group confirmatory factor. As shown in Table 2.5, invariance was observed at the configural, metric, and scalar levels for the "parent-child conflict about immigration-related sacrifices and expectations" subscale, suggesting that this subscale operated similarly for women and men. Configural and metric invariance were observed for the "parent-child conflict about acculturation-related topics" subscale, but full scalar invariance was not established ($\chi^2 (5) = 11.53, p = .042; \Delta CFI = -.02$). Specifically, the item focused on dating (i.e., your parents expecting you to only date people from the same cultural background) did not show scalar invariance across the two gender groups. Partial scalar invariance was established after allowing the dating item to vary freely across the two groups (see Table 2.5). I was only able to establish configural invariance for the immigration-related interparental conflict scale for gender. There was no evidence of metric invariance ($\chi^2 (5) = 21.57, p = .001; \Delta CFI = -.03$), and thus scalar invariance was not examined for the immigration-related interparental conflict scale.

Immigrant generational status

Because the sample size for first-generation immigrants in this sample was small (i.e., 8%), I conducted MIMIC analyses to examine the potential effect of immigrant generational status (0 = 2nd generation, 1 = 1st generation) on each of the immigration-related parent-child conflict subscales and the immigration-related interparental conflict scale. As shown in Table 2.6, being first- versus second-generation immigrants did not significantly relate to reporting higher or lower levels of immigration-related parent-child conflict related to either

sacrifices/expectations or acculturation gaps, nor was it related to immigration-related interparental conflict.

Concurrent predictive validity of the scales

Lastly, I ran bivariate correlation analyses to examine concurrent predictive validity of the new scales/subscales by correlating existing and newly developed family conflict variables with two theoretically related outcomes (i.e., quality of life, stress). As shown in Table 2.2, the subscales of immigration-related parent-child conflict and immigration-related interparental conflict scales were all significantly linked with the outcomes in the expected directions (i.e., higher immigration-related interparental conflict and parent-child conflict were linked with higher stress and lower quality of life). The magnitude of the r values for the immigration-related family conflict scales were lower, but to some extent comparable, to the magnitude of the r values between the already established family conflict scales and the outcomes.

Adolescents' Input about Immigration-related Conflict Items (Phase 3)

As a final validity check, interviews were conducted with adolescents to help verify that the most cognitively/conceptually challenging items in immigration-related parent-child conflict and interparental conflict scales (see the bolded items in Appendix D) were easily comprehensible to an adolescent sample. In the interviews, after the participants heard and read each item, the interviewer asked them if the item made sense to them or not, and if not, which part was confusing. The participants were then given the option to provide suggestions for changing the item to make it more understandable. After the interviews were finished, transcribed, and checked, one native Spanish-speaking research assistant (i.e., one of the interviewers) reviewed the transcripts for each item and coded the data using the following criteria: "Does the coder think that the student interpreted the item how it was meant to be

interpreted? (0 = *no*, 1 = *yes*); "Does the coder think that this is a relevant topic of conflict based on this response? (0 = *no*, 1 = *yes*, 2 = *unsure*); and "Would the coder change this item in any way, if yes, how?" After the coding was completed, I reviewed the codes and comments, and below is a summary of the results.

Immigration-related parent-child conflict (Subscale 1)

In general, the majority of the adolescents seemed to understand the four items that were retained in the final version of the "parent-child conflict about immigration-related sacrifices and expectations subscale" (i.e., Subscale 1), and they provided examples that confirmed their understanding of the items. For the first item (i.e., your parents thinking you should appreciate their immigration sacrifices more,) all participants confirmed that the item made sense to them, and the majority provided comments or examples that allowed the coder to conclude that in the participants thought this topic was a relevant topic of conflict in Latino immigrant families. Despite the common perception that this topic may be relevant for other immigrant families, multiple participants emphasized that it really depends on what the parents had to sacrifice—from multiple participants' point of view, many of their parents did not sacrifice anything, which made the topic of arguing about immigration-related parents' sacrifices irrelevant to them. For example, a participant stated:

"We never do that. We never have disagreements about that cause I think she [referring to the participant's mother] came here for herself. And she really didn't come here for me cause she's told me she didn't want to have kids. My dad, she met my dad way after she came here. So, she didn't want kids, but she had them. But yeah, she never says that I should appreciate their immigration sacrifices more."

For the next two items in Subscale 1 of immigration-related parent-child conflict (i.e., your parents thinking you are not taking advantage of the opportunities in the USA that were made possible by their immigration efforts; your parents' high academic expectations for you

because they moved to the USA for your sake,) most of the participants confirmed that the items made sense to them. Some, however, provided examples that seemed to imply that they were thinking about parental expectations sounding opportunities and resources in the U.S. as general topics of conflict rather than immigration related. For example, one participant gave an example about arguing with their parents about taking advantage of educational opportunities and emphasized that this is a relevant topic for "most everyone." This may suggest that parental expectations related to opportunities or education may seem relevant for any youth who have access to resources in the U.S. even if their parents were born in the U.S. as well, but it could be that they are uniquely relevant for children of immigrants because some parent(s) may hold particularly high expectations due to their first-hand experience with fewer opportunities in their country of origin.

Finally, the fourth item in the immigration-related parent-child conflict subscale 1 (i.e., things that your parents expect you to do, but they do not know how to do themselves because they are immigrants (e.g., filling out various applications),) made sense to the majority of participants. Some participants mentioned anything that had to do with translation could fall under this item, while others did not seem to interpret this item as immigration-related but related instead to a generational gap (i.e., age related), as one participant talked about the parents needing his help to use technology properly.

Immigration-related interparental conflict

Four out of the five items that appeared in the final version of the immigration-related interparental conflict scale were queried in the interviews. Two out of the four items that were checked during the interviews seemed very clear to the adolescents (i.e., whether immigration to the USA has been good for your family; jobs they have to do in the USA because they have

challenges related to immigration (e.g., language, documentation)). The other two items seemed somewhat confusing to participants. More specifically, the item that asked about interparental conflict about, "Sacrificing their own happiness in the USA for the sake of the family" was deemed either confusing or irrelevant as a topic of conflict. As one participant who seemed confused by the item said, "like forcing their happiness in the US for the family, that's like what I understand but I don't know." Another who thought the topic was irrelevant said, "I don't think they would argue about sacrificing their own happiness. I think like that would be a great accomplishment or something because they're doing it for their family." But other participants suggested that it seemed to capture the intended meaning of the item:

"For immigrant families, especially if parents are working, this is something they would argue about. Specially since their focus is so much on the children."

The second item that was to some extent confusing was: "Challenges related to immigration processes," and a range of interpretations of "immigration processes" were offered. Participants talked about legality, paperwork, documentation, citizenship, and deportation as their interpretation for immigration processes as well as challenges related to methods of coming to the U.S. (e.g., walking versus bus) and family separation. See below a couple examples from how some participants interpreted the item about immigration processes:

"Like, challenging yourself to like not do nothing bad to the process. Like to not get deported you know, stuff like that. [The interviewer followed up with, "and whenever we say the words immigration processes, what do you think of?"] Like it depends, like getting like your papers and to become a citizen."

"I think the process of coming to the U.S. Because some people come, they walk towards here and cross the river and everything. And some just come easily, on a bus or something."

Some participants, however, did not know (or could not guess) what "immigration processes" means. Overall, although the items about sacrifices and immigration processes

seemed to have some variability in interpretation, I chose to retain the items in the immigration-related interparental conflict scale because there was enough evidence in the responses that suggested adolescents had a shared sense of the concepts underlying the items. Finally, based on the information acquired during Phase 3, I did not find any items deemed to be dropped from the immigration-related parent-child conflict or the immigration-related interparental conflict measures that were developed in Phase 2.

Discussion

Immigration can be an incredible opportunity for individuals and families to start a new life in their host country, but it can also create a context for unique disagreements among family members about topics that are not relevant to native families. Although conflict is a natural part of family interactions and deciding about everyday matters can bring up disagreements (e.g., deciding what to eat), topics of conflict can take added dimensions in immigrant families distinct from general conflict (e.g., whether to eat food from the home country or the host country). Balancing two cultures and making decisions that are only relevant to members of immigrant families (e.g., jobs parents have to do in the USA because they have challenges related to immigration such as language or documentation) can be stressful and potentially cause conflict among family members. There are currently some existing measures, mostly developed for Asian American immigrant families (see Lui & Rollock, 2019), some of which have been adapted to examine youth- or parent-reports of acculturation-based parent-child conflict among Latinos (e.g., Dennis et al., 2010; Toro & Farver, 2020, Kiang et al., 2016). What has been missing in the literature, however, are scales that assess youth reports of family conflict that consider immigration as a broad stressful event influencing conflict within the parent-child dyad as well as the interparental/marital dyad. Given that a primary reason for immigration for many Latino

immigrants is to improve life quality of the younger generation (Guarnaccia et al., 2007), witnessing or engaging in immigration-related family conflict may be particularly detrimental for well-being of youth in these families. Study 2 resulted in development of two subscales for the construct of immigration-related parent-child conflict as well as one scale on immigration-related interparental conflict (see Appendix C for the final measures).

Prior research on parent-child conflict in Latino immigrant families has established acculturation-based parent-child conflict as a construct related to Latino adolescents' well-being (Huq et al., 2016), and there is a separate set of research that has suggested parent-child conflict in immigrant families can be tied to parental expectations (Dennis et al., 2010; Toro & Farver, 2020). The current study findings on the two subscales of "parent-child conflict about immigration-related expectations and sacrifices" and "parent-child conflict about acculturation-based topics" seem to have brought these two sets of literature together under the umbrella of *immigration* as the underlying context for these parent-child disagreements. Further research is needed to examine whether a combination of already existing acculturation- and expectation-based parent-child conflict scales may tap into a similar construct that these newly developed subscales aimed to examine (i.e., immigration-related parent-child conflict). These new immigration-related parent-child conflict subscales showed a relatively good concurrent predictive validity given that they were significantly and moderately linked with higher stress and lower life quality—two outcomes that have been shown to be related to existing acculturation-based and/or general family conflict scales (Bakhtiari et al., 2018; Simpson et al., 2020).

Regarding the immigration-related interparental conflict, to the best of my knowledge, there were no existing scales that tapped into a similar construct targeted by this newly

developed 5-item scale. I developed this immigration-related interparental conflict scale because prior research has shown that the content of conflict plays an important role in the extent to which interparental conflict influences children's well-being and that conflict that is child-related can be particularly detrimental to the child (Van Dijk et al., 2020). Having at least one-foreign-born parent may expose families to unique sources of immigration-related stress (e.g., sense of loss and longing for the home country; Aroian, 2003), which could potentially become topics for immigrant-related interparental conflict. It may be that immigration-related interparental conflict could be interpreted as child-related, especially if children hold the belief that their parent(s) moved to the U.S. for their sake, but that remains to be explored in future research.

Strengths, Limitations, and Future Directions

This study utilized mixed methods with adolescents and young adults to develop two novel scales that measured immigration-related interparental conflict and immigration-related parent-child conflict, but some limitations must be acknowledged. Most of the participants in the first two phases were second-generation immigrants and primarily from Mexican origin. Whether the final measures are equally applicable to first generation Latino adolescents and those from other Latin countries is an open question. Additionally, although the interviews in Phase 3 were conducted with adolescents, future research is needed to establish validity and reliability of the scales with an adolescent sample given that the first two phases had young adult samples. Although these scales are a start to better understanding immigration-related family conflict in Latino immigrant families, more research is needed to examine within group variabilities based on country of origin (e.g., Mexico versus El Salvador), legal status of the family members, type of immigration (e.g., refugee, family-based, employee-based), and whether one or both parents are immigrants.

Conclusion

The development of the new immigration-related parent-child conflict and immigration-related interparental conflict scales are a step towards further acknowledging the complexities that immigration can bring to families and family dynamics. A better understanding of the unique stressors in the lives of youth in immigrant families may allow prevention and intervention programs to capitalize their resources by providing targeted information and support for parents and adolescents in immigrant families to promote positive and effective parent-child and interparental communication.

Table 2.1: Personal Characteristics of the Sample in Phase 2 of Study 2

	Full sample (<i>N</i> = 353)		Sample for EFA (<i>n</i> = 167)		Sample for CFA (<i>n</i> = 186)	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Age (18-25 years)						
18	148	41.93	65	38.92	83	44.62
19	94	26.63	50	29.94	44	23.66
20	53	15.01	27	16.17	26	13.98
21	28	7.93	12	7.19	16	8.60
22	17	4.82	7	4.19	10	5.38
23	4	1.13	3	1.80	1	0.54
24	4	1.13	2	1.20	2	1.08
25	5	1.42	1	0.60	4	2.15
Gender						
Men	82	23.23	37	22.16	45	24.19
Women	270	76.49	130	77.84	140	75.27
Other	1	0.28	0	0	1	0.54
Mexican origin	266	75.35	124	74.25	142	76.34
Mother figure						
Birth mother	347	98.30	164	98.20	183	98.39
Stepmother	1	0.28	1	0.60	0	0
Other	5	1.42	2	1.20	3	1.61
Father figure						
Birth father	307	86.97	143	85.63	164	88.17
Stepfather	28	7.93	16	9.58	12	6.45
Other	18	5.10	8	4.79	10	5.38
Live with two parental figures						
Currently (college)	297	84.14	140	84.00	157	84.41
High school	303	85.84	141	84.00	162	87.10
Generational status						
1 st generation	28	7.93	10	5.99	18	9.68
2 nd generation	325	92.07	157	94.01	168	90.32
Birth country of mothers (fathers)						
Mexico	211 (233)	59.77 (66.01)	93 (110)	55.69 (65.87)	118 (123)	63.44 (66.13)
El Salvador	46 (48)	13.03 (13.60)	21 (24)	12.57 (14.37)	25 (24)	13.44 (12.90)
USA	46 (24)	13.03 (6.80)	27 (10)	16.17 (5.99)	19 (14)	10.22 (7.53)
Guatemala	39 (36)	11.05 (10.20)	19 (15)	11.34 (8.98)	20 (21)	10.75 (11.29)
Other	11 (12)	3.12 (3.40)	7 (8)	4.19 (5.00)	4 (4)	2.15 (2.15)

Note. 1st generation = participant and parents born outside the U.S., 2nd generation = participant was U.S.-born with at least one foreign-born parent.

Table 2.2: Validity Evidence with Associations with Other Variables ($N = 353$)

	1	2	3	4	5	6	7	8	9	10	11
1. PC-immigration-related sacrifices & expectations	--										
2. PC-acculturation-related topics	.44***	--									
3. PC-general (scale)	.41***	.38***	--								
4. PC-general (1-item)	.52***	.42***	.74***	--							
5. PC-acculturation-based	.30***	.18**	.46***	.45***	--						
6. IPC-immigration-related	.53***	.55***	.37***	.40***	.19***	--					
7. IPC-general (scale)	.40***	.35***	.66***	.63***	.43***	.52***	--				
8. IPC-general (1-item)	.33***	.21***	.52***	.53***	.43***	.35***	.61***	--			
9. Quality of life	-.19**	-.17**	-.27***	-.27***	-.31***	-.20***	-.27***	-.27***	--		
10. Stress (scale)	.24***	.13*	.45***	.43***	.30***	.19***	.36***	.42***	-.60***	--	
11. Stress (1-item)	.19***	.13*	.34***	.37***	.30***	.14**	.32***	.32***	-.45***	.53***	--
<i>M</i>	1.02	0.42	2.34	1.39	1.42	0.48	0.73	1.19	2.34	2.02	58.55
<i>SD</i>	0.85	0.53	0.82	1.03	1.11	0.62	0.59	1.13	0.78	0.69	22.88
<i>N</i>	353	353	353	353	351	353	352	350	350	353	352

Note. PC = parent-child conflict, IPC = interparental conflict.

* $p < .05$. ** $p < .01$. *** $p < .001$

Table 2.3: Factor Loadings from EFA Results for the Immigration-Related Parent-Child Conflict Scale

How frequently do you have disagreements with your parents about...	Factors		Dropped	Reason for Dropping
	1	2		
1. Your parents or you <i>traveling</i> to the country where your parent(s) were born	.13	.22	X	Double barreled
2. Your parents or you <i>moving back</i> to the country where your parent(s) were born	-.12	.40	X	Double barreled
3. You having to translate for your parents	.61	-.08	X	Conceptually overlapping with item 7
4. Your parents thinking you should appreciate their immigration sacrifices more	.73	.05		
5. Your parents thinking you are not taking advantage of the opportunities in the USA that were made possible by their immigration efforts	.59	.11		
6. Your parents' high academic expectations for you because they moved to the USA for your sake	.77	-.02		
7. Things that your parents expect you to do, but they do not know how to do themselves because they are immigrants (e.g., filling out various applications)	.84	-.13		
8. Your parents thinking you are too Americanized	.19	.34	X	Cross loading
9. Where you would live when you graduate from high school and possibly go to college	.18	.45	X	Cross loading
10. What holidays to celebrate (American versus those from the country where your parent(s) were born)	-.04	.79		
11. What types of foods to eat (American versus those from the country where your parent(s) were born)	.05	.58		
12. Your parents expecting you to only date people from the same cultural background	-.09	.57		
13. Things you think your parents should do to blend into American society (e.g., learn English, be open to other cultures and groups)	.18	.52	X	Conceptually overlapping with item 16
14. Your parents expecting you to talk to and accept advice from family members (e.g., grandparents, aunts and uncles) who do not understand the American culture	.27	.34	X	Cross loading
15. Your parents' expectations that you should be friends with kids from the same cultural background as you	-.07	.77		
16. Your parents not acting American enough when you have friends at your home	-.14	.59		
17. Going out with your friends versus spending time with family	.24	.12		Cross loading
18. Expectations for your future career that are based on values and opportunities in the country where your parent(s) were born versus the USA	.34	.38	X	Cross loading
19. Your parents think that you are losing your roots (e.g., culture, language)	.18	.45	X	Cross loading

Note. Factor one was the subscale that tapped into "parent-child conflict about immigration-related expectations and sacrifices" and factor two tapped into "parent-child conflict about acculturation-related topics." The **bold** items were the final items used in the next step of analyses (i.e., CFA).

Table 2.4: Factor Loadings from EFA Results for the Immigration-Related Interparental Conflict Scale

How often do your parents have disagreements with each other about ...	Factor	Dropped	Reason for Dropping
	1		
1. Helping friends and family members immigrate to the USA	.52	X	Relatively lower loading
2. Whether immigration to the USA has been good for your family	.69		
3. Traveling to the country where your parent(s) were born	.49	X	Relatively lower loading
4. Moving back to the country where your parent(s) were born	.45	X	Relatively lower loading
5. Sending money to family or friends in the country where your parent(s) were born	.60	X	Relatively lower loading
6. Sacrificing their own happiness in the USA for the sake of the family	.72		
7. Jobs they have to do in the USA because they have challenges related to immigration (e.g., language, documentation)	.73		
8. Not having enough friends or family members in the USA	.60	X	Relatively lower loading
9. Challenges related to immigration processes	.73		
10. Going to the doctor in the USA versus in the country where your parent(s) were born	.60	X	Relatively lower loading
11. Holding on to the culture and traditions from the country where your parent(s) were born	.63		
12. Changed responsibilities and expectations for men and women in the USA	.53	X	Relatively lower loading
13. How to raise and discipline the children (based on American values versus the country where your parent(s) were born)	.57	X	Relatively lower loading
14. What language the children should learn first or speak more often	.65	X	Conceptually overlapping with item 11
15. One parent thinking the other is too Americanized		X	Wording
16. One parent thinking the other has not become Americanized enough		X	Wording
17. One parent feels discriminated in the USA and the other parent dismisses his/her feelings		X	Wording

Note. Any item with loading less than .63 was dropped. The three items on the bottom had inconsistent wording compared to the rest of the scale and were dropped. The **bold** items were the final items used in the next step of analyses (i.e., CFA).

Table 2.5: Measurement Equivalence of the Immigration-Related Parent-Child and Interparental Conflict Scales Across Men and Women Using Multiple Group Confirmatory Analyses

Model	χ^2			Δ Test			CFI	Δ CFI
	χ^2	df	p	χ^2	df	p		
PC about immigration-related sacrifices and expectations								
Configural (C)	6.94	4	.139				0.993	
Metric (M)	7.31	8	.504				1.000	
M vs C				0.37	4	.985		.007
Scalar (S)	15.91	12	.195				0.991	
S vs M				8.6	4	.072		-.009
PC about acculturation-related topics								
Configural (C)	25.24	8	.001				0.951	
Metric(M)	29.36	13	.006				0.954	
M vs C				4.12	5	.533		.003
Scalar (S)	40.89	18	.002				0.935	
S vs M				11.53	5	.042		-.019
Scalar-partial (SP)	31.88	17	.016				0.958	
SP vs M				2.53	4	.640		.004
Immigration-related IPC								
Configural (C)	27.79	10	.002				0.964	
Metric (M)	49.36	15	<.001				0.931	
M vs C				21.57	5	.001		-.033

Note. PC = parent-child conflict, IPC = interparental conflict. The scalar partial includes all the items except item 12 (i.e., your parents expecting you to only date people from the same cultural background." Scalar invariance was not tested for the immigration-related interparental conflict scale because metric invariance was not established. The *p*-values and the CFIs are reported up to three decimal points for clarity purposes.

Table 2.6: Measurement Equivalence of the Immigration-Related Parent-Child and Interparental Conflict Scales Across First- and Second-Generation Immigrants Using Multiple-Indicators Multiple-Causes (MIMIC).

The effect of immigrant generation status on...	<i>B</i>	<i>SE</i>	<i>p</i>
PC about immigration-related sacrifices and expectations	-.02	.06	.70
PC about acculturation-related topics	.06	.06	.32
Immigration-related IPC	.13	.11	.22

Note. PC = parent-child conflict, IPC = interparental conflict. Immigrant generational status was coded as 0 = 2nd generation and 1 = 1st generation.

Figure 2.1

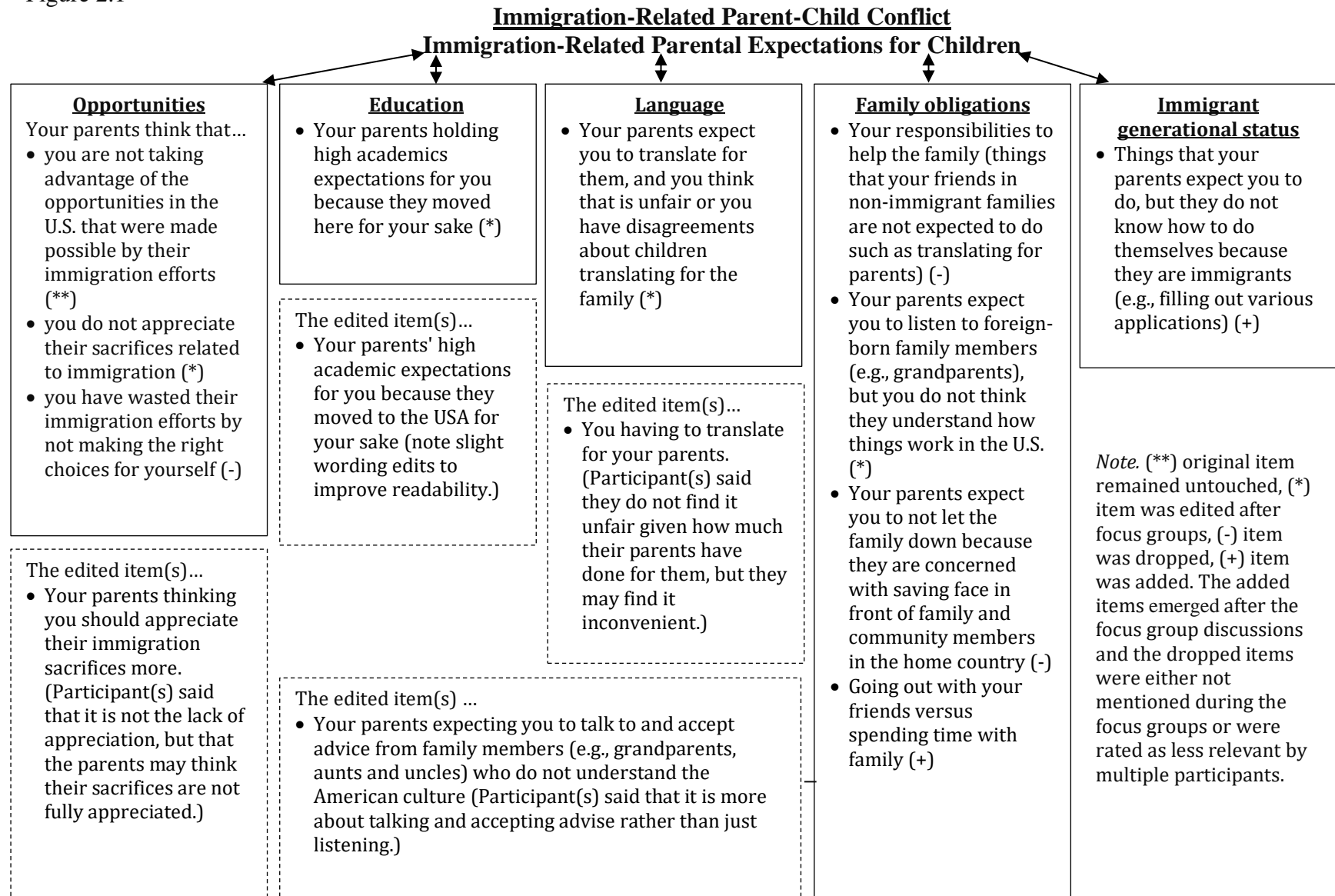


Figure 2.2

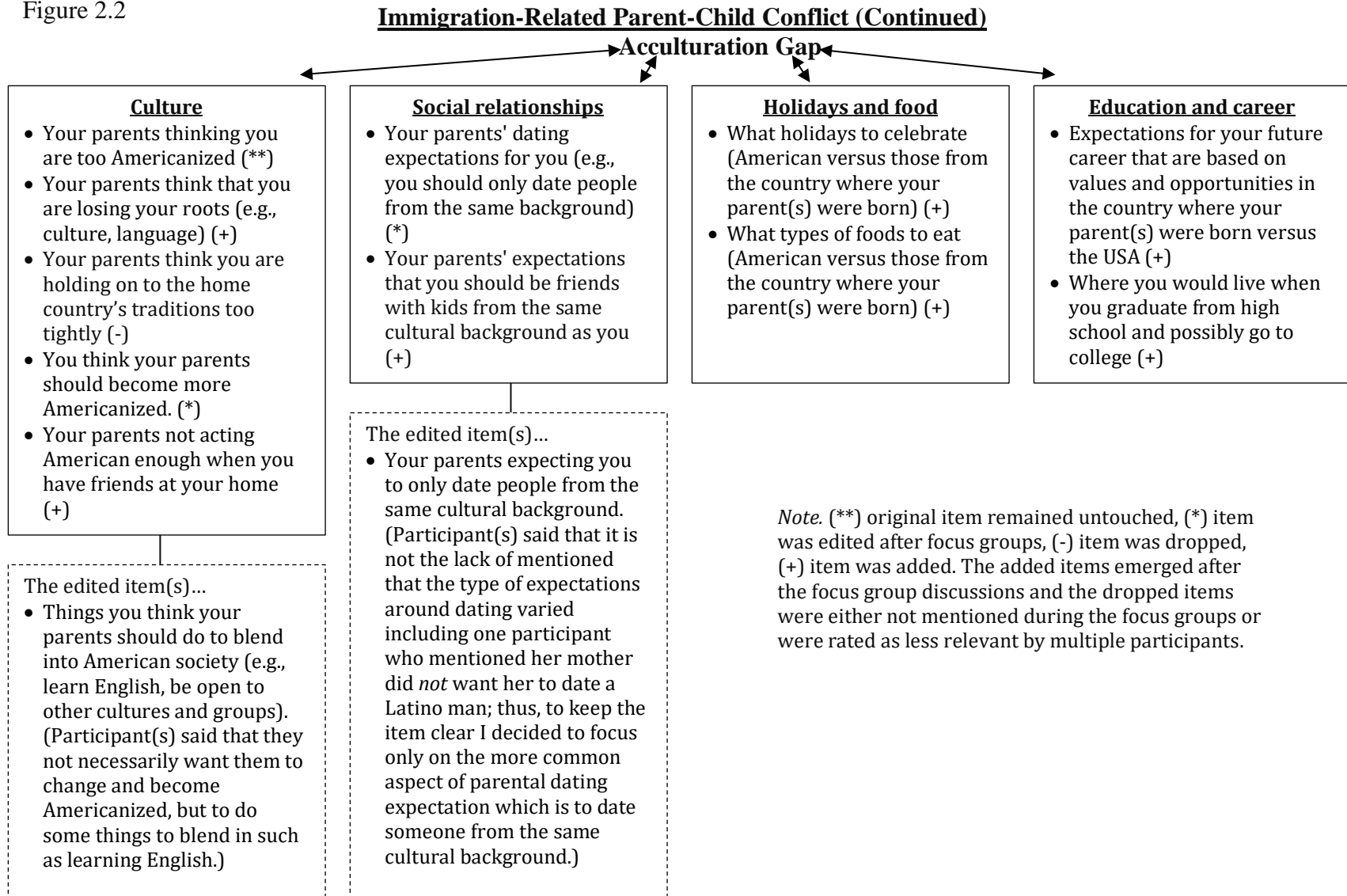


Figure 2.3

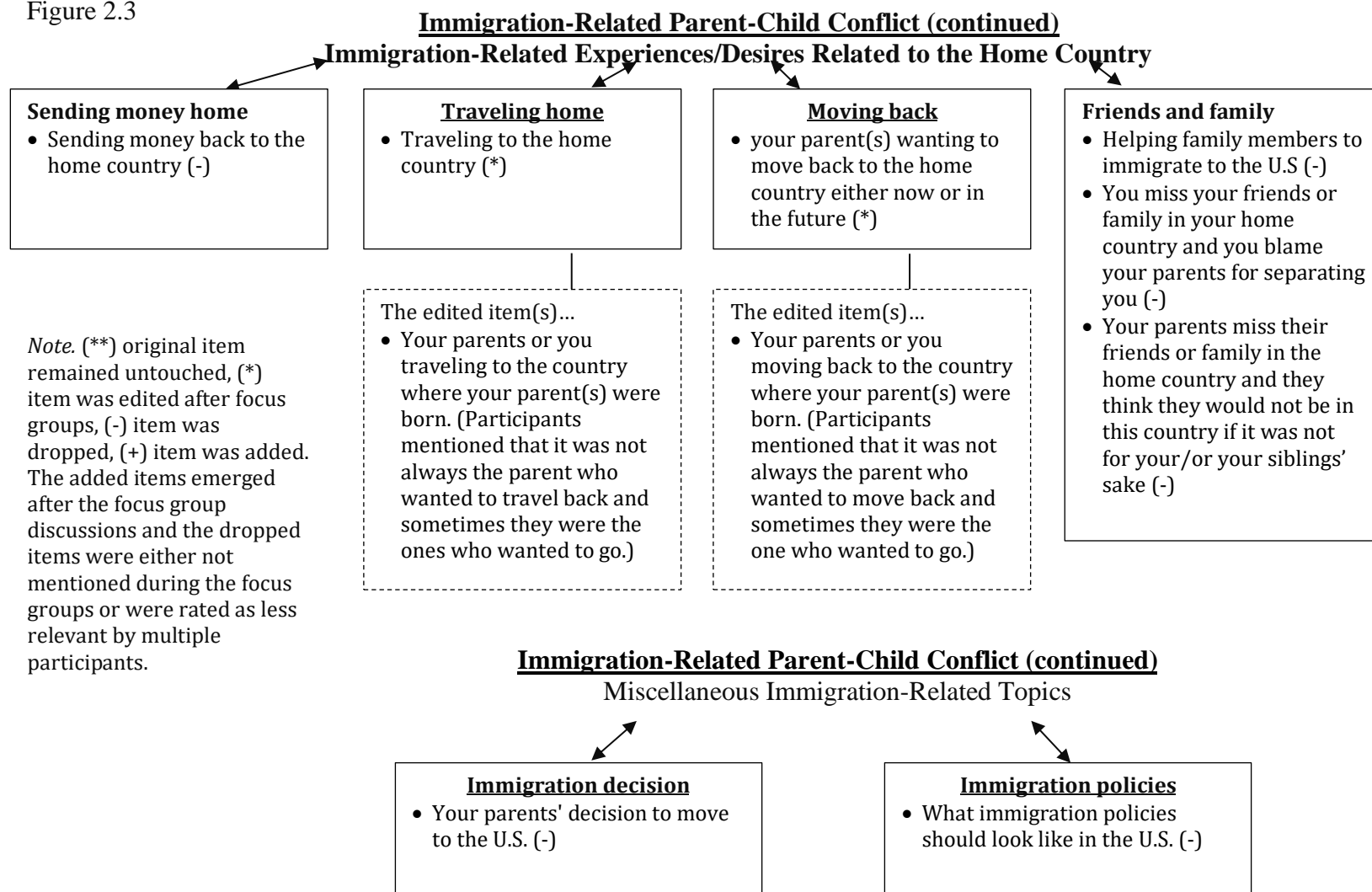


Figure 2.4

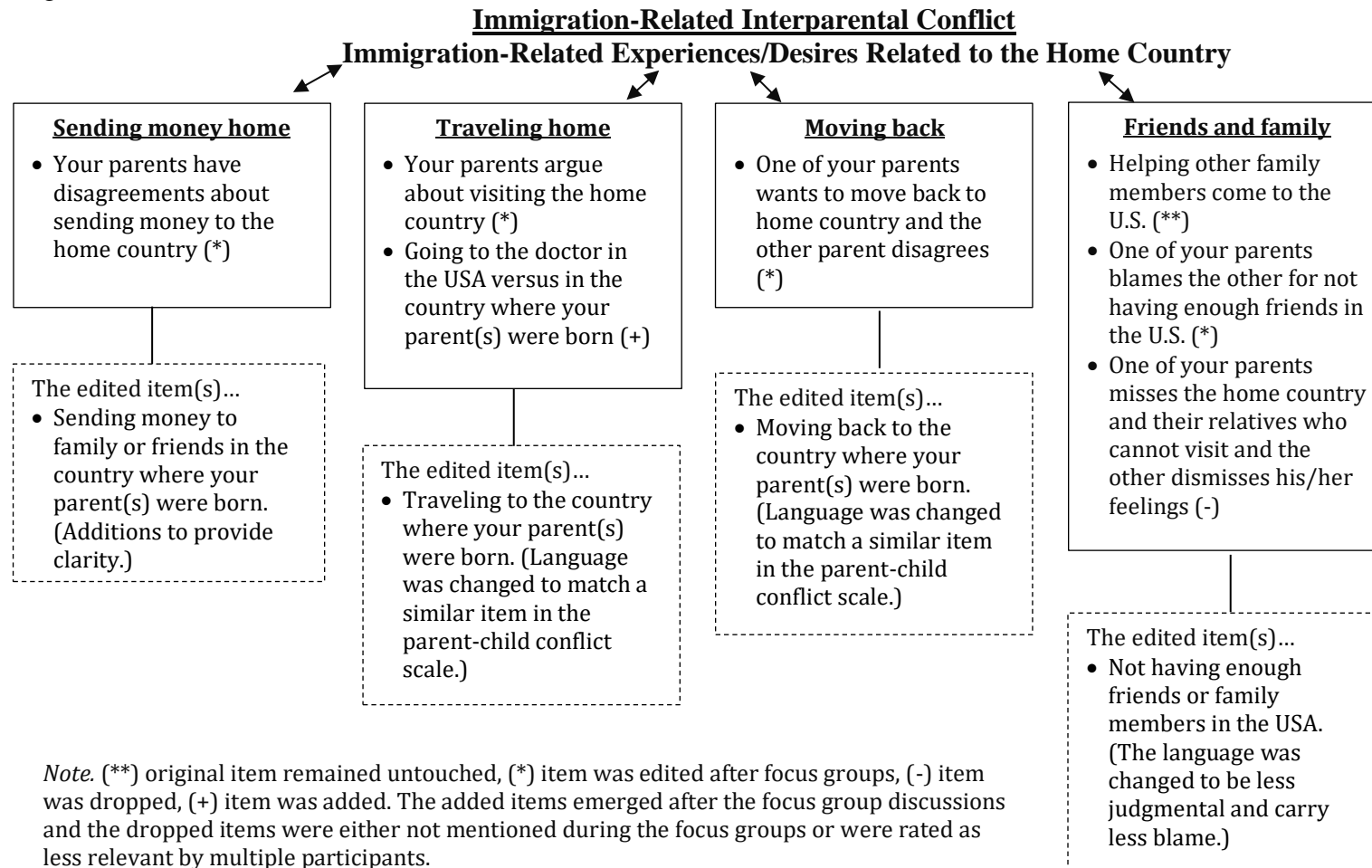
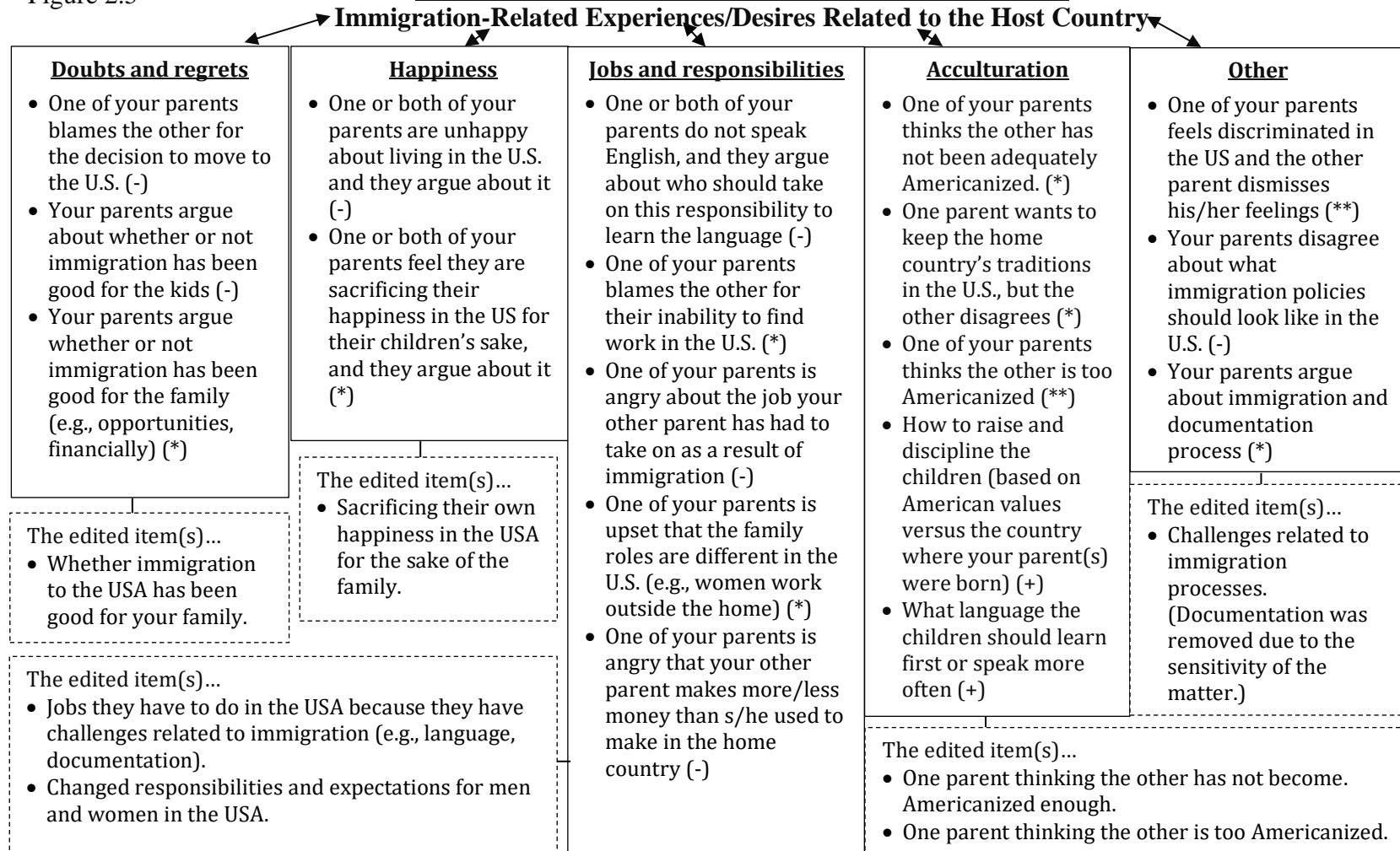


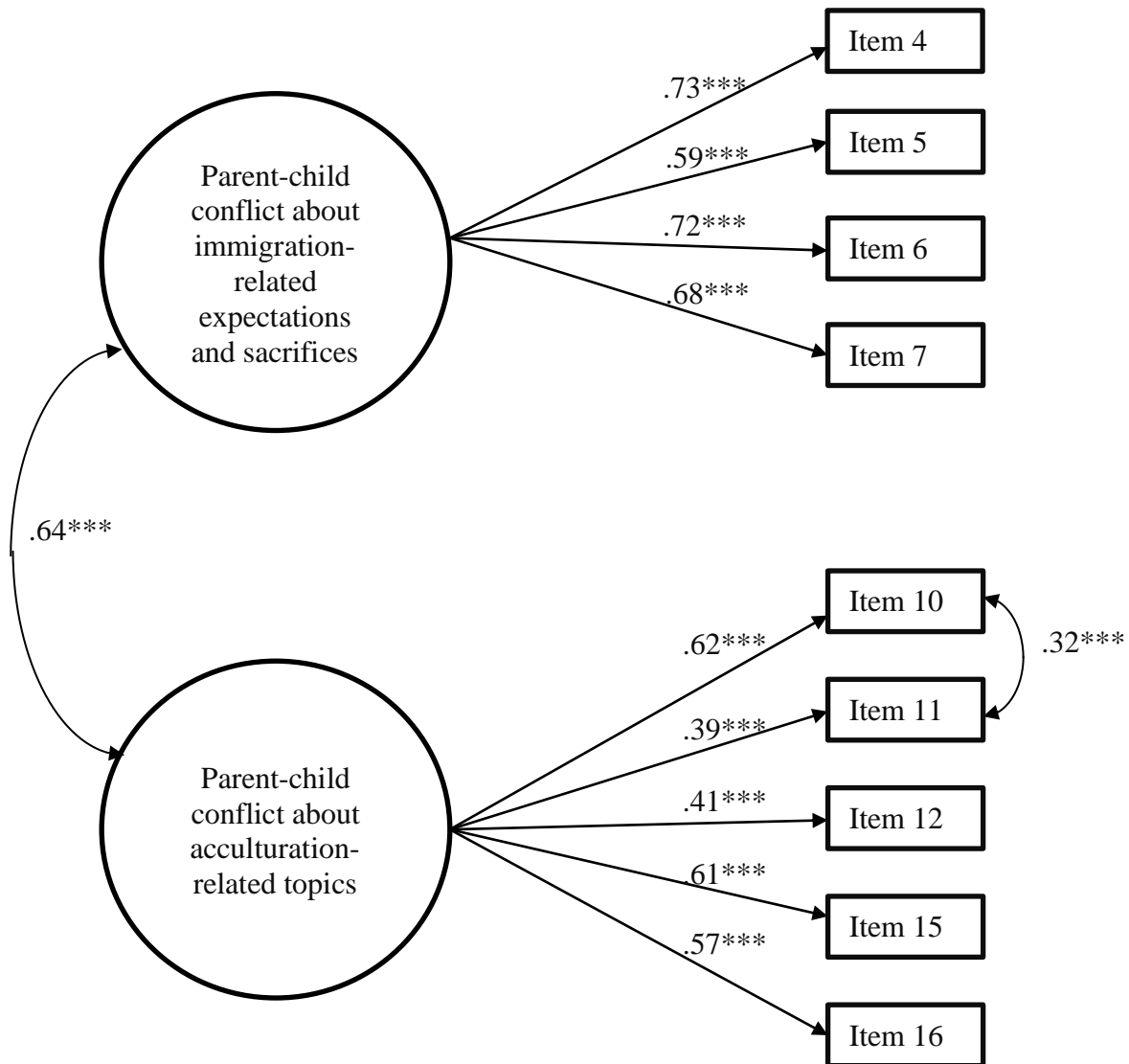
Figure 2.5

Immigration-Related Interparental Conflict (Continued)



Note. (**) original item remained untouched, (*) item was edited after focus groups, (-) item was dropped, (+) item was added. The added items emerged after the focus group discussions and the dropped items were either not mentioned during the focus groups or were rated as less relevant by multiple participants.

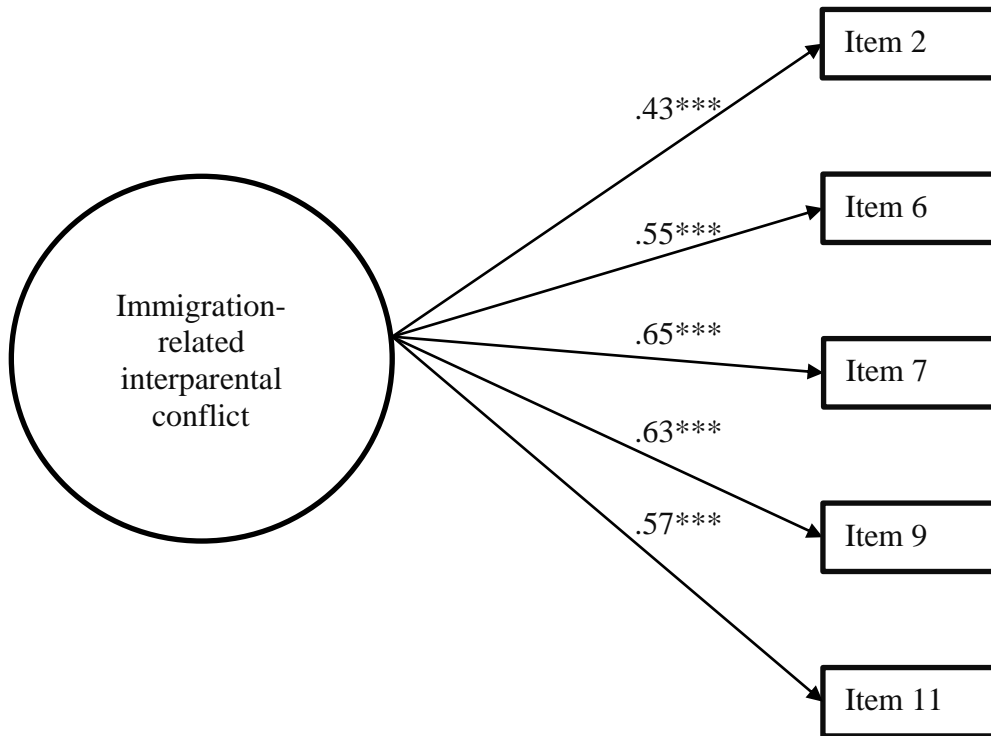
Figure 2.6: Confirmatory Factor Analysis for Immigration-Related Parent-Child Conflict Scale



Note. Standardized loadings from the CFA are reported. $\chi^2(25) = 58.421$, $p < .001$; Root Mean Square Error of Approximation (RMSEA) = .085 [CI: .04-.10]; Comparative Fit Index (CFI) = .914. See the items in bold in Table 2.3.

*** $p < .001$

Figure 2.7: Confirmatory Factor Analysis for Immigration-Related Interparental Conflict Scale



Note. Standardized loadings from the CFA are reported. $\chi^2 (5) = 9.50, p = .09$; RMSEA = .07 [CI: .00-.14]; CFI = .98. See the items in bold in Table 2.4.
*** $p < .001$

CHAPTER 4: STUDY 3 - GENERAL VERSUS IMMIGRATION-RELATED FAMILY CONFLICT IN RELATION TO LATINO ADOLESCENTS' ALCOHOL USE

Introduction

One primary intention for immigration is to create better lives for children and provide them with opportunities to get ahead in life (Bacallao & Smokowski, 2007; Guarnaccia et al., 2007). The intentions behind immigration, however, could become a unique stressor for adolescents in immigrant families who might witness immigration-related interparental conflict (e.g., parents arguing about sacrificing their own happiness in the U.S. for the sake of the family) or engage in immigration-related parent-child conflict (e.g., parents thinking the adolescents are not taking advantage of the opportunities in the U.S. that were made possible by the parents' immigration efforts). Prior research suggests that some adolescents use drinking as means to cope with stress and other negative emotions (Kuntsche et al., 2006; Goldbach et al., 2015), and studies with Latino adolescents show that general interparental conflict (Martin et al., 2019; Pereyra & Bean, 2017), general parent-child conflict (Cruz et al., 2018; Nair et al., 2018), or acculturation-related parent-child conflict (Gil et al., 2000; Martinez, 2006) are correlated with higher substance use. Little is known, however, about the unique pathways from immigration-related interparental conflict and immigration-related parent-child conflict (versus general conflict) to Latino adolescents' alcohol use. The family and peer contexts are interconnected in relation to adolescent development in immigrant families, and peers can play a critical role in development of adolescents' substance use (Brown & Larson, 2009; Jacobs et al., 2016; Paat, 2013). Thus, the current study focused on close friends' alcohol use as the primary pathway through which immigration-related versus general interparental conflict and parent-child conflict may be related to alcohol use among Latino adolescents in immigrant families.

The focus on alcohol use among Latino adolescents in immigrant families is a worthwhile topic of investigation because underage drinking among Latino adolescents in the U.S. is relatively common, and some studies suggest that Latino adolescents, on average, drink either as much or even more than their White and Black peers (Centers for Disease Control and Prevention, 2014; Substance Abuse and Mental Health Services Administration, 2015). Although a significant portion of Latino adolescents are members of immigrant families (Child Trends, 2018), research focused on immigration-related stressors that may contribute to their alcohol use remains relatively limited, and the current study fills some of this gap in the knowledge base.

General versus Immigration-Related Interparental and Parent-Child Conflict

Families are one of the primary contexts where youth encounter interpersonal conflict, and over the past decade, researchers have continued to examine interparental conflict and parent-child conflict in relation to well-being of children and adolescents (Buehler, 2020; Van Eldik et al., 2020; Weymouth et al., 2016). Family conflict may be particularly stressful for adolescents in Latino immigrant families, where family harmony and familism are highly valued (Hernández et al., 2010). Perceived interparental conflict and parent-child conflict may increase adolescents' alcohol use as potential means for dealing with the emotional stress related to family conflict or other factors that family conflict may lead to, such as adolescents' cognitive appraisal of the conflict (e.g., blame, threat), negative parenting behaviors, or diminished family cohesion (Marsiglia et al., 2009; Martin et al., 2019; Nair et al., 2018; Tschann et al., 2002).

The existing research on the links between family conflict and adolescents' alcohol use in immigrant families has not often focused on the potential role of the *content* of conflict, but research on other aspects of adolescents' adjustment (e.g., depressive symptoms, self-esteem, loneliness, delinquency) has shown that the content of conflict matters. For example, prior

research with Chinese American youth in immigrant families has shown that acculturation-based parent-child conflict, centered on topics related to mismatch between youth and their parents in valuing and embracing the heritage versus the U.S. culture, influenced adolescents' well-being through indirect pathways such as negative parent-child relationship, parental hostility or control, and lower family cohesion, but general (or everyday) parent-child conflict also was directly related to adolescents' outcomes (Juang, Syed, Cookston, Wang, & Kim, 2012). In another study focused on adjustment of Latino adolescents, the authors found that acculturation-based parent-child conflict was related to greater depressive symptoms even after controlling for general parent-child conflict (Huq et al., 2016).

The current study builds on prior research that has compared the associations between general versus acculturation-related parent-child conflict in relation to adolescents' adjustment, by (a) expanding the *content* of parent-child conflict beyond acculturation by measuring broader immigration-related topics of conflict, (b) adding immigration-related and general *interparental* conflict to the model, and (c) focusing on alcohol use as an outcome, which has remained relatively understudied in this literature. Researchers suggest that immigration can influence the family system as a whole; thus, examining interparental conflict and parent-child conflict simultaneously is in line with the concept of wholeness in the family systems theory and is important when examining family dynamics in immigrant families (Bámaca-Colbert et al., 2019). To better understand the role of the content of family conflict on alcohol use, I examined the effects of immigration-related interparental conflict and immigration-related parent-child conflict on Latino adolescents' alcohol use, contrasting these effects with those for general conflict in the same dyads. This shed light on the potentially unique detrimental effects of immigration-related family conflict on Latino adolescents' alcohol use.

Spillover from Interparental Relationship to Parent-Child Relationship

Family systems theory indicates that family members are interconnected (Minuchin, 1974), and the spillover hypothesis (developed based on various theories including the family systems theory) suggests that quality of the relationship in the interparental dyad can influence the parent-child relationship quality and in turn child's adjustment (Bradford et al., 2008; Gerard et al., 2006; Kouros et al., 2014). This spillover can be due to various potential reasons, such as the parents' emotional exhaustion from interparental conflict leading to negative parenting behaviors or poor parent-child communication as well as the negative dynamics within the interparental dyad creating a social learning context conducive to higher parent-child conflict (Gerard et al., 2006). The studies that revealed support for the spillover hypothesis within the family system (e.g., Bradford et al., 2008; Van Dijk et al., 2020) also showed a persistent direct effect from interparental conflict on child adjustment, which suggests that other mechanisms might be at play. For example, in a study with Chinese American adolescents in immigrant families, the researchers found that higher interparental conflict and parent-child conflict were associated with a higher sense of alienation between parents and children, which was in turn associated with adolescents' higher delinquency (Hou et al., 2016). In Study 3, I proposed that adolescents' sense of alienation from their parents in immigrant families, which may arise from perceived immigration-related and general interparental and parent-child conflict, may also spur association with substance-using friends to find an alternate source for belonging and connectedness and that this alternative social context may be a risk factor for higher alcohol use (Trucco et al., 2011).

Close Friends' Alcohol Use

Although families have a central socialization role in adolescents' lives, the peer context can highly influence adolescents' behaviors (Brown & Larson, 2009; Jacobs et al., 2016). Interparental conflict and parent-child conflict may create a sense of alienation from their families for adolescents (Hou et al., 2016), and a disrupted family system may drive adolescents to associate with deviant peers to find a place for belonging or stability (Baumeister & Leary, 1995; Vakalahi, 2001). Association with deviant peers can contribute to alcohol use by increasing access and opportunity (Gerrard et al., 2008) and through social learning since peers may present alcohol use as an approved and desirable behavior (Vakalahi, 2001; Trucco et al., 2011). Despite the theoretical reasoning for the potential mediating role of the peer context linking family dynamics to Latino adolescents' substance use, the empirical evidence remains mixed. For example, in a study about prosocial behaviors among U.S.-born and foreign-born Latino youth, the researchers found that family conflict was positively linked with association with deviant peers only among foreign-born Latino youth and not among their U.S.-born counterparts (Streit & Carlo, 2019). On the other hand, in a national study focused on substance use among Latino adolescents, the results showed that U.S.-born Latino adolescents (compared to their foreign-born counterparts) were significantly more likely to associate with substance using friends and in turn engage in substance use, but peer substance use mediated the link between family connectedness and substance use for both U.S.-born and foreign-born Latino adolescents (Prado et al., 2009). The current study will add to the existing literature by examining the potential mediating role of close friends' alcohol use in the context of immigration-related and general family conflict in relation to Latino adolescents' alcohol use in immigrant families (i.e., first and second-generation immigrant Latino adolescents).

The Current Study

I collected primary cross-sectional data from Latino adolescents in immigrant families in 10th grade as part of a larger longitudinal community research study in a Southwestern state to investigate the following three research questions (RQs). The first research question (RQ1) examined the relative impact of general versus immigration-related interparental and parent child conflict on alcohol use among Latino adolescents in immigrant families (see Paths A1 to A4 in Figure 3.1). I was particularly interested in variation in the strength of association of general versus immigration-related conflict in the same conflict dyads. I hypothesized that immigration-related interparental conflict would be directly linked with alcohol use above and beyond general interparental conflict, and that an identical pattern would emerge for immigration-related versus general parent-child conflict. Drawing on the empirical research focused on the associations between acculturation-based versus general parent-child conflict and adolescents' adjustment (Juang et al., 2012, Hqu et al., 2016), I expected that the strength of the coefficients from immigration-related family conflict measures to alcohol use would be comparable to the effects of general family conflict variables on alcohol use. However, the immigration-related family conflict measures are novel, and the analyses focused on comparing the paths from immigration-related versus general conflict to alcohol use remain exploratory.

Next, to examine the spillover hypothesis, in research question two (RQ2), I investigated whether general and immigration-related parent-child conflict mediated the association between general and immigration-related interparental conflict and Latino adolescents' alcohol use (see Paths A1 to B2 in Figure 3.1). The spillover hypothesis suggests that the quality of the relationship in the interparental dyad can spillover into the parent-child dyad and, in turn, undermine children's well-being (Gerard et al., 2006). Thus, it was hypothesized that both general and immigration-related interparental conflict would take their toll on Latino adolescents'

alcohol use indirectly through their corresponding parent-child conflict measures. I also expected that the direct associations from general and immigration-related interparental conflict to alcohol use would persist since prior research has shown that parent-child conflict is only one of many potential mediating factors connecting interparental conflict and adolescents' adjustment (Van Dijk et al., 2020), and I hypothesized that the mediation model in RQ2 would fit the data better than the direct-effects model in RQ1.

Finally, research question three (RQ3) investigated a multi-mediated model to examine whether parent-child conflict and close friends' alcohol use mediated the links between immigration-related and general interparental conflict and alcohol use among Latino adolescents in immigrant families (see Paths A1 to C5 in Figure 3.1). I hypothesized that both interparental conflict and parent-child conflict would partially take their toll on adolescents' alcohol use indirectly through close friends' alcohol use, such that, as youth experience higher family conflict then they may be more prone to be associating with more alcohol-using friends, and ultimately increasing their risk for higher alcohol use.

Methods

Participants

Data were collected from 10th grade students involved in a longitudinal project focused on youth development in context (i.e., Preventing Inequalities in School Climate and Educational Success; PISCES). Project PISCES started with two cohorts of 8th grade students that entered the study in 2016-2017 or 2017-2018, and thus data from 10th graders were collected during 2018-2019 or 2019-2020. The overall sample included 1,032 diverse students (e.g., ethnically, socioeconomically). The current sample was limited to Latino adolescents in immigrant families ($N = 171$), and it had a relatively equal gender distribution (i.e., 54% girls and 46% boys). The

majority of the participants were second-generation immigrants (81%) and were of Mexican heritage (81%). More details about the characteristics of the sample are provided in Table 3.1.

Procedures

Project PISCES participants were initially recruited from 13 public, private, and charter middle schools in a Southwestern state. The University Institutional Review Board approved recruitment and data collection. Local school districts and school administrators collaborated with researchers, and all 8th grade students in the targeted schools had the opportunity to participate in the study after providing parental consent and student assent. The 8th grade data were collected in person and at the school sites, but online surveys on Qualtrics.com were the primary mode of data collection in 9th and 10th grades. The surveys took approximately 40 minutes to complete, and students received \$25 for participation at each wave.

In 10th grade, two separate surveys were available, with one including the immigration-related family conflict measures embedded at the end of the survey. This immigrant survey was sent to any potential eligible participants whose immigrant generational status was first, second, or unknown ($N = 384$). The immigrant survey also included three questions about the participants' and their parents' country of origin to discern membership in an immigrant family. Out of the potential participants who were contacted with the immigrant survey, 87% completed the survey ($n = 335$). Of these, 68% were confirmed to be members of immigrant families ($n = 227$), and 75% of those who were members of immigrant families were Latino and thus included in the current sample ($n = 171$).

Consent forms, assent forms, and surveys were available in English and Spanish. Materials were translated into Spanish and then back translated into English to ensure comparability and cultural appropriateness of items. For the targeted sample for the current

study, 92% completed the survey online, 6% mailed in paper survey, and 2% completed the survey over the phone. Most of the participants in the current sample took the survey in English (92%).

Measures

The central constructs of interest were measured in 10th grade. Demographic covariates were also measured in 10th grade except parental education that was measured in 8th grade. Bivariate correlations between the central constructs of the study are shown in Table 3.2.

General interparental conflict

Informed by three scales (i.e., Ahrons, 1983; Grych et al., 1992; Jackson et al, 2016), a five-item measure was used to examine frequency of general interparental conflict about general topics. Participants were asked, " How often do your parents have disagreements with each other about ...," and an example item was, "Your parents' jobs." The response options ranged from 0 (*never*) to 3 (*often*). A higher average composite score corresponded with higher general interparental conflict ($\alpha = .88$).

Immigration-related interparental conflict

The frequency of immigration-related interparental conflict was measured using a seven-item scale that was developed for this study (see items in upper portion of Appendix E and Dissertation Study 2). Participants were asked, "How often do your parents have disagreements with each other about...," and an example item was, "Sacrificing their own happiness in the USA for the sake of the family." The response options ranged from 0 (*never*) to 3 (*often*), and the composite average score corresponded to greater immigration-related interparental conflict ($\alpha = .89$).

General parent-child conflict

A shortened version (i.e., six-items) of the parent-child conflict scale by Bámaca-Colbert et al. (2012) was used to examine the frequency general parent-child conflict. Participants were asked, "How frequently do you have disagreements with your parents about...", and an example item was, "Chores (e.g., helping around the house)." The response options ranged from 0 (*never*) to 3 (*often*). Higher average score represented higher general parent-child conflict ($\alpha = .79$).

Immigration-related parent-child conflict

Frequency of immigration-related parent-child conflict was measured using a seven-item scale that was developed for this study (see items in lower portion of Appendix D and Dissertation Study 2). Participants were asked, "How frequently do you have disagreements with your parents about...", and an example item was, "Your parents thinking you should appreciate their immigration sacrifices more." The response options ranged from 0 (*never*) to 3 (*often*), and higher average scores indicated higher immigration-related parent-child conflict ($\alpha = .84$).

Close friends' alcohol use

To capture participants' perceptions of their close friends' alcohol use, they were asked, "How many of your close friends drink alcohol (more than one or two sips) once a month or more?" The response options ranged from 1 (*none or almost none*) to 5 (*almost all*). Higher scores correspond with more close friends who engaged in alcohol use.

Alcohol use

Students' alcohol use was measured using three items from the Alcohol Use Disorder Identification Test-Concise (Audit-C; Bush, 1998), which measured frequency of alcohol use in general (0 = *never* to 4 = *4 or more times a week*), number of drinks in a typical day (0 = *none* to 5 = *10 or more*), and frequency of binge drinking (0 = *never* to 4 = *daily or almost daily*). To

create a composite variable, the scores from the three items were summed, and the scores ranged from 0 to 8 in this sample ($\alpha = .79$).

Covariates

A host of covariates were included in the analyses: country of origin (0 = *not Mexican American*, 1 = *Mexican American*), gender (0 = *boy*, 1 = *girl*), immigrant generational status (0 = *second generation*; 1 = *first generation*), current residency with parental figures (0 = *does not reside with two parental figures*, 1 = *resides with two parental figures*), parental education (0 = *Less than high school diploma* to 6 = *PhD, MD, or other advanced degree*), and cohort (0 = *cohort 2*; 1 = *cohort 1*). The majority (63%) of high schools in Wave 3 enrolled only one or two students, but to account for potential school effects, I created two dummy-coded control variables to capture the two schools that enrolled more than 20 participants.

Analysis Plan

To address RQ1, I used a structural equation modeling framework to examine the relative direct impact of general versus immigration-related interparental and parent child conflict on alcohol use among Latino adolescents in immigrant families. I compared the standardized coefficients to differentiate the effects of general versus immigration-related family conflict on Latino adolescents' alcohol use. In RQ2, I built on the model from RQ1 but moved the parent-child conflict variables to serve as mediators in the model. I used the *Mplus* estimation of indirect effects using the delta method standard errors (Muthen & Muthen, 1998–2017) to examine the potential indirect links between immigration-related and general interparental conflict to Latino adolescents' alcohol use through the corresponding parent-child conflict variables. I used the Satorra-Bentler scale chi square difference test (Satorra & Bentler, 2010) to compare the fit of the model from RQ1 (i.e., all direct effects) versus the model fit for the

mediation model in RQ2 (i.e., parent-child conflict variables mediating the links between interparental conflict and alcohol use) given the use of the MLR estimator. For the final and third research question, I used a multi-mediated model to examine the potential mediating role of close friends' alcohol use.

All analyses were conducted using *Mplus* Version 8.2 (Muthén & Muthén, 1998–2017), and the estimator was Maximum Likelihood-Robust or MLR with robust standard errors given that the outcome was skewed (Muthén & Muthén, 1998–2017). *Mplus* is a preferred program for the proposed analyses, as it allows me to handle missing data using full information maximum likelihood estimations (Enders, 2010).

Results

The results from descriptive analyses showed that the majority of the participants reported that their parents engaged in general and immigration-related interparental conflict (88% and 59% respectively) and that the participants engaged in general and immigration-related parent-child conflict (96% and 87% respectively). Approximately half of the participants (51%) reported having at least a few close friends who engaged in drinking, but the majority of the participants (78%) reported never drinking themselves.

The results for RQ1 (i.e., direct effects of general and immigration-related interparental and parent-child conflict on alcohol use) showed no significant associations between the family conflict variables and alcohol use. This model was just-identified, and thus the model fit information is not reported. The results from the mediation model showed some support for the spillover hypothesis, as higher general interparental conflict was associated with higher general parent-child conflict ($\beta = .41, p < .001$), and higher immigration-related interparental conflict was associated with higher immigration-related parent-child conflict ($\beta = .58, p < .001$). Immigration-

related interparental conflict was significantly and directly linked to higher alcohol use, but no other significant associations were found in this model. I also found no evidence that general interparental conflict was indirectly linked to alcohol use through general parent-child conflict (see upper portion of Table 3.3). In comparing the model fits across RQ1 (i.e., direct effects only) and RQ2 (i.e., mediation model with interparental conflict variables influencing alcohol use indirectly through parent-child conflict), the results from the Satorra Bentler scaled chi square different test showed that the model fit for the two models were comparable ($\chi^2(18) = 23.18, p = .18$).

Finally, the results from the full multi-mediated model (see Figure 3.2) revealed some, albeit limited, evidence for distinct patterns of connections between general family conflict and alcohol use versus immigration-related family conflict and alcohol use. As shown in Table 3.3, general interparental conflict influenced Latino youth's alcohol use via two significant indirect pathways. In one, higher levels of general interparental conflict were associated with greater general parent-child conflict, and these elevated levels of parent-child conflict, in turn, were linked to greater close friends' alcohol use, which in turn was associated with higher self-reported alcohol use. In the second significant indirect pathway, higher levels of general interparental conflict were associated with greater close friends' alcohol use, which in turn was associated with higher self-reported alcohol use. In contrast, although I found some support that immigration-related interparental conflict was directly linked with alcohol use, I found no evidence of any indirect pathways by which immigration-related interparental conflict or immigration-related parent-child conflict was associated with alcohol use among Latino adolescents.

Discussion

Immigration is a radical change in context, and even if only one individual in the family member is foreign-born, the family as a whole may experience some unique family dynamics that are distinct from families with all U.S.-born members. Since individual family members can have unique perspectives towards immigration and its role in their lives, this may spur disagreement and tension among the family members about immigration-related topics (e.g., whether immigration has been good for the family). Study 3 examined immigration-related interparental conflict and immigration-related parent-child conflict as potentially distinct family dynamics that may contribute to alcohol use among Latino adolescents, either directly or through associations with friends who engage in alcohol use. I contrasted the effects of immigration-related interparental conflict and immigration-related parent-child conflict with general conflict in the corresponding dyads to assess whether these potentially unique family dynamics influenced adolescents distinctly and beyond general family conflict.

In the final model, both immigration-related interparental conflict and general interparental conflict were linked to higher alcohol use among Latino adolescents in immigrant families. The main difference between the effects of these two factors were the mechanism through which they took their toll. General interparental conflict followed my hypothesis, such that, it was indirectly linked to alcohol use through general parent-child conflict and friend's alcohol use. The results from the general interparental conflict pathways provide some support for the spillover hypothesis (see Kouros et al., 2014 for a description), as adolescents who reported higher general interparental conflict or general parent-child conflict were more likely to associate with friends who engaged in drinking, possibly to find a context for acceptance and belonging outside the family, consistent with the need to belong theory (Baumeister & Leary, 1995). Moreover, associating with more friends who engaged in drinking increased Latino

adolescents' alcohol use, perhaps due to higher access, opportunity, and social learning (Ary et al., 1993; Gerrard et al., 2008; Trucco et al., 2011).

On the other hand, in the full multi-mediated model, immigration-related interparental conflict was directly linked to Latino adolescents' alcohol use, but I found no evidence for any significant indirect associations. The lack of any indirect associations between immigration-related interparental conflict and alcohol use suggests that there may be mechanisms at play that I failed to capture in the current model. For example, the idea that immigration-related family conflict may be uniquely bothersome for adolescents in immigrant families had a built-in assumption that immigration might take place for the sake of children and therefore be interpreted as a unique burden. Prior research has consistently shown that child-related interparental conflict (when the topic of the conflict is about the child) is particularly detrimental to children's adjustment (Van Dijk et al., 2020). Immigration-related interparental conflict may not necessarily be child-related in the traditional way that it has been defined, but it may have the potential to be interpreted as such. Thus, adding a potential mediator to examine adolescents' cognitive appraisal of interparental conflict (e.g., self-blame; Grych & Fincham, 1990) may shed more light on the potential underlying mechanisms linking immigration-related interparental conflict and Latino adolescents' alcohol use.

The overall results from the multi-mediated model should be interpreted with some caution because none of the conflict variables (i.e., immigration-related and general interparental conflict and parent-child conflict) were linked to alcohol use at the bivariate level, but the indirect pathways that denote the potential underlying mechanisms were still worthy of attention (Shrout & Bolger, 2002). As such, there seems to be some initial evidence for different patterns of association between general versus immigration-related family conflict to alcohol use among

Latino adolescents in immigrant families. This may suggest that immigration-related family conflict measures are tapping into related but distinct constructs compared to general family conflict variables, but more research is needed to replicate the findings reported here and to uncover other potential underlying mechanisms that may link general versus immigration-related family conflict to Latino adolescents' alcohol use.

Strengths, Limitations, and Future Directions

The current study introduced and tested immigration-related interparental conflict and immigration-related parent-child conflict as two unique stressors in the lives of Latino adolescents in immigrant families. These were novel scales that aimed to shed new light on family dynamics in immigrant families and highlight potentially unique pathway that might contribute to Latino adolescents' alcohol use. Due to the limited time for conducting these dissertation studies, Study 3 was cross-sectional in nature, which is an acknowledged limitation, particularly given that some of the constructs in the model may have had bidirectional relationships. For example, prior research with Latino adolescents has shown that adolescents' adjustment (e.g., loneliness, anxiety) was a better predictor of trajectories of acculturation-based parent-child conflict, although conflict also influenced subsequent adjustment (Juang et al., 2012). Thus, although the current conceptual model was developed based on theories related to spillover (Kouros et al., 2014) and the need to belong (Baumeister & Leary, 1995) and assumed family conflict preceded alcohol use, future research with a longitudinal approach could shed more light on the potential strength of this model by taking into consideration the temporal sequencing and the potential bidirectionality of the proposed pathways.

Additionally, in the current study, there was an underlying assumption that immigration-related family conflict may influence adolescents because immigration can often take place for

the sake of children (Bacallao & Smokowski, 2007; Guarnaccia et al., 2007), but as shown in the interview section of Study 2, some adolescents asserted that their parents did not move here for their [the child's] sake and thus did not make immigration-related sacrifices for them (see Study 2). Therefore, a future study should consider adding a potential measure on "perceived sake" as a moderator when examining the link between immigration-related family conflict and adolescents' alcohol use.

Finally, although various aspects of Study 3 are mainly a cornerstone to future studies, one finding was very clear and consistent with prior research, which is the strong association between friends' alcohol use and self-reported alcohol use. This is consistent with a host of previous research (Leung et al., 2010; Montgomery et al., 2020) and suggests a clear point of intervention when it comes to addressing alcohol use among Latino adolescents in immigrant families. The focus on contextual stressors (i.e., family, peer) in this study was particularly important because contextual stressors (versus individual characteristics) have a reasonable potential to be positively modified or reframed through culturally informed intervention and prevention programs. In sum, Study 3 provides some support that immigration-related interparental conflict (e.g., whether immigration to the USA has been good for your family) and immigration-related parent-child conflict (e.g., your parents thinking you should appreciate their immigration sacrifices more) may be distinctly—above and beyond general conflict—linked with alcohol use among Latino adolescents in immigrant families, but more research is needed to explore the underlying mechanisms. The study provides some, albeit limited, evidence that programs that aim to address alcohol use among Latino adolescents in immigrant families might benefit from acknowledging and addressing some of the unique stressors that youth in immigrant families may face.

Table 3.1: Sample Characteristics for Study 3 ($N = 171$)

Variable	<i>N</i>	<i>Frequency (valid %)</i>
Gender		
Male	79	46.2
Female	92	53.8
Mexican American	138	80.7
Immigrant generational status		
First generation (foreign-born adolescent and parent(s))	33	19.3
Second generation (U.S.-born child, foreign-born parent(s))	138	80.7
Cohort		
One (2018-19 in 10 th grade)	79	46.2
Two (2019-20 in 10 th grade)	92	53.8
Parental Education		
Less than high school diploma	53	39.3
High school diploma or GED only	27	20.0
Some college but no degree	10	7.4
Associate degree	16	11.9
Bachelor's degree	9	6.7
Master's degree	16	11.9
PhD, MD, or other advanced degree	4	3.0
Two-parent household	104	61.9

Note. Parental education is the maximum education level across mother and father.

Table 3.2: Means, Standard Deviations, and Correlation Matrix ($N = 171$)

Variable	1	2	3	4	5	6
1. General IPC	--					
2. General PC	.43***	--				
3. Immigration-related IPC	.28**	.26**	--			
4. Immigration-related PC	.32***	.27**	.58***	--		
5. Friends' alcohol use	.33***	.28***	.05	.04	--	
6. Alcohol use	.12	.14	.16	.05	.43***	--
<i>Mean</i>	0.95	1.13	0.50	0.83	0.94	0.95
<i>SD</i>	0.84	0.65	0.65	0.73	1.18	0.84
<i>N</i>	161	167	141	149	161	161

Note. IPC = Interparental conflict, PC = Parent-child conflict.

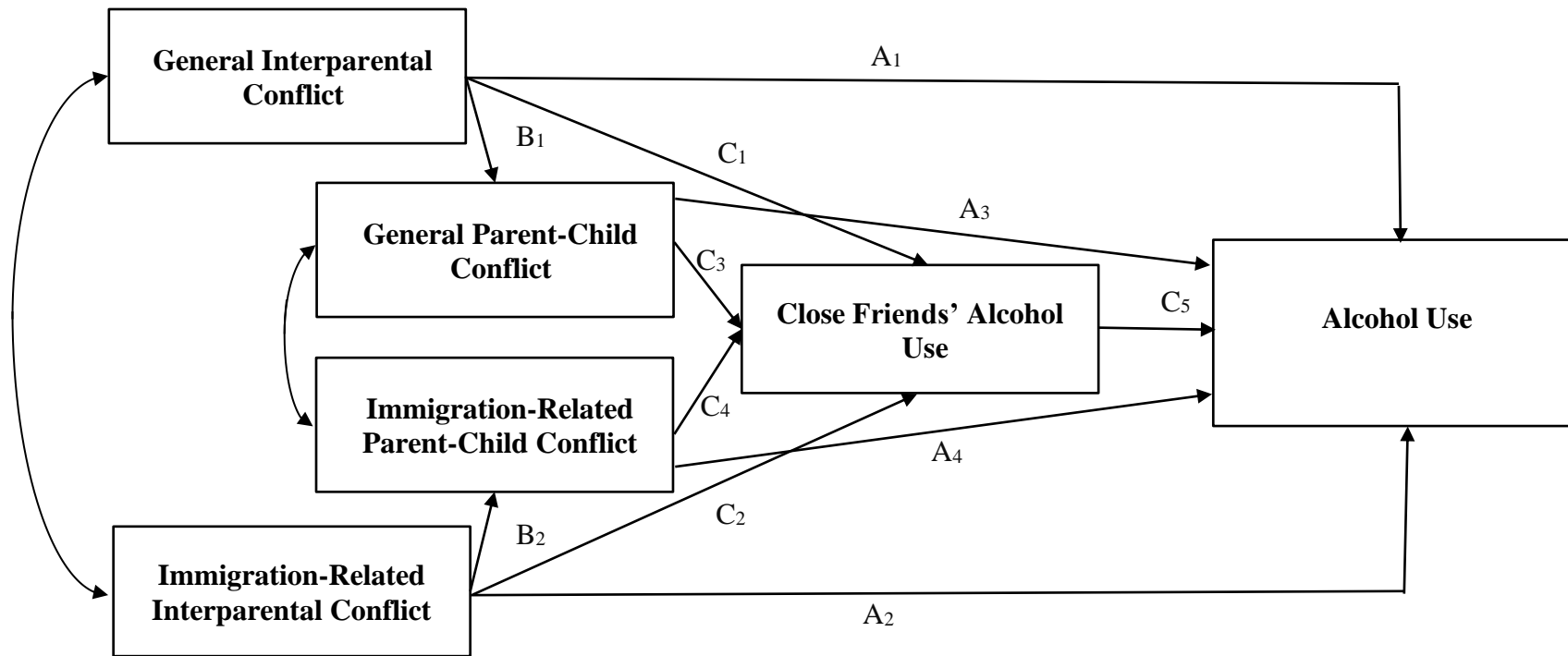
** $p < .01$. *** $p < .001$.

Table 3.3: Indirect Effects of General and Immigration-related Interparental Conflict on Latino Adolescents' Alcohol Use

	Ind	Direct	Total
<u>RQ2</u>			
General IPC → general pc → alcohol use	.04	.06	.10
Immigration IPC → immigration pc → alcohol use	-.08	.23*	.14
<u>RQ3</u>			
General IPC → general pc → alcohol use	.01	-.08	.09
General IPC → friends' use → alcohol use	.12**	-.08	.09
General IPC → general pc → friends' use → alcohol use	.04*	-.08	.09
General pc → friends' use → alcohol use	.08*	.03	.12
Immg IPC → immg pc → friends' use → alcohol use	-.07	.27**	.17
Immg IPC → friends' use → alcohol use	-.01	.27**	.17
Immg IPC → immg pc → friends' use → alcohol use	-.02	.27**	.17
Immg pc → friends' use → alcohol use	-.03	-.12	-.15

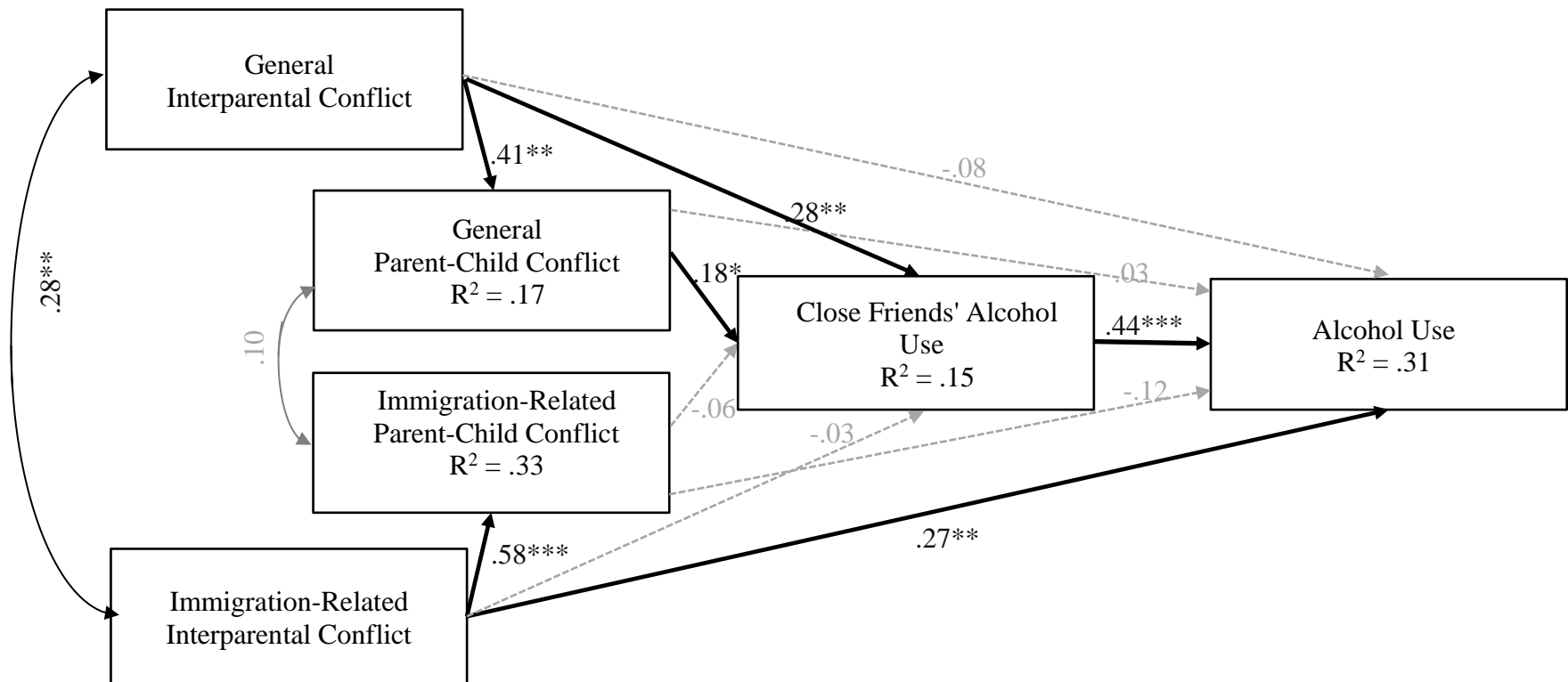
Note. Model fit for RQ2 and RQ3 models were: $\chi^2(18) = 23.36, p = .18$; RMSEA = .04 [CI: .00-.09]; CFI = .95 and $\chi^2(26) = 39.03, p = .05$; RMSEA = .05 [CI: .01-.09]; CFI = .92, respectively. Standardized effects are reported. Ind = indirect, IPC = interparental conflict, PC = parent-child conflict, Immg = Immigration-related. The **bold paths** highlight the significant indirect effects. * $p < .05$. ** $p < .01$.

Figure 3.1: Conceptual Model Depicting the Hypothesized Links Between General and Immigration-Related Interparental Conflict and Parent-Child Conflict, Close Friends' Alcohol Use, and Alcohol Use Among Latino Adolescents in Immigrant Families.



Note. Paths A1 to A4 show the model for Research Question one (RQ1), the added B1 and B2 paths plus the existing A paths show the model for RQ2, and the combination of all paths from A1 to C5 indicate the model for RQ3.

Figure 3.2: Immigration-related and General Family Conflict, Close Friends' Alcohol Use, and Latino Adolescents' Alcohol Use in Immigrant Families.



Note. Standardized coefficients are reported.

* $p < .05$. ** $p < .01$. *** $p < .001$

CHAPTER 5: OVERALL DISCUSSION

Individuals in Latino families who are new to the United States face health disparities, including physical and mental health problems partly linked to risky health behaviors such as alcohol use or abuse (Abraído-Lanza et al., 2016; Vega et al., 2009). This is particularly true for more acculturated individuals such as second-generation youth who were born in the U.S. but have at least one foreign-born parent (Castañeda et al., 2019). A significant portion of Latino children and youth in the U.S. are members of immigrant families (Child Trends, 2018), and research suggests that individuals in immigrant families face unique stressors such as bicultural stress (e.g., worrying about family members or friends having problems with immigration) that can contribute to alcohol initiation among Latino adolescents (Meca et al., 2019). As Sluzki (1979) put it, "There is a unique drama that characterizes migration in each case. In fact, this drama often becomes a part of the treasured heritage of each family" (p. 1). Given the potential for "drama" that arises from immigration, families are bound to have disagreements around this life-changing event, but little research has investigated immigration and immigration-related stressors as a specific source of family conflict, particularly in relation to marital/interparental conflict. A focus of this dissertation project was to partly fill this gap in the literature and investigate the role of immigration-related family conflict (as well as general family conflict) in relation to Latino adolescents' alcohol use. In addition to family stressors, peer risk factors have been connected to alcohol use among adolescents (Leung et al., 2010; Montgomery et al., 2020), and my dissertation studies aimed to enhance our understanding of the role of friends' alcohol use as a potential mediating mechanism of the relation between family conflict and alcohol use among Latino adolescents and young adults, particularly those in immigrant families.

Study 1 and Study 3 focused on general parent-child conflict as a potential stressor in the lives of Latino adolescents and how it can directly and indirectly—through friends' alcohol use—contribute to alcohol use. I focused on parent-child conflict as a stressful dynamic because family can be an important source of social support for family members in relatively collectivistic cultures (e.g., Latino; Stein et al., 2014), and family discord may be exceptionally stressful for youth in these immigrant families. I further examined the potential mediating role of friends' alcohol use. Adolescence is a time when many initiate the attempt to differentiate from their parents and try to negotiate their autonomy, which can be a potential reason for general parent-child conflict (Collins & Steinberg, 2006). Despite the need for autonomy, individuals continue to have the simultaneous need for belonging and relatedness (Baumeister & Leary 1995; Deci & Ryan, 2014), and some adolescents many turn to their peers to find an opportunity to meet their need for belonging (Allen et al., 2021). This may be particularly true in the context of family conflict given that prior research shows family conflict is significantly and highly linked to lower sense of family connectedness (e.g., Fosco et al., 2012). The qualities and values of the peer groups that adolescents join can set the stage for adolescents' subsequent personal values and behaviors, and a robust set of literature has shown that associating with peers who engage in risky behaviors, including alcohol and drug use, are one of the strongest predictors of personal substance use among adolescents (Leung et al., 2010; Montgomery et al., 2020).

The results from Study 1 and Study 3 provide some evidence, albeit limited and primarily cross-sectional, that the impacts of general parent-child conflict on alcohol use among Latino adolescents are likely indirect and through friends' alcohol use. Study 1 showed that higher reports of parent-child conflict in 12th grade in a national Latino sample was related to associating with more friends who engaged in drinking in the same grade, which in turn put

adolescents at higher risk for personal annual alcohol use in 12th grade. Study 3 used a community sample of Latino 10th graders in immigrant families and showed that general parent-child conflict was related to associating with more friends who engaged in drinking in the same grade, which was in turn associated with higher self-reported alcohol use in the same year. Additionally, Study 3 suggested that general interparental conflict in 10th grade was also indirectly related to Latino adolescents' alcohol use via friends' alcohol use in the same grade. These findings from Study 1 and Study 3 were in line with the hypothesis that when there is conflict at home, youth may turn to delinquent peers to find a place of belonging, which may put them at higher risk for alcohol use. Given the cross-sectional nature of the findings from Study 1 and Study 3, the results must be interpreted with caution, and longitudinal research is needed to replicate the results reported here.

Although the findings about general family conflict in relation to Latino adolescents' alcohol use were valuable, I aimed to dive deeper and examine the role of immigration-related interparental and parent-child family conflict as potentially unique factors that may contribute to alcohol use among Latino adolescents. Although prior research findings have often emphasized that Latino individuals with a longer history in the U.S. (i.e., higher acculturation) may be at higher risk for certain drinking behaviors (see Lui & Zamboanga, 2018 for meta-analysis), some Latino youth in immigrant families remain vulnerable to alcohol use and its consequences, perhaps for reasons related to and beyond their acculturation level (Salas-Wright & Schwartz, 2019; Sanchez et al., 2014). Thus, Study 2 and Study 3 aimed to assess immigration-related interparental conflict and immigration-related parent-child conflict and examine their links to Latino adolescents' alcohol use. Since there were no existing measures to assess immigration-related interparental and parent-child conflict, in Study 2, I developed and tested two new

measures, which resulted in two subscales for the construct of immigration-related parent-child conflict (i.e., 4-item subscale of parent-child conflict about immigration-related expectations and sacrifices and the 5-item subscale of parent-child conflict about acculturation-related topics) as well as a 5-item scale on immigration-related interparental conflict (see Appendix C).

After development of the immigration-related family conflict measures in Study 2, Study 3 compared the pathways from general and immigration-related family conflict to alcohol use among Latino adolescents in immigrant families. The results provided some, albeit limited, evidence that general interparental conflict and general parent-child conflict took their toll on alcohol use indirectly and through friends' alcohol use, whereas immigration-related interparental conflict yielded a direct (rather than indirect) link with alcohol use, and there were no significant direct or indirect associations between immigration-related parent-child conflict and alcohol use. Potentially, there were mechanisms that remained untapped. For example, future researchers might consider the cognitive-contextual framework (Grych & Fincham, 1990) and investigate adolescents' cognitions (e.g., self-blame) as a salient pathway in linking immigration-related family conflict to Latino youth's alcohol use. If youth in immigrant families believe that their families moved to the U.S. for the children's sake, they might be at risk for personalizing the immigration-related family conflict and engaging in self-blame—a cognition pattern found to be a reaction to child-related interparental conflict and detrimental to children's adjustment (Van Dijk et al., 2020).

Taken together, the results from these studies suggest alcohol use behaviors among Latino adolescents can be shaped by family (i.e., general and immigration-related family conflict) and peer contexts (i.e., friends' alcohol use). Prior research suggests that many Latino youth who do not go to college after high school struggle with alcohol use (Petrova et al., 2019);

thus, adolescence may a unique window for prevention and intervention programs that aim to curb alcohol use among Latino youth, including for those in immigrant families. Peer group intervention programs as well as positive interactions between parents and peers can be potential protective factors against binge drinking among Latino youth (Petrova et al., 2019). Additionally, decreases in family conflict while Latino youth go through substance use treatment has been associated with better outcomes (Fish et al., 2015). The results from Study 1 and Study 3 provide further evidence for the importance of considering multisystemic approaches that address both the family and peer contexts in alcohol use prevention and intervention programs.

Strengths, Limitations, and Future Directions

This dissertation has a range of strengths, such as the use of a large national dataset in Study 1, which was an asset that allowed me to examine the big picture regarding the links between family and peer stressors and alcohol use, before I dove into the details of the stressors in Study 2 and Study 3. Study 2 used a mixed-methods approach to inform the creation of newly developed immigration-related interparental conflict and immigration-related parent-child conflict measures. Study 3 was the first study to compare the potential unique effects of immigration-related interparental conflict and immigration parent-child conflict in relation to Latino adolescents' alcohol use. The novel pursuits of this dissertation project also came with some limitations. First, scale development in this study was centrally focused on Latino immigrant families of primarily Mexican origin. Latino immigrant families in the U.S. are very diverse who come from different countries of origin, such as Mexico, Ecuador, Cuba, Guatemala, and many other countries, and as such, the generalizability of the new scales remains a question for future studies. Additionally, in my studies, I defined membership in an immigrant family as having at least one foreign-born parent, but immigration-related topics of conflict

likely differ depending on who in the family unit is foreign- versus native-born. I hope that these scales will be tested for validity and reliability with Latino groups of other countries of origin and with samples with distinct variability related to the immigration histories of the family unit members.

Another potential limitation of this study was the lack of attention to possible gender differences. Studies with Latino and Latina immigrants show that male and female participants may experience potentially unique stressors in their lives, which may contribute to different alcohol use behaviors (Balagopal et al., 2021; Castañeda et al., 2019). As such, future research should consider examining the potential moderating role of gender when replicating Study 1 or Study 3, but invariance testing based on gender was conducted in Study 2. This study was heavily conceptualized on the central importance of "the need to belong" in the lives of adolescents (Baumeister & Leary 1995), and how unmet belonging needs may contribute to alcohol use. However, more recent research has emphasized reconceptualization of the central needs during adolescence by highlighting "the need to contribute" (see Fuligni, 2019). Latino youth in immigrant families can occupy a unique position in the family, where they can contribute to the family by doing tasks such as translation and language brokering (Dorner et al., 2008). The current study examined conflict about some of these expectations, but future research should consider a broader approach where the potential benefits of membership in an immigrant family is also acknowledged. Finally, although this study examined both the family and peer contexts, the measures to represent each context were relatively limited. More research is needed that takes a more wholistic and balanced approach, more comprehensively capturing family and peer dynamics (e.g., positive parenting, parental monitoring, conflict with peers, peer support).

Conclusions

These three dissertation studies aimed to explore Latino adolescents' and young adults' alcohol use in the context of family and peer stressors. Each of these three studies makes a unique contribution to the extant literature, and although each study was designed to stand alone, there was also a clear rationale and story to how each study built on the earlier one(s). Together, these studies answered a comprehensive question focusing on the potential ways that general and immigration-related family conflict and close friends' alcohol use contributes to Latino youth's alcohol use.

These studies provided both breadth and depth to understanding these unique family and peer stressors. Despite some limitations of the immigration-related parent-child and interparental conflict scales, the measures have the potential to be used in future studies focused on well-being of adolescents in Latino immigrant families, particularly following invariance testing with larger samples. The study findings can also provide insights into substance use intervention efforts, which tend to be slightly more effective for Latino youth when they are culturally-adapted (Hernandez Robles et al., 2016). A national study focused on alcohol use among help-seeking U.S. adults showed that immigrant individuals were no less likely than their native-born counterparts to seek treatment when struggling with alcohol use or abuse (Szaflarski et al., 2019). Thus, research focused on alcohol use and its contributors among youth in immigrant families, including those from Latino backgrounds, has the potential to enhance the life quality of a large and growing part of the U.S. population.

Appendix

Appendix A

Focus Groups Protocol (30-40 minutes)

- **Opening:** My name is Farin, and this is _____. Today, I will be leading the discussion and _____ will be taking notes. You each have a number that will be sitting in front of you, and that is only to help us keep track of who is saying what. Our conversation is going to be recorded which will help me capture all the interesting points that you will be making today. The focus of today's focus group is understanding whether there are unique topics of conflict that immigrant families argue about them. All of us here today share a common characteristic (we are from an immigrant family meaning either we are foreign-born or at least one of our parents are foreign-born). I am curious to learn whether family members (specifically parents and children AND parents within themselves) argue about immigration-related topics or not. I define immigration-related conflict as a type of conflict that is directly tied to immigration and that is unique to immigrant families, so immigration-related topics of conflict would not come up as a topic of conflict in a non-immigrant family. (2 to 3 minutes)
 - Before I get started with my questions. Are there any questions?
 - So, first I like you to think about some of the stressors that your families have faced that are specifically related to immigration. For this first question, we are just listing potential stressors to get us started on thinking about potential topics of conflict that are specifically immigration related. So, let's go around the room and say one or two things that you think your family has faced that have been stressful for them, and your family would not have faced those stressors if your family was not an immigrant family. (5 minutes)
 - Now, let's talk about family conflict. Today we will be covering conflict between parents and children as well as conflict between the two parental figures. Let's start with parent-child conflict. Can you think of any type of conflict that you have with your parents that are about immigration, and you would not have had these arguments if you were not a member of an immigrant family? (15 minutes)
- **Friends**
 - Now think back to your adolescent years. Can you think of any immigration-related topics of parent-child conflict that were not mentioned earlier (2 to 3 minutes).
 - Now let's talk about conflict between the two parental figures. All of us in this room have at least one parental figure who is foreign-born is that correct? Now let's think about the argument that your parental figures have. Can you think of any immigration-related topics of conflict (10 minutes)
 - Thank back about your adolescent years and immigration-related interparental conflict (2 to 3 minutes).

Appendix B

Focus Group Surveys (20-30 minutes)

Please see below some *potential* examples for immigration-related parent-child conflict and immigration-related interparental conflict. Although we think that these topics may emerge as unique topics of conflict in immigrant families, we need your help to find the most relevant items to Latina/o adolescents in immigrant families.

- Please think about each item very carefully. First, circle yes or no for whether you think the item is a good item and worthy of inclusion in the scale. Then answer the question based on your own experiences. Keep in mind that it is possible that you have never had experience with some topic in your own family but based on what you have heard from your friends and peers you still believe that the item is relevant and worthy of inclusion in the scale.
- For each item that you select “yes” on whether it is a good item, think carefully about how it is worded. Can you think of a better/shorter/clearer way of saying the same thing? If yes, please write it in the row below that item.
- On the bottom of the scale there is room for you to add in other items that come to your mind that you think we have missed (these can be based on the conversations that we just had).
- Please keep in mind that this scale is eventually going to be used with teenagers (think 10th grade), so if there are certain immigration-related topics of conflict that you think we are missing in these scales please add them.

Part I:							
Do you think this item is a good example for an immigration-related parent-child conflict? Do you think it is worth including this item in the scale (meaning it is a relevant and prevalent topic of conflict)? [20 items]		Families argue about many different topics. Children and parents in immigrant families sometimes argue about topics that are specifically related to immigration.					
		As a member of an immigrant family, how frequent are the disagreements you have with your parents on the following issues?					
			Never	Rarely	Sometimes	Often	Most of the time
No	Yes	Your parents think that you are not taking advantage of the opportunities in the U.S. that were made possible by their immigration efforts.	1	2	3	4	5
Your wording of the item above:							

No	Yes	You have disagreements about traveling to the home country	1	2	3	4	5
Your wording of the item above:							
No	Yes	You have disagreements about to sending money back to the home country	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents hold high academics expectations for you because they moved here for your sake, and you think that their expectations are unfair.	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents hold particular dating expectations for you (because at least one of them is foreign-born and their expectations are influenced by their country of birth), and you think their expectations are unfair.	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents expect you to not let the family down because they are concerned with saving face in front of family and community members in the home country.	1	2	3	4	5
Your wording of the item above:							
No	Yes	You think your parents should become more Americanized.	1	2	3	4	5
Your wording of the item above:							
No	Yes	You have disagreements about helping family members to come to the U.S.	1	2	3	4	5
Your wording of the item above:							

No	Yes	Your parents think you are too Americanized	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents think you are holding on to the home country's traditions too tightly	1	2	3	4	5
Your wording of the item above:							
No	Yes	You and your parents disagree on what immigration policies should look like in the U.S.	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents want you to take on more responsibilities (compared to your other friends who are not members of immigrant families) to help the family, but you think that is unfair.	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents expect you translate for them, and you think that is unfair. OR you have disagreements about children translating for the family	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents think that you have wasted their immigration efforts by not making the right choices for yourself.	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents think that you do not appreciate their sacrifices related to immigration.	1	2	3	4	5
Your wording of the item above:							

No	Yes	Your parent(s) want to move back to the home country either now or in the future	1	2	3	4	5
Your wording of the item above:							
No	Yes	You have disagreements about your parents' decision to move to the U.S.	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents want you to do what your grandparents say, but you do not think they understand how things work in the U.S.	1	2	3	4	5
Your wording of the item above:							
No	Yes	You miss your friends or family in your home country and you blame your parents for separating you.	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents miss their friends or family in the home country and they think they would not be in this country if it was not for your/or your siblings' sake.	1	2	3	4	5
Your wording of the item above:							
Please add other items that you think are missing ...							

Part II: Do you find this item to be a good example for an immigration-related interparental conflict? Do you think it is worth including this item in the scale (meaning it is a relevant and prevalent topic of conflict)? [22 items]			Families argue about many different topics. Mothers and fathers in immigrant families may argue about topics that are specifically related to immigration.				
			As a part of an immigrant family, how frequent are your parents' disagreements on the following issues?				
			Never	Rarely	Sometimes	Often	Most of the time
No	Yes	One of your parents blames the other for the decision to move to the U.S.	1	2	3	4	5
Your wording of the item above:							
No	Yes	One of your parents wants to move back to home country and the other parent disagrees	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents have disagreements about sending money to the home country.	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents argue about visiting the home country	1	2	3	4	5
Your wording of the item above:							
No	Yes	One or both of your parents are unhappy about living in the U.S. and they argue about it	1	2	3	4	5

Your wording of the item above:							
No	Yes	One or both of your parents feel they are sacrificing their happiness in the US for their children's sake, and they argue about it	1	2	3	4	5
Your wording of the item above:							
No	Yes	One or both of your parents do not speak English, and they argue about who should take on this responsibility to learn the language	1	2	3	4	5
Your wording of the item above:							
No	Yes	One of your parents feels discriminated in the US and the other parent dismisses his/her feelings.	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents argue about whether or not immigration has been good for the kids	1	2	3	4	5
Your wording of the item above:							
No	Yes	One of your parents thinks the other has not been adequately Americanized.	1	2	3	4	5
Your wording of the item above:							
No	Yes	One of your parents blames the other for their inability to find work in the U.S.	1	2	3	4	5
Your wording of the item above:							
No	Yes	One of your parents is angry about the job your other parent has had to take on as a result of immigration	1	2	3	4	5
Your wording of the item above:							

No	Yes	One of your parents blames the other for not having enough friends in the U.S.	1	2	3	4	5
Your wording of the item above:							
No	Yes	One of your parents misses the home country and their relatives who cannot visit and the other dismisses his/her feelings	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents argue about immigration and documentation process	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents argue whether or not immigration has been good for the family (e.g., opportunities, financially)	1	2	3	4	5
Your wording of the item above:							
No	Yes	Your parents have disagreements about helping other family members come to the U.S.	1	2	3	4	5
Your wording of the item above:							
No	Yes	One parent wants to keep the home country's traditions in the U.S., but the other disagrees	1	2	3	4	5
Your wording of the item above:							
No	Yes	One of your parents thinks the other is too Americanized	1	2	3	4	5
Your wording of the item above:							
No	Yes	One of your parents is upset that the family roles are different in the U.S. (e.g., women work outside the home)	1	2	3	4	5

Your wording of
the item above:

No	Yes	One of your parents is angry that your other parent makes more/less money than s/he used to make in the home country	1	2	3	4	5
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Your wording of
the item above:

No	Yes	Your parents disagree about what immigration policies should look like in the U.S.	1	2	3	4	5
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Your wording of
the item above:

Please add other items that you think are missing ...

Appendix C

Immigration-Related Parent-Child Conflict: Final Subscales Developed in Phase 2 of Study 2

Subscale 1: Parent-child conflict about immigration-related expectations and sacrifices

How frequently do you have disagreements with your parents about...

1. Your parents thinking you should appreciate their immigration sacrifices more
 2. Your parents thinking you are not taking advantage of the opportunities in the USA that were made possible by their immigration efforts
 3. Your parents' high academic expectations for you because they moved to the USA for your sake
 4. Things that your parents expect you to do, but they do not know how to do themselves because they are immigrants (e.g., filling out various applications)
-

Subscale 2: Parent-child conflict about acculturation-related topics

How frequently do you have disagreements with your parents about...

1. What holidays to celebrate (American versus those from the country where your parent(s) were born)
 2. What types of foods to eat (American versus those from the country where your parent(s) were born)
 3. Your parents expecting you to only date people from the same cultural background
 4. Your parents' expectations that you should be friends with kids from the same cultural background as you
 5. Your parents not acting American enough when you have friends at your home
-

Immigration-Related Interparental Conflict: Final Scale Developed in Phase 2 of Study 2

How often do your parents have disagreements with each other about ...

1. Whether immigration to the USA has been good for your family
 2. Sacrificing their own happiness in the USA for the sake of the family
 3. Jobs they have to do in the USA because they have challenges related to immigration (e.g., language, documentation)
 4. Challenges related to immigration processes
 5. Holding on to the culture and traditions from the country where your parent(s) were born
-

Appendix D

Immigration-Related Parent-Child Conflict: Items Included in Phase 3 of Study 2

How frequently do you have disagreements with your parents about...

1. Your parents or you traveling to the country where your parent(s) were born
 2. Your parents or you moving back to the country where your parent(s) were born
 3. You having to translate for your parents
 - 4. Your parents thinking you should appreciate their immigration sacrifices more**
 - 5. Your parents thinking you are not taking advantage of the opportunities in the USA that were made possible by their immigration efforts**
 - 6. Your parents' high academic expectations for you because they moved to the USA for your sake**
 - 7. Things that your parents expect you to do, but they do not know how to do themselves because they are immigrants (e.g., filling out various applications)**
 8. You are parents thinking you are too Americanized
 9. Things you think your parents should do to blend into American Society (e.g., learn English, be open to other cultures and groups)
 10. Your parents expecting you to talk to and accept advice from family members (e.g., grandparents, aunts and uncles) who do not understand the American culture
-

Immigration-Related Interparental Conflict: Items Included in Phase 3 of Study 2

How often do your parents have disagreements with each other about ...

- 1. Whether immigration to the USA has been good for your family**
 2. Traveling to the country where your parent(s) were born
 3. Moving back to the country where your parent(s) were born
 4. Sending money to family or friends in the country where your parent(s) were born
 - 5. Sacrificing their own happiness in the USA for the sake of the family**
 - 6. Jobs they have to do in the USA because they have challenges related to immigration (e.g., language, documentation)**
 7. Not having enough friends or family members in the USA
 - 8. Challenges related to immigration processes**
 9. Going to the doctor in the USA versus in the country where your parent(s) were born
 10. Helping friends and family members immigrate to the USA
 11. One parent thinking the other is too Americanized
 12. One parent feels discriminated in the USA and the other parent dismisses his/her feelings
-

Note. The items in **bold** show all the five items in the final Subscale 1 of immigration-related parent-child conflict (upper portion) and four out of the five items in the final immigration-related interparental conflict scale (lower portion). The items from Subscale 2 of immigration-related parent-child conflict were not included in Phase 3.

Appendix E

Immigration-Related Interparental Conflict

How often do your parents have disagreements with each other about ...

1. Whether immigration to the USA has been good for your family
 2. Traveling to the country where your parent(s) were born
 3. Moving back to the country where your parent(s) were born
 4. Sending money to family or friends in the country where your parent(s) were born
 5. Sacrificing their own happiness in the USA for the sake of the family
 6. Challenges related to immigration processes
 7. Going to the doctor in the USA versus in the country where your parent(s) were born
-

Immigration-Related Parent-Child Conflict

How frequently do you have disagreements with your parents about...

1. Your parents or you traveling to the country where your parent(s) were born
 2. Your parents or you moving back to the country where your parent(s) were born
 3. You having to translate for your parents
 4. Your parents thinking you should appreciate their immigration sacrifices more
 5. Your parents thinking you are not taking advantage of the opportunities in the USA that were made possible by their immigration efforts
 6. Your parents' high academic expectations for you because they moved to the USA for your sake
 7. Things that your parents expect you to do, but they do not know how to do themselves because they are immigrants (e.g., filling out various applications)
-

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