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Parent-Adolescent Acculturation Profiles and Adolescent Language Brokering Experiences in Mexican Immigrant Families

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Abstract

Language brokering is a special form of interpersonal communication that is affected by the cultural and relational settings in which it occurs. The current study explores whether parent-adolescent acculturation status may influence Mexican American adolescent language brokers' translation experiences, including brokering frequency and attitudes. Using data from a two-wave longitudinal study (N_{wave1} = 604; N_{wave2} = 483; $M_{wave1.age}$ = 12.91; 54.3% female), latent profile analyses were conducted, resulting in four mother-adolescent acculturation profiles as well as three father-adolescent profiles. The adolescent *integrated*–parent *(moderately) separated* profiles emerged as the most effective for brokers, as adolescents in this profile generally experienced more positive and less negative brokering attitudes, regardless of their brokering frequency. Parent-adolescent acculturation profiles may be a useful construct in capturing the interplay of cultural and relational settings and their effects on multifaceted language brokering experiences.

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Authors' Contributions

MZ created the design of the study, performed the statistical analysis and drafted portions of the manuscript; SYK drafted portions of the manuscript, provided critical review and editing of the manuscript. YH provided constructive ideas to the design of the study, provided critical review and editing of the manuscript. YS provided critical review and editing of the manuscript. All authors read and approved the final manuscript.

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Compliance with Ethical Standards

Ethical Approval. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent. Informed consent was obtained from all individual participants included in the study.

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Keywords

acculturation; parent-adolescent dyads; language brokering; parent-adolescent acculturation profiles

Introduction

Immigrant family members often experience the acculturation process together, simultaneously adapting to the U.S. culture while maintaining their heritage culture, with members showing variations in their levels and patterns of acculturation (Telzer, 2010). In these families, a culturally unique phenomenon, language brokering, occurs whenever adolescents in the family translate between English and their heritage language for their English-limited parents (McQuillan & Tse, 1995). As language brokering is a common activity performed by Mexican-origin adolescents in immigrant families (e.g., Dorner, Orellana, & Jiménez, 2008), and as brokering may be a central part of these adolescents' identity (Kim, Hou, Shen, & Zhang, 2017), understanding their brokering experiences, as an important component of their daily lives, may provide an avenue to study brokers' development. Adolescent language brokers can have various brokering-related experiences (Kim et al., 2017) in different settings, or a range of experiences within one situation (Weisskirch, 2017b). Studying the predictors of how the individuals feel while language brokering may offer insights into the differences among brokers in terms of how they perceive these experiences. Previous studies have identified antecedents that help explain the variation in brokering experiences, such as adolescent acculturation (Weisskirch, 2005), ethnic identification (Kam, 2009), and family obligation (Wu & Kim, 2009). Although these studies examined factors that predict brokering experiences from the adolescent perspective, less attention was paid to the parental perspective. Several language brokering researchers posit that language brokering is a transactional process in which adolescents team up with their parents to interact with mainstream society (e.g., Villanueva & Buriel, 2010). The current study aims to bring in the parental perspective and identify the acculturation status of parent-adolescent dyads in an effort to explain the variation in language brokering experiences of Mexican American adolescents.

According to Kam and Lazarevic (2014), language brokering can be understood as a special form of interpersonal communication. Following Burleson's (2010) definition of interpersonal communication, language brokering can be defined as a complex, situated social process in which adolescent language brokers and their parents exchange messages with a third party from the mainstream culture to help the parents bridge language barriers and sustain life in the host country. Such a perspective suggests that language brokering is a situated process that may be affected by cultural and relational contexts. Individual acculturation status, especially that of adolescents (including adaptation to the host culture and retention of the heritage culture; e.g., Kam, 2009, Weisskirch, 2005, Wu & Kim, 2009), may represent a cultural setting of language brokering. Moreover, parents are also active participants in the language brokering process (Kam & Lazarevic, 2014), and the ways in which parents' and children's acculturation status interact may represent a relational setting. By considering Mexican immigrant parents' acculturation together with their adolescent

children's acculturation, this study can better capture the interplay of cultural and relational contexts that may predict language brokering experiences.

To date, no empirical study has tested whether and how the combination of parent and child acculturation status may explain the variation in adolescent language brokering experiences. Following the bi-dimensional perspective of acculturation (Berry, 1980; Schwartz et al., 2016), this study takes a typological approach and identifies different types of dyadic parent-adolescent acculturation profiles. The study then tests the potential influence of these parent-child acculturation profiles on brokering experiences among adolescents in Mexican American immigrant families.

Adolescent Language Brokering Experiences

Language brokering experiences are multifaceted. Understanding various brokering experiences is important, because different aspects of language brokering experiences (e.g., frequency; whether brokering is perceived as efficacious or burdensome) have important implications for adolescent developmental outcomes across multiple domains, including their academic performance, psychological well-being, and behavioral problems (see Shen, Tilton, & Kim, 2017 for a review). While extant studies have focused on how different brokering experiences have various consequences for adolescent well-being, less is known about predictors of how the individuals feel during language brokering, particularly those that represent both the cultural and relational contexts in which brokering experiences occur. In addition, there is currently a dearth of research that comprehensively considers both the predictors and the multiple facets of the brokering experience together in the same study.

Language brokering experiences are comprised of several components, including the frequency with which the activity occurs (e.g., Chao, 2006) and attitudes during translation (e.g., Kim, et al., 2017). Language brokering attitudes can be either positive or negative. At the same time, some adolescents may also feel that language brokering is a normative activity (Dorner, et al., 2008), and may score in the moderate ranges for frequency, as well as in the moderate ranges for both positive and negative attitudes toward language brokering. Positive attitudes include positive emotions, perceived improvement in linguistic skills in both languages, perceived increase in confidence and maturity, perceived improvement in communication skills, and a sense of self-efficacy during the brokering process (Kim, et al., 2017; Weisskirch, 2007). Negative attitudes include psychological burden or stress, and negative emotions and feelings (Kim, et al., 2017; Kim, et al., 2014). To get a complete picture of adolescent language brokering, positive and negative language brokering attitudes are considered together with language brokering frequency in the present study.

Parent-Adolescent Acculturation Status

According to the bi-dimensional perspective of acculturation (Berry, 1980; Schwartz & Zamboanga, 2008; Telzer, Yuen, Gonzales, & Fuligni, 2016), there are two dimensions of acculturation, and multiple indicators within each dimension. Host and heritage cultural orientation and language use and proficiency are commonly used indicators to assess acculturation status (e.g., Bámaca-Colbert & Gayles, 2010; Kim, Wang, Chen, Shen, & Hou, 2015; Schwartz & Zamboanga, 2008). As pointed out by Knight and colleagues (2009),

however, one's acculturation status goes beyond cultural orientations and languages to include dimensions of specific values (e.g., family obligation) and self-concept dimensions such as ethnic identity. In particular, one of the most essential values in the U.S. culture is independence/self-reliance (Knight et al., 2010), whereas family obligation is considered an important cultural value among individuals of Mexican origin (Fuligni, Tseng, & Lam, 1999). Moreover, ethnic identity is multi-dimensional and can include centrality, exploration, and resolution (Sellers, Rowley, Chavous, Shelton, & Smith, 1997; Umaña-Taylor, Yazedjian, & Bámaca-Gómez, 2004). Ethnic identity centrality refers to the extent to which individuals define themselves relative to their ethnicity (Sellers, et al., 1997); exploration refers to choosing among alternative versions of ethnic identity in meaningful ways; and resolution refers to one's commitment to his/her ethnic identity (Umaña-Taylor, et al., 2004). When individuals highly endorse indicators of the host culture dimension, they are likely to adapt well to the host culture; meanwhile, when individuals highly endorse indicators of the heritage culture dimension, they are likely to have high heritage culture retainment. Therefore, the current study will incorporate both adolescent and parent reports of acculturation components, including U.S. cultural orientation, English proficiency, and sense of independence; and Mexican cultural orientation, Spanish proficiency, attitudes on family obligation, and ethnic identity (centrality, exploration, and resolution) as indicators to generate parent-child acculturation status profiles.

Based on the above-mentioned indicators, and consistent with the bi-dimensional model of acculturation, four types of individual acculturation profiles may emerge: *integrated* (high on both U.S. and Mexican culture indicators), *assimilated* (high on host culture indicators, low on heritage culture indicators), *separated* (low on host culture indicators, high on heritage culture indicators), and *marginalized* (low on indicators for both cultures; Berry, 1980). However, researchers have found that all four conceptual profiles do not always emerge in empirical studies using the person-centered approach. In fact, the *marginalized* profile seldom emerged, or emerged at a low rate among ethnic minority adolescents and parents (e.g., Kim, et al., 2015). Moreover, past studies also found that immigrant parents are less likely to be classified as *assimilated* than as *integrated* or *separated* (e.g., Kim, et al., 2015), and parents endorsed U.S. cultural indicators less than they endorsed heritage cultural aspects (e.g., U.S. vs. Hispanic practices; Schwartz, et al., 2016). Given that parents in the current study sample were not proficient in English, *assimilated* parents were not expected to emerge. Additionally, past studies indicate that the *integrated* profile has more subtypes. In addition to the *integrated* profile, there is a *moderately integrated* profile, which displays a pattern similar to the *integrated* pattern, yet with lower scores on indicators of both U.S. culture and Mexican culture; *moderately integrated* individuals also tend to report poorer health than *integrated* individuals (e.g., Jang, Park, Chiriboga, & Kim, 2017). Given the current sample characteristics, *integrated* adolescents were expected to emerge, whereas only the *moderately integrated* (vs. *integrated*) profile was expected to emerge among parents. Therefore, it is plausible that three individual profiles (i.e., *integrated*, *assimilated*, and *separated*) may emerge among adolescent language brokers, whereas only *separated* and *moderately integrated* profiles may emerge among parents.

Based on the above-mentioned prediction for adolescent acculturation profiles (three) and parental acculturation profiles (two), there are potentially six parent-adolescent acculturation

profiles to be found in a sample of Mexican immigrant families with English-limited parents and adolescents who language broker for them, namely: 1) adolescent *integrated*–parent *moderately integrated*, 2) adolescent *integrated*–parent *separated*, 3) adolescent *separated*–parent *moderately integrated*, 4) adolescent *separated*–parent *separated*, 5) adolescent *assimilated*–parent *moderately integrated*, and 6) adolescent *assimilated*–parent *separated*.

Parent-Adolescent Acculturation Profiles and Language Brokering Experiences

Prior literature on the most (mal)adaptive parent-child acculturation status in the context of youth development has mostly adopted the bi-dimensional perspective of acculturation (see Telzer et al., 2010 for a review). The dominant view holds that an intergenerational acculturation gap is created due to children adapting to mainstream society faster than their parents, which leads to worse family relationships and more adolescent distress (acculturation-gap distress model; Telzer et al., 2010). More recent research has challenged this view and proposed that heritage culture retention—especially among adolescents—has better predictive validity than mainstream culture adaptation for immigrant family relationships and adolescent developmental adjustment (e.g., Schwartz et al., 2016; Telzer et al., 2016). These studies were methodologically limited by their variable-centered approach, however, because they could not test both dimensions of acculturation between parent and child simultaneously (e.g., interaction approach; Costigan & Dokis, 2006; Schwartz et al., 2016). In other words, findings and interpretations of these studies usually examined (mal)adaptive dyadic discrepancy in host culture adaptation and in heritage culture retention separately. To address this limitation, the current study uses latent profile analysis (a person-centered approach), takes a dyadic perspective (i.e., examines parent-adolescent pairs) and incorporates both dimensions of acculturation (each with multiple indicators) to identify the most (mal)adaptive acculturation profiles in relation to brokering.

According to the literature, when adolescents and parents are more attached to Mexican cultural values (e.g., family obligation, interdependence), adolescents may be more willing to participate in language brokering (Weisskirch, 2017b) and feel more positive towards language brokering (Wu & Kim, 2009). Meanwhile, adolescents' own ability to speak proficient English and navigate mainstream culture are important assets that allow them to better assist their families when language brokering (Kam & Lazerevic, 2014). Thus, regardless of the potential gaps in dyadic adaptation to mainstream culture, as parents in brokering families usually are not proficient in English, brokers who have high host culture adaptation and high heritage culture attachment may be more competent and content with language brokering. As such, brokers in the adolescent *integrated*-parent *separated* profile (vs. other profiles) may have the most frequent, and the most positive and least negative, language brokering experiences. By contrast, although brokers in the adolescent *assimilated*-parent *separated* profile have adequate familiarity with the mainstream culture and proficiency in the mainstream language, the intergenerational gap in heritage culture may lead to adolescents being unwilling to translate and may create tensions during the brokering process (Weisskirch, 2017b). Therefore, brokers in the adolescent *assimilated*-parent *separated* profile (vs. other profiles) may translate less frequently and may have worse brokering experiences.

Present Study

Using a two-wave dataset of Mexican American adolescents and their parents, the current study has two goals. The first goal is to identify profiles of parent-adolescent acculturation in Mexican immigrant families based on indicators of parent and adolescent host and heritage cultural orientations, languages, values, and identities. Although mother-adolescent and father-adolescent dyads will be tested in separate latent profile analyses, it is assumed that similar profiles will emerge across parent gender, as previous studies that tested parent-child acculturation profiles did not find significant differences across parent gender (e.g., Kim, et al., 2015). The second goal is to test the effect of parent-adolescent acculturation profiles on adolescents' language brokering frequency, positive brokering experiences, and negative brokering experiences.

Method

Participants

Data for the present study are drawn from a two-wave longitudinal study of 604 Mexican American families ($N_{adolescents}$ = 604, $N_{mothers}$ = 596, $N_{fathers}$ = 293) living in and around a metropolitan area in central Texas. Families were eligible when: 1) both parents were of Mexican origin, 2) the family had a child in middle school, and 3) the child was responsible for translating for at least one parent. Data were collected when adolescents were in middle school (sixth through eighth grades), ranging from 11.08 to 15.29 years old (M age = 12.91 years, SD = 0.92). Slightly over half of the sample is female (N = 328, 54.3%). Most adolescent participants were U.S.-born (N = 455, 75.3%;), whereas most of their parents were Mexico-born (mother: N = 592, 99.3%; father: N = 289, 98.6%). For the remaining 24.7% adolescent participants who were born in Mexico, they had lived in the United States for 8.61 years on average (SD = 2.63). The median and mean household income fell within the range of $20,001 to $30,000. The median highest education level of both fathers and mothers was some middle/junior high school.

Procedure

At Wave 1, families were recruited through public records, school presentations, and community recruitment in and around a metropolitan area in central Texas from 2012 to 2015. Research assistants distributed a letter describing the research project, along with a permission slip for parents. If families signed and returned the slip, an initial screening call was placed to collect information on the three criteria mentioned in the participant section. If the family met the participation criteria, a family visit was scheduled. Bilingual and bicultural interviewers went on family visits, reading questions out loud to families and entering participants' responses on a laptop computer. All the questionnaires were prepared in both English and Spanish. The questionnaires were first translated to Spanish and then back-translated to English by bilingual and bicultural research assistants. The questionnaires took approximately two hours to complete. Families received $60 compensation after completing the questionnaires. About one year later, families were approached to participate in the follow-up study. Compensation in the amount of $90 was given to families that completed the Wave 2 portion of the study.

Approximately 80% of families recruited for the Wave 1 data collection participated in the Wave 2 study (N_{wave1} = 604, N_{wave2} = 483). Attrition analyses found no significant difference in adolescent age, gender, nativity, and family income between families who participated in both waves of data collection and those who dropped out at Wave 2. However, families with parents who had a higher education level (mother: $t(591) = 2.410$, $p = .016$; father: $t(150) = 3.680$, $p = .000$) were more likely to continue participating in the study.

Measures

Adolescents, mothers, and fathers self-reported on latent profile analysis indicators at Wave 1, including: individuals' Mexican and U.S. orientation, Spanish and English proficiency, cultural values (family obligation, independence), and ethnic identity (centrality, resolution, and exploration). For all language brokering-related scales as reported by adolescents, there was one measure of brokering frequency and seven measures of brokering attitudes. Adolescents reported separately for brokering for mother and brokering for father during both Wave 1 and Wave 2.

Mexican and U.S. orientations.—Participants' Mexican and U.S. orientation (i.e., cultural behaviors, attitudes, and beliefs) were measured using the Vancouver Index of Acculturation (Ryder, Alden, & Paulhus, 2000). Participants answered 10 questions about their Mexican cultural orientation and 10 questions about their American cultural orientation on a five-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Example items were "I often follow traditions of the Mexican/American culture," "I often behave in ways that are typical of the Mexican/American culture," and "I believe in mainstream Mexican/American values." In the current study, the scales show good reliability across informants (Mexican orientation: αs = .85 to .88; U.S. orientation: αs = .80 to .85).

Spanish and English proficiency.—Participants self-reported how proficient they were in Spanish and English, respectively, on 5-point Likert scales (1 = *not well* to 5 = *extremely well*) on 3 aspects as distinct items (i.e., speaking and understanding, reading, writing). Prior research has found that self-report and objective measures of language proficiency are correlated (e.g., Dunn & Fox Tree, 2009). The scales show good reliability across informants in the study (Spanish and English for adolescents: αs = .80 and .82; for mothers: αs = .82 and .87; for father: αs = .80 and .90).

Family obligation.—Participants reported their attitudes on family obligation on a 13-item measure (Fuligni, et al., 1999). On a 5-point scale (1 = *not at all important* to 5 = *very important*), participants answered how important it is to them that the target adolescent treat parents with respect and provide current assistance (e.g., "help out around the house") and future support (e.g., "help parents financially in the future") to the family. The family obligation measure has been validated for use with Mexican Americans and is related to a range of outcomes such as academic adjustment and family cohesion (e.g., Fuligni, et al., 1999); it shows good reliability in the current sample (αs = .77 to .88).

Independence.—To measure the U.S. cultural value of independence, participants rated from 1 (*strongly disagree*) to 5 (*strongly agree*) their endorsement of the following statements: "People should be allowed to make their own decisions" and "People should learn how to take care of themselves and not depend on others." This two-item scale was adapted from the independence and self-reliance subscale in the Mexican American Cultural Values Scale (Knight, et al., 2010), which is related to adolescent perceived social support and parental acceptance (e.g., Knight, et al., 2010). The two items are positively correlated across informants (rs = .33 to .45, ps < .01).

Ethnic identity centrality, exploration, and resolution.—All three measures were assessed using a self-report, five-point scale (1 = *strongly disagree* to 5 = *strongly agree*). The 3-item centrality measure (e.g., "being Mexican is an important part of who I am") was adapted from the centrality subscale in the Multidimensional Inventory of Black Identity Scale (Sellers, et al., 1997). The 3-item exploration measure (e.g., "I have often done things that will help me understand my Mexican background better") and the 3-item resolution measure (e.g., "I know what being Mexican means to me") were adapted from the corresponding subscales in the Ethnic Identity Scale (Umaña-Taylor, et al., 2004). All three measures have been validated for use with Mexican Americans and are related to variables such as self-esteem and family ethnic socialization (e.g., Umaña-Taylor, et al., 2004). The scales show fair to good reliability across informants (centrality: αs = .60 to .66; exploration: αs = .81 to .85; resolution: αs = .85 to .91).

Language brokering frequency.—Adolescents answered how often they translate for their mother and father, respectively, on a scale ranging from (1) *a few times a year* to (2) *a few times every 3 to 6 months* to (3) *a few times a month* to (4) *a few times a week* to (5) *every day*.

Language brokering attitudes.—Adolescents reported on seven attitudinal scales of language brokering. Four of these subscales (i.e., *benefits* of brokering, *efficacy* of brokering, *positive parent-child relationships* tied to brokering, *negative feelings* about brokering) are derived from the Adolescent Subjective Language Brokering Experiences Scale (Kim, et al., 2017), which uses a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*). Using a 7-point scale (1 = *never* to 7 = *always*), two of these subscales (*positive* and *negative emotions* about brokering) measure emotions adolescents may experience while brokering (Weisskirch, 2007). The language brokering *stress* measure used a 6-point scale (0 = *I don't translate this*, 1 = *not stressful*, to 5 = *extremely stressful*). Items endorsed as 0 in the brokering *stress* scale were recoded as missing in the analysis.

The four *positive language brokering experiences* dimensions are: *benefits* (7 items, e.g., "When I translate for my parent it strengthens my Spanish skills"; αs = .79 to .91 for brokering for mother and father across waves), *efficacy* (4 items, e.g., "I am good at translating for my parent"; αs = .83 to .90), *positive parent-child relationships* (4 items, e.g., "I understand my parent better because I translate for her/him"; αs = .82 to .89), and *positive emotions* (3 items, i.e., "How often do you feel enthusiastic/excited/happy when you translate from English to Spanish for your parent"; αs = .81 to .90).

The three *negative language brokering experiences* dimensions are: *negative feelings* (4 items, e.g., “I become impatient when my parent asks me to translate for her/him”; αs = .72 to .78), *negative emotions* (4 items, i.e., “How often do you feel angry/annoyed/sad/embarrassed when you translate from English to Spanish for your parent”; αs = .67 to .78), and brokering *stress* (11 items, e.g., “How stressed do you feel when you translate homework/bill/legal document for your parent”; αs = .93 to .95).

Covariates.—Adolescents’ age, gender, nativity (i.e., foreign-born or U.S.-born), and family SES (i.e., family income, parent highest educational level), as well as adolescents’ Wave 1 language brokering experiences, were included as covariates. Adolescent age was directly calculated by subtracting adolescents’ birth dates from the interview dates. Parents reported the family income on an 11-point scale with $10,000 increments, ranging from 1 (*$10,000 or under*) to 11 (*$110,001 or more*). Parents reported their highest education level on an 11-point scale (1 = *no formal schooling* to 11 = *finished a graduate degree*).

Analytical Plan

All analyses were conducted using Mplus 7.4 with the full information maximum likelihood (FIML) estimation method of handling missing data (Muthén & Muthén, 1998–2012). First, two sets of latent profile analyses (LPA) were conducted to identify mother-adolescent acculturation profiles and father-adolescent acculturation profiles. As suggested by Nylund and colleagues (2007), the most optimal class solution has smaller values on the Akaike information criteria, Bayesian information criteria, and adjusted Bayesian information criteria, and is significant in Vuong-Lo-Mendell-Rubin and Lo-Mendell-Rubin adjusted Likelihood Ratio tests. No parameters were constrained within each set of profiles in the LPA analyses. Additionally, an independent chi-square test between mother-adolescent and father-adolescent dyadic profiles was conducted to test whether the dyadic acculturation profiles were substantively different between mother-adolescent and father-adolescent dyads. Furthermore, whether adolescent gender differences emerged in these profile distributions was also examined by conducting chi-square tests separately within mother-adolescent and father-adolescent profiles.

Next, to test whether the dyadic acculturation profiles may influence adolescent language brokering experiences, two structural equation models (SEMs) were tested separately for mother-adolescent dyads and father-adolescent dyads. Testing these structural equation models involved two steps: testing the measurement models—conducting confirmatory factor analyses on the latent construct (i.e., positive and negative brokering experiences); and testing the structural models—examining the effects of dyadic acculturation profiles (W1) on adolescent language brokering experiences (W2 controlling for W1 observed variables). As brokering frequency is an ordinal variable, SEM models were tested by treating brokering frequency as a categorical variable and using the accompanying “estimator = MLR” (Muthén & Muthén, 1998–2012).

In order to test whether adding parental acculturation status gives the dyadic acculturation profiles better predictive validity, as compared to the adolescent-only profiles, the following sensitivity analyses were conducted. A series of LPA were conducted to identify the

adolescent-only acculturation profiles. Then, the potential influence of adolescent-only acculturation profiles (W1) to adolescent language brokering experiences (W2 controlling for W1 observed variables) was examined in SEM models (in which brokering frequency was treated as ordinal). Lastly, results of dyadic acculturation profiles in SEM and adolescent-only profiles in SEM were compared to investigate whether the proposed dyadic acculturation profiles were more robust than adolescent-only profiles in terms of explaining variations in brokering experiences.

Results

Parent-Adolescent Acculturation Profiles

Based on fit indices (Table 1) and evaluation of substantive meaning of acculturation profiles, results indicate that the optimal solutions were four profiles for mother-adolescent dyads and three profiles for father-adolescent dyads. The means on the indicators of each profile, and ANOVA results of mean differences on indicators by profile membership, are displayed in Table 2 (upper panel for mother-adolescent dyads; lower panel for father-adolescent dyads). Indicator means of Mexican and U.S. cultural dimensions for each reporter were calculated and plotted to derive optimal profiles for mother-adolescent dyads (Figure 1a) and father-adolescent dyads (Figure 1b). Given that the parents in the sample needed their adolescent children to translate for them, it is not surprising that their scores on English proficiency were consistently low (mother: *Mean* = 1.56, *SD* = 0.72; father: *Mean* = 1.82, *SD* = 0.87), with no significant difference across profiles for mothers ($F(3,584) = 0.25$, $p = 0.859$) or fathers ($F(2, 283) = 0.01$, $p = 0.989$).

Mother-adolescent acculturation profiles (*N* = 596).—Four profiles emerged for mother-adolescent acculturation status: adolescent *integrated*–mother *separated* (20.3%), adolescent *moderately assimilated*–mother *moderately separated* (9.9%), adolescent *moderately integrated*–mother *moderately separated* (48.7%), and adolescent *moderately integrated*–mother *separated* (21.1%; see Figure 1a and Table 2 upper panel for details).

Relative to other profiles, the adolescent *integrated*–mother *separated* profile was characterized by higher scores on indicators for both Mexican culture (i.e., Mexican orientation, Spanish proficiency, ethnic identity centrality/exploration/resolution, family obligation) and U.S. culture (i.e., U.S. orientation, English proficiency, and individualism) among adolescents, and higher scores on Mexican culture indicators with lower U.S. culture indicators among mothers. The smallest profile, the adolescent *moderately assimilated*–mother *moderately separated* profile, was characterized by moderately higher scores on aspects of U.S. culture compared to Mexican culture among adolescents, and moderately higher scores on aspects of Mexican culture and moderately lower on aspects of U.S. culture among mothers. The largest group, the adolescent *moderately integrated*–mother *moderately separated* profile, had moderately higher scores on both Mexican and U.S. culture indicators for adolescents, and moderately higher scores on Mexican culture indicators with moderately lower U.S. culture indicators for mothers. The adolescent *moderately integrated*–mother *separated* profile showed an adolescent pattern similar to that of other profiles in

which adolescents were also considered *moderately integrated*, and a maternal pattern similar to the first profile, in which mothers were also classified as *separated*.

Father-adolescent acculturation profiles (*N* = 293).—Three profiles emerged for father-adolescent acculturation status: adolescent *integrated*–father *moderately separated* (28.7%), adolescent *moderately assimilated*–father *moderately separated* (10.6%), and adolescent *moderately integrated*–father *moderately separated* (60.7%; see Figure 1b and Table 2 lower panel for details). For all three profiles, fathers displayed a consistent pattern of moderately higher scores on Mexican culture indicators and moderately lower U.S. culture indicators, which was considered *moderately separated*. For adolescents, patterns that were similar to those named in the mother-adolescent acculturation profiles were named consistently.

Profile distribution across gender.—Most dyads were in the same mother-adolescent acculturation profiles and father-adolescent acculturation profiles (51.6% out of the 285 families in which both parents participated). Chi-square difference tests found that there were significant associations between mother-adolescent acculturation profiles and father-adolescent acculturation profiles, χ^2 (6) = 412.35, $p < .001$. As for the profile distributions across adolescent gender, chi-square difference tests showed that adolescent gender was not significantly related to dyadic acculturation profiles, mother-adolescent dyads: χ^2 (3) = 5.21, $p = .157$, or father-adolescent dyads: χ^2 (2) = 3.74, $p = .154$.

Dyadic Acculturation Profiles and Adolescent Language Brokering Experiences

The brokering for mother and for father measurement models exhibited good model fit, mother: χ^2 (41) = 76.605, $p < .001$, CFI = .975, RMSEA = .038 [90% CI = .024, .051], SRMR = .030; father: χ^2 (41) = 37.684, $p = .619$, CFI = 1.000, RMSEA = .000 [90% CI = .000, .035], SMRM = .032. For positive language brokering experiences, standardized coefficients are as follows (presenting in the order of brokering for mother/brokering for father): *benefits* (.71/.82), *efficacy* (.49/.46), *positive parent-child relationships* (.67/.77), and *positive emotions* (.33/.30). Standardized coefficients for negative language brokering experiences are as follows: *negative feelings* (.51/.46), *negative emotions* (.72/.86), and *brokering stress* (.43/.54).

Mother-adolescent dyads (*N* = 596).—The structural model for mother-adolescent dyads is presented in the first lines in Figure 2. The reference group for the profiles was rotated to get all possible comparisons. Results showed that relative to the adolescent *integrated*–mother *separated* profile, the other three profiles were negatively associated with positive language brokering experiences (the adolescent *moderately assimilated*–mother *moderately separated* profile: $\beta = -.185$, $p = .001$; the adolescent *moderately integrated*–mother *moderately separated* profile: $\beta = -.254$, $p < .001$; and the adolescent *moderately integrated*–mother *separated* profile: $\beta = -.173$, $p = .011$). The adolescent *moderately integrated*–mother *moderately separated* profile was also found to be positively associated with negative brokering experiences, compared to the adolescent *integrated*–mother *separated* profile ($\beta = .170$, $p = .034$). However, no such differences were found for language brokering frequency.

Father-adolescent dyads (*N* = 293).—The structural model for father-adolescent dyads is presented in the second lines of Figure 2. Similar to the analyses of mother-adolescent dyads, the reference group for the profiles was rotated to get all possible comparisons. Results show that relative to the adolescent *integrated*–father *moderately separated* profile, the other two profiles are negatively associated with positive language brokering experiences (the adolescent *moderately assimilated*–father *moderately separated* profile: β = −.202, *p* = .006; the adolescent *moderately integrated*–mother *moderately separated* profile: β = −.185, *p* = .023). Moreover, the adolescent *moderately assimilated*–father *moderately separated* profile was 0.462 times less likely to engage in frequent translation (95% CI = .176 – .748, *p* < .001), compared to the adolescent *integrated*–father *moderately separated* profile. However, no such difference was found for negative language brokering experiences.

Sensitivity Analyses

Based on fit indices (Table 1) and evaluation of substantive meaning of acculturation profiles, results suggest that the optimal solution was three profiles for adolescent-only acculturation. Indicator means of Mexican and U.S. cultural dimensions were calculated and plotted for adolescent acculturation profiles in Figure 1c. Three profiles emerged for adolescent acculturation status: *integrated* (21.8%), *moderately assimilated* (12.6%), and *moderately integrated* (65.6%).

Next, structural equation modeling was conducted to test whether adolescent-only profiles predicted adolescent language brokering experiences. Similar to results found for dyadic acculturation profiles, adolescent-only profiles were associated with positive language brokering experiences. Moreover, similar to the finding for father-adolescent acculturation profiles, adolescent-only profiles were related to language brokering frequency.

However, results also showed the potential limitation of adolescent-only profiles as predictors. Specifically, while the dyadic mother-adolescent acculturation profiles (adolescent *integrated*–mother *separated* profile vs. adolescent *moderately integrated*–mother *moderately separated* profile) were associated with negative brokering experiences, no adolescent-only profiles were found to be related to negative brokering experiences when adolescents were brokering for either parent. Overall, these results suggest that, when examining the potential influence of brokering experiences, dyadic acculturation profiles may be superior to adolescent-only profiles. Importantly, the dyadic profiles (especially mother-adolescent dyadic profiles) are more likely to be associated with a range of language brokering experiences, including both frequency and attitudes (positive and negative), compared to adolescent-only profiles (associated only with frequency and positive experiences).

Discussion

Language brokering is a situated process enacted in cultural and relational settings (Kam & Lazarevic, 2014). An example of the interaction between these cultural and relational contexts occurs when parents and adolescents understand and adapt to their host culture (i.e., U.S. orientation, English proficiency, independence), while staying attached to their heritage culture (i.e., Mexican orientation, Spanish proficiency, family obligation, ethnic identity

centrality/exploration/resolution). When parents and children both work actively during the brokering process, certain dyadic acculturation patterns may affect adolescents' language brokering frequency and attitudes. By taking a dyadic perspective and exploring parent-adolescent acculturation profiles in a Mexican immigrant sample, the current study identified four mother-adolescent acculturation profiles (i.e., adolescent *integrated*–mother *separated*, adolescent *moderately assimilated*–mother *moderately separated*, adolescent *moderately integrated*–mother *moderately separated*, and adolescent *moderately integrated*–mother *separated*) and three father-adolescent acculturation profiles (i.e., adolescent *integrated*–father *moderately separated*, adolescent *moderately assimilated*–father *moderately separated*, and adolescent *moderately integrated*–father *moderately separated*). Among the profiles that emerged, the adolescent *integrated*–parent *(moderately) separated* profiles were found to be related to more frequent and effective language brokering experiences as compared to other profiles. In the context of such parent-child acculturation profiles, adolescents who are equipped to navigate the host culture may experience a more harmonious brokering process, even though their parents are less well-integrated into U.S. culture, when they, like their parents, remain closely attached to Mexican culture. These are therefore the joint parent-child acculturation profiles that relate to more positive and less negative language brokering experiences.

Multifaceted Language Brokering Experiences

Our study supports the notion that adolescent language brokering experiences are multifaceted (Kam & Lazarevic, 2014). Specifically, the measurement models found two latent constructs of language brokering attitudes, including: positive attitudes (brokering-related *benefits*, *efficacy*, *positive parent-child relationships*, and *positive emotions*) and negative attitudes (brokering-related *negative feelings*, *negative emotions*, and *stress*). A measure of language brokering frequency was also included to get a holistic picture of language brokering experiences. Thus, this study contributes to the literature with a more integrated and nuanced assessment of language brokering experiences (Kim, et al., 2017; Weisskirch, 2007).

Individual and Dyadic Acculturation Profiles

Instead of studying adolescent and parental acculturation status separately (e.g., Schwartz, 2016; Telzer, et al., 2016), the current study took a dyadic perspective and incorporated the bi-dimensional perspective of acculturation and multiple domains of acculturation indicators to study joint parent-adolescent acculturation profiles. By utilizing one of the person-centered approaches (LPA), the study could model the cultural setting (i.e., Mexican and U.S. cultural aspects) and the relational setting (i.e., including both adolescents' and parents' perspectives) together to create dyadic acculturation profiles. This approach also allowed us to model simultaneously the host culture adaptation and heritage culture retention of parent-adolescent dyads (for a total of four dimensions). As four-way interactions are unwieldy and require a large sample size, studies using the interaction approach tend to model dyadic acculturation discrepancy by measuring host culture adaptation and heritage culture retention separately (e.g., Schwartz et al., 2016; Telzer et al., 2016). However, when studying dyadic acculturation as a combined status, LPA may be better than the interaction approach at capturing the essence of the bi-dimensional acculturation model.

Three individual acculturation types for adolescents within the dyadic profiles emerged, including *integrated* (high on Mexican and U.S. cultural aspects), *moderately integrated* (moderately high on Mexican and U.S. cultural aspects), and *moderately assimilated* (moderately low on Mexican cultural aspects, moderately high on U.S. cultural aspects). Findings were consistent with previous studies showing that, when adolescents lived in the host society from birth or from their early school years, they were more likely to become *integrated* or *assimilated* (e.g., Schwartz & Zamboanga, 2008). However, adolescents in this study sample were *moderately assimilated* rather than *assimilated* because language brokers are linguistic and cultural mediators (Jones, Trickett, & Birman, 2012). One reason may be that being exposed to the heritage culture and using the heritage language more frequently than non-brokers (e.g., Chao, 2006) makes brokers more affiliated with their heritage culture (Wu & Kim, 2009) and unlikely to score very low on Mexican culture indicators. It may also be that serving as language brokers instills a sense of interdependence, as opposed to independence (Kam & Lazarevic, 2014), resulting in only moderately high scores on U.S. culture indicators among these adolescents. Although previous studies have often found a substantial number of U.S.-born/educated *separated* (high on Mexican cultural aspects, low on U.S. cultural aspects) adolescents (e.g., Schwartz & Zamboanga, 2008), this finding was not replicated here. It is possible that this is because being a language broker requires one to be somewhat proficient in English, and to understand to some extent the U.S. culture (Roche, Lambert, Ghazarian, & Little, 2015). In other words, the basic requirements of being a language broker have already placed these adolescents in a position in which they are likely to show moderately high to high scores on the U.S. cultural indicators assessed in the study. Moreover, findings from the adolescent-only acculturation profiles also seem to support the notion that the *integrated* profile may be substantially different from the *moderately integrated* profile (Jang, et al., 2017), as *integrated* brokers have more positive brokering experiences than *moderately integrated* brokers.

Two individual acculturation types for mothers emerged within the dyadic profiles, including *separated* (high on Mexican cultural aspects, low on U.S. cultural aspects) and *moderately separated* (moderately high on Mexican cultural aspects, low on U.S. cultural aspects); for fathers, only one individual acculturation type – *moderately separated* – emerged. As mentioned in the results section, sampled parents reported low proficiency in English, which is consistent with previous findings on parents of language brokers (e.g., Chao, 2006; Stepler & Brown, 2015). Low English proficiency is a key indicator of lower U.S. culture adaptation, and can be a hindrance to immigrant parents' interactions with the host society. Given the low scores on host culture adaptation across sampled parents, inter-individual differences in parental heritage culture retention contribute more to the variation that emerged in parental acculturation profiles. Thus, only *(moderately) separated* profiles emerged among the parents in this study.

Consistent with previous studies, the *marginalized* profile, which is usually absent in immigrant samples (e.g., Nieri, Lee, Kulis, & Marsiglia, 2011; Salas-Wright, Clark, Vaughn, & Córdova, 2015), did not emerge. Relatedly, no *assimilated* parents were found in the current sample, which is not surprising given that immigrant parents who need language brokers usually have lower scores on U.S. cultural orientation and values (e.g., Schwartz, et al., 2016) and are less proficient in English (Stepler & Brown, 2015).

Four profiles for mother-adolescent dyads and three profiles for father-adolescent dyads emerged in the results. Among all profiles, three out of four mother-adolescent dyads (90.1%) and two out of three father-adolescent dyads (89.4%) had the adolescent classified as either *integrated* or *moderately integrated*. These results are consistent with previous findings that most U.S.-born/educated adolescents identified themselves as having an *integrated* (e.g., Schwartz & Zamboanga, 2008) or *moderately integrated* profile. The adolescent *moderately assimilated*–parent (*moderately) separated* profile is the smallest profile across mother-adolescent (9.9%) and father-adolescent (10.6%) dyads. Mother-adolescent and father-adolescent dyads in the same family were likely to be consistent. No adolescent gender difference in profile distribution was found for either mother-adolescent dyads or father-adolescent dyads. These findings indicate that dyadic acculturation status holds steady across mother-/father-adolescent dyads within families, and the pattern is similar for male and female brokers.

Dyadic Acculturation Profiles and Adolescent Language Brokering Experiences

In testing whether parent-adolescent acculturation profiles influence adolescent language brokering experiences, adolescents' multifaceted language brokering experiences (i.e., frequency, positive experiences, and negative experiences) was found to be a special form of interpersonal communication which can be explicated by looking at the combination of cultural setting and relational setting (Burleson, 2010; Kam & Lazarevic, 2014).

Dyadic acculturation status tended to impact brokering frequency in the current study, but only with father-adolescent dyads. Specifically, brokers in the adolescent *integrated*–father *moderately separated* profile translated more frequently for their father than those in the adolescent *moderately assimilated*–father *moderately separated* profile. Compared to brokers in the adolescent *moderately assimilated*–father *moderately separated* profile, those in the adolescent *integrated*–father *moderately separated* profile are equipped with a comparatively better understanding of the host culture, which makes them more prepared for the challenges coming from the mainstream society (Kam & Lazarevic, 2014). These *integrated* brokers also endorsed aspects of their heritage culture to a similar degree as their parents did, which resonates with the interdependent nature of the language brokering process (Weisskirch, 2017b). Therefore, these brokers may be more willing to translate, while their parents are more willing to ask for brokering, resulting in higher frequency of brokering.

Moreover, dyadic acculturation profiles (reflecting cultural and relational settings) are associated with language brokering attitudes. The adolescent *integrated*–mother *separated* (father *moderately separated*) profile is associated with more positive brokering experiences compared to all other profiles. Moreover, brokers with an adolescent *integrated*–mother *separated* profile tend to experience less negative brokering experiences when translating for mother as compared to brokers with the adolescent *moderately integrated*–mother *moderately separated* profile. Results demonstrate that in order for adolescent brokers to have more adaptive language brokering experiences, retaining their heritage culture as much as their parents do (e.g., Schwartz, et al., 2016) may not be enough. Adolescent language brokers should also speak English and understand the mainstream culture well, so that they have the capability to language broker effectively, even when their parents are less well

integrated into the U.S culture. Again, the study goes beyond previous dyadic parent-adolescent acculturation studies, which have considered only one domain (e.g., culture orientation, language proficiency, key culture values) in one dimension (host or heritage) of acculturation across parent-adolescent dyads at a time (Schwartz, et al., 2016; Telzer et al., 2016). It is through the latent profile analysis approach (vs. the interaction approach) that the current study could gain a comprehensive understanding of the most adaptive dyadic parent-adolescent acculturation profile in the context of brokering.

Additionally, adolescent-only acculturation profiles tend to explain the frequency and positive attitudes toward language brokering experiences, but not the negative attitudes toward brokering. The negative experiences of brokering appear to be better explained by the dyadic acculturation profiles, specifically when there are variations in maternal acculturation status (i.e., adolescents with a *separated* mother vs. a *moderately separated* mother). These findings also highlight the importance of considering both cultural (i.e., adolescent-only acculturation) and relational (i.e., parent-adolescent dyadic acculturation) settings when examining the potential antecedents to multifaceted language brokering experiences (i.e., frequency, positive and negative attitudes toward language brokering).

The current study contributes to the language brokering literature both theoretically and practically. The study empirically supports the theory that cultural and relational settings, operationalized as parent-adolescent acculturation status, are predictive of various language brokering experiences (Burleson, 2010; Kam & Lazarevic, 2014). In particular, the adolescent *integrated*–parent *(moderately) separated* profile may be considered the most adaptive in the process of language brokering, as it relates to more frequent, more positive, and less negative experiences of language brokering than other profiles. Practically, such findings shed light on possible intervention programs, providing malleable approaches to changing indicators of parent-child acculturation status in order to improve brokering-related experiences, which ultimately can enhance the educational and psychosocial outcomes of Mexican American adolescent language brokers (e.g., Shen, Tilton, & Kim, 2017). As parental host culture adaptation may be less malleable, especially because it may be more challenging for adults to improve their English skills (Krogstad, 2016), providing programs that increase Mexican American adolescents' bicultural skills may help ensure that adolescents have more positive and less negative experiences when they are frequently asked to translate for their parents.

Our study also contributes to the parent-child acculturation literature theoretically. Studies of dyadic acculturation status may benefit from taking a person-centered approach. As mentioned before, the approach used in this study models parent-adolescent dyadic acculturation in two dimensions simultaneously, rather than separately (as in Schwartz, et al., 2016; Telzer et al., 2016), which is more in line with the bi-dimensional perspective of acculturation (Berry, 1980). Second, studies of adaptive versus maladaptive parent-child acculturation status should be grounded in context. In the context of language brokering, the study findings indicate that the most adaptive status depends upon more than minimizing discrepancies between parents and children in their heritage culture retention, as suggested by Schwartz and colleagues (2016). Adolescents' adaptation to the host culture is also beneficial for their brokering experiences, as the current study found that the most adaptive

dyadic acculturation profile in the context of language brokering was the adolescent *integrated*–parent *(moderately) separated* profile.

Limitations

The current study should be interpreted with caution due to the following limitations. First, as parents' low English proficiency was an inclusion criterion for the study, the current study found less variation in parental acculturation profiles (i.e., only *separated* or *moderately separated*). Future research may sample immigrant families with adolescents who are non-brokers to capture different combinations of parent-adolescent acculturation profiles. Second, previous studies have also suggested that language brokering influences adolescents' acculturation levels. For example, by brokering for parents, adolescents may become more *integrated* (e.g., Acoach & Webb, 2004; Wisskirch et al., 2011). Future research may benefit from considering the potential bidirectionality of adolescent acculturation and adolescent brokering experiences. Third, the current study only modeled the dyadic acculturation profiles at Wave 1, though individuals' acculturation process may be time-variant (Telzer, 2010). Future researchers are encouraged to leverage all waves of available data to study stability and change in the parent-adolescent acculturation process. Fourth, the independence measure has only two items that were not strongly correlated. Future researchers are encouraged to use an independence measure that is more psychometrically sound. The current study parceled items of scales (Little, Cunningham, Shahar, & Widaman, 2002). Though the scales are well-established and valid, parceling may obscure misfit at the item level. Future studies should be careful with item parceling. Fifth, the study models parent-adolescent acculturation status with multiple indicators using LPA. An alternative approach may be to model the dyadic acculturation status using higher-level LPA with four latent indicators (Mexican and U.S. culture dimension for parent and adolescent); the latent variables could also be used to conduct a four-way interaction. However, such alternative approaches are computationally demanding and need a sample size larger than our current sample. Future studies with larger sample sizes are encouraged to model the dyadic acculturation status using the proposed alternative approaches. Lastly, the current study sampled Mexican American adolescent language brokers and their immigrant parents in central Texas. Future research can sample immigrant language brokering families with more diverse ethnic backgrounds, or from different locations, to capture other parent-adolescent acculturation profiles, in order to generalize the current findings to brokers coming from different ethnic backgrounds or residing in other places in the United States.

Conclusion

The current study took a dyadic approach and considered indicators of acculturation from a bi-dimensional perspective across multiple domains to identify distinct parent-adolescent acculturation profiles among Mexican immigrant families with adolescent language brokers. Results suggest that parent-adolescent acculturation status may be one of many constructs that capture the interplay of cultural and relational settings, and may influence the variation in language brokering experiences. Consistently across mother-adolescent and father-adolescent dyads, the adolescent *integrated*–parent *(moderately) separated* profile emerged

as the most adaptive in the language brokering process. Even though parents of adolescent *integrated*–parent *(moderately) separated* dyads are not well-adapted to U.S. culture, adolescent brokers' high endorsement of both cultures, along with their parents' high retention of their heritage culture, enable them to be more effective brokers in a brokering-friendly environment. The current study highlights the importance of considering multiple settings (i.e., cultural, relational) to paint a more complete picture of the various language brokering experiences. The findings further indicate that promoting better dyadic acculturation experiences within Mexican immigrant language brokering families may be a way to improve adolescent experiences of brokering, which may, in turn, lead to better developmental outcomes for these brokers.

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References

Acoach CL, & Webb LM (2004). The influence of language brokering on Hispanic teenagers' acculturation, academic performance, and nonverbal decoding skills: A preliminary study. Howard Journal of Communications, 15, 1–19. doi:10.1080/10646170490275459

Bámaca-Colbert MY, & Gayles JG (2010). Variable-centered and person-centered approaches to studying Mexican-origin mother–daughter cultural orientation dissonance. Journal of youth and adolescence, 39, 1274–1292. doi: 10.1007/s10964-009-9447-3 [PubMed: 19756995]

Berry JW (1980). Social and cultural change In Triandis HC & Brislin R. (Eds.), Handbook of cross-cultural psychology (Vol. 5, pp. 211–279). Boston: Allyn & Bacon.

Burleson BR (2010). The nature of interpersonal communication In Berger MERCR, & Roskos-Ewoldsen DR (Ed.), The handbook of communication science (pp. 145–164). Los Angeles, CA: Sage.

Chao RK (2006). The prevalence and consequences of adolescents' language brokering for their immigrant parents In Bornstein MH & Cote LR (Eds.), Acculturation and parent–child relationships: Measurement and development (pp. 271–296). Mahwah, NJ: Erlbaum.

Costigan CL, & Dokis DP (2006). Relations between parent-child acculturation differences and adjustment within immigrant Chinese families. Child Development, 77, 1252–1267, doi:10.1111/j.1467-8624.2006.00932.x. [PubMed: 16999796]

Dorner LM, Orellana MF, & Jiménez R. (2008). "It's one of those things that you do to help the family": Language brokering and the development of immigrant adolescents. Journal of Adolescent Research, 23, 515–543. doi:10.1177/0743558408317563

Dunn AL, & Tree JEF (2009). A quick, gradient bilingual dominance scale. Bilingualism: Language and Cognition, 12, 273–289. doi: 10.1017/S1366728909990113

Fuligni AJ, Tseng V, & Lam M. (1999). Attitudes towards family obligations among American adolescents with Asian, Latin American, and European backgrounds. Child Development, 70, 1030–1044. doi:10.1111/1467-8624.00075

Hooper D, Coughlan J, & Mullen M. (2008). Structural equation modelling: Guidelines for determining model fit. Electronic Journal of Business Research Methods, 6, 53–60. doi:10.21427/D7CF7R

Hua J, & Costigan C. (2012). The familial context of adolescent language brokering within immigrant Chinese families in Canada. Journal of Youth and Adolescence, 1–13. doi:10.1007/s10964-011-9682-2

Jang Y, Park NS, Chiriboga DA, & Kim MT (2017). Latent Profiles of Acculturation and their Implications for Health: A Study with Asian Americans in Central Texas. Asian American Journal of Psychology. doi:10.1037/aap0000080

Jones CJ, Trickett EJ, & Birman D. (2012). Determinants and consequences of child culture brokering in families from the former Soviet Union. American Journal of Community Psychology, 50, 182–196. doi:10.1007/s10464-012-9488-8 [PubMed: 22246563]

Kam JA (2009). Disentangling the effects of cultural brokering among Mexican-heritage youth (Doctoral dissertation). The Pennsylvania State University, State College, PA.

Kam JA, & Lazarevic V. (2014). Communicating for one's family: An interdisciplinary review of language and cultural brokering in immigrant families In Cohen EL (Ed.), Communication yearbook 38 (pp. 3–38). New York: Routledge.

Kim SY, Hou Y, Shen Y, & Zhang M. (2017). Longitudinal measurement equivalence of subjective language brokering experiences for mothers and fathers in Mexican American adolescents. Cultural Diversity and Ethnic Minority Psychology, 23, 230–243. doi:10.1037/cdp0000117 [PubMed: 27362872]

Kim SY, Wang Y, Chen Q, Shen Y, & Hou Y. (2015). Parent–child acculturation profiles as predictors of Chinese American adolescents' academic trajectories. Journal of Youth and Adolescence, 44, 1263–1274. doi:10.1007/s10964-014-0131-x [PubMed: 24820295]

Kim SY, Wang Y, Weaver SR, Shen Y, Wu-Seibold N, & Liu CH (2014). Measurement equivalence of the language-brokering scale for Chinese American adolescents and their parents. Journal of Family Psychology, 28, 180–192. doi:10.1037/a0036030 [PubMed: 24588602]

Knight GP, Gonzales NA, Saenz DS, Bonds DD, Germán M, Deardorff J, . . . Updegraff KA (2010). The Mexican American Cultural Values Scale for adolescents and adults. The Journal of Early Adolescence, 30, 444–481. doi:10.1177/0272431609338178 [PubMed: 20644653]

Knight GP, Jacobson P, & Gonzales A. (2009). Enculturation processes among recently immigrating populations In Dalla RL, Defrain J, Johnson J. & Abbott DA (Eds.), Strengths and challenges of new immigrant families: Implications for research, education, policy, and service (pp. 9–31). Lanham, MD: Lexington Books.

Krogstad JM (2016). Rise in English proficiency among U.S. Hispanics is driven by the young. Washington, D.C.: Pew Research Center.

McQuillan J, & Tse L. (1995). Child language brokering in linguistic minority communities: Effects on cultural interaction, cognition, and literacy. Language and Education, 9, 195–215. doi:10.1080/09500789509541413

Muthén LK, & Muthén BO (1998–2012). Mplus user's guide (7th ed.). Los Angeles, CA: Muthén & Muthén.

Nieri T, Lee C, Kulis S, & Marsiglia FF (2011). Acculturation among Mexican-heritage preadolescents: A latent class analysis. Social Science Research, 40, 1236–1248. doi:10.1016/j.ssresearch.2011.02.005 [PubMed: 21785519]

Nylund KL, Asparouhov T, & Muthén BO (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. Structural Equation Modeling: A Multidisciplinary Journal, 14, 535–569. doi:10.1080/10705510701575396

Roche KM, Lambert SF, Ghazarian SR, & Little TD (2015). Adolescent language brokering in diverse contexts: Associations with parenting and parent–youth relationships in a new immigrant destination area. Journal of Youth and Adolescence, 44, 77–89. doi:10.1007/s10964-014-0154-3 [PubMed: 25056805]

Ryder AG, Alden LE, & Paulhus DL (2000). Is acculturation unidimensional or bidimensional? A head-to-head comparison in the prediction of personality, self-identity, and adjustment. Journal of Personality and Social Psychology, 79, 49–65. doi:10.1037/0022-3514.79.1.49 [PubMed: 10909877]

Salas-Wright CP, Clark TT, Vaughn MG, & Córdova D. (2015). Profiles of acculturation among Hispanics in the United States: Links with discrimination and substance use. Social Psychiatry and Psychiatric Epidemiology, 50, 39–49. doi:10.1007/s00127-014-0889-x [PubMed: 24791924]

Schwartz SJ, Unger JB, Baezconde-Garbanati L, Zamboanga BL, Córdova D, Lorenzo-Blanco EI, . . . Szapocznik J. (2016). Testing the parent–adolescent acculturation discrepancy hypothesis: A five-wave longitudinal study. Journal of Research on Adolescence, 26, 567–586. doi:10.1111/jora.12214 [PubMed: 27616871]

Schwartz SJ, & Zamboanga BL (2008). Testing Berry's model of acculturation: A confirmatory latent class approach. Cultural Diversity and Ethnic Minority Psychology, 14, 275–285. doi:10.1037/a0012818 [PubMed: 18954163]

Sellers RM, Rowley SAJ, Chavous TM, Shelton JN, & Smith MA (1997). Multidimensional Inventory of Black Identity: A preliminary investigation of reliability and construct validity. Journal of Personality and Social Psychology, 73, 805–815. doi:10.1037/0022-3514.73.4.805

Shen Y, Tilton KE, & Kim SY (2017). Outcomes of language brokering, mediators, and moderators: A systematic review In Weisskirch RS (Ed.), Language brokering in immigrant families: Theories and contexts. New York, NY: Routledge.

Stepler R, & Brown A. (2015). Statistical portrait of Hispanics in the United States, 1980–2013. Washington, DC: Pew Research Center.

Telzer EH (2010). Expanding the acculturation gap-distress model: An integrative review of research. Human Development, 53, 313–340. doi:10.1159/000322476

Telzer EH, Yuen C, Gonzales N, & Fuligni AJ (2016). Filling gaps in the acculturation gap-distress model: Heritage cultural maintenance and adjustment in Mexican–American families. Journal of Youth and Adolescence. doi:10.1007/s10964-015-0408-8

Little TD, Cunningham WA, Shahar G, & Widaman KF (2002). To parcel or not to parcel: Exploring the question, weighing the merits. Structural equation modeling, 9, 151–173. doi:10.1207/S15328007SEM0902_1

Trickett EJ, & Jones CJ (2007). Adolescent culture brokering and family functioning: A study of families from Vietnam. Cultural Diversity and Ethnic Minority Psychology, 13, 143. doi:10.1037/1099-9809.13.2.143 [PubMed: 17500603]

Umaña-Taylor AJ, Yazedjian A, & Bámaca-Gómez M. (2004). Developing the ethnic identity scale using Eriksonian and social identity perspectives. Identity: An International Journal of Theory and Research, 4, 9–38. doi:10.1207/S1532706XID0401_2

Villanueva CM, & Buriel R. (2010). Speaking on behalf of others: A qualitative study of the perceptions and feelings of adolescent Latina language brokers. Journal of Social Issues, 66, 197–210. doi:10.1111/j.1540-4560.2009.01640.x

Weisskirch RS (2005). The relationship of language brokering to ethnic identity for Latino early adolescents. Hispanic Journal of Behavioral Sciences, 27, 286–299. doi:10.1177/0739986305277931

Weisskirch RS (2007). Feelings about language brokering and family relations among Mexican American early adolescents. The Journal of Early Adolescence, 27, 545–561. doi:10.1177/0272431607302935

Weisskirch RS (2017a). A developmental perspective on language brokering In Weisskirch RS (Ed.), Language brokering in immigrant families: Theories and contexts. New York, NY: Routledge.

Weisskirch RS (2017b). Future directions for language brokering research In Weisskirch RS (Ed.), Language brokering in immigrant families: Theories and contexts. New York, NY: Routledge.

Wu NH, & Kim S. . (2009). Chinese American adolescents' perceptions of the language brokering experience as a sense of burden and sense of efficacy. Journal of Youth and Adolescence, 38, 703–718. doi:10.1007/s10964-008-9379-3 [PubMed: 19636765]

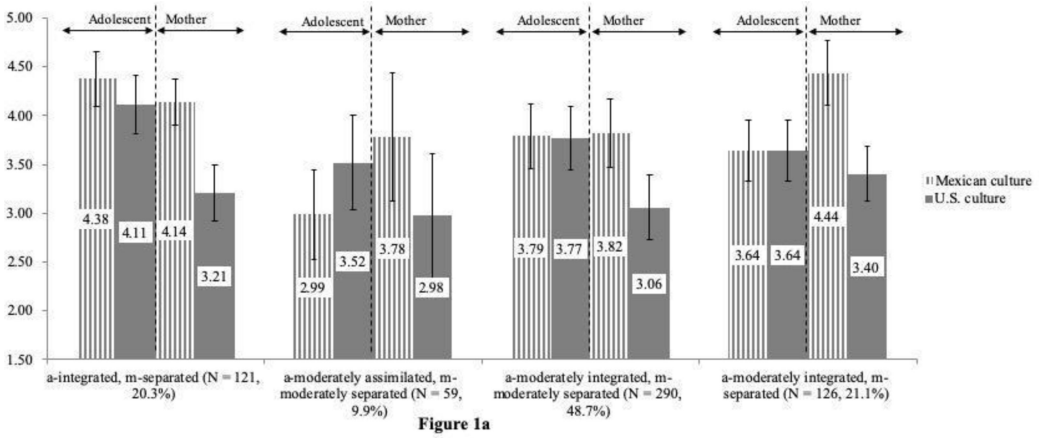

Figure 1a

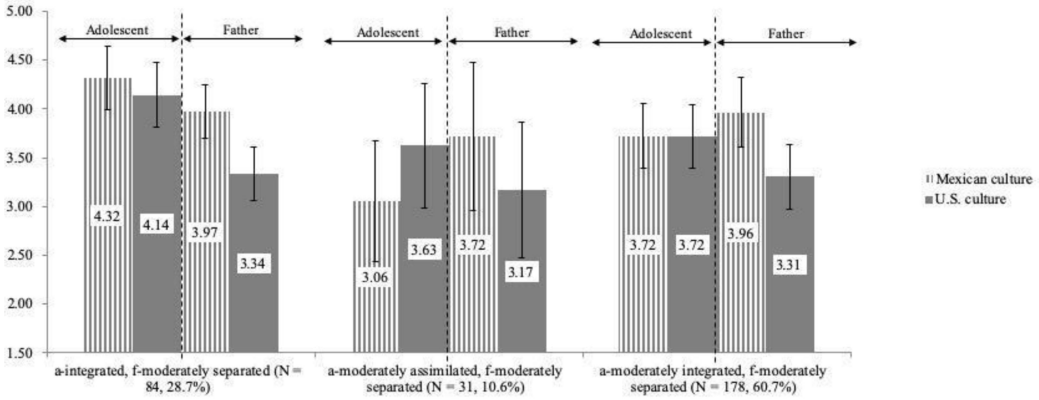

Figure 1b

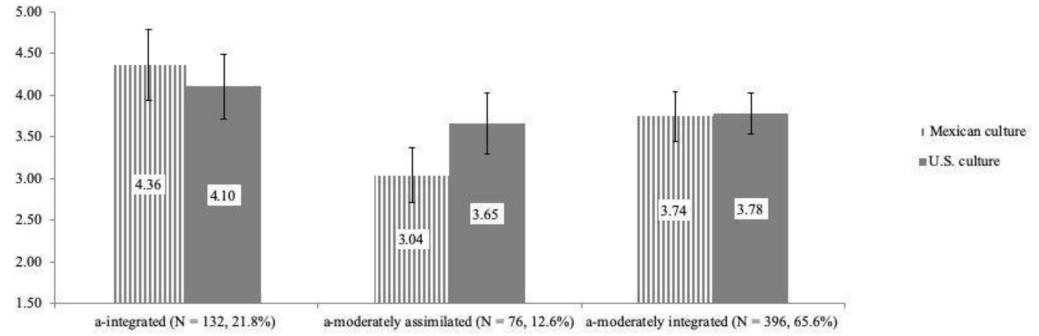

Figure 1c

Figure 1.

Mother-adolescent acculturation profiles (1a), father-adolescent acculturation profiles (1b), and adolescent acculturation profiles (1c). a = adolescent, m = mother, f = father. In the current figure, each reporter's acculturation status was represented by an average across indicators on the Mexican culture dimension and an average across indicators on the U.S. culture dimension. The error bars in the figure represent the standard deviation of the indicator average within each cultural dimension for a specific reporter.

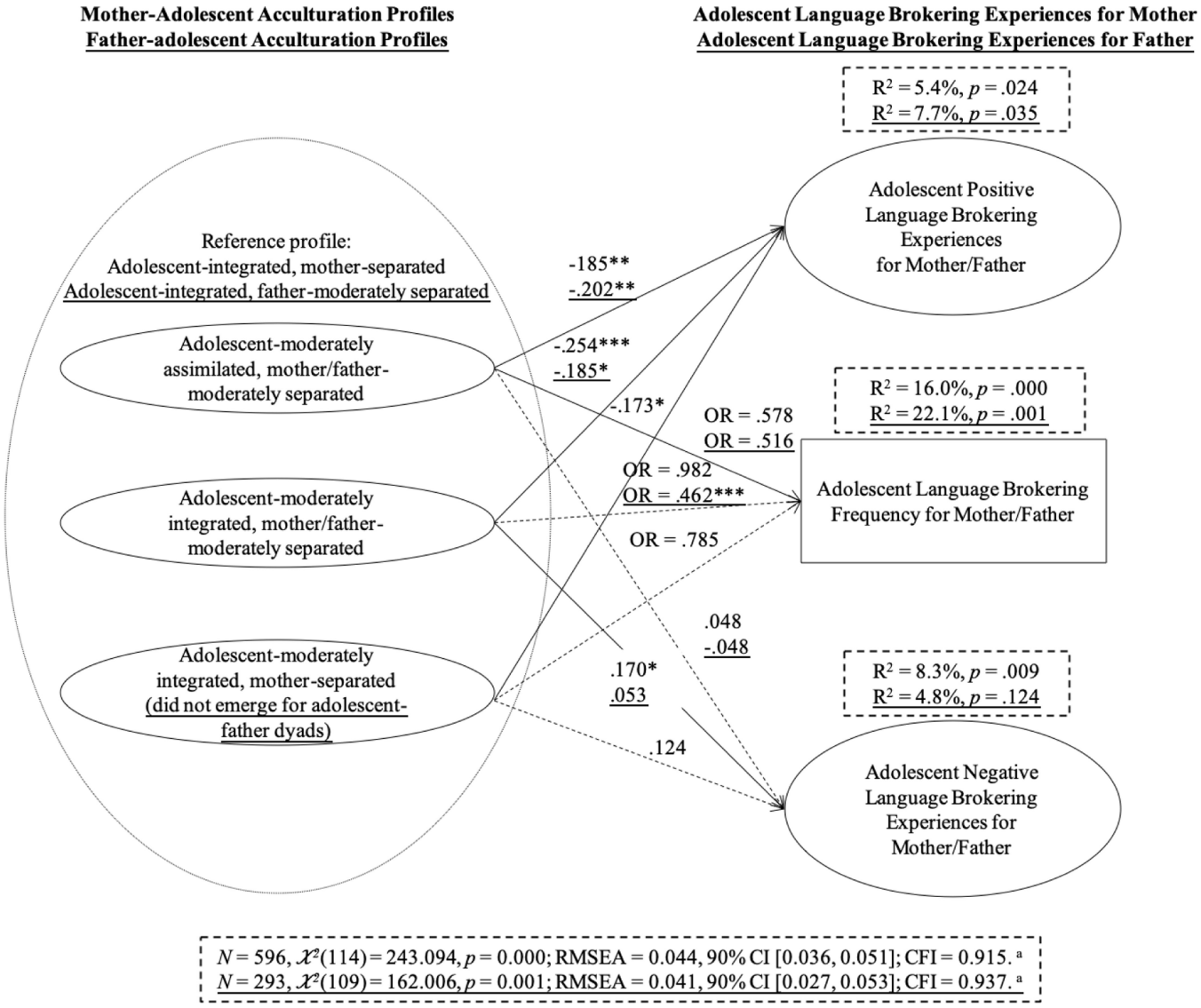

Figure 2.

Standardized coefficients of mother-adolescent acculturation profiles (first line) and father-adolescent acculturation profiles (second line and underlined) on adolescent language brokering experiences after controlling for adolescent age, gender, nativity, mother's education level, household income, and Wave 1 language brokering experiences (observed variables) are presented above. Dashed arrows represent non-significant pathways. Solid arrows represent significant pathways. OR = odds ratio.

[a] Models were conducted using maximum likelihood estimation with robust standard error with a categorical outcome variable (adolescent language brokering frequency), which did not provide model fit indices. Proximal model fit indices were estimated by treating adolescent language brokering frequency as a continuous variable. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1

Latent Profile Analysis Fit Indices and Statistics

Number of profiles	−2 Log Likelihood	AIC	BIC	ABIC	LRT	adj LRT	Entropy
Mother-Adolescent Acculturation Profiles (N = 596)							
1	21644.200	21716.201	21874.249	21759.960	--	--	--
2	20987.722	21097.723	21339.186	21164.577	0.0052	0.0054	0.730
3	20623.936	20771.937	21096.815	20861.887	0.0920	0.0936	0.741
4	**20281.412**	**20467.413**	**20875.705**	**20580.458**	**0.0243**	**0.0252**	**0.813**
5	20093.408	20317.408	20809.115	20453.548	0.1580	0.1613	0.852
6	19952.464	20214.465	20789.586	20373.700	0.7362	0.7370	0.845
Father-Adolescent Acculturation Profiles (N = 293)							
1	10671.404	10743.404	10875.890	10761.725	--	--	--
2	10356.462	10466.461	10668.871	10494.452	0.0999	0.1017	0.723
3	**10168.124**	**10316.124**	**10588.457**	**10353.785**	**0.1091**	**0.1112**	**0.871**
4	10044.656	10230.655	10572.911	10277.985	0.5137	0.5184	0.847
5	9928.642	10152.641	10564.821	10209.641	0.7163	0.7168	0.864
6	9846.930	10108.930	10591.032	10175.598	0.4093	0.4108	0.869
Adolescent-Only Acculturation Profiles (N = 604)[a]							
1	10977.920	11013.920	11093.185	11036.039	--	--	--
2	10330.522	10386.521	10509.821	10420.928	0.0035	0.0038	0.718
3	**9988.334**	**10064.334**	**10231.670**	**10111.029**	**0.0024**	**0.0026**	**0.845**
4	9815.844	9911.843	10123.215	9970.827	0.0266	0.0281	0.925
5	9735.842	9851.842	10107.249	9923.114	0.4067	0.4110	0.920
6	9673.962	9809.962	10109.405	9893.522	0.1838	0.1886	0.843

Note: AIC = Akaike information criterion, BIC = Bayesian information criterion, ABIC = Adjusted Bayesian information criterion, LRT = (Vuong-Lo-Mendell-Rubin) Likelihood Ratio tests, adj LRT = (Lo-Mendell-Rubin) adjusted Likelihood Ratio tests. Bolded text indicates the best class solution by considering both fit indices and the evaluation of substantive meaning of profiles.

[a]The fit indices seem to favor a four-class solution over a three-class solution for the adolescent-only acculturation profile. The fourth group that emerged has a relative size of 3.5%, which is considered very small given the current sample size, and may not be as practically meaningful as other groups. Therefore, the three-class solution was considered as optimal for adolescent-only acculturation profiles.

Table 2

Mean-level differences across mother-adolescent acculturation profiles and father-adolescent acculturation profiles on indicators.

Indicators		**Class 1**	**Class 2**	**Class 3**	**Class 4**	***F* Statistics**	
Mother-Adolescent Acculturation Profiles		**A-In, M-Se (20.3%)**	**A-Md As, M-Md Se (9.9%)**	**A-Md In, M-Md Se (48.7%)**	**A-Md In, M-Se (21.1%)**	***F*(3,584)**	***p***
	A-Mexican orientation	4.44_{a}	3.11_{b}	3.90_{c}	3.66_{d}	116.46	< .001
	A-Spanish proficiency	3.99_{a}	3.08_{b}	3.57_{c}	3.40_{bc}	19.23	< .001
	A-family obligation	4.61_{a}	3.63_{b}	4.23_{c}	4.14_{c}	47.32	< .001
Adolescent Mexican culture	*A-ethnic identity centrality*	4.42_{a}	2.79_{b}	3.76_{c}	3.51_{d}	157.06	< .001
	A-ethnic identity exploration	4.22_{a}	2.31_{b}	3.30_{c}	3.23_{c}	138.51	< .001
	A-ethnic identity resolution	4.75_{a}	2.79_{b}	3.98_{c}	3.78_{d}	247.58	< .001
	A-U.S. orientation	4.12_{a}	3.33_{b}	3.73_{c}	3.59_{c}	48.70	< .001
Adolescent U.S. culture	*A-English proficiency*	4.37_{a}	4.09_{ab}	4.22_{ab}	4.04_{b}	5.75	0.001
	A-individualism	3.90_{a}	3.48_{b}	3.50_{b}	3.39_{b}	11.66	< .001
	M-Mexican orientation	4.29_{a}	3.94_{b}	3.89_{b}	4.67_{c}	89.26	< .001
	M-Spanish proficiency	4.21_{ab}	3.80_{a}	4.00_{ab}	4.26_{b}	5.90	0.001
	M-family obligation	4.49_{ac}	4.33_{ab}	4.25_{b}	4.57_{c}	18.63	< .001
Mother Mexican culture	*M-ethnic identity centrality*	4.04_{a}	3.74_{b}	3.73_{b}	4.45_{c}	49.13	< .001
	M-ethnic identity exploration	3.59_{a}	2.95_{b}	3.17_{b}	4.17_{c}	52.49	< .001
	M-ethnic identity resolution	4.29_{a}	3.90_{b}	3.89_{b}	4.72_{c}	84.93	< .001
	M-U.S. orientation	3.45_{ac}	3.08_{b}	3.27_{bc}	3.64_{a}	17.86	< .001
Mother U.S. culture	*M-English proficiency*	1.59_{a}	1.54_{a}	1.54_{a}	1.60_{a}	0.25	0.859
	M-individualism	3.89_{a}	3.88_{a}	3.76_{a}	4.34_{b}	18.31	< .001
Father-Adolescent Acculturation Profiles		**A-In, F-Md Se (28.7%)**	**A-Md As, F-Md Se (10.6%)**	**A-Md In, F-Md Se (60.7%)**		***F*(2,283)**	***p***
	A-Mexican orientation	4.35_{a}	3.33_{b}	3.84_{c}		58.47	< .001
	A-Spanish proficiency	3.85_{a}	3.40_{a}	3.52_{a}		5.09	0.007
	A-family obligation	4.59_{a}	3.99_{b}	4.20_{b}		21.01	< .001
Adolescent Mexican culture	*A-ethnic identity centrality*	4.33_{a}	2.75_{b}	3.65_{c}		99.73	< .001
	A-ethnic identity exploration	3.96_{a}	2.38_{b}	3.25_{c}		66.50	< .001
	A-ethnic identity resolution	4.74_{a}	2.56_{b}	3.87_{c}		402.33	< .001
	A-U.S. orientation	4.10_{a}	3.50_{b}	3.69_{b}		27.41	< .001
Adolescent U.S. culture	*A-English proficiency*	4.34_{a}	4.07_{a}	4.17_{a}		2.50	0.084

Indicators		**Class 1**	**Class 2**	**Class 3**	**Class 4**	***F* Statistics**	
Mother-Adolescent Acculturation Profiles		**A-In, M-Se (20.3%)**	**A-Md As, M-Md Se (9.9%)**	**A-Md In, M-Md Se (48.7%)**	**A-Md In, M-Se (21.1%)**	***F*(3,584)**	***p***
	A-individualism	4.02_{a}	3.55_{b}	3.39_{b}		23.24	< .001
	F-Mexican orientation	4.11_{a}	3.72_{b}	4.06_{a}		7.61	0.001
	F-Spanish proficiency	3.61_{a}	3.83_{ab}	3.99_{b}		4.73	0.009
	F-family obligation	4.28_{a}	4.26_{a}	4.29_{a}		0.03	0.975
Father Mexican culture	*F-ethnic identity centrality*	3.97_{a}	3.68_{a}	3.84_{a}		2.68	0.071
	F-ethnic identity exploration	3.69_{a}	3.05_{b}	3.55_{a}		6.63	0.002
	F-ethnic identity resolution	4.17_{a}	3.81_{a}	4.07_{a}		3.62	0.028
	F-U.S. orientation	3.54_{a}	3.37_{a}	3.52_{a}		1.20	0.302
Father U.S. culture	*F-English proficiency*	1.83_{a}	1.80_{a}	1.82_{a}		0.01	0.989
	F-individualism	4.06_{a}	3.69_{a}	3.97_{a}		3.24	0.041

Note. Means that do not share a subscript within a row are significantly different from one another, $p < .01$ (a correction for the inflated Type I error due to multiple comparison). A- = adolescent-report, M- = mother-report, F- = father-report; Md = moderately, In = integrated, As = assimilated, Se = separated.