

Bilingual Language Broker Profiles and Academic Competence in Mexican-Origin Adolescents

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We advance a tripartite framework of language use to encompass language skills, the practice of language skills, and the subjective experiences associated with language use among Mexican-origin adolescents who function as language brokers by translating and interpreting for their English-limited parents. Using data collected over 2 waves from a sample of 604 adolescents (Wave 1: $M_{\text{age}} = 12.41$, $SD = 0.97$), this study identified 4 types of bilingual language broker profiles that capture the tripartite framework of language use: *efficacious*, *moderate*, *ambivalent*, and *nonchalant*. All 4 profiles emerged across waves and brokering recipients (i.e., mothers, fathers), except for Wave 1 brokering for mother, in which case only 3 profiles (i.e., *efficacious*, *moderate*, and *ambivalent*) emerged. Three profiles emerged across time: *stable efficacious*, *stable moderate*, and *other*. The *efficacious* and *stable efficacious* profiles showed the most consistent relation to adolescents' academic competence. Improving bilingual language proficiency, together with fostering more frequently positive brokering experiences, may be an avenue to improving academic competence among Mexican-origin adolescents in the United States.

Keywords: bilingualism, language broker, Mexican American, adolescence, academic competence


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Latino adolescents in the United States experience numerous educational disparities related to high school and college completion rates compared with their White and Asian counterparts (Musu-Gillette et al., 2016). Mexican-origin students are especially affected by these disparities, with a high school graduation rate of 65% (vs. the national average of 88%) and a 4-year college completion rate of only 12% (vs. the national average of 32%; Noe-Bustamante, Flores, & Shah, 2019). Given these disparities and their attendant risks, it is important to uncover the factors that

can promote Mexican-origin children's sense of academic competence, which relates to adolescents' academic outcomes.

García Coll et al.'s (1996) integrative model proposes that aspects of adaptive culture can promote ethnic minority children's developmental outcomes. Bilingualism and language brokering experiences (White, Nair, & Bradley, 2018), in particular, have been shown to promote adolescents' academic competence (Borero, 2015; Dorner, Orellana, & Li-Grining, 2007). Many children in Mexican immigrant families use their bilingual skills by func-

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tioning as language brokers who translate, interpret and mediate between their heritage language/culture and English/U.S. culture for their English-limited parents (Kam & Lazarevic, 2014). Bilingualism is an adaptive acculturation strategy that these children use to navigate between the U.S. society and their home environment (Schwartz, Unger, Zamboanga, & Szapocznik, 2010). Possessing strong bilingual skills and having positive experiences while practicing those skills may facilitate Mexican-origin adolescents' adaptation by enhancing their sense of academic competence (García Coll et al., 1996; White et al., 2018).

Tripartite Framework of Language Use

To study the potential adaptive role of bilingualism and positive language brokering experiences in Mexican-origin adolescents' sense of academic competence, we propose a tripartite framework of language use which encompasses skills, practice, and subjective experience. According to skill acquisition theory (Taie, 2014), practice and skills are reiterative in nature and often occur simultaneously: The proficiency of the skill can determine the quality of the practice, and good practice in turn can enhance the skill. In light of this theory's premise, it is important to consider bilingual skills (i.e., proficiency) in tandem with the practice of such skills (i.e., language brokering) by Mexican-origin adolescents in immigrant families. López and Vaid (2018) showed evidence for the enhancement of bilingual language abilities through brokering experiences. Specifically, they found that Spanish–English bilingual college students who had experience as language brokers outperformed those without this experience in language comprehension tasks across two languages. In conceptualizing language brokering, we draw upon the integrative model of language bro-

kering (Kam & Lazarevic, 2014), which emphasizes not only the frequency of language brokering, but also the subjective aspects of brokering. We combine the premises of skill acquisition theory and the integrative model of language brokering to propose a tripartite framework of language use among Mexican-origin adolescents in immigrant families, comprising language skills (i.e., English and Spanish proficiency), brokering practice (i.e., frequency), and subjective brokering experiences (i.e., affective experiences and centrality), to investigate the influence of bilingual language use on adolescents' sense of academic competence (see Figure 1).

Bilingualism and Academic Competence Among Mexican-Origin Adolescents

In the United States, children of Mexican origin often learn Spanish as their first language and acquire English language skills once they enter the U.S. educational system (Borrero, 2015). Being bilingual can be an adaptive acculturation strategy, helping these children navigate between the different language demands of home and school (Schwartz et al., 2010). Indeed, García Coll et al.'s (1996) integrative model posits that such an adaptive acculturative strategy can promote children's developmental competence. Prior studies have found that bilingualism is related to positive academic outcomes, as bilingual children have higher test scores (Golash-Boza, 2005) and lower high school drop-out rates (Ke, 2014) compared with their monolingual counterparts. Therefore, it is essential to consider the benefits of bilingualism in light of the academic risks faced by Mexican-origin adolescents. The enhanced cognitive skills associated with bilingualism may be particularly important for academic success.

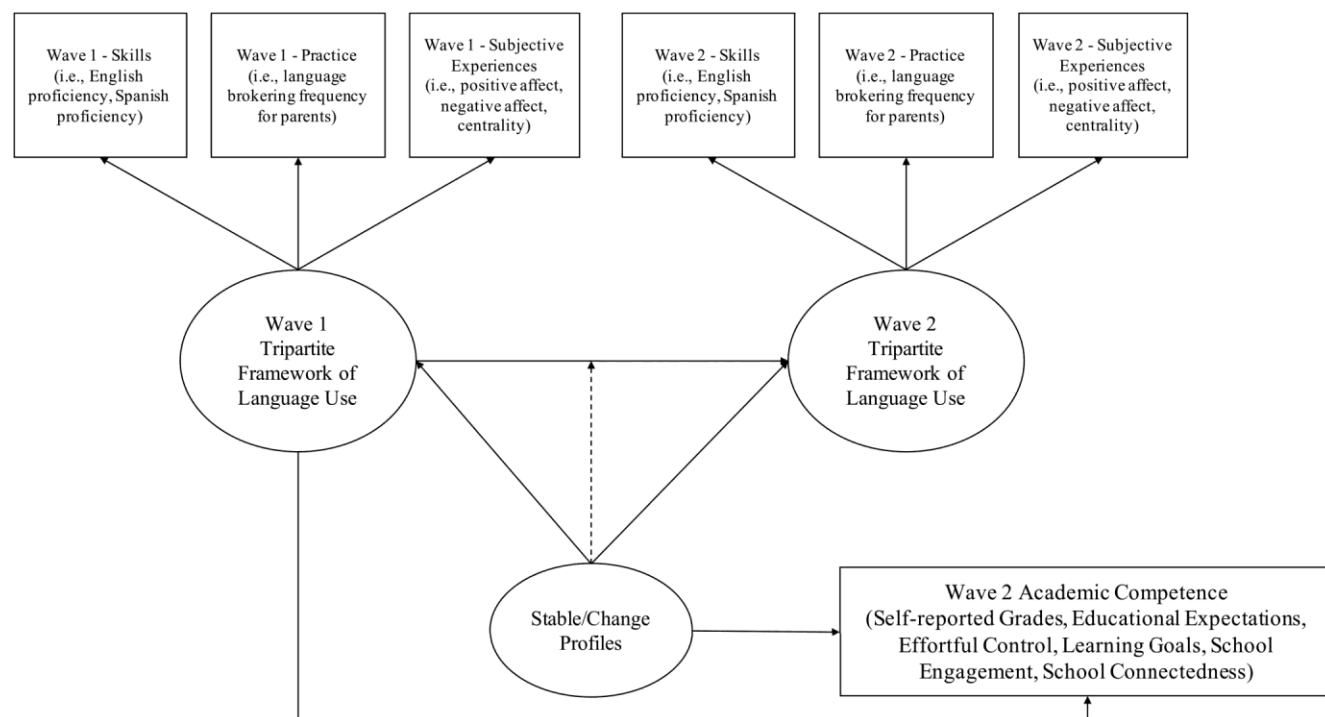


Figure 1. The conceptual model.

However, recent research shows that bilingualism does not always lead to better cognitive outcomes (Costa, Hernández, Costa-Faidella, & Sebastián-Gallés, 2009). For example, Paap and Greenberg's study (2013) found no difference between bilingual and monolingual college students' executive functioning processes. One possible explanation for these inconsistent findings may be that most studies have relied on comparisons between bilinguals and monolinguals. By treating bilinguals as a single group, prior studies have not recognized the variations in bilinguals' dual-language proficiency (Luk & Bialystok, 2013). In fact, bilinguals are likely to demonstrate varying levels of proficiency, reflecting different levels of acculturation to the U.S. culture (Graham & Brown, 1996). For instance, one study found that native Spanish speakers who engage in more interactions with their English-speaking peers and who are more influenced by the U.S. mainstream culture are likely to demonstrate better English language skills (Graham & Brown, 1996). Such differences in bilingual proficiency may lead to different cognitive and educational outcomes. One study found that Latino adolescents with higher levels of proficiency in both English and Spanish were more likely to attain postsecondary education than those with lower levels of proficiency in both languages (Lutz & Crist, 2009). Thus, the current study recognizes the heterogeneity within Mexican-origin bilinguals by examining their variation in Spanish and English language proficiency. In addition, the current study moves beyond earlier research by integrating one unique context (i.e., language brokering) in which Mexican-origin bilinguals practice their bilingual skills, and examining how different levels of bilingual proficiency combine with various language brokering experiences to influence language brokers' sense of academic competence. As academic competence is multidimensional (Crosnoe & Benner, 2015), the current study examines various aspects, including self-reported grades, school engagement, school connectedness, educational expectations, school engagement, learning goals (i.e., the goals for achievement that include the mindset and attitude to acquire new skills, Grant & Dweck, 2003), and effortful control (i.e., the ability to control executive attention and behavior, Valiente, Lemery-Chalfant, Swanson, & Reiser, 2008).

Language Brokering and Academic Competence

Language brokering is an aspect of ethnic minority children's adapting cultural system (White et al., 2018). The brokering experience enhances brokers' language and literacy skills (e.g., vocabulary and semantic awareness) in both their heritage language and the English language (Borrero, 2015). It also has the potential to promote academic competence. Specifically, prior work finds that brokering experiences positively relate to students' reading comprehension (Borrero, 2015; Dörnyei et al., 2007), academic performance (Buriel, Perez, De Ment, Chavez, & Moran, 1998), and academic self-efficacy (Acoach & Webb, 2004). However, the positive effects of brokering on academic outcomes are not consistently found in the extant literature. For example, some studies have identified negative academic outcomes associated with language brokering, such as increased school stress, poorer homework quality, and worse perceptions of academic abilities (Niehaus & Kumpiene, 2014). These mixed findings may be due to prior studies using different measures of academic outcomes. Thus, the current study examines multiple aspects of adolescents' sense of

academic competence to understand the effects of their language brokering experiences. The mixed findings in the literature may also be because most prior studies have focused mainly on measuring the objective aspects of brokering (e.g., frequency) without considering how brokers subjectively perceive their translating experiences. The integrative model of language brokering posits that language brokering is a multidimensional behavior that includes both frequency and subjective aspects (e.g., affective feelings toward brokering; Kam & Lazarevic, 2014). Informed by the integrative model of language brokering, the current study includes not only an objective measure of brokering (i.e., frequency), but also various measures of subjective brokering experiences: (1) negative affect, (2) positive affect, and (3) centrality.

Negative Affect

In considering the subjective aspects of language brokering, more attention has been focused on the negative aspects of language brokering, such as brokering stress, negative emotions (e.g., feeling embarrassed and annoyed when brokering), and negative feelings (e.g., feeling helpless; Anguiano, 2018). We expect that adolescents who endorse such negative feelings toward brokering may have less of a sense of academic competence.

Positive Affect

Research on adolescent brokers' subjective brokering experiences suggests that affective feelings toward translating behaviors can sometimes be positive (Kim, Hou, Shen, & Zhang, 2017). Socioemotional benefits of brokering may include feeling more independent and mature by interacting with the outside world as language brokers (Tse, 1995). Prior studies have found that Chinese American adolescent brokers derive a sense of efficacy (e.g., feeling competent when translating; Wu & Kim, 2009), as well as positive emotions from translating for their parents (Weisskirch, 2007). We expect that a positive appraisal of their brokering experience—such as endorsing linguistic benefits, socioemotional benefits, sense of brokering efficacy, and/or positive emotions—may positively relate to Mexican American adolescent brokers' higher levels of school connectedness and school engagement.

Centrality

In addition to affective feelings, a recent study highlights centrality as another aspect of the subjective language brokering experience (Kim et al., 2017). *Language brokering centrality* refers to how important language brokering is to adolescents' social identity (Kim et al., 2017). As adolescence is a developmental period during which individuals are actively involved in identity formation, Mexican-origin adolescents may come to view their unique experience of language brokering as a vital part of their self-identity (Sim, Kim, Zhang, & Shen, 2019). Based on social identity theory (Tajfel & Turner, 2004), individuals who regard language brokering as a central part of their identity are more likely to view their brokering experiences positively, which in turn may be associated with higher academic competence (Buriel et al., 1998; Dörnyei et al., 2007).

Heterogeneity of Language Brokers

A few prior studies have recognized the heterogeneous nature of brokering, finding that brokers are likely to have various brokering experiences. For example, [Dorner, Orellana, and Jiménez \(2008\)](#) conducted a study of fifth- and sixth-grade Mexican immigrant brokers and found that some brokers felt nonchalant and were less involved in language brokering. In a similar vein, recent studies have started using latent profile analysis and have found various combinations of brokering experiences. Specifically, [Shen, Kim, and Benner's study \(2019\)](#) included four dimensions of brokering feelings and found efficacious and burdened brokers among Chinese American adolescents. Relatedly, [Kam, Marcoulides, and Merolla's study \(2017\)](#) included language brokering frequency and subjective language brokering indicators to examine Latina adolescents' brokering experience and found three distinct types of language brokers (i.e., *infrequent-ambivalents* who infrequently engage in brokering while experiencing similar levels of both positive and negative feelings around it, *occasional-moderates* who occasionally engage in brokering while feeling moderate levels of positive and low levels of negative feelings around it, and *parentified-endorsers* who frequently brokered for parents while espousing high levels of both positive and negative feelings around it). However, both studies examined brokering experiences for the entire family without differentiating the diverse experiences adolescents may have when brokering for their father versus their mother. As parents in Mexican American families tend to have different gender roles, with fathers playing a more disciplinary role and mothers playing a more nurturing role ([Updegraff et al., 2014](#)), adolescents may have different experiences when translating for different parents.

Bilingual Language Broker Profiles Reflecting the Tripartite Framework of Language Use

As posited by skill acquisition theory ([Taie, 2014](#)), dual-language proficiency and brokering experiences reflect the interdependence of skill and practice in language use. For example, dual-language proficiency is necessary for adolescent brokers to engage in language brokering and, at the same time, language brokering creates opportunities for bilingual adolescents to practice and reinforce their dual-language skills, increasing their vocabulary and semantic awareness ([Borrero, 2015; López & Vaid, 2018](#)). Whereas skill acquisition theory ([Taie, 2014](#)) recognizes that skill and practice are both important components of language use, we expand this view by including subjective brokering experiences ([Kam & Lazarevic, 2014](#)) to gain a more comprehensive understanding of how Mexican-origin adolescents' bilingual language experiences affect their academic competence. Our proposed tripartite framework of language use consists of (1) language skills (i.e., proficiency), (2) brokering practice (i.e., frequency), and (3) subjective brokering experiences. We leverage this framework by using a person-centered approach to identify bilingual language broker profiles.

Four Potential Types of Bilingual Brokering Profiles

There may be different configurations of bilingual language profiles, given adolescents' varying levels of language proficiency

and various brokering experiences. Previous research has found that adolescents with higher language proficiency are more likely to have positive feelings toward brokering tasks ([Kam & Lazarevic, 2014](#)), in that they feel more efficacious and consider brokering to be a crucial part of their identity. Thus, we expect the emergence of a group characterized by high proficiency in both English and Spanish, with positive brokering experiences. Membership in this group would be most optimal for bilingual adolescents' sense of academic competence, given prior evidence demonstrating the beneficial effects of bilingualism and positive brokering experiences on adolescent adjustment ([Acoach & Webb, 2004; Ke, 2014](#)).

At the other end of the spectrum, we expect the emergence of a second group, characterized by low language proficiency and low engagement in brokering experiences. This group would be associated with the least optimal academic outcomes for bilingual adolescents, given prior evidence demonstrating the negative effects of low language proficiency on adolescent adjustment ([Hou, Kim, & Benner, 2018; Kam & Lazarevic, 2014](#)).

Given that research has also found that adolescent brokers develop both positive and negative feelings toward brokering under certain circumstances ([Weisskirch, 2007](#)), it is possible brokers may have positive feelings when they are good at translating tasks, but when the translating tasks are beyond their capacity, these same brokers may find brokering very difficult and develop negative views toward it. Those in this third possible group of brokers are likely to be moderately proficient in bilingual skills, and to report having both very positive and very negative brokering experiences. In addition, as identified in [Kam et al.'s study \(2017\)](#), there might be a fourth group of brokers who have moderate levels of language proficiency and engage in brokering tasks somewhat frequently. These individuals would tend to view brokering as a normal activity ([Orellana, 2003](#)) and thus may not be strongly influenced by their brokering experiences, which would then have a negligible influence on their sense of academic competence.

Stability and Change in Bilingual Brokering Profiles

In addition to the variations in the bilingual brokering profiles described above, adolescent brokers are also likely to exhibit different patterns of stability and change in their profiles across time. Based on the continuity perspective of child development ([Lerner, Leonard, Fay, & Issac, 2011](#)), we expect that some adolescents will experience stability in their language proficiency and brokering experiences. However, as adolescence is a developmental period during which many changes take place psychologically, cognitively, and physically ([Arnett, 1999](#)), other adolescents may experience shifts in their profile membership. For example, adolescents who start with negative brokering experiences may change and begin to consider brokering a normal part of their life and feel proud of performing this task for their parents ([Weisskirch, 2013](#)). Similarly, adolescents who start out with positive brokering experiences may show declines in their positive views of brokering as their Spanish proficiency declines, hindering their ability to perform brokering tasks. There may also be other change patterns.

Research has shown that cumulative risk factors have a more detrimental influence on child adjustment than any single risk

factor (Neblett, Shelton, & Sellers, 2004). This intensified influence of cumulative effects may also have a corollary: it is possible that cumulative protective factors can enhance positive outcomes more than any single protective factor alone. Thus, it is plausible that stable members of the first group of bilingual brokers described above would benefit from the additive positive effects of being efficacious over time and end up with higher levels of academic competence. Stable members of the second group of bilingual brokers described in the preceding text, however, may experience an amplification of the negative effects of being in this group, and end up with lower levels of academic competence.

Current Study

The current study expands on the extant literature by proposing a tripartite framework of language use. First, we aim to identify bilingual language broker profiles that take into account proficiency in both Spanish and English as well as multiple dimensions of brokering experiences. Our second aim is to examine stability and change in bilingual broker profiles across a 1-year time period. Third, we aim to examine whether bilingual broker profiles, and their stability or change across one year, prospectively relate to adolescents' sense of academic competence. To avoid self-report bias and shared method variance, we included not only adolescents' reports of their own sense of academic competence, but also parents' perceptions of their children's sense of academic competence. We particularly focus on early adolescence because during this time, children experience drastic cognitive, physical, and psychological changes, all of which influence their developmental outcomes (Arnett, 1999). Moreover, children in immigrant families often start brokering during this period (Morales & Hanson, 2005), and it is also when children's developing sense of identity as a language broker may become salient (Weisskirch, 2017).

Method

Participants and Procedure

Participants were 604 Mexican-origin adolescents who translated for at least one parent from a two-wave longitudinal study. They were recruited in and around a metropolitan city in central Texas between 2012 and 2015. Approximately 80% of the adolescents ($n = 483$) remained in the second wave of the study. These adolescents were in middle school (6th, 7th, or 8th grade) at Wave 1 (W1), and their age ranged from 11 to 15 years old ($M = 12.41$, $SD = 0.97$). Around half were girls ($n = 328$, 54%) and about three quarters ($n = 453$, 75%) were born in the United States. Most participating parents were born in Mexico ($N_{mother} = 592$, 99.3%; $N_{father} = 289$, 98.6%) and had lived in the United States for more than a decade on average (mother: $M = 15.07$, $SD = 5.59$; father: $M = 18.84$, $SD = 7.96$). The median and mean household family income for participants was in the range of \$20,001 to \$30,000. The median highest education level of both parents was some middle school or junior high school. The current study used the same study procedure and conducted the same set of attrition analyses as in the Kim et al. (2018) article. These study procedures received institutional review board approval from the University of Texas at Austin (Protocol Number, 2015-01-0006; Study Title: Collaborative Research: Mexican American Language

Brokers' Multiple Levels of Stress and Academic and Health Outcomes).

Measures

Questionnaires were prepared in both English and Spanish. The questionnaires were first translated to Spanish and then back-translated to English. Any inconsistencies in the translation were resolved by bilingual research assistants proficient in both Spanish and English.¹

English and Spanish proficiency. To assess adolescent English and Spanish proficiency at both waves, adolescents self-reported their proficiency in each language on three aspects: reading, writing, and speaking and understanding. The assessment used a five-point scale, ranging from 1 (*not well*) to 5 (*extremely well*), and the Cronbach's alphas for English and Spanish proficiency at both waves were above 0.80.

Language brokering frequency. At both waves, adolescent language brokers reported their translation frequency for their mother and father, respectively, on a scale ranging from (0) *never* to (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*.

Subjective language brokering experiences. Adolescents reported on their language brokering centrality and positive and negative affective experiences for translating for mother and father at both waves (Kim et al., 2017; Weisskirch, 2007). The language brokering centrality dimension (Cronbach's alphas across waves and brokering for father and mother ranged from .86 to .92) tapped into the concept of how much adolescent language brokers see language brokering as a central part of their identity. Positive language brokering dimensions include *linguistic benefits* (e.g., strengthen Spanish skills, alphas: 0.70 to 0.89), *socioemotional benefits* (e.g., feel independent and mature, alphas: 0.69 to 0.84), *efficacy* (e.g., translating correctly, alphas: 0.83 to 0.90), and *positive emotions* (e.g., feel happy, alphas: 0.81 to 0.90). Negative language brokering dimensions include *negative feelings* (e.g., becoming impatient, alphas: 0.72 to 0.78), *negative emotions* (e.g., feel angry, alphas: 0.67 to 0.78), and *brokering stress* from translating specific items (e.g., government document, alphas: 0.88 to 0.92).

All dimensions used a rating scale ranging from 1 (*strongly disagree*; *not stressful* for the stress dimension) to 5 (*strongly agree*; *extremely stressful* for the stress dimension), except for the positive and negative emotions dimensions, which used a seven-point Likert scale (ranging from 1 = *never* to 7 = *always*) to endorse the frequency of each emotion word.

Sense of adolescent academic competence. Self-reported grades, educational expectations, effortful control, learning goals, school engagement, and school connectedness were all assessed at both waves. All measures, except for self-reported grades, have responses from adolescents' self-report as well as their mothers' and fathers' reports of perceived adolescent academic competence. Adolescents self-reported their grades on a scale ranging from 1 (*excellent*), 2 (*above average*), 3 (*average*), 4 (*below average*), to

¹ Descriptive information of the study variables (see Tables S5 through S7) and the correlation of the study variables (see Tables S8 through S11) are available in the online supplementary material.

5 (*very below average*). The scores were reverse coded, such that higher scores show better academic performance.

Educational expectations were assessed by asking adolescents and mothers/fathers: "What is the highest level of education you (your child) expect(s) to achieve in school?" Participants answered this question on an eight-point scale ranging from 1 (*some middle school*) to 8 (*finish a graduate degree [master's degree, medical, etc.]*).

Effortful control (e.g., I am good at self-discipline, Valiente et al., 2008), learning goals (e.g., I strive to constantly learn and improve in classes, Grant & Dweck, 2003), school engagement (e.g., I am motivated to get good grades in school, Hou et al., 2018), and school connectedness (e.g., I feel like I am part of my school, Loukas, Ripperger-Suhler, & Horton, 2009) were all assessed using a five-point scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). For these four measures of sense of academic competence, Cronbach's alphas ranged from .68 to .87 across waves and reporters.

Covariates. Adolescents' age, gender, nativity (i.e., foreign-born or U.S.-born), family SES (i.e., household income, highest educational level of parents), and parental English and Spanish proficiency, as well as the adolescents' W1 academic outcomes specifically being examined at Wave 2 (W2), were included as covariates. Parents reported their family income in the past year using an 11-point scale in \$10,000 increments (from 0 = *less than \$10,000* to 11 = *more than \$110,000*). Both parents also reported their highest level of educational attainment using a scale ranging from 1 (*no formal schooling*) to 11 (*finished graduate degree*). In addition, parents reported their English and Spanish proficiency using the same scales as their adolescent children (alpha across waves, parent gender, and languages: 0.79 to 0.91).

Analysis Plan

To address our first goal of identifying bilingual language brokering profiles we used indicators of language skill (Spanish and English proficiency), practice (language brokering frequency), and subjective experiences (language brokering centrality and affective aspects, including positive and negative aspects) to conduct latent profile analyses (LPA) in Mplus 8.2 (Muthén & Muthén, 1998–2017). For each set of LPA, a series of models were specified (i.e., one to six classes). As recommended by Nylund and colleagues (2007), the optimal solution for LPA includes (1) smaller values on the Akaike information criterion (AIC), Bayesian information criterion (BIC), adjusted Bayesian information criterion (ABIC) among classes; (2) a statistically significant Lo-Mendell-Rubin (LMR) test (indicating that the optimal k-class solution is better than k-1-class solution); and (3) substantial meanings for each class. We conducted four sets of LPA models: W1 brokering for mother, W2 brokering for mother, W1 brokering for father, and W2 brokering for father. For each set of LPA, we excluded cases in which the adolescent did not translate for a specific parent at the specific wave.

Nylund and colleagues (2006) conducted mover-stayer latent transition analyses (LTA), which use higher-order latent variables to classify individuals into either a *mover* profile (those who changed classes at any time point) or a *stayer* profile (those who remained stable across the study time points). Following a similar procedure, we conducted higher-order LTA to classify adolescent

language brokers into meaningful stable/change profiles across W1 and W2.

For our second goal, we aimed to examine whether bilingual language brokering profiles related to adolescent academic competence at W2, even after controlling for the covariates (all covariates were centered at their means). By utilizing Wald tests, we compared differences in intercepts of academic competence across W1 bilingual brokering profiles and stable/change brokering profiles (Nylund et al., 2006). These profile-distal outcome tests were conducted separately for W1 bilingual brokering profiles for mother and father (W1 LPA

↗ W2 adolescent academic competence; **longitudinal effects**) and stable/change brokering profiles for mother and father (higher order LTA ↗ W2 outcomes; **cumulative effects**). To adjust for potential self-report bias, outcomes include adolescent self-reports on sense of academic competence as well as mother/father reports of perceived adolescent academic competence.

Results

Bilingual Language Brokering Profiles

Based on fit indices (see Table S12 in the online supplementary material) and evaluation of substantive meaning of bilingual language brokering profiles, the optimal solutions for brokering for mothers or fathers at both waves were four-profile solutions, except that a three-profile solution was the optimal solution for brokering for mother at W1.² Figure 2 presents a graphical summary of the bilingual language brokering profiles for adolescent reports of translating for mother and father separately for W1 and W2.

Bilingual language brokering profiles for adolescents translating for mother. Three bilingual language brokering profiles emerged from adolescents' reports of translating for mother at both waves: the efficacious group (W1: 36.6%, W2: 24.0%), the moderate group (W1: 46.8%, W2: 53.6%), and the ambivalent group (W1: 16.6%, W2: 13.0%). At W2, a fourth group—the nonchalant group (9.3%)—emerged.

Relative to other groups, the efficacious group scored the best on language proficiency, relatively high on translation frequency, the highest on brokering centrality and positive experiences, and relatively low on negative experiences; these efficacious brokers are distinguished by their higher centrality and positive brokering experiences relative to those in other groups. Adolescents in the largest group, the moderate group, reported moderate language proficiency, translation frequency, centrality and positive brokering experiences, and relatively low negative experiences (similar to the efficacious group); these moderate brokers scored in the average range on all aspects. Adolescents in the ambivalent group were relatively less proficient in both languages, but still translated at a moderate to high level; their brokering centrality and positive experiences were moderately high (similar to the moderate group), but their negative experiences were among the highest across all groups. The nonchalant group was characterized by moderate proficiency in both languages (similar to the moderate group) and relatively low scores on negative experiences (similar to the efficacious and mod-

² The optimal solution was a three-profile solution (see Table S13 and Figure S1 in the online supplemental material) for adolescents who translated for both parents.

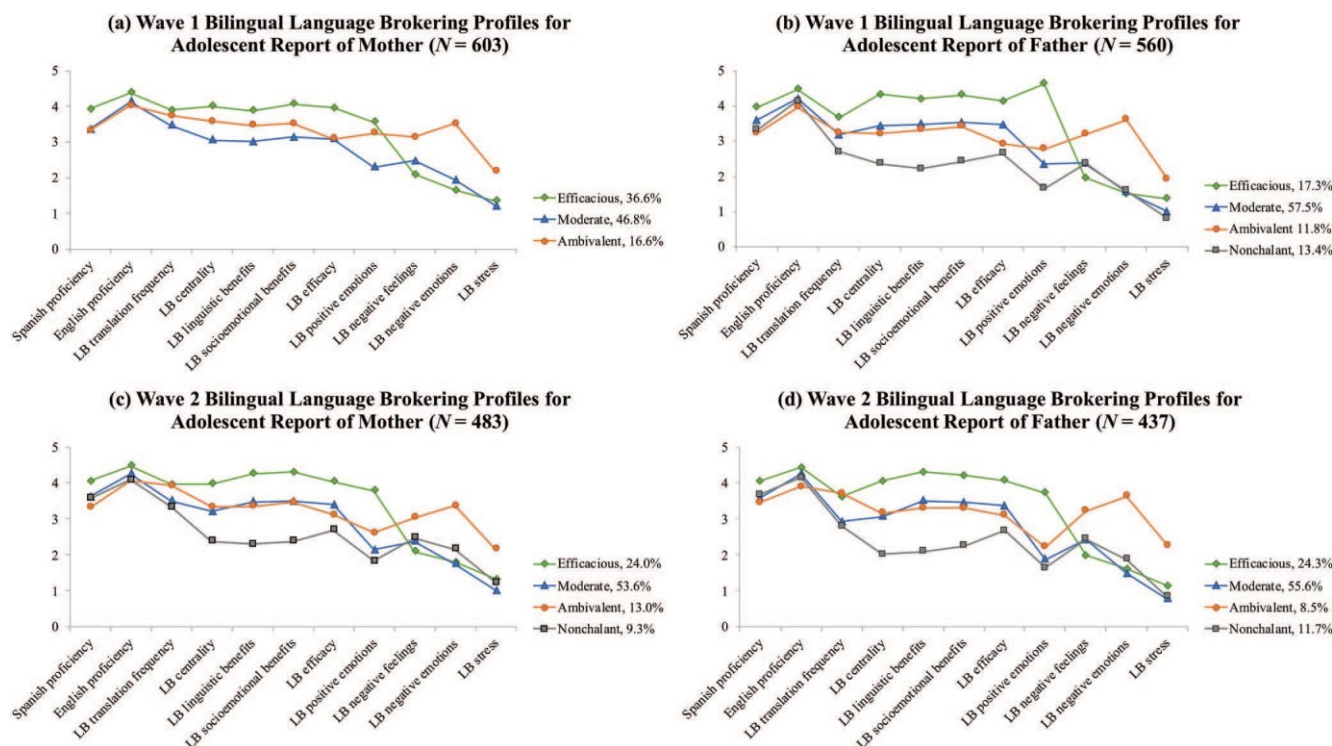


Figure 2. Bilingual language broker profiles for adolescent reports of brokering for mother and father at Wave 1 and Wave 2. LB = language brokering. See the online article for the color version of this figure.

erate groups), but had the lowest scores on translation frequency, centrality, and positive experiences among all groups.

Bilingual language brokering profiles for adolescents translating for father. We identified four bilingual language brokering profiles from adolescent reports on translating for father: the efficacious group (W1: 17.3%; W2: 24.3%), the moderate group (W1: 57.5%; W2: 55.6%), the ambivalent group (W1: 11.8%; W2: 8.5%), and the nonchalant group (W1: 13.4%; W2: 11.7%). These four bilingual brokering profiles for adolescents reporting on translating for their fathers are very similar to the profiles with the same names that emerged for adolescents translating for mother.

Stability and Change in Bilingual Language Brokering Profiles

Based on the across-wave (from W1 to W2) change patterns of adolescent-reported translating for mothers and fathers respectively (see the left panel of Table 1), we identified three stable or change profiles in our higher order LTA analyses (see the right panel of Table 1): stable efficacious (mother: 22.1%; father: 14.8%), stable moderate (mother: 35.3%; father: 39.4%), and “other” (mother: 42.6%; father: 45.8%).³ Those in the stable efficacious and stable moderate groups stayed in the same efficacious or moderate group across waves. Language brokers in the “other” group included those who remained stable in a nonchalant or ambivalent group across waves, as well as those who changed among efficacious, moderate, nonchalant, and ambivalent groups across waves. Subgroups within the “other” group were combined due to small sample sizes.⁴

Bilingual Language Brokering Profiles and Adolescent Academic Competence

Bilingual language brokering profiles for adolescent reports of translating for mother and adolescent academic competence. Adolescent self-reported grades, effortful control, educational expectations, learning goals, school engagement, and school connectedness, as well as mother-report perceived adolescent effortful control, were found to be significantly different in intercepts across bilingual language brokering profiles when brokering for mother (see Figure 3a for significant findings of longitudinal effects, and Figure 4a for significant findings of cumulative effects).

Specifically, efficacious (vs. moderate, longitudinal effects) brokers or stable efficacious (vs. stable moderate, cumulative effects) adolescent brokers had significantly higher adolescent self-report grades, effortful control (both adolescent- and mother-report), learning goals, and school connectedness. Moreover, efficacious (vs. ambivalent, longitudinal effects) brokers or stable efficacious (vs. “other,” cumulative effects) brokers also scored higher on adolescent self-reported grades, effortful control, and school engagement. Mother-report perceived adolescent effortful control was higher among efficacious brokers than ambivalent brokers

³ Information on adolescent brokers’ gender predicting LPA and LTA profiles is provided in the Ancillary Analyses section in the online supplementary materials.

⁴ Table S14 in the online supplementary material provides detailed information on the “other” profile distribution.

Table 1

Stable/Change Bilingual Language Brokering Profiles Based on Results of Latent Transition Analysis (LTA) Model

Wave 1	Latent transition probability				Size of stable/change profiles	
	Wave 2				Higher order class	Relative size
	Efficacious	Moderate	Ambivalent	Nonchalant		
Bilingual language brokering stable/change profiles for adolescent report of brokering for mother (<i>n</i> = 603)						
Efficacious (36.6%)	0.575	0.387	0.014	0.024	Stable efficacious	22.1%
Moderate (46.8%)	0.028	0.712	0.072	0.189	Stable moderate	35.3%
Ambivalent (16.6%)	0.116	0.197	0.640	0.047	“Other”	42.6%
Bilingual language brokering stable/change profiles for adolescent report of brokering for father (<i>n</i> = 528)						
Efficacious (17.3%)	0.816	0.143	0.014	0.027	Stable efficacious	14.8%
Moderate (57.5%)	0.170	0.685	0.021	0.124	Stable moderate	39.4%
Ambivalent (11.8%)	0.051	0.347	0.523	0.079	“Other”	45.8%
Nonchalant (13.4%)	0.000	0.593	0.122	0.285		

Note. The “other” groups include transitions of Wave 1 efficacious → any Wave 2 profile, except for Wave 2 efficacious; Wave 1 moderate → any Wave 2 profile, except for Wave 2 moderate; Wave 1 ambivalent → any Wave 2 profile, and Wave 1 nonchalant → any Wave 2 profile. Probabilities of adolescents who remained in the same profile across waves appear in boldface type, and probabilities of the most likely transition are in italic type.

(longitudinal effect only); and adolescent self-report learning goals were higher among brokers in the stable efficacious group than in the “other” group (cumulative effect only). Additionally, stable efficacious adolescent brokers showed significantly higher self-reported educational expectations and school connectedness than stable moderate or “other” brokers (cumulative effect only). However, no between-profile difference was found on any adolescent-/mother-report academic competence outcomes across moderate versus ambivalent brokers (longitudinal effects) or stable moderate versus “other” brokers (cumulative effects).

Bilingual language brokering profiles for adolescent reports of translating for father and adolescent academic competence. Adolescent self-reported grades, effortful control, learning goals, school engagement, and school connectedness, as well as father-report perceived adolescent effortful control, educational expectations, learning goals, and school connectedness, were found to have different intercepts across bilingual language brokering profiles when brokering for fathers (see Figure 3b for significant findings of longitudinal effects, and Figure 4b for significant findings of cumulative effects).

Specifically, efficacious (vs. moderate, longitudinal effects) brokers or stable efficacious (vs. stable moderate or “other,” cumulative effects) brokers had significantly higher adolescent self-report grades, effortful control, school engagement and school connectedness. Efficacious adolescent brokers also showed higher self-report school engagement (vs. ambivalent only, longitudinal effect) and school connectedness (vs. ambivalent or nonchalant, longitudinal effects). Additionally, moderate (vs. ambivalent, longitudinal effect only) brokers scored higher on father-report learning goals. Furthermore, stable efficacious brokers tended to have higher self-report learning goals (vs. stable moderate or “other,” cumulative effects only) and father-report school connectedness (vs. stable moderate only, cumulative effect only). In addition, “other” (vs. stable efficacious or stable moderate, cumulative effects only) brokers were rated to have lower educational expectations by their father. Other between-profile comparisons, if not listed above, showed no difference in the intercepts of adolescent sense of academic competence outcomes across adolescent and father reports.

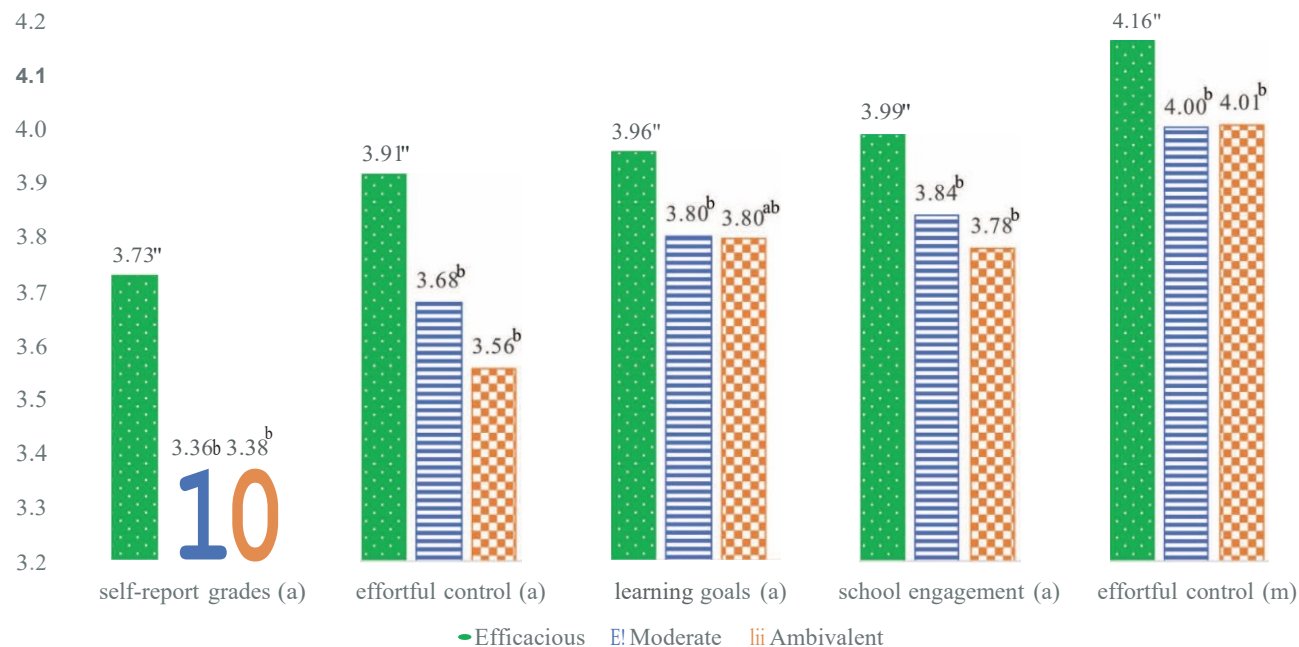
Sensitivity Analyses

We conducted sensitivity analyses to test whether language skills alone might account for the differences found in adolescent academic competence, or whether the tripartite framework explained, at least in part, the differences in adolescent academic competence. We first conducted latent profile analyses of language skills alone and found three profiles (see Table S12 in the online supplemental material for fit indices): stronger bilinguals (49.8%), moderate bilinguals (44.0%), and weaker bilinguals (6.2%). Next, results of Wald tests showed that none of the academic competence measures’ intercepts at W2 differed across the three language skill profiles. These results suggest that language skills alone are not associated with academic competence longitudinally, whereas the current study’s profiles, which consider language use as a composite of language skills, practice, and subjective language brokering experiences, are related to adolescents’ academic competence longitudinally across reporters.

Discussion

The educational disadvantages experienced by Mexican-origin children in the United States necessitate making greater efforts to uncover factors that will promote their academic competence. Adopting a tripartite framework of language use among immigrant communities (i.e., bilingualism, frequency of language brokering, and subjective experiences of brokering), the current study helped to untangle the mixed findings from two distinct literatures on how bilingualism and language brokering are associated with academic competence. Our results suggest that strong bilingual skills alone may be an inadequate explanation for positive academic competence among adolescent brokers from Mexican immigrant families. It is bilingual proficiency together with frequent and positive language brokering experiences—or, in other words, a combination of skills, practice, and positive experiences—that may promote brokers’ academic development. The present study also demonstrated the importance of maintaining proficient bilingual

Intercept Difference of Wave 2 Adolescent Academic Competence across Wave 1 Profiles for Mother



Intercept Difference of Wave 2 Adolescent Academic Competence across Wave 1 Profiles for Father

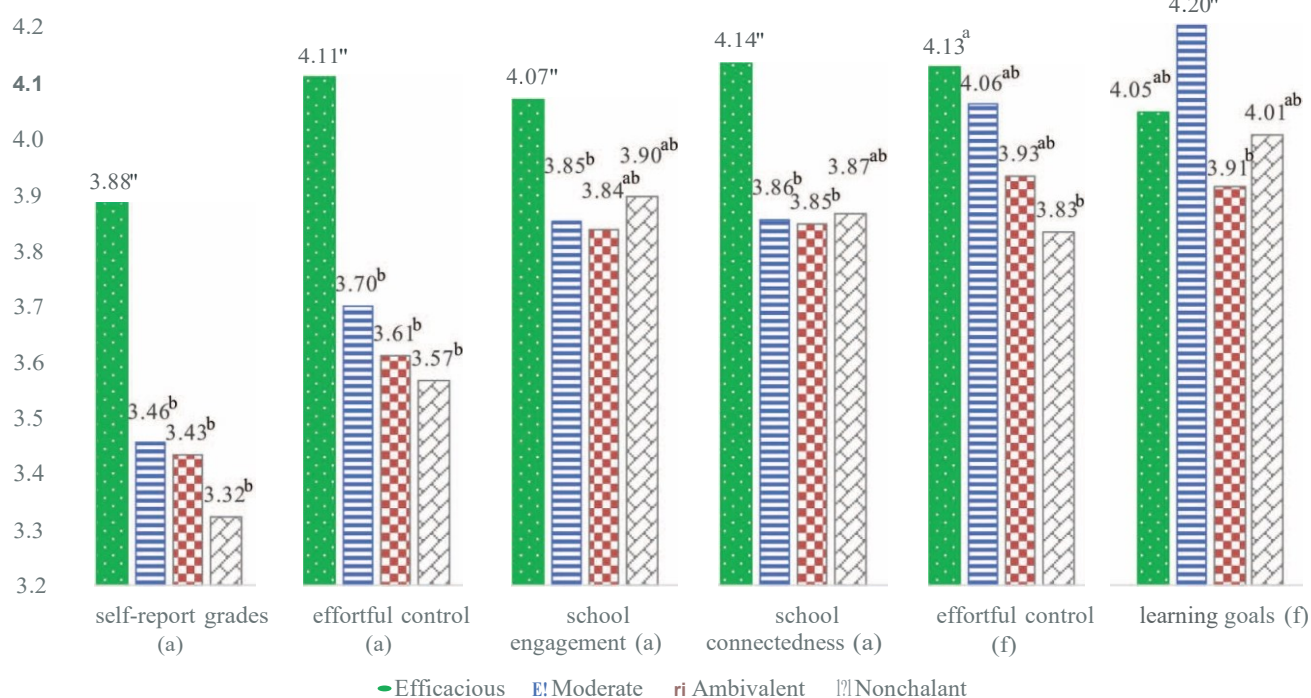


Figure 3. Significant longitudinal effects: intercept difference of Wave 2 adolescent academic competence by Wave 1 bilingual brokering profiles for mother (Panel A) and father (Panel B). For each academic competence, intercepts with different subscripts were significantly different from each other. Covariates, including adolescent academic competence at Wave 1, age, gender, nativity, family income, parental educational level, and parental English and Spanish proficiency, were all grand mean centered. (a) = adolescent report; (m) = mother report; (f) = father report. See the online article for the color version of this figure.



Figure 4. Significant cumulative effects: intercept difference of Wave 2 adolescent academic competence across stable/change bilingual brokering profiles for mother (Panel A) and father (Panel B). For each academic competence, intercepts with different subscripts were significantly different from each other. Covariates, including adolescent academic competence at Wave 1, age, gender, nativity, family income, parental educational level, and parental English and Spanish proficiency, were all grand mean centered. (a) = adolescent report; (m) = mother report; (f) = father report. See the online article for the color version of this figure.

skills and accumulating frequent and positive brokering experiences for Mexican American adolescents to reap the most academic benefit out of their bilingual brokering experiences.

Bilingual Language Brokering Profiles and Change Profiles

Our analyses identified three common bilingual language brokering profiles (i.e., efficacious, moderate, and ambivalent) across waves and parents. The largest group of adolescents in our study (i.e., moderate) reported occasional language brokering, endorsed moderate levels of positive experiences and low to moderate levels of negative experiences, and rated themselves as moderately pro-

ficient with regard to their language skills. The brokering characteristics of our moderate brokers are similar to those of the occasional-moderates previously identified as the largest group in Kam et al. (2017). As pointed out by prior research, adolescents with a moderate profile may feel that growing up as a language broker and assisting their English-limited parents is a normal experience (Orellana, 2003).

The second largest group (i.e., efficacious) engaged in more frequent language brokering and perceived their brokering experiences as more positive, less negative, and more central to their identity relative to the moderate group. Another bilingual language brokering profile (i.e., ambivalent) was characterized by a level of language brokering frequency similar to that of the efficacious

group. However, ambivalent brokers' levels of centrality and positive experiences were lower than those of efficacious brokers. The ambivalent brokers also reported the highest levels of negative experiences of any group.

The subjective brokering experiences of the efficacious and ambivalent profiles in the current study correspond to two previously found profiles, efficacious (Shen et al., 2019) and parentified-endorsers (Kam et al., 2017), respectively. However, the inclusion of bilingual proficiency as a profile indicator distinguishes our study from these previous studies; our study showcases bilingual proficiency and language brokering experiences as intertwined aspects. The bilingual skills of the efficacious brokers seem to be sufficient to support their practice of frequent language brokering. Therefore, efficacious brokers may be best positioned to enjoy the reciprocal influences of bilingualism and language brokering: their bilingual skills may have allowed them to feel more positive about their brokering practice, whereas their positive brokering experiences in turn may have increased their bilingual skills (Borrero, 2015; Kam & Lazarevic, 2014; López & Vaid, 2018). The moderate bilingual skills of the ambivalent brokers, however, seemed inadequate given how much brokering practice they had. Indeed, a qualitative study with a sample of Latino families found that adolescent brokers reported more negative emotions associated with language brokering when the task involved complex ideas or difficult words (Corona et al., 2012). However, despite the negativity, being able to provide family assistance (i.e., language brokering) may still be a source of positive emotions for the ambivalent brokers—as indicated by the fact that they reported the same level of positive emotions as the moderate brokers did. Relatedly, prior research suggests that providing daily assistance to the family is associated with a higher level of happiness in adolescents (Telzer & Fuligni, 2009).

The fourth profile, nonchalant, emerged for brokering for father at both waves and brokering for mother at W2 but not W1. The nonchalant brokers had the least bilingual proficiency, scored lowest on language brokering centrality and positive experiences, and reported low to moderate levels of brokering frequency and negativity. Prior literature posits that language brokering may be requested less often by the parents of nonchalant brokers, such that these adolescents are less involved in language brokering (Dorner et al., 2008). The infrequent-ambivalents identified in Kam et al.'s (2017) study were similar to our nonchalant brokers in their low brokering frequency and relatively low endorsement of both positive and negative brokering experiences. Our finding that the nonchalant profile did not emerge for brokering for mother at W1 supported previous findings that adolescents tend to translate more frequently for mothers than fathers (Chao, 2006). This may be due to the caregiver role of mothers emphasized by the traditional Mexican culture, in which mothers tend to spend more time with their children in their daily lives (Updegraff et al., 2014) and thus may ask their children to do more translating for them. Adolescents who brokered for their mothers only once in a while might have started to attach less centrality and positive feelings to their brokering experiences as they got accustomed to brokering as a relatively trivial part of their interaction with their mothers. Hence, the nonchalant profile only emerged for brokering for mother at a later time point in early adolescence, at W2.

The majority of the adolescents (57.4% for brokering for mother, 54.2% for brokering for father) maintained their original

efficacious or moderate profile membership over a 1-year period. This suggests that the qualities of bilingual language brokering profiles are somewhat stable across a 1-year period and supports prior research indicating that language brokering is not a time-limited activity, as it may extend from adolescence to adulthood (Weisskirch, 2013).

Harkening to the call to examine bilingual language use in an integrative and contextual way (Bialystok, 2017), the current study emphasizes a tripartite framework to capture the nuances in language use among children of English-limited immigrant parents (Acoach & Webb, 2004; Niehaus & Kumpiene, 2014). We suggest that future studies examining adolescent language use profiles should continue piecing together the patterns of how bilingual adolescents master and utilize their languages. Apart from the indicators used in our tripartite framework, future research may also consider the contextual factors that coincide with language brokering (e.g., family socioeconomic status, as language brokers are likely to have parents with fewer socioeconomic resources). Incorporating these contextual factors can better inform the literature about how bilingualism and brokering are collectively applied in response to the inhibiting environment in which brokers are embedded (García Coll et al., 1996).

Bilingual Language Brokering Profiles, Change Profiles, and Academic Competence

Whereas profile membership based on language skills alone was not associated with adolescents' academic competence, consistent distinctions in sense of academic competence arose when profiles were based on the tripartite language use framework. We found that, for brokering for both mother and father, the efficacious brokers had the highest self-reported grades, effortful control, and school engagement and were perceived by the corresponding parent as demonstrating more effortful control. This finding aligns with research by López and Vaid (2018) in demonstrating an elevated promotive effect of bilingualism when it is combined with language brokering. In contrast, those who are less proficient in both languages, and who experience less positivity and/or more negativity when practicing brokering, may be at higher risk of academic disadvantage and should be particularly targeted for intervention.

Our results also suggest a cumulative effect of bilingual language brokering experiences. As adolescents are likely to incorporate their brokering experiences into their identity as they continue to serve in the role of broker over their adolescence (Weisskirch, 2017), the accumulation of these experiences may link to more distinctive variations in academic competence. Indeed, we found that across brokering for mother and father, the stable efficacious brokers reported the highest school connectedness and learning goals in addition to the highest self-reported grades, effortful control, and school engagement for being efficacious at W1. The current findings suggest that interventions should focus not only on helping brokers become efficacious, but also on maintaining adolescents' efficacious bilingual language brokering profile for maximum benefit to their academic development. Specifically, interventions with families in need of language brokering should aim to promote the brokers' positive experiences while improving their bilingual skills and scaffolding opportunities to practice brokering. Additionally, we suggest that future research

on bilingualism and language brokering should consider both longitudinal effects and cumulative effects to gain a more nuanced understanding of the interplay between the two.

In addition, among all aspects of academic competence examined in the current study, effortful control was a particularly consistent benefit that brokers gained out of having an efficacious or stable efficacious profile, no matter whether effortful control was reported by adolescents themselves or their parents. This suggests that high effortful control may be the most robust academic-related benefit of being an efficacious or stable efficacious broker.

The current findings exemplify how strategies of bilingualism and language brokering are integrated to influence adolescent development (García Coll et al., 1996; White et al., 2018) among low-income Mexican immigrant families in which the parents have limited English skills. The lack of education and low English proficiency of the parents imposed a natural need for their adolescent children to become bilingual language brokers able to negotiate between the dominant culture and Mexican culture. With early adolescence being a critical period for identity development (Erikson, 1994), how well these brokers are able to negotiate between the languages and cultures may exert a pronounced effect on how well they adjust to school life (García Coll et al., 1996). Indeed, it has been posited that more positive experiences with both the U.S. culture and the heritage culture can help Mexican-origin adolescents adapt to their diverse cultural environment, gain more interpersonal skills, and enhance their sense of self-worth (Buriel et al., 1998), all of which can promote their academic development. According to the current findings, being able to maintain high bilingual proficiency, practicing brokering frequently, and continuously experiencing positive feelings about brokering relate to a greater sense of academic competence, especially effortful control, among the bilingual brokers in our sample. Therefore, intervening in the bilingual brokering experiences of Mexican-origin adolescent brokers may effectively mitigate the academic disparities they face.

Limitations and Future Directions

It is important to note the limitations of the current study. First and foremost, all our data were based on participants' self-reports, including their English and Spanish language proficiency and grade point average. Second, we were not able to treat each change of bilingual language brokering profile membership as an independent change profile because of limited sample sizes. Additionally, the current study cannot answer the question of when adolescents are more likely to be identified as belonging to a specific profile depending on various language brokering situations. Several studies have found that adolescents carry out language brokering in various contexts (e.g., medical setting vs. school setting, Anguiano, 2018), which may elicit different patterns of brokering experiences and bilingualism. Lastly, the findings of the current study should be interpreted only for bilingual language brokers in their early adolescence. As suggested in the previous literature, declines in Spanish language ability (Borrero, 2015) and changes in language brokering appraisals may become more salient in middle or late adolescence. Therefore, future researchers interested in bilingual language brokers are advised to collect more waves of data, spanning early to late adolescence, to get a more complete

picture of stability and change in profile membership across adolescence.

Conclusion

The current study adopted a tripartite framework of adolescent language use in immigrant communities and identified four distinct bilingual language broker profiles among Mexican-origin adolescent brokers from immigrant families. We further related these profiles at a single time point and also examined the stability or change in profile membership over time in relation to adolescent academic competence. Our findings indicate that bilingual language brokering experiences convey the greatest academic benefits to efficacious brokers, who combine good skills with frequent practice, and who have positive experiences of language brokering. The findings also indicate that the beneficial effects of being efficacious can accumulate over time if brokers are consistently efficacious (i.e., stable efficacious), suggesting that future interventions should aim to maintain adolescents' efficacious membership to promote their academic competence.

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