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EMPIRICAL RESEARCH

The Stressful (and Not So Stressful) Nature of Language Brokering: Identifying When Brokering Functions as a Cultural Stressor for Latino Immigrant Children in Early Adolescence

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Abstract Language brokering remains prevalent among immigrant families, but it is widely assumed that brokering functions as a cultural stressor, resulting in adverse health outcomes for immigrant youth. Few studies, however, have tested this assumption, particularly while using longitudinal data and capturing multiple dimensions of brokering. Thus, this study examined how depressive symptoms and family-based acculturation stress mediated the relationships between various aspects of brokering (i.e., frequency of brokering, positive and negative feelings about brokering, brokering norms, and brokering efficacy) and alcohol, cigarette, and marijuana use and other risky behaviors. Using longitudinal survey data from 234 Latino early adolescents in 6th–8th grades (M_{age} = 12.4 years; *Females* = 46.2 %), brokering for parents indirectly affected alcohol and marijuana use through family-based acculturation stress; however, these significant indirect effects became non-significant when taking into account negative brokering feelings and brokering as a burden on one's time. Feeling positively or efficacious about brokering or having pro-brokering norms did not directly predict any adverse mental and behavioral health outcomes. Moderation analyses, however, revealed that brokering for parents did not seem to function as a stressor when Latino early adolescents were high in brokering efficacy (e.g., feeling confident in one's ability to broker) or descriptive brokering norms (e.g., perceiving one's peers as brokering often). By contrast, when Latino early adolescents perceived brokering as a burden, brokering for parents functioned as a stressor, placing Latino early adolescents at risk for family-based acculturation stress, and in turn, alcohol and marijuana use. Such findings point to the complexity of brokering.

Keywords Language brokering · Latino · Substance use · Depression · Acculturation stress · General strain theory

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Introduction

The increasing cultural diversity within the United States means a growing number of individuals communicate in a language other than English and adhere to non-mainstream values, norms, and beliefs (Ajayi 2006). For example, the US Census Bureau found that 20 % of the nation's population (aged 5 years or older) spoke a language other than English at home, and half of that subpopulation reported not speaking English "very well" (Shin and Kominski 2010). Often, individuals' ability to communicate in English and navigate US mainstream culture predicts their ability to manage everyday activities (Shin and Bruno 2003). In immigrant families, younger members (e.g., pre-adolescents, adolescents, and young adults) often become familiar with English language and US mainstream culture at a faster rate than adults (Birman and Trickett 2001; Chao 2006; Suárez-Orozco and Suárez-Orozco 2001). Thus, parents and other adults commonly rely on younger family members to help them interact with US mainstream culture (Agustí-Panareda 2006). As a result, young members of

immigrant families frequently become language brokers—individuals with little to no formal training who act as linguistic and cultural intermediaries for two or more parties, both of whom are from different cultural backgrounds (Kam and Lazarevic 2014).

Language brokering (hereafter referred to as brokering) may be related to both positive and negative outcomes (Morales and Hanson 2005). More specifically, brokering has been associated with higher levels of self-esteem (Weisskirch 2007), standardized test scores (Dorner et al. 2007), trust in parents (McQuillan and Tse 1995), and respect for parents (Chao 2006). In contrast, brokering also has been linked to acculturation stress (Kam 2011), inappropriate parent/child roles (e.g., parentification; Puig 2002), internalizing symptoms (e.g., depression, anxiety; Chao 2006), and externalizing symptoms (e.g., aggression and delinquency; Chao 2006). The latter findings have led some researchers to consider brokering a cultural stressor (Love and Buriel 2007; Martinez et al. 2009). This area of research, however, would benefit from more empirical testing, particularly using longitudinal data and incorporating multiple aspects of brokering.

Thus, this study contributes to the literature on brokering in several important ways. First, the study uses longitudinal data to examine the effects of brokering in a sample of Latino immigrant children in early adolescence. Most studies on brokering have been cross-sectional in nature, making it difficult to determine the direction of relationships between brokering and well-being. Second, in addition to examining the frequency of brokering, the current study examines multiple dimensions of brokering, paying particular attention to feelings, norms, and efficacy with respect to brokering. Few studies have examined the unique effects that different dimensions of brokering exhibit on young members of immigrant families. Third, the study incorporates general strain theory (Agnew 2001) and an extended version of the theory of planned behavior (Ajzen 1991; Kam et al. 2009) to identify when brokering may contribute to or protect against adverse mental health outcomes of Latino immigrant children in early adolescence. Several studies have found that, while Latino early adolescents often broker for their immigrant parents (Chao 2006; Tse 1995; Weisskirch 2007), they also are at risk for experiencing a number of adverse health outcomes (e.g., substance use; Johnston et al. 2012) and greater depressive symptoms (Umaña-Taylor and Updegraff 2007). Lastly, considering that Latino immigrants are an important and growing segment of the US population (Ennis et al. 2011), yet experience many health disparities (Prado and Pantin 2011), this study takes a preventative approach to identifying risk and protective factors at an early stage, with the goal of averting the onset of adverse health outcomes in the future.

Brokering as a Cultural Stressor: Drawing from General Strain Theory

Agnew (1992) developed general strain theory to explicate why individuals participate in delinquent behavior. Tenets of general strain theory suggest that individuals are more likely to engage in delinquent behavior when they experience a strain(s) and do not have a strong supportive environment. Extant literature (e.g., Love and Buriel 2007; Weisskirch and Alva 2002) reveals that brokering may operate as a cultural stressor (i.e., a strain)—an adverse experience associated with racial/ethnic identity, immigration processes, and/or acculturation processes that leads to stress because of its undesirable, challenging, and often, unwarranted nature (Agnew 2001; Umaña-Taylor et al. 2011). Strains occur under three conditions: (1) when individuals are unable to fulfill a goal, (2) when individuals experience a negative stimulus, and (3) when a positive stimulus is removed (Agnew 2001). Consistent with general strain theory, young brokers may encounter barriers to fulfilling their goals when they, for example, lack experience with a particular type of transaction (e.g., not knowing how to fill out a job application for a family member). In addition, brokering may lead to strain when a desired stimulus is removed (e.g., losing self-confidence from lacking certain vocabulary) or when faced with a negative stimulus (e.g., learning about a family member's health problem). Although managing multiple languages and other cultural elements can be beneficial (Berry 1997), young brokers may, at times, feel torn between multiple cultural identities (Love and Buriel 2007) or between multiple demands (i.e., family obligations and their own interests) (Dorner et al. 2008). In short, young brokers assume a large amount of pressure and responsibility, which may lead to stress (Love and Buriel 2007; Weisskirch and Alva 2002).

In such situations, general strain theory (Agnew 2001) would posit that cultural stressors place individuals at risk for developing negative psychological (cognitive and emotional) reactions. Consistent with this notion, a study on Russian immigrant adolescents (6th–12th grades) in the US found that as these adolescents brokered more frequently, they reported higher levels of distress (Jones and Trickett 2005). A positive association between brokering and depressive symptoms also was documented in Love and Buriel's (2007) study on Mexican-heritage early adolescents ($M = 12.58$ years old). Lastly, Kam (2011) found that as Mexican-heritage 7th and 8th grade students brokered more often, they experienced increased family-based acculturation stress (i.e., feeling frustrated with family for their lack of familiarity with mainstream culture). Thus, past brokering research indicates that this phenomenon can operate as a cultural stressor, placing adolescents at risk for adverse mental health outcomes.

In addition to considering implications for mental health, the current study draws from general strain theory (Agnew 2001) to extend brokering's implications to alcohol, cigarettes, and marijuana use (hereafter referred to as substance use), as well as other risky behaviors. General strain theory suggests that to alleviate and to escape from negative psychological reactions to strains, individuals may engage in substance use and other risky behaviors, particularly when they do not have a strong supportive environment. With respect to brokering, studies have demonstrated positive associations between brokering and externalizing symptoms among Korean adolescents in 9th grade (Chao 2006), as well as alcohol or tobacco use among Latino adolescents ($M = 13$ years old; Martinez et al. 2009). Guided by tenets of general strain theory, Kam (2011) found that as Mexican-heritage early adolescents (6th–8th grades) engaged in brokering more often, they reported increased family-based acculturation stress, and in turn, were more likely to consume alcohol and engage in other risky behaviors.

Identifying Protective Resources Using the Theory of Planned Behavior

The stress assumption proposes that brokers are susceptible to adverse mental health and behavioral health outcomes; however, potential protective factors such as feelings, norms, and self-efficacy may serve as buffers against those negative outcomes. Traditionally, theory of planned behavior (Ajzen 1991) posits that having attitudes, norms, and efficacy in favor of a particular behavior will motivate individuals to engage in that behavior. Although theory of planned behavior is traditionally used to predict intentions and behaviors, it is possible that as Latino immigrant children in early adolescence develop positive attitudes about brokering, norms that promote brokering, and efficacy with respect to brokering, those favorable beliefs about brokering may alleviate the stressful nature of that behavior. Thus, as Latino immigrant children in early adolescence develop positive beliefs about brokering, they will be less likely to experience adverse mental health outcomes such as depressive symptoms and family-based acculturation stress. Studying the complex and multidimensional nature of brokering may reveal when brokering leads to adverse mental and behavioral health outcomes and when brokering prevents such negative outcomes. Moreover, identifying and measuring brokering-related protective factors may inform culturally-grounded programs aimed at enhancing the well-being of immigrant families.

Positive Feelings About Brokering

Based on theory of planned behavior, attitudes refer to individuals' positive or negative valence of a certain behavior (Ajzen 1991). Related to attitudes, Tse (1996) introduced the concept, feelings toward brokering, or the affective response one experiences when brokering (Buriel et al. 1998). Positive brokering feelings include affective responses such as feeling good, helpful, proud, and useful (Weisskirch 2006). Naturally, feeling good about oneself when engaging in a behavior is likely to be related to lower levels of depressive symptoms and family-based acculturation stress. Based on general strain theory, decreased negative psychological reactions should diminish the likelihood that Latino immigrant children in early adolescence will engage in substance use and other risky behaviors.

Norms About Brokering

In addition to attitudes (or feelings), theory of planned behavior includes subjective norms (i.e., perceptions of what important others (e.g., parents, friends) believe individuals ought to do) (Ajzen 1991). Although not originally part of theory of planned behavior, descriptive norms (i.e., perceptions of what others are actually doing) and personal norms (i.e., individuals' own belief that they should engage in a particular behavior) also play a powerful role in explaining intentions and behaviors (Kam et al. 2009). This study uses subjective, descriptive, and personal norms to identify when brokers are less likely to experience depressive symptoms and family-based acculturation stress.

Past research suggests that norms influence brokering's effects on immigrant children. In particular, young brokers (5th and 6th grades) may perceive interpreting and helping around the house as natural ways to promote family success (Dorner et al. 2008) or "just normal" (Orellana 2003, p. 35). Extending these findings and theory of planned behavior, the present study proposes that pro-language-brokering subjective, descriptive, and personal norms may function as protective components against the stressful nature of brokering. By believing that important others think they should broker, that other kids (e.g., at school, in their neighborhood) broker, and that they should broker for family, Latino immigrant children in early adolescence are more likely to perceive this behavior as a "normal" activity. This may result in downplaying any negative aspects of brokering, and in turn, being less likely to experience depressive symptoms and family-based acculturation stress. Consequently, Latino immigrant children in early adolescence may be also less likely to engage in substance use and other risky behaviors.

Feeling Efficacious About Brokering

The last component to theory of planned behavior is perceived behavioral control, which Ajzen (2002) defined as self-efficacy and controllability. Self-efficacy refers to individuals' belief in their command over a certain behavior

such as their perceptions of how easy it is to carry out the behavior. The current study focuses on brokering self-efficacy–the ease and confidence that individuals have in their ability to broker for family. As Latino immigrant children in early adolescence feel confident and at ease about their brokering abilities, brokering is unlikely to be perceived as a stressful experience. Thus, as Latino immigrant children in early adolescence feel efficacious about brokering, they are less likely to develop depressive symptoms and family-based acculturation stress. In turn, they are less likely to engage in substance use and other risky behaviors.

The Harmful Effects of Feeling Negatively About Brokering

Given that young members of immigrant families may form positive feelings about brokering, they also may develop negative feelings (e.g., embarrassment, nervousness) and perceive brokering as a burden on their time (Kam 2011; Tse 1996; Wu and Kim 2009). As young members of immigrant families perceive brokering in a negative way, they may be more likely to internalize such negative feelings in the form of depressive symptoms and resent their family for not being as familiar with US mainstream culture (i.e., family-based acculturation stress). Consistent with this notion, a study with Mexican-heritage early adolescents found that negative feelings about brokering were related to family-based acculturation stress, which, in turn, was related to alcohol use and other risky behaviors (Kam 2011). Although some studies have demonstrated an association between frequency of brokering and mental health outcomes, limited research has been conducted to examine the role of brokering feelings in contributing to mental and behavioral health outcomes.

The Current Study

The literature described above indicates that few studies have explored various dimensions of brokering and their unique effects on mental and behavioral health outcomes. Several studies have examined relationships between frequency of brokering and depressive symptoms and family-level stress, albeit using cross-sectional data and unidimensional measures of brokering (Love and Buriel 2007; Martinez et al. 2009; Puig 2002). Thus, what is unknown is how brokering feelings and norms may impact the relationships between frequency of brokering and health outcomes, using longitudinal data.

Thus, the current study builds on prior research by examining how additional brokering factors (e.g., positive brokering feelings, positive brokering norms, brokering efficacy, negative brokering feelings, and brokering as a burden on one's time) impact frequency of brokering's indirect effect on substance use and other risky behaviors through depressive symptoms and family-based acculturation stress. First, to represent past research on brokering, mediation is hypothesized such that as Latino immigrant children in early adolescence engage in brokering more often, they will be more likely to develop depressive symptoms and family-based acculturation stress, and in turn, more likely to engage in substance use and other risky behaviors (e.g., stealing, skipping school, participating in gang activities) (H1). If brokering operates as a cultural stressor, general strain theory would suggest that brokers are likely to experience negative psychological reactions, and in turn, engage in risky behaviors to help replace negative reactions with positive ones or to distract them from dwelling on the stressor (Brezina 1996; Eitle and Turner 2003).

Second, to take into account multiple dimensions of brokering, mediation is hypothesized such that as Latino immigrant children in early adolescence report positive brokering feelings, pro-brokering subjective norms, pro-brokering descriptive norms, pro-brokering personal norms, and brokering efficacy, they will be less likely to develop depressive symptoms and family-based acculturation stress. In turn, they will be less likely to engage in substance use and other risky behaviors (H2). Despite the potential negative effects of brokering on the well-being of Latino immigrant children in early adolescence, theory of planned behavior would posit that there are potential positive beliefs (e.g., attitudes, norms, and self-efficacy) that motivate individuals to engage in a behavior. Thus, this study suggests that developing positive feelings, having positive norms about brokering, and feeling confident in one's brokering abilities implies that the Latino immigrant children in early adolescence have developed overall positive beliefs toward brokering. Thus, they will be less likely to experience depressive symptoms and family-based acculturation stress.

Third, as Latino immigrant children in early adolescence feel negatively about brokering and feel it is a burden on their time, they will be more likely to develop depressive symptoms and family-based acculturation stress. In turn, Latino immigrant children in early adolescence will be more likely to engage in substance use and other risky behaviors (H3). Having negative feelings about brokering and viewing it as a burden on one's time can create feelings of sadness, loneliness, and hopelessness that are characteristic of depressive symptoms. Feeling negatively about brokering and perceiving brokering as a burden on one's time can also lead to resentment toward family members for their lack of familiarity with US mainstream culture. In turn, Latino immigrant children in early adolescence may resort to substance use and other risky behaviors to deal with their depressive symptoms and family-based acculturation stress.

In addition to the mediation hypotheses listed above, a research question was included to examine an alternative way in which multiple aspects of brokering may work together to affect the well-being of Latino immigrant children in early adolescence. Although the present study hypothesizes mediation based on general strain theory and past research (e.g., Kam 2011), it is possible that the frequency of brokering's direct and indirect effects on adverse mental and behavioral health outcomes depend on how Latino immigrant children in early adolescence feel about brokering, the norms that they have about brokering, and how efficacious they feel about their brokering skills. For example, among Latino immigrant children in early adolescence who feel efficacious about brokering (e.g., feel confident and at ease about brokering), brokering for parents and other family members may not be related to adverse mental and behavioral health outcomes because they feel competent about brokering. By contrast, among Latino immigrant children in early adolescence who do not feel efficacious about brokering, they may find the experience stressful because they feel incompetent about brokering. Thus, the following research question was created: will positive brokering feelings, positive brokering norms, negative brokering feelings, and brokering as a burden on one's time moderate the frequency of brokering's effects on depressive symptoms and family-based acculturation stress (RQ)? Given that the effects of frequency of brokering on the well-being of Latino immigrant children in early adolescence may depend on how they *feel* about brokering, this study examines an alternative to the hypothesized mediation and, in addition, considers a research question that inquires about moderation.

Method

Participants

This study is based on three waves of self-reported, longitudinal survey data from 6th to 8th grade students attending three Illinois rural public schools, whose sample comprised of approximately 32–38 % Latino students. All of the students at each school completed the surveys unless their parents withdrew them from the study, the students chose not to participate in the study, or the students were absent on the survey administration day. The original sample at wave 1 (September and October, 2011) was 613 students, 607 at wave 2 (January, 2012), and 614 at wave 3 (April, 2012). Students were allowed to join and leave the study at any wave, thereby resulting in a total of 688 students. Seventy-four percent participated in all three waves, 18 % in two waves, and 8 % in one wave.

The original sample comprised of students who self-identified as Latino ($n = 277$), European American ($n = 350$), African American or black ($n = 15$), American Indian or Alaskan Native ($n = 2$), or multiple ethnicities/races ($n = 41$). Three students did not report their ethnicity. The current study's analyses were based on Latino students who had at least one immigrant parent and who had brokered at least once in their lifetime, which led to a sample of 234 Latino immigrant children in early adolescence. In this smaller sample, 89.3 % were of Mexican, Mexican–American, or Chicano/a descent, and 10.7 % were of other Latino/Hispanic descent. Females formed 46.2 % of the sample, and the average age was 12.4 years ($SD = 1.06$). Among the 234 Latino students, 31.5 % were born *outside* the US, and 85.9 % of their mothers and 96.6 % of their fathers were born *outside* the US. Many students (65 %) had lived in the US all their lives or >10 years. Eighty-three percent of the students were in a free- or reduced-cost lunch program.

Procedures

Upon approval from the university's Institutional Review Board, the three participating schools sent home information letters in English and Spanish to parents, describing the study and notifying the parents of their early-adolescent child's participation. Parents were provided with the opportunity to withdraw their early-adolescent child from the study during this initial notification period and prior to each subsequent wave of data collection. Students whose parents withdrew them from the study at a particular wave were not surveyed at that wave or any subsequent waves. A total of 22 students were withdrawn from the study.

Research personnel administered the survey to the remaining students during a class period. At each wave, the students were told of the study's voluntary and confidential nature and asked to sign an assent form. Research personnel emphasized that students' individual responses would not be shared with their school, their parents, their friends, or anyone else outside of the research team. The assent and survey completion process took approximately 45–60 min. All documents were available in English and Spanish. Rogler's (1989) back-translation method was used to establish translation fidelity. Ten percent of the 234 Latino students completed the survey in Spanish. At each wave, schools received $800, and three students were randomly selected (one per grade level) to receive an Apple iPod Touch.

Measures

Measures used in the study are discussed in detail below. Each construct was assessed with shortened indices or scales to meet the time constraints imposed by the school

setting and the developmental needs of 6th–8th grade students (see Table 1 for bivariate correlations).

Brokering Frequency (Wave 1)

To measure how often students brokered for their parents and other family members, this study used modified items of the person dimension from Tse's (1995) Brokering Scale. Since students may be unfamiliar with the words, translating, interpreting, or brokering, the following introduction was created:

> Interpreting (also sometimes called, translating) refers to explain the meaning of any word, message, or conversation to someone who does not know English or another language very well. This can include explaining the meaning of a conversation, note, bill, doctor's prescription, sign, movie, TV show, advertisement, phone call, or anything else. Interpreting also may include filling out forms or writing letters for someone who does not know English or another language very well. The following questions ask about your interpreting or translating experiences:

Students then were asked how often they brokered for different family members (6 items; e.g., "How often do you interpret or translate for your mom?"), including their: (1) mom, (2) dad, (3) brother(s) or sister(s), (4) grandparents, (5) aunt(s) or uncle(s), and (6) cousin(s) (1 = never to 4 = very often). The first two items formed one parent index (the average was taken) called brokering frequency for parents ($M = 2.33$, $SD = .90$). The last four items formed a second index called brokering frequency for other family members ($M = 1.66$, $SD = .57$). Indices were used because brokering for each person may be mutually exclusive; thus, Cronbach's α was not reported (see Rimal and Real 2003).

Positive Brokering Feelings (Wave 1)

Three items were used from the Brokering Scale (Tse 1995). The items were: "How often do you feel" … "…you like to interpret?", "…proud of yourself when you interpret for family?", and "… good about yourself when you interpret for your family?" (1 = never to 4 = very often; $M = 2.51$, $SD = .86$; $\alpha = .83$).

Pro-brokering Subjective Norms (Wave 1)

Three items were developed specifically for this study, but were based on the norms literature (e.g., Ajzen 1991; Cooke et al. 2007; Park and Smith 2007). Students were asked, "How strongly do you agree or disagree with the

Table 1 Bivariate correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. LB parents	–														
2. LB other family	.26**	–													
3. Positive feelings	.34**	.25**	–												
4. Subjective norms	.36**	.07	.45**	–											
5. Descriptive norms	.15	.06	.11	.16*	–										
6. Personal norms	.32**	.14	.48**	.62**	.11	–									
7. Efficacy	.30**	.13	.56**	.41**	.18*	.41**	–								
8. Negative feelings	.05	.12	−.01	−.04	−.01	.01	−.21**	–							
9. LB as a burden	.16*	−.03	−.07	.06	.03	−.08	−.12	.34**	–						
10. Depression	.03	.05	.02	.09	.07	−.10	−.05	.29**	.16	–					
11. Family acc. stress	.19*	−.03	−.03	.02	−.07	−.06	−.09	.23**	.37**	.36**	–				
12. Alcohol use	.01	−.06	−.19*	.02	.09	−.01	−.10	.07	.06	.13	.22**	–			
13. Cigarette use	.12	−.02	−.03	.05	.12	.06	−.04	−.07	−.07	.07	.05	.40**	–		
14. Marijuana use	.08	−.09	−.15	−.01	−.05	.10	−.20*	.09	.11	.14	.29**	.68**	.35**	–	
15. Other risky beh.	.10	−.04	−.13	−.03	.05	−.06	−.14	.01	.01	.27**	.21**	.51**	.43**	.58**	–

* $p < .05$; ** $p < .01$

following statements about interpreting or translating?" Students then responded to three items: "My friends think I should interpret for my family," "Most people at school think I should interpret for my family," and "My family thinks I should interpret for them" (1 = strongly disagree to 4 = strongly agree; $M = 2.63$, $SD = .74$; $\alpha = .75$).

Pro-brokering Descriptive Norms (Wave 1)

Three items were created specifically for this study, but were based on the norms literature (e.g., Cooke et al. 2007; Park and Smith 2007). Students were asked, "How often do" … "…your friends interpret for their families?", "…kids at your school interpret for their families?", and "…kids in your neighborhood interpret for their families?" (1 = never to 4 = very often; $M = 1.96$, $SD = .54$). The three items formed one index, where perceptions of how often kids in different contexts (e.g., school, neighborhood, family) broker is mutually exclusive; hence, α is not reported here.

Pro-brokering Personal Norms (Wave 1)

Two items were created based on Kam et al.'s (2009) conceptualization and operationalization of personal anti-substance use norms. Thus, students were asked, "How strongly do you agree or disagree with the following statements about interpreting or translating?" Students then read the following two items: "I should interpret for my family" and "It is my responsibility to interpret for my family" (1 = strongly disagree to 4 = strongly agree; $M = 2.88$, $SD = .80$; $r = .54$).

Brokering Efficacy (Wave 1)

Three items were created for this study but were based on the efficacy measures of Witte et al. (1996). Students were asked, "How often do you feel" … "…it's easy for you to interpret for your family?", "…you're good at interpreting for your family?", and "…confident in your ability to interpret for your family?" (1 = never to 4 = very often; $M = 2.60$, $SD = .77$; $\alpha = .82$).

Negative Brokering Feelings (Wave 1)

Two items were used from the feelings dimension of the Language Brokering Scale (Tse 1995). The items were: "How often do you feel"… "…nervous when you interpret for family?" and "… embarrassed when you interpret for family?" (1 = never to 4 = very often; $M = 1.69$, $SD = .74$; $r = .46$).

Brokering as a Burden on One's Time (Wave 1)

Three items were specifically created for this study based on Wu and Kim (2009). The items were: "How often do you feel like"… "…interpreting takes time away from school?", "…interpreting takes time away from other things you want to do?", and "… interpreting takes time away from hanging out with friends?" (1 = never to 4 = very often; $M = 1.46$, $SD = .64$; $\alpha = .76$).

Depressive Symptoms (Wave 2)

This study used the seven-item depressive affect subscale of the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff 1977). Students were asked how often they experienced a number of depressive symptoms [e.g., "In the past 3 months (90 days), how often have you felt depressed?"] (1 = never to 4 = very often; $M = 1.72$, $SD = .74$; $\alpha = .91$). This measure of depressive affect is similar to the one that Crockett et al. (2005) found support for, using confirmatory factor analyses (CFAs) among Mexican–American adolescents.

Family-Based Acculturation Stress (Wave 2)

Following Kam (2011), two items ("How often do you get upset at your parents because they don't know American ways?" and "How often do you feel like your family thinks you're becoming too American?") assessed family-based acculturation stress (1 = never to 4 = very often; $M = 1.43$, $SD = .61$; $r = .42$). Although Kam's (2011) correlation between the two items was stronger at .58, the present study used the two items to be consistent with Kam's study. Moreover, the same two measures were used to be able to compare the present study's findings with past research on brokering in relationship to family-based acculturation stress.

Alcohol Use (Wave 3)

Based on Graham et al. (1984), students reported their alcohol consumption [1 item; "How many drinks of alcohol have you had in the past 3 months (90 days)?"] (1 = none to 7 = more than 30; $M = 1.47$, $Mode = 1$, $SD = 1.31$).

Cigarette Use (Wave 3)

Using Graham et al. (1984), students reported their cigarette use [1 item; "How many cigarettes have you smoked in the past 3 months (90 days)?"] (1 = none to 7 = more than 20 cigarettes; $M = 1.13$, $Mode = 1$, $SD = .68$).

Marijuana Use (Wave 3)

Based on Graham et al. (1984), students reported their marijuana use [1 item; "How many times have you used

marijuana (pot, weed, grass) in the past 3 months (90 days)?"] (1 = none to 7 = more than 40 hits; $M = 1.21$, *Mode* = 1, $SD = .97$).

Other Risky Behaviors (Wave 3)

Five items were used from the Youth Risk Behavior Survey (Centers for Disease Control and Prevention 2006) and Hawkins et al. (1992). Students were asked, "In the past 3 months (90 days), how often have you…?" and students responded to five questions such as "…stolen anything that did not belong to you?", "…been involved in a gang?", and "…ditched or skipped school?" (1 = never to 4 = many times; $M = 1.16$, $SD = .36$). The five items formed one index; hence, α was not reported here.

Control Variables

When examining this study's hypothesized models, the control variables were age, English language acculturation, religiosity, prior substance use (at wave 1), and prior other risky behaviors (at wave 1). Past research indicates that all of these variables may be associated with Latino adolescents' depressive symptoms, family-based acculturation stress, substance use, and other risky behaviors. In this study, they were significantly related to at least one of the dependent variables. Thus, they were taken into account during the analyses by including paths from these control variables to the dependent variables (see Figs. 1, 2, 3). Sex and participating in a free- or reduced-cost lunch program were not significantly related to the dependent variables and were thus excluded.

Analysis Summary

This study utilized structural equation modeling in M*plus*. The full information maximum likelihood was applied to handle the missing data (Graham 2009), and the maximum likelihood estimator with robust standard errors was used. To test for mediation, direct paths were examined from all of the brokering variables to depressive symptoms and family-based acculturation stress, as well as from depressive symptoms and family-based acculturation stress to substance use and other risky behaviors. Further, direct paths were simultaneously modeled from all of the brokering variables to the substance use and other risky behavior variables. Bias-corrected 95 % confidence intervals (CIs) were obtained with PRODCLIN (Tofighi and MacKinnon 2011).

The models were evaluated based on the following criteria. A well-fitting model should have a root mean square error of approximation (RMSEA) $\leq .06$ (Hu and Bentler 1999), but an acceptably fitting model can have a RMSEA $< .08$ (Browne and Cudeck 1993). In addition, a well-fitting model should have a comparative fit index (CFI) $\geq .95$, although an acceptably fitting model can have a CFI value $\geq .90$ (Beaudoin and Thorson 2006; Hu and Bentler 1999). Lastly, the standardized root mean square residual (SRMR) should be <.08 (Hu and Bentler). Prior to inspecting the hypothesized models, a measurement model was examined, using confirmatory factor analysis (CFA). The CFA model included latent factors of all the scales, excluding the indices or one-item measures. This CFA model fit the data well: ($\chi 2$ [247] = 297.80, $p < .05$; RMSEA = .03, 95 % CI .014, .041; CFI = .97; SRMR = .06).

In the mediation models, brokering frequency for parents, brokering frequency for other family members, pro-language-brokering descriptive norms, and other risky behaviors were treated as indices and modeled as observed variables. Alcohol, cigarette, and marijuana use each had single-item measures. They also were treated as observed variables. All other constructs were modeled as latent composite variables with their errors fixed at (1-α) x variance—this allows one to control for measurement error, while accommodating the small sample size (Holbert and Stephenson 2002).

To test for moderation, seven mediation models were examined, each containing two interaction terms. Interactions were created by centering each brokering feeling or norm or efficacy variable and then multiplying each one by: (1) brokering for parents and (2) brokering for other family members, both of which also were centered (Aiken and West 1991). Each mediation model included brokering frequency for parents, brokering frequency for other family members, one of the brokering feelings or norms or efficacy variables, two interaction terms, depressive symptoms, family-based acculturation stress, substance use, and other risky behaviors. Simple slopes were obtained for significant interactions. Observed variables were used to represent the independent variables in the moderation models.

Results

Summary of Descriptive Statistics and Bivariate Correlations

The sample of Latino immigrant children in early adolescence reported a moderate level of brokering for parents, but lower levels of brokering for other family members. Thus, this sample's brokering frequency appeared to lean more toward occasionally-often for parents, but never-occasionally for other family members. This sample of

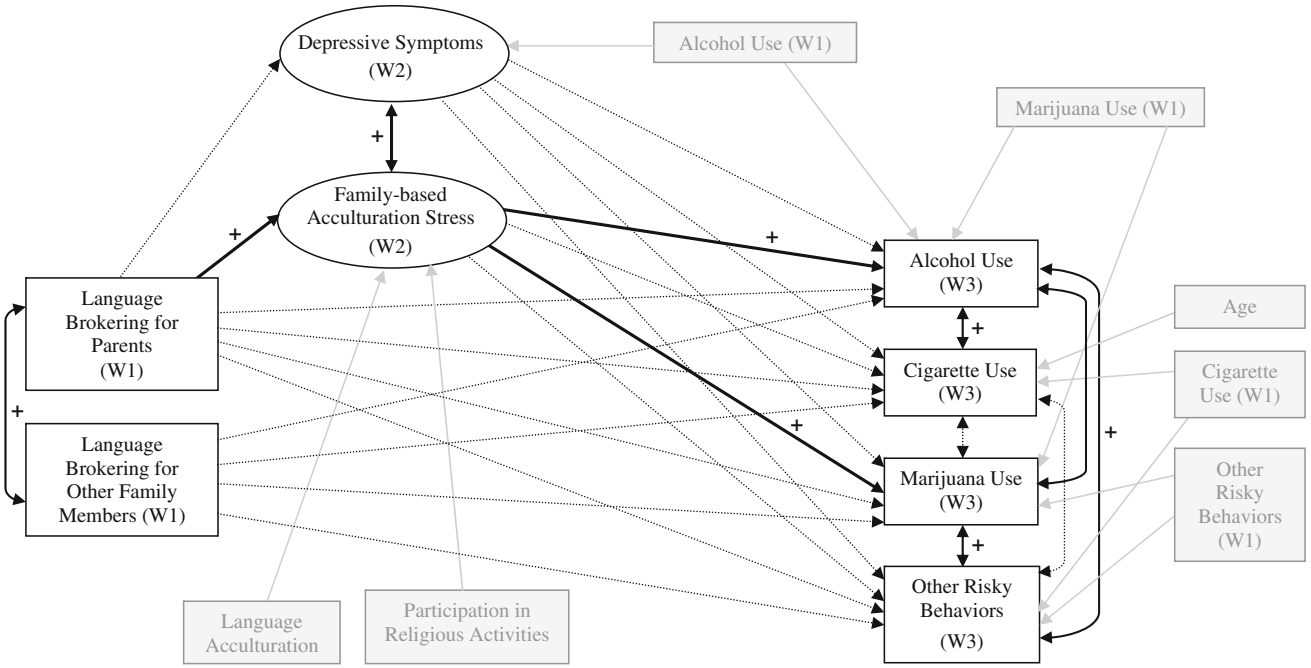

Fig. 1 Hypothesis 1: language brokering (LB) frequency for parents and other family members. *Note* The *bold* represents significant correlations and paths at $p < .05$. The *dashes* represent non-significant correlations and paths. The control variables are in *gray*. W1 = wave 1, W2 = wave 2, and W3 = wave 3

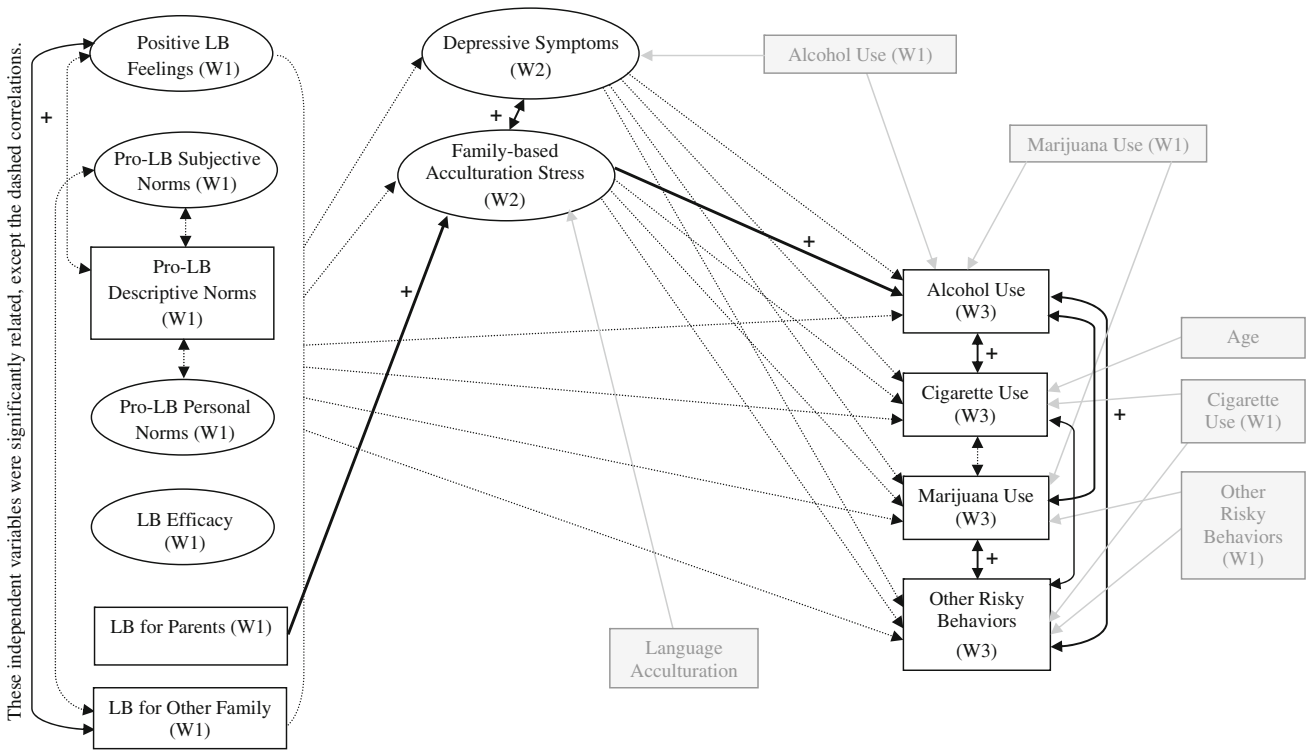

Fig. 2 Hypothesis 2: positive language brokering feelings and norms. *Note* The *bold* represents significant correlations and paths at $p < .05$. The dashes represent non-significant correlations and paths. The control variables are in *gray*. W1 = wave 1, W2 = wave 2, and W3 = wave 3

Latino immigrant children in early adolescence also appeared to have more positive feelings about brokering, reporting higher mean positive brokering feelings, norms, and efficacy compared to negative brokering feelings. They also reported low means for the adverse mental and behavioral health outcomes.

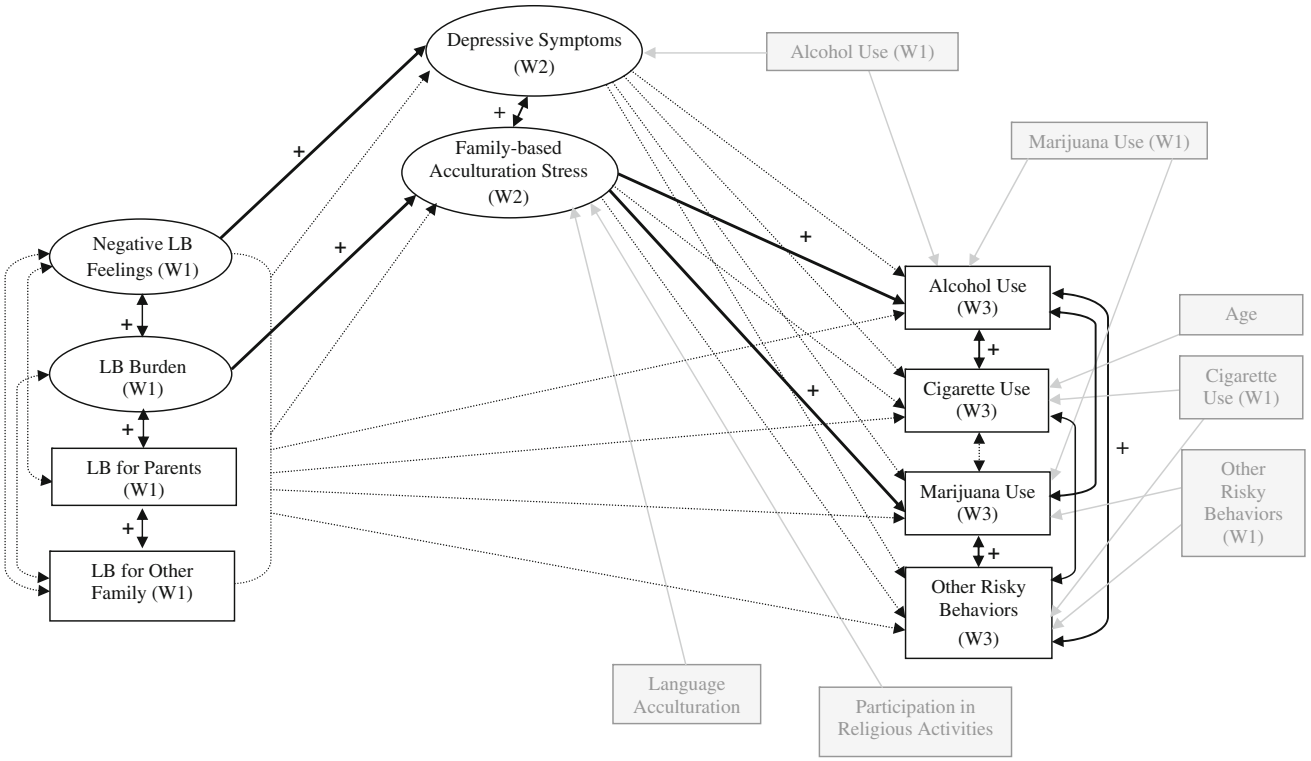

Fig. 3 Hypothesis 3: negative language brokering feelings. *Note* The *bold* represents significant correlations and paths at $p < .05$. The dashes represent non-significant correlations and paths. The control variables are in *gray*. W1 = wave 1, W2 = wave 2, and W3 = wave 3

Brokering frequency for parents was positively associated with all of the brokering variables, except descriptive norms and negative feelings. By contrast, brokering for other family members was only significantly related (in the positive direction) to brokering for parents and positive brokering feelings. This latter finding may be a result of the low mean of brokering for other family members. Positive brokering feelings were positively related to subjective norms, personal norms, and efficacy, but negatively related to alcohol use. Negative brokering feelings were positively related to brokering as a burden, depressive symptoms, and family-level acculturation stress, but negatively related to brokering efficacy. Neither brokering frequency for parents, nor brokering frequency for other family members were significantly related to any of the adverse mental and behavioral health outcomes.

H1: Language brokering frequency for parents and for other family members

As seen in Fig. 1, a mediation model was examined to determine whether brokering frequency for parents and other family members were indirectly related to substance use and other risky behaviors through depressive symptoms and family-based acculturation stress. This model fit the data acceptably: (χ^2 [31] = 57.93, $p < .01$; RMSEA = .06, 90 % CI .036, .085; CFI = .94; SRMR = .06). With the control variables, this model explained 6 % of the variance in depressive symptoms, 25 % of family-based acculturation stress, 43 % of alcohol use, 7 % of cigarette use, 57 % of marijuana use, and 57 % of other risky behaviors.

Brokering frequency for parents was positively related to family-based acculturation stress ($\beta = .28$, $b = .14$, $SE = .052$, $p < .05$). Furthermore, family-based acculturation stress was positively related to alcohol use ($\beta = .27$, $b = .76$, $SE = .321$, $p < .05$) and marijuana use ($\beta = .34$, $b = .68$, $SE = .313$, $p < .05$). No other direct paths were significant. The 95 % CIs revealed that brokering frequency for parents exhibited significant indirect effects on alcohol use and marijuana use through family-based acculturation stress (see Table 2). Brokering frequency for other family members did not exhibit significant effects, and depressive symptoms were not a significant mediator. Hence, H1 was partially supported.

H2: Positive language brokering feelings, norms, and efficacy

Figure 2 illustrates a second mediation model with positive brokering feelings, norms, and efficacy indirectly related to substance use and other risky behaviors through depressive symptoms and family-based acculturation

Table 2 Indirect effects

Indirect effects	Unstd 95 % CIs	Indirect effects	Unstd 95 % CIs
H1: Language brokering for parents		H2: Subjective brokering norms	
LBPARENT → DEPRESS → ALC	−.027, .024	SLBNORM → DEPRESS → ALC	−.932, .131
LBPARENT → DEPRESS → CIG	−.014, .014	SLBNORM → DEPRESS → CIG	−.547, .111
LBPARENT → DEPRESS → MAR	−.035, .031	SLBNORM → DEPRESS → MAR	−.739, .197
LBPARENT → DEPRESS → RISKY	−.006, .006	SLBNORM → DEPRESS → RISKY	−.137, .095
LBPARENT → STRESS → ALC	**.009, .250**	SLBNORM → STRESS → ALC	−.429, 1.427
LBPARENT → STRESS → CIG	−.070, .062	SLBNORM → STRESS → CIG	−.533, .269
LBPARENT → STRESS → MAR	**.005, .233**	SLBNORM → STRESS → MAR	−.369, 1.107
LBPARENT → STRESS → RISKY	−.004, .050	SLBNORM → STRESS → RISKY	−.095, .324
H1: Language brokering for other family		H2: Descriptive brokering norms	
LBOFAMIL → DEPRESS → ALC	−.118, .043	DLBNORM → DEPRESS → ALC	−.081, .168
LBOFAMIL → DEPRESS → CIG	−.042, .034	DLBNORM → DEPRESS → CIG	−.047, .098
LBOFAMIL → DEPRESS → MAR	−.112, .041	DLBNORM → DEPRESS → MAR	−.065, .131
LBOFAMIL → DEPRESS → RISKY	−.018, .013	DLBNORM → DEPRESS → RISKY	−.017, .023
LBOFAMIL → STRESS → ALC	−.356, .027	DLBNORM → STRESS → ALC	−.473, .015
LBOFAMIL → STRESS → CIG	−.082, .094	DLBNORM → STRESS → CIG	−.092, .186
LBOFAMIL → STRESS → MAR	−.330, .026	DLBNORM → STRESS → MAR	−.378, .088
LBOFAMIL → STRESS → RISKY	−.070, .008	DLBNORM → STRESS → RISKY	−.109, .008
H2: Positive language brokering feelings		H2: Personal brokering norms	
POSLB → DEPRESS → ALC	−.292, .064	PLBNORM → DEPRESS → ALC	−.133, .963
POSLB → DEPRESS → CIG	−.171, .044	PLBNORM → DEPRESS → CIG	−.115, .566
POSLB → DEPRESS → MAR	−.230, .069	PLBNORM → DEPRESS → MAR	−.204, .765
POSLB → DEPRESS → RISKY	−.042, .029	PLBNORM → DEPRESS → RISKY	−.098, .142
POSLB → STRESS → ALC	−.175, .388	PLBNORM → STRESS → ALC	−1.626, .377
POSLB → STRESS → CIG	−.142, .081	PLBNORM → STRESS → CIG	−.300, .614
POSLB → STRESS → MAR	−.133, .298	PLBNORM → STRESS → MAR	−1.269, .371
POSLB → STRESS → RISKY	−.038, .088	PLBNORM → STRESS → RISKY	−.371, .085

Bold print indicates a significant indirect effect. Unstd = unstandardized, CI = confidence interval, LBPARENT = language brokering frequency for parents, LBOFAMIL = language brokering frequency for other family members, POSLB = positive language brokering feelings, SLBNORM = pro-language-brokering subjective norms, DLBNORM = pro-language-brokering descriptive norms, DEPRESS = depressive symptoms, STRESS = family-based acculturation stress, ALC = alcohol use, CIG = cigarette use, MAR = marijuana use, RISKY = other risky behaviors

stress. This model fit the data well: (χ^2 [14] = 21.69, p = .09; RMSEA = .05, 90 % CI .000, .086; CFI = .99; SRMR = .01). With the control variables, this model explained 31 % of the variance in depressive symptoms, 40 % of family-based acculturation stress, 52 % of alcohol use, 24 % of cigarette use, 61 % of marijuana use, and 64 % of other risky behaviors. In this model with positive feelings, norms, and efficacy, brokering frequency for parents was significantly related to alcohol use through family-based acculturation stress, but it no longer exhibited a significant indirect effect on marijuana use. As seen in Fig. 2, none of the direct and indirect paths were significant for brokering feelings, norms, and efficacy. The 95 % CIs revealed that positive brokering feelings, norms, and efficacy did not exhibit significant indirect effects on substance use or other risky behaviors through depressive symptoms and family-based acculturation stress (see Tables 2, 3). Thus, H2 was not supported.

H3: Negative language brokering feelings

As seen in Fig. 3, a mediation model was examined to determine whether negative brokering feelings and brokering as a burden on one's time were indirectly related to substance use and other risky behaviors through depressive symptoms and family-based acculturation stress. This model fit the data acceptably: (χ^2 [31] = 54.87, $p < .01$; RMSEA = .06, 90 % CI .031, .082; CFI = .95; SRMR = .04). With the control variables, this model explained 17 % of the variance in depressive symptoms, 51 % of family-based acculturation stress, 43 % of alcohol use, 9 % of cigarette use, 58 % of marijuana use, and 59 % of other risky behaviors.

Table 3 Indirect effects

Indirect effects	Unstd 95 % CIs	Indirect effects	Unstd 95 % CIs
H2: Brokering efficacy		H3: Brokering as a burden on one's time	
LBEFFIC → DEPRESS → ALC	−.062, .316	LBTIME → DEPRESS → ALC	−.110, .144
LBEFFIC → DEPRESS → CIG	−.085, .238	LBTIME → DEPRESS → CIG	−.057, .072
LBEFFIC → DEPRESS → MAR	−.071, .249	LBTIME → DEPRESS → MAR	−.114, .149
LBEFFIC → DEPRESS → RISKY	−.031, .045	LBTIME → DEPRESS → RISKY	−.021, .019
LBEFFIC → STRESS → ALC	−.430, .140	**LBTIME → STRESS → ALC**	**.018, .976**
LBEFFIC → STRESS → CIG	−.082, .160	LBTIME → STRESS → CIG	−.196, .364
LBEFFIC → STRESS → MAR	−.333, .117	**LBTIME → STRESS → MAR**	**.046, .952**
LBEFFIC → STRESS → RISKY	−.098, .031	LBTIME → STRESS → RISKY	−.018, .207
H3: Negative brokering feelings		RQ1: Significant indirect effects of moderators	
NLBFEEL → DEPRESS → ALC	−.360, .060	**LBEFFIC*LBPAREN → STRESS → ALC**	**−.426, −030**
NLBFEEL → DEPRESS → CIG	−.190, .083	**LBTIME*LBPAREN → STRESS → ALC**	**.034, .466**
NLBFEEL → DEPRESS → MAR	−.365, .037	**LBTIME*LBPAREN → STRESS → MAR**	**.028, .428**
NLBFEEL → DEPRESS → RISKY	−.045, .053		
NLBFEEL → STRESS → ALC	−.487, .340		
NLBFEEL → STRESS → CIG	−.161, .121		
NLBFEEL → STRESS → MAR	−.483, .341		
NLBFEEL → STRESS → RISKY	−.099, .068		

Bold print indicates a significant indirect effect. Unstd = unstandardized, CI = confidence interval, LBEFFIC = language brokering efficacy, NLBFEEL = negative language brokering feelings, LBTIME = language brokering as a burden on one's time, DEPRESS = depressive symptoms, STRESS = family-based acculturation stress, ALC = alcohol use, CIG = cigarette use, MAR = marijuana use, and RISKY = -other risky behaviors

Negative brokering feelings were positively related to depressive symptoms ($\beta = .38$, $b = .46$, $SE = .172$, $p < .05$). Brokering as a burden on one's time was positively related to family-based acculturation stress ($\beta = .58$, $b = .48$, $SE = .189$, $p < .05$), and family-based acculturation stress was positively related to alcohol use ($\beta = .30$, $b = .84$, $SE = .372$, $p < .05$) and marijuana use ($\beta = .42$, $b = .87$, $SE = .327$, $p < .05$). Interestingly, the indirect effect of brokering frequency for parents on alcohol and marijuana use through family-based acculturation stress was no longer significant in this mediation model. Thus, when taking into account negative brokering feelings and brokering as a burden on one's time, brokering frequency for parents and other family members were not significant predictors.

With respect to indirect effects, the 95 % CIs revealed that (see Table 3) depressive symptoms were not a significant mediator. However, brokering as a burden on one's time was indirectly related to alcohol use and marijuana use through family-based acculturation stress. As Latino immigrant children in early adolescence perceived brokering as a burden on their time, they reported greater family-based acculturation stress, and in turn, increased alcohol and marijuana use. Thus, H3 received partial support.

RQ1: Language brokering feelings, norms, and efficacy as moderators?

Seven models were examined to determine whether positive brokering feelings, positive brokering norms (subjective, descriptive, and personal), brokering efficacy, negative brokering feelings, and brokering as a burden on one's time interacted with brokering frequency for parents and brokering frequency for other family members to predict depressive symptoms and family-based acculturation stress. Among all of the models, descriptive brokering norms, brokering efficacy, and brokering as a burden significantly interacted with brokering for parents. More specifically, descriptive brokering norms significantly interacted with brokering for parents to predict depressive symptoms ($\beta = -.17$, $b = -22$, $SE = .097$, $p < .05$), although depressive symptoms were not significantly related to substance use or other risky behaviors. The simple slopes revealed that for Latino immigrant children in early adolescence who were high in descriptive brokering norms, brokering for parents was not significantly related to depressive symptoms ($\beta = -03$, $b = -03$, $SE = .084$, $p = .77$). By contrast, for Latino immigrant children in early adolescence who were low in descriptive brokering norms, brokering for parents was marginally

positively related to depressive symptoms ($\beta = .17$, $b = .22$, $SE = .097$, $p = .09$). This mediation model with interactions fit the data well: (χ^2 [17] = 22.69, $p = .16$; RMSEA = .04, 90 % CI .000, .075; CFI = .99; SRMR = .02). Based on the fit statistics, as well as the AIC (6984.56) and BIC (7578.87) values, the mediation model with interactions appeared to fit the data better than the mediation-only model from H2 (AIC = 7405.36; BIC = 8079.15), meaning that moderation may be a better representation of the brokering process than the mediation-only model from H2.

Brokering efficacy significantly moderated brokering for parents' effects on family-based acculturation stress ($\beta = -26$, $b = -18$, $SE = .059$, $p < .05$), and in turn, family-based acculturation stress exhibited a positive effect on alcohol consumption ($\beta = .43$, $b = 1.103$, $SE = .426$, $p < .05$). This indirect effect was significant (see Table 3). In particular, the simple slopes revealed that for Latino immigrant children in early adolescence who were high in brokering efficacy, brokering for parents was not significantly related to family-based acculturation stress ($\beta = .09$, $b = .13$, $SE = .070$, $p = .22$). By contrast, for Latino immigrant children in early adolescence who were low in brokering efficacy, brokering for parents was positively related to family-based acculturation stress ($\beta = .43$, $b = .29$, $SE = .091$, $p < .01$). This mediation model with interactions fit the data well: (χ^2 [17] = 20.27, $p = .26$; RMSEA = .03, 90 % CI .000, .069; CFI = .99; SRMR = .02). Based on the fit statistics, as well as the AIC (7272.14) and BIC (7866.46) values, the mediation model with interactions appeared to fit the data better than the mediation model from H2 (AIC = 7405.36; BIC = 8079.15), meaning that moderation may be a better representation of the brokering process than the mediation-only model from H2.

Lastly, brokering as a burden on one's time significantly interacted with brokering frequency for parents to predict family-based acculturation stress ($\beta = .27$, $b = .21$, $SE = .079$, $p < .05$), and in turn, family-based acculturation stress predicted alcohol use ($\beta = .36$, $b = 1.02$, $SE = .391$, $p < .05$) and marijuana use ($\beta = .45$, $b = .93$, $SE = .366$, $p < .05$). The interaction exhibited a significant indirect effect on alcohol use and marijuana use through family-based acculturation stress (see Table 3). The simple slopes revealed that for Latino immigrant children in early adolescence who perceived brokering as a burden on one's time, brokering for parents was positively related to family-based acculturation stress ($\beta = .19$, $b = .26$, $SE = .075$, $p < .05$). By contrast, for Latino immigrant children in early adolescence who did not perceive brokering as a burden on one's time, brokering for parents was not significantly related to family-based acculturation stress ($\beta = -10$, $b = -07$, $SE = .080$, $p = .37$). This mediation model with interactions fit the data well: (χ^2 [31] = 55.87, $p < .01$; RMSEA = .06, 90 % CI .033, .083; CFI = .95; SRMR = .05). Based on the fit statistics, as well as the AIC (7023.04) and BIC (7568.98) values, the mediation model with interactions seemed to fit the data almost equivalently to the mediation-only model from H3 (AIC = 7034.93; BIC = 7515.22).

In summary, the mediation models (H1-H3) revealed that brokering for parents indirectly affected alcohol and marijuana use through family-based acculturation stress; however, these significant indirect effects became non-significant when taking into account negative brokering feelings and brokering as a burden on one's time. None of the positive brokering feelings, norms, or efficacy variables significantly predicted any of the dependent variables. However, moderation was assessed, and this study found that brokering for parents did not seem to function as a stressor when Latino immigrant children in early adolescence scored high in brokering descriptive norms or efficacy. In contrast, brokering for parents appeared to function as a stressor, placing Latino immigrant children in early adolescence at risk for family-based acculturation stress, and in turn, alcohol and marijuana use, but only when the early adolescents perceived brokering as a burden on their time.

Discussion

Prior research (e.g., Chao 2006; Love and Buriel 2007; Martinez et al. 2009) suggests that young language brokers may be at risk for a number of adverse mental and behavioral health outcomes. Although such studies have made substantial contributions to the literature on the well-being of immigrant families, much of the brokering research has relied on cross-sectional data, have only examined brokering's direct effects on health outcomes, and have mainly considered brokering in unidimensional ways. However, based on general strain theory and theory of planned behavior, the present study examined the direct and indirect effects of brokering, using longitudinal survey data from 234 Latino immigrant children in early adolescence. Moreover, this study assessed multiple dimensions of brokering and determined how their interactions predicted mental and behavioral health outcomes. In doing so, the results indicate that brokering for parents may or may not function as a stressor, depending on how Latino immigrant children in early adolescence *feel* about brokering. Such findings demonstrate the complex nature of brokering and the potential for informing culturally-grounded programs intended to enhance the well-being of immigrant families. The following section discusses these findings and their implications in greater detail.

When Does Brokering Function as a Cultural Stressor?

Following extant research and general strain theory (Kam 2011; Love and Buriel 2007), this study found that brokering for parents indirectly affected alcohol and marijuana use through family-based acculturation stress (H1). Nevertheless, this indirect effect became non-significant when taking into account negative feelings and brokering as a burden on one's time (H3). The moderation results for RQ1 may explicate why brokering for parents was no longer a significant predictor once negative feelings and burden were included in the mediation model. RQ1 inquired as to whether brokering feelings, norms, and efficacy would moderate the relationships between frequency of brokering and the adverse mental health outcomes. This study found that for Latino immigrant children in early adolescence who perceived brokering as a burden on their time, brokering for parents was positively related to family-based acculturation stress, and in turn, alcohol and marijuana use. No significant findings emerged for early adolescents who did not perceive brokering as a burden on their time. Kam (2011) found that among a sample of Mexican-heritage early adolescents, brokering for family was indirectly related to alcohol and other risky behaviors through family-based acculturation stress. The present study, however, revealed that the effects of brokering for parents may depend on the extent to which Latino early adolescents perceive brokering as a burden on their time, thereby preventing them from spending time with friends, doing their school work, or engaging in other activities. This finding extends past research that suggests that brokers are at risk for adverse mental and behavioral health outcomes by showing the complex nature of brokering. Although some researchers (e.g., Kam 2011; Love and Buriel 2007; Martinez et al. 2009) have found that frequency of brokering leads to adverse mental health outcomes, the present study reveals that such an effect may occur among a certain group of brokers. Thus, engaging in brokering, as a behavior, may not be as problematic as perceiving brokering as a burden on one's time. To date, only Wu and Kim (2009) and Weisskirch (2013) have examined brokering as a burden on one's time. Their studies, however, focused on predicting brokering as a burden, whereas the present investigation examined how that burden is related to health outcomes for Latino immigrant children in early adolescence.

In addition to moderation, results for H3 revealed that brokering as a burden on one's time also indirectly affected alcohol and marijuana use through family-based acculturation stress, but not depressive symptoms. This finding makes sense, given the conceptualization of family-based acculturation stress. In particular, family-based acculturation stress refers to stress arising from differences in cultural values between family members, such as feeling upset that one's parents are unfamiliar with US mainstream culture or feeling that one's parents believe the child is becoming too "Americanized" (Kam 2011). As Latino immigrant children in early adolescence believed that brokering interfered with their other activities, they were more likely to feel upset about their parents' lack of familiarity with US mainstream culture. In turn, Latino immigrant children in early adolescence were more likely to use alcohol and marijuana.

Unlike brokering as a burden on one's time, negative brokering feelings did not significantly interact with brokering for parents or for other family members, nor did it indirectly affect substance use and other risky behaviors. Nevertheless, negative brokering feelings exhibited a significant direct effect on depressive symptoms, which is concerning. Drawing from general strain theory (Agnew 2001), feeling embarrassed and nervous when brokering may function as a noxious stimulus, threatening Latino early adolescent's goal attainment (e.g., to broker without feeling embarrassed and nervous), and resulting in the removal of something that is positively valued (e.g., confidence and calmness). Thus, negative brokering feelings operate as a cultural stressor that is related to greater negative psychological reactions via depressive symptoms. Given the relative lack of research on perceptions of brokering, this finding is important because it further specifies when young brokers are more likely to develop negative health outcomes.

One point, however, worth noting with respect to negative brokering feelings is its non-significant indirect effects on substance use and other risky behaviors. Although negative brokering feelings were related to greater depressive symptoms, depressive symptoms were not significantly related to substance use or other risky behaviors. This study's non-significant mediation may be a result of excluding other negative psychological reactions that may have been more motivating of substance use and other risky behaviors. For example, Agnew (2001) suggested that anger may be a particularly strong negative emotion that links strains to delinquent behaviors such as substance use. Thus, negative brokering feelings may place Latino immigrant children in early adolescence at risk for substance use and other risky behaviors, but via other negative psychological reactions. Despite the non-significant mediation, negative brokering feelings were significantly related to greater depressive symptoms, which is a serious health concern for Latino immigrant children in early adolescence who broker.

When Does Brokering *Not* Function as a Cultural Stressor?

Although certain aspects of brokering can be harmful for Latino early adolescents' health, this study also used an

extended version of theory of planned behavior (Ajzen 1991; Kam et al. 2009) to identify potential protective factors (e.g., positive feelings, norms, and efficacy) that could act as a buffer against adverse health outcomes. This study, however, established little support for the direct and indirect effects of positive brokering feelings, norms, and efficacy on adverse mental health outcomes and risky behaviors. Instead, brokering descriptive norms and efficacy functioned as protective factors in the form of moderation.

More specifically, for Latino immigrant children in early adolescence who are high in descriptive brokering norms, brokering for parents was not significantly related to depressive symptoms; however, that association was marginally significant and in the positive direction for Latino early adolescents who were low in descriptive brokering norms. The extended version of the theory of planned behavior emphasizes the important role that various types of norms play in motivating one to engage in a particular behavior (Kam et al. 2009). With respect to brokering, perceptions of others engaging in the same behavior appears to be protective, more so than other types of norms. Thus, it is possible that although Latino early adolescents have people around them who think they should broker (i.e., subjective norms) and Latino early adolescents believe they should broker (i.e., personal norms), such norms may not matter as much as whether their friends and peers around them broker. This finding makes sense, given that individuals often face many behaviors that they think they should engage in, but may not want to carry out. Nevertheless, in seeing similar others participate in that same behavior, they may feel less opposed to engaging in that activity.

In addition to descriptive norms, feeling efficacious about brokering was a significant moderator. For Latino immigrant children in early adolescence who were high in brokering efficacy, brokering for parents was not significantly related to family-based acculturation stress, although that association was positive and significant for Latino early adolescents who were low in brokering efficacy. As anticipated, when Latino early adolescents felt confident about brokering and felt that brokering was easy, interpreting for parents was not significantly related to family-based acculturation stress. When, however, Latino early adolescents were low in confidence and ease, they were more likely to experience family-based acculturation stress the more often they brokered for parents. Naturally, if Latino early adolescents feel that brokering is easy, brokering for parents may have no impact on their family-based acculturation stress.

Theoretical and Practical Contributions

This study provides several theoretical and practical contributions to the literature on brokering, but more broadly, the well-being of Latino immigrant children in early adolescence. First, this study utilized multidimensional representations of brokering via brokering for parents, brokering for other family members, brokering feelings, brokering norms, and brokering efficacy. The findings illustrate the importance of considering multiple aspects of brokering. For example, the significant indirect effects of brokering for parents on alcohol and marijuana use disappeared when negative brokering feelings and brokering as a burden were included in the mediation model. Although several studies have identified brokering as a stressor, this study revealed that how Latino immigrant children in early adolescence *feel* about brokering largely matters. Thus, this study extends past research (Kam 2011) and general strain theory (Agnew 2001) by demonstrating how brokering for parents, as a behavior, leads to adverse health outcomes for Latino immigrant children in early adolescence based on certain feelings that they have about brokering. Such findings accentuate the importance of conceptualizing brokering as multidimensional to determine its diverse effects on young members of immigrant families.

With respect to the practical implications, many immigrant families have no choice but to rely on younger members to broker for them because of limited community resources. Thus, this study's findings suggest that efforts should be made to alleviate negative brokering feelings and the potentially burdensome nature of brokering. Hence, research in the future may examine factors that predict negative feelings about brokering and the perception of brokering as a burden on one's time, and in doing so, develop culturally-grounded programs and community resources to address such factors (Weisskirch 2013). Furthermore, educational campaigns could be developed to teach members of US mainstream culture how to competently interact in various brokering situations to help young members of immigrant families feel less nervous and anxious about brokering and to feel more efficacious about their brokering abilities. In addition, efforts may be made to normalize brokering in US mainstream culture by emphasizing that brokers are not alone, but others around them also broker. By promoting brokering efficacy and descriptive norms, while attenuating negative brokering feelings and brokering as a burden, young brokers may be more resilient to adverse mental and behavioral health outcomes.

Limitations and Future Research

This study found that brokering for parents played a significant role in Latino early adolescent's mental and behavioral health outcomes; however, brokering for other family members was not a significant predictor. One explanation is the low mean of brokering for other family members. This study's Latino early adolescents infrequently

brokered for family members other than their parents; therefore, the low mean may have led to non-significant findings. Similarly, when the participants in Tse's (1996) study were asked for whom they brokered, 92 % reported parents, followed by friends, relatives, and siblings, respectively. Thus, additional research is needed to determine the prevalence of brokering for parents and other social network members and to examine whether the impact of brokering on immigrant children's health outcomes differ based on people for whom they broker.

Another limitation to this study is in its inability to explain cigarette use or other risky behaviors. The finding may reflect this study's low mean cigarette use, which may have posed a challenge to detecting significance, whereas alcohol and marijuana use had larger means. More research is needed to fully understand the complexity of brokering experiences in relationship to substance use and other risky behaviors. Furthermore, efforts may be made to understand why certain substances may be more common among different populations by examining the cultural norms related to such substances.

When interpreting this study's findings, heterogeneity also should be acknowledged, which could influence the brokering experience. Most of this study's sample was of Mexican descent (89.3 %), with 10.7 % comprising of other Latino nationalities. Variations among Latinos exist with respect to culture, mental health, and risky behaviors (Umaña-Taylor et al. 2011). Experiences with brokering also may vary based on the broker's gender identity, birth order, English-language skills, parent–child relationship, and the family members' acculturation levels (Buriel et al. 1998; Morales and Hanson, 2005). Although many factors were taken into account during the analyses, this area of research would benefit from studying the variations in brokering that may lead to different health outcomes.

Another limitation to this study is its small sample size. This sample is unique compared to other studies on brokering because it includes longitudinal data from 234 Latino immigrant children in early adolescence. This type of sample is rare and difficult to obtain. Nevertheless, its small sample size may have presented a challenge to detecting significant results, given its limited power for complex models. To handle the small sample size, latent composites and observed variables were utilized. In the future, however, this area of research would benefit from obtaining a larger sample of language brokers.

Conclusion

This study revealed that having negative feelings about brokering and perceiving brokering as a burden on one's time were more concerning than merely brokering itself. Such negative feelings appeared to threaten the well-being of Latino immigrant children in early adolescence. By contrast, perceiving that other kids brokered and feeling efficacious in one's brokering abilities operated as protective factors, attenuating the positive relationships between brokering for parents and adverse mental health outcomes. Thus, incorporating a multidimensional representation of brokering is crucial to identifying when this phenomenon may or may not function as a cultural stressor. Given the growing cultural diversity in the US and elsewhere, pursuing this area of research is necessary for understanding brokering's diverse effects on immigrant families. The results of such studies can have major implications for the design of culturally-grounded programs intended to enhance the well-being of Latino immigrant children in early adolescence.

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Author contributions JK conceived of and designed the study, participated in its coordination, conducted the statistical analyses, participated in the interpretation of the data, and drafted the manuscript; VL participated in the interpretation of data and revision of the manuscript for important content. Both authors have read and approved the final manuscript in its entirety and approve the content to be published.

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