



Perceived Parenting Discrepancy Profiles, Feelings about Language Brokering, and Internalizing Symptoms among Mexican-origin Adolescents in Immigrant Families

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Abstract

While different patterns of perceived parenting discrepancy among mother-adolescent dyads have been shown to be associated with adolescent internalizing symptoms, little is known about the pathway underlying such associations, particularly among immigrant families. The current study considered one culturally salient form of mother-adolescent communication, language brokering (i.e., adolescents translating and interpreting between host and heritage languages for mothers), in order to investigate its mediating role based on two waves of longitudinal data on Mexican-origin immigrant families. Wave 1 included 604 adolescents (54% female; $M_{age} = 12.92$, $SD = 0.92$) and 595 mothers ($M_{age} = 38.89$, $SD = 5.74$); Wave 2 was collected one year later with data from 483 adolescents. Perceived parenting discrepancy patterns at Wave 1 were captured by three profiles based on the levels of both mothers' and adolescents' perceived positive parenting (i.e., *Mother High*, *Adolescent High*, and *Both High*). Compared to the other two profiles, adolescents who reported much lower positive parenting than mothers at Wave 1 (i.e., *Mother High*) experienced more negative feelings about brokering at Wave 2, relating to more anxiety. Being in the *Mother High* (vs. *Both High*) group was also directly related to more depressive symptoms one year later. This study highlights the importance of considering culturally salient forms of communication, such as language brokering, when designing family-level interventions to reduce adolescents' internalizing symptoms by building agreement on high positive parenting among mother-adolescent dyads from immigrant families.

Keywords Perceived parenting discrepancy · Language brokering · Internalizing symptoms · Adolescents · Mexican immigrant families

Introduction

Mothers and adolescents, as different members in the family system, may perceive their relationships differently, reflecting family functioning that is related to adolescent development. Specifically, discrepancies in perceived parenting have been shown to influence adolescent development,

beyond mothers' and adolescents' independent reports of parenting (e.g., Guion et al., 2009). However, little is known about the pathway for such an association. Understanding mother-adolescent interactions linking the association between perceived parenting discrepancy and adolescent development is critical for improving adolescent psychosocial well-being, especially for children in immigrant families who encounter multiple contextual stressors that may induce internalizing symptoms (e.g., Kim et al., 2018). One such potential interaction in immigrant families could be language brokering. Language brokering, or the translation and interpretation between a heritage language and English for English-limited parents, is a unique form of interaction/communication in the daily life of immigrant families, and is closely related to adolescent development (Kam & Lazarevic, 2014). Adolescents who understand their mothers better (i.e., low discrepancy in perceived parenting) and are in agreement with mothers about high levels of positive

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parenting may be more positively engaged in such interactions (i.e., have more positive and less negative feelings about brokering), which may be associated with lower internalizing symptoms. Thus, the current study considers a culturally salient mother-adolescent communication activity, language brokering, and explores whether such an activity could be a path through which early-adolescent perceived parenting patterns influence adolescent internalizing symptoms one year later in Mexican immigrant families.

Discrepancies in Perceived Parenting and Adolescents' Development

The Operations Triad Model (De Los Reyes & Ohannessian, 2016) recognizes the heterogeneity of discrepancies in perceived parenting and suggests that four different discrepancy patterns may have varied influences on adolescents' development. First, convergence in positive parenting perceptions indicates an agreement between adolescents and mothers, and a good match between maternal support and adolescent needs, leading to better adolescent adjustment (Hou et al., 2020). Second, adolescents and mothers may converge on low levels of positive parenting, suggesting that mothers and adolescents are both dissatisfied with the parenting relationship, which may relate to adolescents' internalizing symptoms (Hou et al., 2020). Third, mothers may report much higher levels of positive parenting than adolescents, suggesting that they may be unaware of adolescents' needs or are reluctant to change based on adolescents' needs. This may be a sign of family functioning problems that are related to adolescents' psychosocial maladjustment (Han et al., 2012; Leung & Shek, 2014). Finally, adolescents may overreport positive parenting relative to their mothers. Although this fourth pattern is not common, it is possible that with greater autonomy, perspective-taking ability, and empathy, adolescents may develop a better understanding of their mothers' sacrifice and thus report higher perceived positive parenting than their mothers. Such a discrepancy may reflect a typical developmental trajectory of adolescent cognition and therefore may be related to adaptive outcomes (Hou et al., 2018).

Although the Operations Triad Model (De Los Reyes & Ohannessian, 2016) posits four patterns of perceived parenting discrepancy, the emergence of each pattern depends on the developmental period and population of interest. A previous study (Wen et al., 2023) focusing on 604 Mexican immigrant families conducted latent profile analysis to reveal different mother-adolescent perceived positive parenting profiles based on six indicators (i.e., maternal warmth, maternal monitoring, and maternal inductive reasoning, as perceived by adolescents and mothers, respectively). The study identified only three profiles in early adolescence, namely: *Both High* (in perceived positive parenting; i.e., convergence upon high levels of positive

parenting in mothers and adolescents; 14.5%), *Adolescent High* (i.e., adolescents overreport positive parenting compared to mothers; 23.2%), and *Mother High* (i.e., mothers overreport positive parenting compared to adolescents; 62.3%). The fact that a *Both Low* profile failed to emerge in early adolescence highlights the importance of adopting a person-centered approach to consider perceived parenting perceptions, instead of a variable-centered approach that assumes the existence of all four patterns. The previous study has shown that being in the *Mother High* group is detrimental to academic competence compared to being in the *Both High* group, while being in the *Adolescent High* group is deleterious to academic achievement compared to being in the *Both High* group (Wen et al., 2023). The current study adopted the same sample and profiles from the previous study, extended the association to adolescents' internalizing symptoms, and further explored the potential pathway underlying associations.

In terms of pathways, the Operations Triad Model (De Los Reyes & Ohannessian, 2016) implies that discrepancies in perceived parenting may influence family dynamics through interpersonal interactions, which then influence adolescent development, including internalizing symptoms. For example, parents and adolescents who have more discrepant views on daily life topics perform worse in emotion recognition tasks (De Los Reyes et al., 2013), suggesting that discrepant views in mother-adolescent dyads may be related to interaction/communication difficulties. However, this previous study examined emotion recognition in experimental tasks, and few studies have considered specific communications within the family context, such as language brokering activities in immigrant families.

Feelings about Language Brokering as a Mediator

In daily life, mother-adolescent communications are complex, often requiring adolescents to manage different emotions, both negative and positive. In low-income immigrant families, mothers may rely on their adolescent children to translate/interpret between the heritage language and English for a wide range of items across different aspects of daily life (e.g., official documents and phone calls), an activity known as language brokering. Despite its importance in immigrant families, language brokering has been under-studied as a culturally salient form of mother-adolescent communication that may explain the influence of perceived parenting discrepancies on adolescent internalizing symptoms in immigrant families.

Adolescents' perceived parenting is related to their brokering experiences (e.g., Buriel et al., 2006; Roche et al., 2015; Sim et al., 2019). Mexican-origin adolescents with higher parental support experience fewer burdens related to brokering (Weisskirch, 2013) and those who have a closer

relationship with parents report higher self-efficacy (Kim et al., 2009) and experience lower burden (Kim, Hou, & Gonzalez, 2017). Despite the consistent findings based on adolescents' reports, studies also find that mother-reported warmth is not associated with adolescent-reported negative feelings related to brokering (Guntzviller & Wang, 2019), suggesting that mothers and adolescents may perceive parental warmth differently. Yet, the literature has not considered the association between perceived parenting discrepancy and feelings about brokering. By considering both mothers' and adolescents' perceived parenting, the perceived parenting discrepancy patterns likely reflect parenting and family functioning from a more comprehensive perspective, including adolescents' feelings about brokering. For example, congruent perceptions of high levels of positive parenting (i.e., *Both High*) may represent a synergy between mothers and children, reflecting the family's support for and encouragement of children acting as mediators between the two worlds of language and culture. Being able to translate for mothers can bring adolescents positive feelings, such as excitement, enthusiasm, and happiness, whereas discrepancies in perceived parenting might reflect the pressure adolescents experience when engaging in brokering activities. In case of mothers who are overly positive about their parenting in comparison to their adolescents' perceptions (i.e., *Mother High*), brokering might be more of an expectation, and adolescents may feel greater pressure and experience more negative feelings about language brokering. In addition, adolescents who report less positive parenting than their mothers (i.e., *Mother High*) may not be satisfied with maternal parenting, and feel they are not being understood by their mothers. Thus, they may experience more difficulties, as reflected by negative feelings (e.g., anger or sadness) when brokering.

The various feelings about brokering, such as excitement or embarrassment, may be directly related to adolescents' internalizing symptoms (Shen et al., 2022). Adolescents who experience more negative and less positive feelings about brokering may perceive brokering as a burden and experience increased internalizing symptoms (Kim, Hou, & Gonzalez, 2017). Adolescents' sociodemographic characteristics, such as gender, age, and nativity (Cruz et al., 2021), may also relate to their internalizing symptoms and thus need to be considered. Taken together, in immigrant families, feelings about brokering may serve as a unique mediator in the association between perceived parenting discrepancies and adolescents' subsequent internalizing symptoms.

The Current Study

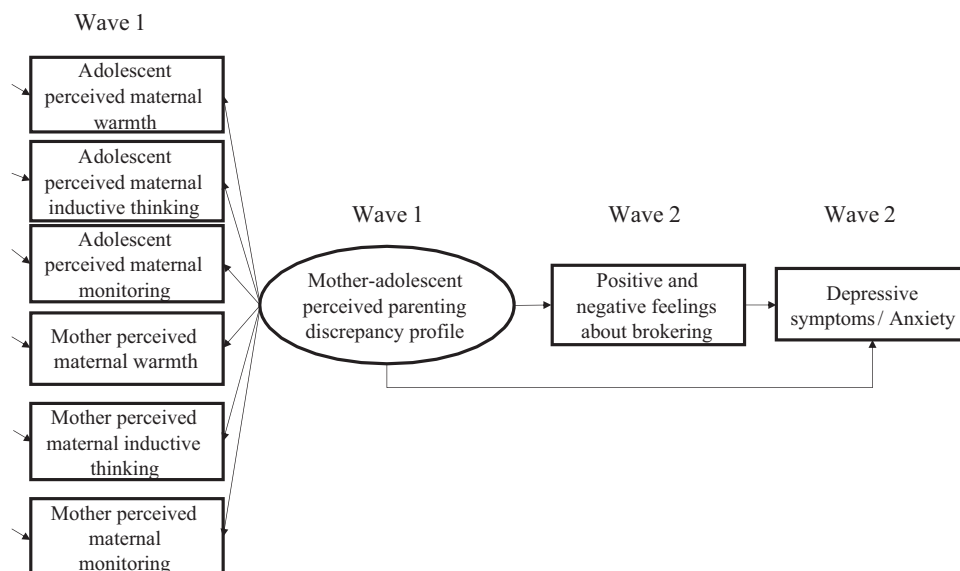
Understanding how perceived parenting discrepancy may influence adolescent internalizing symptoms through parent-

child communication/interaction is critical for revealing the impact of parenting on youth development within the family system. Yet, few empirical studies have tested this pathway and considered unique parent-child communications/interactions (i.e., language brokering) in immigrant families. The current study adopted the three profiles (i.e., *Both High*, *Mother High*, *Adolescent High*) identified in a previous study as a follow-up paper (Wen et al., 2023) to examine the mediation model from perceived parenting discrepancy profiles in early adolescence to internalizing symptoms one year later through feelings about language brokering (Fig. 1). Depressive symptoms and anxiety would be modeled together. Given that the predictor (i.e., perceived parenting discrepancy profile) is a categorical variable, two separate models would be conducted with the *Both High* group and the *Mother High* group each serving as the reference group, respectively. The current study hypothesized that there would be an indirect influence from the perceived parenting profile to adolescent internalizing symptoms through adolescents' feelings about brokering. That is, being in the *Mother High* group (versus *Both High*) in early adolescence would relate to more negative and less positive feelings about brokering one year later, which would be related to more internalizing symptoms.

Method

Participants and Procedure

Data used in the current study (Wave 1: 2012 to 2015; Wave 2: 2013 to 2016) were from a larger longitudinal study of Mexican immigrant families in a large city in central Texas. Families with at least one child in middle school who translated for parents between Spanish and English were recruited in the larger study. At Wave 1, 604 adolescents (54% female, 46% male; $M_{age} = 12.92$, $SD = 0.92$) and 595 mothers ($M_{age} = 38.89$, $SD = 5.74$) participated in the study. Most adolescents were born in the U.S. (75%), and nearly all mothers (99%) were born in Mexico. For adolescents born in Mexico, the average age of coming to live permanently in the US was 3.99; for mothers born in Mexico, the average age of coming to live permanently in the US was 23.31. Most mothers (67.3%) reported that the target adolescent is the person who translates the most frequently for them. The average family income ranged from \$20,001 to \$30,000. At Wave 2, 483 adolescents (55% female; $M_{age} = 13.72$, $SD = 0.90$) participated. The median maternal education was finished middle school (14.7% of mothers had less than an elementary school education, 30.5% had finished elementary but not middle school, 33% had finished middle school but not high school, and 21.8% had graduated from high school). Attrition analyses showed that families remaining in the study at Wave 2 reported

Fig. 1 Conceptual Model of the Current Study

higher maternal education levels ($t_{\text{mother}}(591) = 2.41$, $p < 0.05$) compared to families who participated only in Wave 1.

Data were collected through yearly interviews conducted by trained bilingual research assistants. Each question was translated into Spanish first and then back-translated to English by bilingual research assistants to check translation validity. In the formal interview, research assistants asked each question to participants in their preferred language and wrote down their answers on a laptop computer. Each family was compensated \$60 for participating in Wave 1 and \$90 for participating in Wave 2.

Measures

Mothers and adolescents reported positive parenting at Wave 1; adolescents reported feelings about language brokering and internalizing symptoms at Waves 1 and 2.

Parenting

Parental Warmth Parental warmth was measured via seven items in a seven-point Likert scale adapted from the Iowa Youth and Families Project (Ge et al., 1996) at Wave 1. For adolescents, sample items included, “Does your mother let you know that she really loves you?” ($\alpha = 0.91$). For mothers, sample items included, “Do you let your child know you really love him/her?” ($\alpha = 0.79$). Higher mean scores indicate greater perceived parental warmth.

Parental monitoring Parental monitoring was assessed via four items in a five-point Likert scale adapted from the Iowa Youth and Families Project (Ge et al., 1996) at Wave 1. For adolescents, sample items included, “Does your mother talk

to you about what is going on in your life?” ($\alpha = 0.77$). For mothers, sample items included, “Do you talk to your child about what is going on in his/her life?” ($\alpha = 0.64$). Higher mean scores indicate greater perceived parental monitoring.

Parental inductive reasoning Parental inductive reasoning was assessed via four items on a five-point Likert scale from the Iowa Youth and Families Project (Ge et al., 1996) at Wave 1. For adolescents, sample items included, “Does your mother ask you what you think before making decisions that affect you?” ($\alpha = 0.81$). For mothers, sample items included, “Do you ask your child what he/she thinks before making decisions that affect him/her?” ($\alpha = 0.67$). Higher mean scores indicate greater perceived parental inductive reasoning.

Brokering Experiences

Positive feelings about brokering Positive feelings about brokering were measured at Waves 1 and 2 via three items adopted from a previous study (Kim, Hou, Shen, et al., 2017). Adolescents self-reported the frequency of experiencing positive feelings during brokering on a scale ranging from 1 (*never*) to 7 (*always*). Positive feelings included enthusiastic, excited, or happy ($\alpha_{\text{Wave1}} = 0.88$; $\alpha_{\text{Wave2}} = 0.85$). Higher average scores represent more positive feelings about brokering.

Negative feelings about brokering Negative feelings about brokering were measured at Waves 1 and 2 by four items adopted from a previous study (Kim, Hou, Shen, et al., 2017). Adolescents self-reported the frequency of experiencing negative feelings during brokering on a scale ranging from 1 (*never*) to 7 (*always*). Negative feelings

included annoyed, sad, angry and embarrassed ($\alpha_{\text{Wave1}} = 0.69$; $\alpha_{\text{Wave2}} = 0.68$). Higher average scores represent more negative feelings about brokering.

Internalizing Symptoms

Depressive Symptoms Depressive Symptoms were measured by 20 items from the Epidemiologic Studies of Depression Scale (CES-D) (Radloff, 1977). Adolescents self-reported their depressed mood on a scale ranging from 1 (*rarely or none of the time*) to 4 (*most or all of the time*) at Wave 1 and Wave 2. Sample items included, “I felt people disliked me” ($\alpha_{\text{Wave1}} = 0.83$; $\alpha_{\text{Wave2}} = 0.84$). Higher average scores represent higher levels of adolescent depressive symptoms.

Anxiety Anxiety was measured by four items adapted from prior studies (Reynolds & Richmond, 1997). Adolescents self-reported their anxious mood for the past two weeks on a scale ranging from 1 (*not at all*) to 4 (*nearly every day*) at Wave 1 and Wave 2. Items were “feeling nervous”, “worrying about what is going to happen”, “trouble relaxing”, and “becoming easily annoyed or irritable” ($\alpha_{\text{Wave1}} = 0.75$; $\alpha_{\text{Wave2}} = 0.82$). Higher average scores represent greater adolescent anxiety.

Covariates

Adolescents’ nativity, gender, and age at Wave 2 were included as covariates, as they may be related to adolescent internalizing symptoms (e.g., Mendelson et al., 2008). Mothers’ highest education level was included as a covariate based on the results of attrition analysis. In addition, the current study included Wave 1 feelings about brokering and internalizing symptoms as the baseline control.

Analysis Plan

Analyses were conducted in SPSS 22.0 and Mplus 8.3 (Muthén & Muthén, 1998–2017) in two steps. The perceived parenting discrepancy profile was adopted from a previous study using latent profile analysis based on maternal and adolescent perceptions of positive parenting (i.e., maternal warmth, maternal monitoring, and maternal inductive reasoning). The optimal number of profiles (i.e., three profiles) was selected based on the conceptual meanings of each profile and the model indices. The three profiles were *Both High* (i.e., both mothers and adolescents reported high levels of positive parenting), *Mother High* (i.e., mothers reported higher positive parenting than adolescents), and *Adolescent High* (i.e., adolescents reported higher positive parenting than mothers). First, descriptive analysis and correlation of study variables were conducted in SPSS. Second, two mediation models were estimated to

examine the association from Wave 1 perceived parenting profile (*Both High* vs. *Mother High* as the reference group) to Wave 2 positive and negative feelings about language brokering to Wave 2 adolescents’ internalizing symptoms. Full information maximum likelihood (FIML) was used to handle missing data by including all available information, and Bootstrap with replication of 5000 was used to provide 95% confidence intervals of path coefficients.

Sensitivity Analysis

Two sets of sensitivity analysis were conducted. First, as the current study focused on the concurrent associations between brokering feelings and internalizing symptoms, the two constructs were measured at the same wave. While Language brokering feelings influence internalizing symptoms (e.g., Kim, Hou, & Gonzalez, 2017), adolescents with more internalizing symptoms may also develop negative biases in their interpretations of daily activities (Beck, 2002), which may lead them to report more negative and less positive feelings about language brokering. To test this potential alternative model, a sensitivity analysis was conducted to examine the path from perceived parenting profile at Wave 1 to internalizing symptoms at Wave 2 to feelings about language brokering at Wave 2. Second, while perceived parenting may influence feelings related to brokering, feelings about brokering may also influence perceived parenting, which may in turn influence adolescent internalizing symptoms. The alternative model examines the path from Wave 1 positive and negative feelings about brokering to Wave 2 perceived maternal warmth discrepancy to Wave 2 adolescent internalizing symptoms. Positive feelings about brokering ($\alpha_{\text{Wave1}} = 0.81$) and negative feelings about brokering ($\alpha_{\text{Wave1}} = 0.67$) were measured using the same scales as reported above. Wave 2 perceived parenting profiles were adopted from the previous study, which included the same profiles (i.e., *Both High*: 65.7%; *Mother High*: 26%; *Adolescent High*: 8.3%). The AIC, RMSEA, CFI, and path coefficients between the proposed model and the alternative model were compared to decide which model fit the data better.

Results

Table 1 displays the mean, standard deviation, and Pearson correlation of study variables. Overall, adolescent-reported positive parenting was positively related to positive feelings about brokering and negatively associated with negative feelings about brokering.

Table 2 and Fig. 2 show the results of the mediation model. Perceived parenting profile was associated with positive and negative feelings about brokering. Specifically, adolescents in the *Adolescent High* group (i.e., adolescents

Table 1 Descriptive Information and Correlation of Study Variables

	1	2	3	4	5	6	7	<i>N</i>	<i>M</i>	<i>SD</i>
1. Gender (0 = girl)	-							604	0.457	-
2. Nativity (0 = Mexico)	-0.022	-						604	0.753	-
3. Adolescent age	0.025	-0.180**	-					483	13.720	0.901
4. Maternal education	-0.001	-0.021	-0.108*	-				593	0.001	2.201
5. W1 parental warmth (A)	-0.095*	0.041	-0.051	-0.015	-			604	5.181	1.270
6. W1 parental inductive thinking (A)	-0.085*	-0.038	0.024	-0.042	0.644**	-		604	3.820	0.933
7. W1 parental monitoring (A)	-0.140**	-0.038	0.025	-0.006	0.575**	0.550**	-	604	4.079	0.824
8. W1 parental warmth (M)	0.015	0.047	-0.116*	-0.012	0.215**	0.069	0.091*	595	6.071	0.780
9. W1 parental inductive thinking (M)	0.005	0.002	-0.086	0.074	0.084*	0.008	0.086*	595	4.267	0.702
10. W1 parental monitoring (M)	-0.037	0.001	-0.059	0.134**	0.147**	0.011	0.162**	595	4.653	0.500
11. W1 negative feelings about brokering	-0.207**	-0.038	0.026	0.078	-0.156**	-0.089*	-0.153**	603	2.108	0.962
12. W1 positive feelings about brokering	-0.034	0.034	-0.196**	-0.038	0.292**	0.167**	0.096*	603	2.928	1.502
13. W1 anxiety	-0.101*	-0.023	-0.003	0.055	-0.181**	-0.131**	-0.192**	603	1.692	0.613
14. W1 depressive symptoms	-0.083*	-0.071	-0.087	0.053	-0.318**	-0.235**	-0.306**	604	1.562	0.385
15. W2 negative feelings about brokering	-0.147**	0.019	-0.070	0.065	-0.139**	-0.108*	-0.128**	482	2.039	0.908
16. W2 positive feelings about brokering	0.014	0.046	-0.115*	0.032	0.228**	0.141**	0.110*	482	2.575	1.399
17. W2 anxiety	-0.192**	-0.105*	0.020	0.093*	-0.172**	-0.114*	-0.080	483	1.720	0.651
18. W2 depressive symptoms	-0.187**	-0.092*	-0.042	0.048	-0.265**	-0.221**	-0.183**	483	1.547	0.388
	8	9	10	11	12	13	14	15	16	17
9. W1 parental inductive thinking (M)	0.552**	-								
10. W1 parental monitoring (M)	0.428**	0.476**	-							
11. W1 negative feelings about brokering	-0.038	-0.005	0.002	-						
12. W1 positive feelings about brokering	-0.007	-0.037	-0.019	0.062	-					
13. W1 anxiety	-0.083*	-0.005	-0.049	0.408**	0.035	-				
14. W1 depressive symptoms	-0.058	-0.032	-0.108**	0.400**	0.007	0.610**	-			
15. W2 negative feelings about brokering	-0.014	-0.018	-0.063	0.476**	0.039	0.311**	0.308**	-		
16. W2 positive feelings about brokering	0.100*	0.060	0.108*	-0.029	0.472**	-0.011	-0.092*	0.068	-	
17. W2 anxiety	-0.038	0.023	-0.042	0.268**	0.036	0.507**	0.410**	0.345**	-0.022	-
18. W2 depressive symptoms	-0.035	-0.020	-0.032	0.198**	0.005	0.404**	0.529**	0.271**	-0.089	0.625**

W Wave, A Adolescent report, M Mother report;

* $p < 0.05$, ** $p < 0.01$

overreported positive parenting compared to mothers) in early adolescence experienced lower levels of positive feelings about brokering one year later compared to those in the *Mother High* (i.e., mothers overreported positive parenting compared to adolescents) and *Both High* (i.e., convergence on high levels of positive parenting) groups; Adolescents in the *Mother High* group in early adolescence experienced more negative feelings about brokering one year later compared to those in the other two groups (i.e., *Adolescent High* and *Both High*). Negative, but not positive, feelings about brokering were related to internalizing symptoms. That is, adolescents who reported more negative feelings about brokering also experienced more depressive symptoms and anxiety. The indirect path from perceived parenting profile to anxiety was significant through negative feelings about brokering. Specifically, compared to

adolescents in the *Mother High* Group, those in the *Both High* or *Adolescent High* groups experienced less negative feelings about brokering one year later, which related to lower levels of anxiety (Both High vs. Mother High: b (SE) = -0.030 (0.015), $p = 0.048$; Adolescent High vs. Mother High: b (SE) = -0.041 (0.020), $p = 0.038$). In addition, there was a direct effect of perceived parenting profile on depressive symptoms one year later. Being in the *Mother High* group was directly related to more depressive symptoms one year later compared to being in the *Both High* group. The R-square result shows that 28.5% of the variance in Wave 2 depressive symptoms and 28.6% of the variance in Wave 2 anxiety were explained by this model.

Table 3 shows the results of the first set of the sensitivity analysis that examines the path from Wave 1 perceived parenting discrepancy to Wave 2 internalizing symptoms to

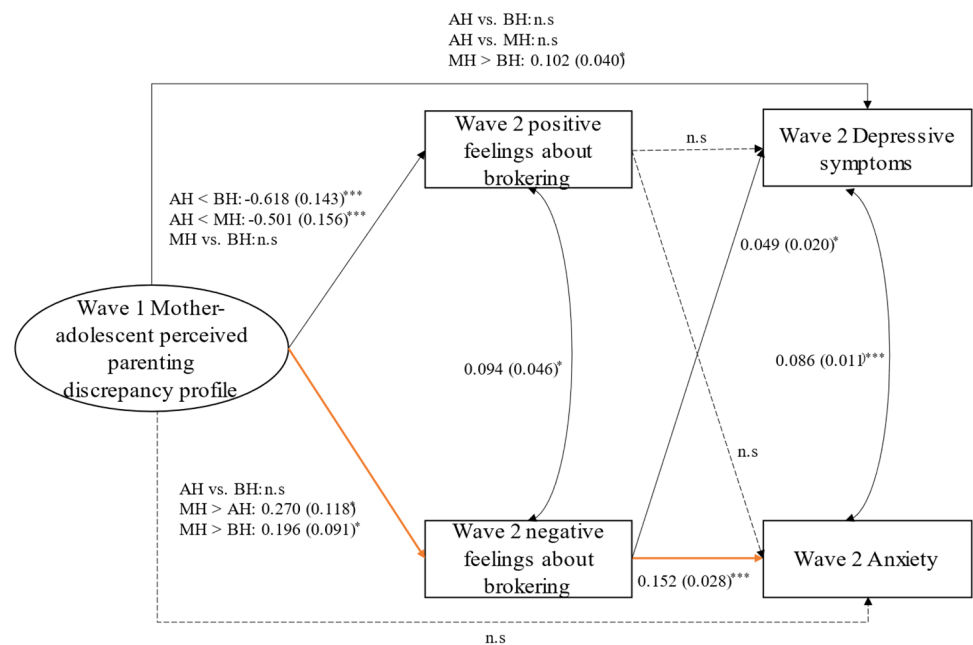
Table 2 Direct and Indirect Effects from Parenting Profile to Adolescent Internalizing Symptoms

Medication Path	Indirect	Direct	Total
<i>Adolescent High vs. Both High → Depressive Symptoms</i>	0.004 (0.009)	0.014 (0.043)	0.019 (0.043)
through negative feelings about brokering	−0.004 (0.006)		
through positive feelings about brokering	0.008 (0.007)		
<i>Adolescent High vs. Mother High → Depressive Symptoms</i>	−0.007 (0.010)	−0.087 (0.052)	−0.094 (0.052)
through negative feelings about brokering	−0.013 (0.008)		
through positive feelings about brokering	0.007 (0.006)		
<i>Mother High vs. Both High → Depressive Symptoms</i>	0.011 (0.007)	0.102 (0.040)*	0.113 (0.040)**
through negative feelings about brokering	0.010 (0.006)		
through positive feelings about brokering	0.002 (0.002)		
<i>Adolescent High vs. Both High → Anxiety</i>	−0.004 (0.018)	0.027 (0.075)	0.022 (0.077)
through negative feelings about brokering	−0.011 (0.016)		
through positive feelings about brokering	0.007 (0.011)		
<i>Adolescent High vs. Mother High → Anxiety</i>	−0.035 (0.021)	0.040 (0.086)	0.005 (0.088)
through negative feelings about brokering	−0.041 (0.02)*		
through positive feelings about brokering	0.006 (0.009)		
<i>Mother High vs. Both High → Anxiety</i>	0.031 (0.015)*	−0.013 (0.063)	0.018 (0.065)
through negative feelings about brokering	0.030 (0.015)*		
through positive feelings about brokering	0.001 (0.003)		

Significant indirect paths are bolded

* $p < 0.05$, ** $p < 0.01$

Fig. 2 Mediation Model from Perceived Parenting Profile to Feelings about Brokering to Adolescent Internalizing Symptoms. AH Adolescent High group, BH Both High group, MH Mother High group, n.s nonsignificant. Significant paths are shown in solid lines. Insignificant paths are shown in dotted lines. Significant indirect paths are in bold orange color. 90% confidence interval of Root Mean Square Error of Approximation (RMSEA)= [0.033, 0.067]. Comparative Fit Index (CFI) = 0.962. Tucker–Lewis Index (TLI) = 0.913. Standardized Root Mean Square Residual (SRMR) = 0.031. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$



Wave 2 feelings about language brokering (RMSEA = 0.061, 90% CI = [0.044, 0.079], CFI = 0.949, TLI = 0.881). Overall, there was a significant direct influence of perceived parenting profile to positive and negative feelings about brokering after accounting for the path through internalizing symptoms. This suggests a close association of perceived parenting profiles and

feelings about brokering, as proposed in the main model. However, there was no significant indirect path from perceived parenting profile at Wave 1 to adolescent internalizing symptoms at Wave 2 to feelings about language brokering at Wave 2. This suggests that internalizing symptoms were not mediators that connected perceived parenting profiles to

Table 3 Sensitivity Analysis of Direct and Indirect Effects from Parenting Profile to Feelings about Language Brokering

Medication Path	Indirect	Direct	Total
Adolescent High vs. Both High → Negative Feelings about Brokering	0.007 (0.026)	−0.082 (0.096)	−0.075 (0.100)
through depressive symptoms	0.002 (0.008)		
through anxiety	0.006 (0.023)		
Adolescent High vs. Mother High → Negative Feelings about Brokering	−0.002 (0.034)	−0.241 (0.117)*	−0.243 (0.118)*
through depressive symptoms	−0.007 (0.016)		
through anxiety	0.005 (0.027)		
Mother High vs. Both High → Negative Feelings about Brokering	0.010 (0.028)	0.158 (0.095)	0.168 (0.092)
through depressive symptoms	0.009 (0.018)		
through anxiety	0.001 (0.019)		
Adolescent High vs. Both High → Positive Feelings about Brokering	−0.006 (0.018)	−0.574 (0.147)***	−0.580 (0.146)***
through depressive symptoms	−0.007 (0.019)		
through anxiety	0.001 (0.011)		
Adolescent High vs. Mother High → Positive Feelings about Brokering	0.032 (0.027)	−0.524 (0.165)**	−0.492 (0.161)**
through depressive symptoms	0.030 (0.027)		
through anxiety	0.001 (0.013)		
Mother High vs. Both High → Positive Feelings about Brokering	−0.037 (0.025)	−0.050 (0.136)	−0.088 (0.130)
through depressive symptoms	−0.037 (0.027)		
through anxiety	<0.001 (0.009)		

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

feelings about language brokering. Thus, the results of the sensitivity analysis provide evidence that the proposed mediational model, from perceived parenting discrepancy to feelings about language brokering to internalizing symptoms, is a more tenable model.

For the second set of sensitivity analyses, the alternative models show poor to acceptable model fits when *Mother High* is the reference group (RMSEA = 0.156, 90% CI = [0.131, 0.183], CFI = 0.760, TLI = 0.109) and when *Both High* is used as the reference group (RMSEA = 0.066, 90% CI = [0.040, 0.095], CFI = 0.948, TLI = 0.805) for the mediator (i.e., perceived parenting profile) of Wave 1 feelings about language brokering and Wave 2 internalizing symptoms. These model fit indices suggest that the alternative model fits the data worse than the proposed model (RMSEA = [0.033, 0.067], CFI = 0.962, TLI = 0.913). When *Both High* is used as the reference group, the results show that adolescents who experienced more negative feelings about brokering (b (SE) = 0.082 (0.021), $p < 0.001$) or less positive feelings (b (SE) = −0.035 (0.013), $p = 0.006$) were more likely to be in the *Mother High* group than in the *Both High* group at Wave 2. Compared to being in the *Both High* group, being in the *Mother High* group at Wave 2 was related to more depressive symptoms (b (SE) = 0.228 (0.039), $p = < 0.001$) and anxiety (b (SE) = 0.168 (0.067),

$p = 0.012$) at Wave 2. There was an indirect influence from negative feelings about brokering at Wave 1 to being in the *Mother High* group versus the *Both High* group at Wave 2 and then to Wave 2 depressive symptoms (b (SE) = 0.046 (0.014), $p = 0.001$) and anxiety (b (SE) = 0.020 (0.009), $p = 0.032$). Another significant indirect path was from Wave 1 positive feelings about brokering to being in the *Mother High* group versus the *Both High* group at Wave 2 and then to lower Wave 2 depressive symptoms (b (SE) = −0.031 (0.012), $p = 0.013$). As the model fit is poor for the model when *Mother High* is the reference group, results comparing the *Mother High* and *Adolescent High* groups are not interpretable and thus are not reported.

Discussion

While discrepancies in perceived parenting are common and the influence of these discrepancies on adolescent well-being has been well-documented (De Los Reyes et al., 2013; Hou et al., 2020), the pathway underlying such an association is relatively unknown, particularly for low-income Mexican immigrant families that are under-represented in family studies. As one of the first studies investigating this pathway in immigrant families - a large

and growing population in the U.S. (Pew Research Center, 2020) - the current study reveals that feelings about language brokering, a unique and vital form of communication among immigrant families, can be a mediator between discrepancies in parenting and adolescent internalizing symptoms. In partial alignment with the hypotheses, compared to *Both High* and *Adolescent High* groups, youth in the *Mother High* group experienced higher levels of negative feelings about brokering one year later, which related to higher levels of anxiety.

Findings demonstrate that having discrepant parenting perceptions has nuanced effects on different valences of feelings about language brokering. Specifically, adolescents in the *Mother High* group reported experiencing more negative feelings about brokering one year later compared to the other two groups. Comparatively, those in the *Adolescent High* group experienced lower levels of positive feelings about brokering compared to the other two groups. The findings highlight the importance of considering positive and negative feelings about brokering separately by showing the different influences of being in the *Mother High* and *Adolescent High* group on negative and positive feelings about brokering, respectively. When mothers reported much higher positive parenting than adolescents (i.e., *Mother High* group), this may reflect a discrepancy in which mothers are confident about their parenting practices, while adolescents' needs for parenting are not fulfilled (Han et al., 2012; Leung & Shek, 2014). In such cases, mothers might believe that they are providing positive parenting, but adolescents might not share this perspective, leading to difficulties in mother-adolescent communications that are reflected in more negative feelings about brokering. Relatedly, considering that the *Adolescent High* group may reflect adolescents' development in autonomy (De Los Reyes & O'Hanessian, 2016), it may be that adolescents in this profile show their independence by being emotionally disengaged during language brokering, which is then reflected in the lowest positive feelings among the groups. It is also possible that mothers in the *Adolescent High* group may not be very responsive or positively engaged in the communication (i.e., language brokering), as they perceive their parenting relationships less positively, leading to lower levels of positive feelings about brokering compared to the other two groups. In addition, it is worth noting that adolescents who were in agreement with their mothers on high levels of positive parenting (i.e., *Both High* group) reported both high levels of positive feelings about brokering and low levels of negative feelings about brokering. For the great proportion of adolescents who agree with their mothers about high levels positive parenting, the emotional experience of acting as the family translator (i.e., language broker) may be linked to fewer internalizing symptoms.

Overall, the longitudinal influence of perceived parenting discrepancy on feelings about brokering aligns with the

communal coping model, which suggests that coping (e.g., emotional responses) around family-level stress may be influenced by the family context (Afifi et al., 2006). Language brokering, which is one way adolescents facilitate families' adaptation to the mainstream US culture, can be considered a form of communal coping in mother-adolescent dyads (Kam et al., 2017). That is, the emotions experienced while brokering may be influenced by the mother-adolescent relationship, as reflected in the perceived parenting discrepancy profiles. For example, compared to dyads with discrepant perceptions of parenting, mother-adolescent dyads who agree on positive parenting may easily establish communal goals for brokering during communications, viewing brokering as a shared responsibility for both mothers and adolescents. Adolescents who have such communal goals of brokering with mothers may find brokering to be more meaningful, thus endorsing more positive and less negative feelings about brokering. It is worth noting that the second set of sensitivity analyses (i.e., the pathway from feelings about language brokering to perceived parenting discrepancy to internalizing symptoms) showed that feelings related to brokering may also influence perceived parenting discrepancy. Adolescents who experience more negative and less positive feelings about brokering may view brokering as a burden and as an adult task that falls outside the scope of their expected role as a child in the family. Adolescents reporting these more negative (and less positive) experiences with brokering may not be satisfied with maternal parenting practices and thus perceive lower levels of positive parenting than their mothers (i.e., are in the *Mother High* group). The potential reciprocal associations between feelings about language brokering and perceived parenting discrepancy merit future investigations".

Finally, since mothers overreporting positive parenting in early adolescence was associated with negative feelings about brokering one year later, it is important to note that these negative feelings were associated with more internalizing symptoms. Though some parents might have positive perceptions of parenting, this positive sentiment might not be shared by all adolescents who serve as language brokers (Kim et al., 2017). Such discrepancies in perceived parenting may lead to negative feelings about brokering, such as sadness, embarrassment, or anger, which might trigger more internalizing symptoms in adolescents. Adolescents who feel pressured to take on the adult-like responsibility and being accurate while brokering may engage in this task with more negative emotions, such as embarrassment. Such emotions may come with a feeling of resentment and the perception of brokering as a burden, which may be related to more anxiety. Although past literature suggests that internalizing symptoms may influence perceptions of daily activities (Beck, 2002), and thus

internalizing symptoms may serve as a mediator in the association between perceived parenting profiles and feelings about language brokering, this indirect path was not significant in the current study. The sensitivity analysis only reveals a close association between the perceived parenting profile and feelings about language brokering, providing support for the notion that feelings about brokering are a proximate outcome of perceived parenting discrepancy. The findings may therefore influence future interventions geared toward the parent-adolescent brokering relationship. Specifically, future studies might benefit from exploring ways to intervene in the dyadic discrepancy, to eliminate the negative impacts this discrepancy might have on negative feelings about brokering later on, given that these lead to internalizing symptoms. Moreover, it is worth noting that although negative feelings about brokering were associated with more anxiety and depressive symptoms, the indirect path from parenting discrepancy profiles was significant only for anxiety, while there was a direct path from parenting discrepancy profiles to depressive symptoms. This suggests that anxiety may be closely related to brokering activities as an immediate response to negative feelings about brokering, while depressive symptoms may be a relatively long-term and direct outcome for adolescents who perceive much lower levels of positive parenting than their mothers do in early adolescence.

This study went beyond previous studies investigating the association between perceived parenting discrepancies and adolescent internalizing symptoms, and is one of the first to reveal the pathway underlying this association in immigrant families: namely, language brokering, which plays a mediating role as a culturally salient form of mother-adolescent communication. Further, this study highlights the importance of differentiating between negative and positive feelings about brokering, making it clear that experiencing more positive feelings about brokering does not necessarily equate to endorsing fewer negative feelings, as positive and negative feelings may co-exist. Specifically, adolescents in the *Mother High* group (in which adolescents reported less positive parenting than mothers) experienced not only high levels of positive feelings but also high levels of negative feelings associated with brokering. However, given these strengths, there are still some limitations to this work. This sample consisted of only low-income Mexican immigrant families in central Texas. Therefore, inferences about other populations are limited. Future studies should incorporate more diverse immigrant samples from various geographic regions. Further, as the current study demonstrated that negative, not positive, feelings about brokering were related to internalizing outcomes, future studies should also incorporate positive outcomes to show the variations in adolescent wellbeing. Further, this study assessed mother-adolescent dyads only, which means that the findings may

not be generalized to reflect the brokering process between adolescents and other family members, such as fathers. In addition, some prior work has demonstrated that the adolescents' brokering experience may vary depending on how old brokers are compared to their siblings (Villanueva & Buriel, 2010). Future studies could include adolescent birth order and extend the current study to examine whether the demonstrated association differs by birth order. Also, the current study considered several positive and negative feelings associated with brokering, but emotions related to brokering can be complex and heterogeneous. For example, adolescents may also experience other positive feelings like pride and a sense of purpose in brokering. Future studies could incorporate different aspects of positive and negative feelings, or distinguish additional aspects of feelings to examine how perceived parenting may be related to feelings about brokering. Lastly, the current study focused on positive parenting practices; however, it is important to note that an absence of positive parenting does not necessarily imply the presence of negative parenting practices, such as parental hostility. Future studies could consider investigating both positive and negative parenting and compare the differences between them.

Conclusion

Discrepancies in perceived parenting between mothers and adolescents have been shown to impact adolescents' adjustment, but the underlying pathways in which this impact happens within the family system is unclear, particularly in ethnic minority immigrant families. The current study reveals how adolescents in mother-adolescent dyads with discrepancies in perceived parenting develop different feelings about brokering later on, leading to varied levels of internalizing symptoms among adolescents in Mexican immigrant families. This study extends the Operations Triad model, which discusses the influence of discrepant views of family functioning by parents and children on youth development, by revealing how familial dynamics (i.e., perceived parenting discrepancy influencing feelings about language brokering) may influence adolescent internalizing symptoms. The findings suggest a profound mediating role of adolescent negative feelings about brokering in linking perceived parenting discrepancy (i.e., *Mother Higher* vs. *Both High* and *Adolescent High*) and adolescent internalizing symptoms. The findings highlight the importance of establishing mother-adolescent agreement on high levels of positive parenting (e.g., parental warmth, inductive reasoning, and monitoring), which may create a synergy between mothers and adolescents in realizing and achieving the goals of specific language brokering interactions. Such synergy can motivate adolescents to engage in brokering

with more positive and less negative feelings, which in turn results in fewer internalizing symptoms of adolescents.

Authors' Contributions W.W. participated in conceptualizing the study, conducted statistical analyses, and drafted part of the manuscript; S.L. drafted part of the study and participated in the conceptualization; S.Y.S. participated in conceptualizing the study, interpreting the results, and providing critical reviews of the manuscript; C.S.T. participated in the interpretation of the results and provided a critical review of the manuscript; K.S.Y. designed the larger project, collected data, participated in the conceptualization of the current study and interpretation of the results, and provided reviews of the manuscript. All authors read and approved the final manuscript.

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Data Sharing and Declaration Data for this manuscript will not be deposited. Data from this study are not available because the sample is a vulnerable population living in a limited geographic area that might be identified based on the data.

Compliance with Ethical Standards

Conflict of Interest The authors declare no competing interests.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. All study materials and procedures were approved by the institutional review board at the University of Texas at Austin (2015010006).

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

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