

American Psychologist

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Online First Publication, October 3, 2022. <http://dx.doi.org/10.1037/amp0001035>

CITATION

Shen, Y., Seo, E., Jiles, A. I., Zheng, Y., & Wang, Y. (2022, October 3). Language Brokering and Immigrant-Origin Youth's Well-Being: A Meta-Analytic Review. *American Psychologist*. Advance online publication. <http://dx.doi.org/10.1037/amp0001035>

Language Brokering and Immigrant-Origin Youth's Well-Being: A Meta-Analytic Review

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Youth from immigrant families often translate or interpret materials for their parents who lack proficiency in the dominant language of the mainstream society. However, evidence remains mixed regarding whether such a language brokering role is promotive or disruptive for youth's well-being. This meta-analysis synthesized 65 studies (1,242 effect sizes, 17,791 individuals; grand $M_{age} = 16.68$, $SD_{age} = 4.78$) to examine whether, how, and when brokering frequency and feelings were related to well-being. Language brokering frequency was inversely associated with youth's positive family relationships ($r = -.10$) and socioemotional outcomes ($r = -.10$) and positively related to youth's acculturation stress ($r = .06$). However, positive or negative language brokering feelings were stronger predictors of youth's well-being or maladjustment ($|r| = .10-.29$). The associations between language brokering frequency and youth's adjustment also varied across subgroups, with the effects of frequent language brokering being more detrimental for European immigrant-origin (vs. Latinx), female (vs. male), and foreign-born (vs. native-born) youth. These findings underscore the need for a nuanced understanding of the impacts of youth language brokering. Finally, practical and policy implications are discussed.

Public Significance Statement


This meta-analysis suggests that youth from immigrant families who frequently translate materials for their families are at slightly higher risk of experiencing problems in family relationships and mental health. However, all youth are not equally affected, and youth's positive (or negative) subjective feelings about their translating experiences can better predict their (mal)adjustment, suggesting that targeted, coping-based interventions may be needed particularly for those youth negatively impacted by their translator role.


Keywords: language brokering, meta-analysis, immigrant-origin youth

Supplemental materials: <https://doi.org/10.1037/amp0001035.supp>

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Preliminary results of this study were presented at the biennial meeting of the Society for Research in Child Development in Baltimore, Maryland, USA, in 2019. The data or the narrative interpretations of the data have not been disseminated elsewhere. The authors would like to thank the research assistant, Dorothy Clare Walt, for double-coding the data, as well as all the authors for providing their correlation data to be included in this meta-analysis. The authors declare no conflicts of interest and financial support in

the writing of this article.

Yishan Shen played the lead role in conceptualization, data curation, supervision, and writing of original draft and an equal role in methodology. Eunjin Seo played the lead role in formal analysis, a supporting role in conceptualization and writing of original draft, and an equal role in methodology. Alison I. Jiles played a supporting role in data curation, visualization, and writing of original draft. Yao Zheng played a supporting role in writing of review and editing. Yijie Wang played a supporting role in writing of review and editing.

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The past 2 decades of globalization has witnessed rapid surges of migration. In 2019, there were 272 million immigrants around the world, a 56% increase from the 174 million in 2000 (United Nations, 2019). Youth from immigrant families, or immigrant-origin youth, play a critical role in the healthy functioning of the family. One primary way immigrant-origin youth assist their family is by serving as language brokers for their parents who lack proficiency in the dominant language of the society, translating or interpreting materials between the dominant and heritage languages (Tse, 1995). Although youth's assistance is essential to the well-being of the immigrant families, countries such as Australia and the United States have started to regulate the use of children as translators, especially within medical and social service settings (Department of Health and Human Services, 2016; Pryor, 2017) with the rationale that the translation process is harmful to children.

However, several narrative reviews have concluded that the conceptualization, as well as empirical evidence, is mixed as to whether frequent language brokering is promotive or disruptive for the well-being of adolescents and emerging adults from immigrant families (Kam & Lazarevic, 2014a; Morales & Hanson, 2005; Shen et al., 2017). Past research has measured brokering frequency with youth's average rating across various items (e.g., newspapers) or circumstances (e.g., at a restaurant) that need translation on a scale ranging from *never/not at all* to *always/daily* and examined its correlations with various adjustment indicators. In this line of research, there have been debates around whether more frequent brokering leads to healthier or more deleterious family relationships (e.g., Dorner et al., 2008; Umaña-Taylor, 2003). Similarly, it is unclear whether frequent brokering is promotive or inhibiting for immigrant-origin youth's acculturation processes

(e.g., Acoach & Webb, 2004; Martinez et al., 2009). Moreover, inconsistencies have been documented across the socioemotional, behavioral, and academic outcomes (e.g., Kam & Lazarevic, 2014a; Morales & Hanson, 2005; Shen et al., 2017) of youth's frequent brokering. Thus, a meta-analysis of the existing literature is critical to disentangling the mixed findings and determining the overall relation between brokering frequency and youth's development across various domains. Furthermore, it may be that the impact of frequent brokering is complex with both positive and negative effects, and a meta-analysis provides a valuable tool for identifying the moderators that may determine when frequent brokering would relate to more developmental benefits versus detriments.

In addition to language brokering frequency, recent narrative reviews have also highlighted the importance of understanding the distinct ways in which subjective feelings about brokering may influence youth well-being (Kam & Lazarevic, 2014a; Shen et al., 2017). Research has measured subjective brokering feelings with youth's average ratings across various positive or negative perceptions and emotions regarding their brokering experience on a Likert scale (e.g., Wu & Kim, 2009) and examined their associations with various adjustment indicators. Youth who report positive feelings (e.g., pride, enjoyment) about brokering tend to have better adjustment, such as higher levels of ethnic identity and lower levels of substance use, whereas those who report negative feelings (e.g., nervousness, embarrassment) often experience poorer adjustment, such as problematic family relationships and depressive symptoms (Kam & Lazarevic, 2014a; Shen et al., 2017). However, the magnitudes of such links have not been systematically investigated. A parallel and simultaneous meta-analysis of brokering feelings along with brokering frequency is thus important to provide clarity regarding the salience of brokering feelings as distinct and meaningful dimensions of language brokering. Furthermore, despite relative consistency of evidence regarding the statistical significance of the links involving brokering feelings, parallel moderator analyses could explore whether heterogeneity also exists for the magnitudes of these links, and if so, what factors may explain it. Together, these meta-analytic investigations can provide a comprehensive empirical understanding of the role language brokering plays for immigrant-origin youth's development, which could inform researchers and policymakers on whether and for whom intervention efforts are needed.

Language Brokering Frequency and Youth Adjustment

According to integrative models of minority and immigrant-origin child development (García Coll et al., 1996; Suárez-Orozco et al., 2018), the successful adaptation of immigrant-origin youth should be understood across



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multiple domains based on not only how well they address the developmental tasks present to all youth but also those tasks that only immigrant-origin youth face. For example, like all well-adjusted youth, successfully adapted immigrant-origin youth can be expected to have close and healthy family relationships. However, unlike most youth from nonimmigrant families, successfully adapted immigrant-origin youth must also develop adequate bicultural competencies necessary for them to navigate both mainstream and heritage cultural spaces (Suárez-Orozco et al., 2018). In addition, the integrative models posit that children and youth's adaptations should be evaluated based on their central developmental competencies or "outcomes," such as their socioemotional and behavioral outcomes, as well as academic outcomes (García Coll et al., 1996; Suárez-Orozco et al., 2018). Thus, understanding the developmental benefits versus detriments of frequent language brokering should focus on determining the extent to which frequent brokering promotes or hinders the normative unfolding of these key developmental processes (i.e., family relationships, acculturation) and outcomes (i.e., socioemotional, behavioral, and academic). However, competing theories have guided previous investigations of the links between language brokering frequency and youth's developmental processes and outcomes, and empirical evidence also remains mixed.

In terms of family relationships, the parentification perspective views language brokering as a risk factor for problematic parent-child relationships, as frequent language assistance from the child may undermine parental authority and "parentify" youth with excessive power, creating a problematic family dynamic (Umaña-Taylor, 2003). This perspective has been supported by empirical links between frequent brokering and more parent-adolescent disagreements, conflicts, and role-reversal (Hua & Costigan, 2012;

Titzmann et al., 2015). In contrast, the interdependent script perspective views language brokering as a promotive factor for a more closely connected and interdependent parent-child relationship for immigrant-origin youth (Dorner et al., 2008), due to the congruence with their developmental script or the socialization goals of the heritage culture, namely collectivism (Dorner et al., 2008). Although it would be an overgeneralization to state that all immigrant-origin youth are more collectivistic than their non-immigrant-origin counterparts given individual differences, immigrant families are more likely to have migrated from less industrialized or less affluent regions where collectivistic values are more widely endorsed (Suizzo, 2007). Empirically, studies find that the more frequently Latinx and Asian American adolescents provide language brokering for their parents, the more they report understanding parental sacrifices and respect toward parents (Chao, 2006; Shen et al., 2014).

Similarly, theoretical perspectives and empirical evidence have been mixed in terms of how language brokering relates to immigrant-origin youth's acculturation processes. The bidimensional model of acculturation posits that acculturating individuals must negotiate both the mainstream culture and the heritage culture simultaneously (Berry, 1997). Situated within this broader bidimensional model of acculturation, one school of thought posits that frequent language brokering, which often puts youth in unfamiliar environments and holds them responsible for translating between two languages before they have expertise in either, would lead to additional acculturation difficulties and identity concerns (Kam, 2011; Umaña-Taylor, 2003). Supporting this notion, brokering frequency has been associated with lower levels of mainstream cultural orientation, more acculturation stress, and a weaker sense of ethnic belonging in U.S. Latinx youth (Kam, 2011; Kam & Lazarevic, 2014b; Martinez et al., 2009; Weisskirch & Alva, 2002). However, a separate school of thought posits that frequent language brokering may provide youth with more opportunities to learn and practice two cultures, helping them develop and maintain biculturalism (Acoach & Webb, 2004; Buriel et al., 1998). That is, frequent brokering may not only facilitate youth's acquisition of the mainstream culture (e.g., gaining insights into the communicative patterns of the mainstream culture) but also promote youth's attainment of the heritage culture (e.g., developing a strong sense of heritage cultural identity), contributing to a higher level of biculturalism. Indeed, language brokering frequency has been empirically associated with higher levels of ethnic identity (Weisskirch, 2005; Weisskirch et al., 2011), transcultural perspective-taking (i.e., understanding of both cultural values; Guan et al., 2014), and biculturalism (Buriel et al., 1998) in ethnically/racially diverse U.S. youth.

Similar to the literature on language brokering and youth's family relationships and acculturation, two parallel streams of research have put forward competing theoretical



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perspectives regarding how brokering frequency influences youth's core developmental competencies, such as socioemotional, behavioral, and academic outcomes. On the one hand, many empirical studies have conceptualized language brokering as a stressor (see Kam & Lazarevic 2014a, for a review) because young people—particularly adolescents—often have to manage information that is either age inappropriate (e.g., parents' financial information) or beyond their linguistic ability (e.g., medical document). Youth may then internalize or externalize the stress of frequent brokering to develop socioemotional (e.g., depressive symptoms, low self-efficacy; Love & Buriel, 2007; Ozonobishin & Kurman, 2009) or behavioral (e.g., substance use; Martinez et al., 2009) problems. In terms of youth's academic outcomes, frequent brokering has been viewed as a risk factor, as it may take away time and opportunities that adolescents and emerging adults may otherwise devote to studying and developing academic skills (Tse, 1995; Umaña-Taylor, 2003). Supporting this perspective, U.S. Latinx adolescents from high language brokering contexts are found to report poorer academic performance (Martinez et al., 2009). On the other hand, others have conceptualized language brokering as a normative family assistance activity in immigrant-origin youth, which does not carry any developmental costs (Dorner et al., 2008). Socioemotionally, brokering has been found to elevate competence and efficacy in U.S. Latinx youth (Dorner et al., 2008). Behaviorally, a link has been found between frequent brokering and fewer externalizing problems in Asian American youth (Shen et al., 2014). In terms of academic development, researchers have maintained that brokering may act as a cognitive and academic enhancer promoting youth's linguistic dexterity (Kam & Lazarevic 2014a). Empirically, more frequent brokering is found to be associated with better academic performance and higher reading scores in U.S. Latinx youth

(Buriel et al., 1998; Dorner et al., 2007). Such mixed evidence regarding the relations between brokering frequency and youth adjustment warrants a meta-analysis to provide clarity about the directions and magnitudes of these links.

Language Brokering Feelings and Youth Adjustment

In addition to the investigations of language brokering frequency, a smaller body of research has examined subjective feelings about brokering as separate dimensions of youth's overall language brokering experiences with distinct impacts on their developmental processes and outcomes. Such subjective feelings include both positive (e.g., feeling independent and mature) and negative (e.g., feeling nervous or burdened; Kam & Lazarevic 2014a; Shen et al., 2017) feelings. Theoretically, youth's language brokering feelings are posited to have profound implications on their well-being, where positive feelings are associated with youth's well-being and negative feelings are associated with adjustment problems across family and acculturation processes, as well as socioemotional and behavioral outcomes (Kam & Lazarevic 2014a). In contrast to findings regarding brokering frequency, empirical evidence is relatively consistent regarding the developmental benefits (vs. costs) associated with positive (vs. negative) brokering feelings. For example, among U.S. Latinx adolescents, positive brokering feelings have been associated with high levels of parent-child bonding (Buriel et al., 2006), whereas negative brokering feelings have been associated with problematic family relations (Weisskirch, 2007). Additionally, more positive brokering feelings are linked to both higher levels of mainstream cultural orientation (Weisskirch & Alva, 2002) and a stronger ethnic identity (Weisskirch, 2005), whereas negative brokering feelings are predictive of more acculturation stress in U.S. Latinx adolescents (Kam, 2011). Furthermore, positive brokering feelings are associated with higher self-esteem (Weisskirch, 2007) and lower levels of cigarette use (Kam, 2011), whereas negative feelings about brokering are related to higher levels of depressive symptoms (Kam & Lazarevic, 2014b) and more alcohol use in U.S. Latinx adolescents (Kam, 2011). Despite the relative consistency of evidence, extant reviews of existing studies are all qualitative by nature, precluding any conclusion about the magnitudes of the associations. A meta-analysis can fill this gap by moving beyond the significance of associations to provide estimates of the effect sizes.

Language Brokering and Youth Adjustment: Potential Moderators

In addition to understanding the overall associations, it is also important to understand for whom and in which conditions language brokering might be more detrimental versus



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beneficial. Given that mixed findings are documented primarily with respect to language brokering frequency, but not brokering feelings, discussions of potential moderators below are focused on the associations between brokering frequency and youth adjustment. The integrative models of minority and immigrant-origin child and youth development (García Coll et al., 1996; Suárez-Orozco et al., 2018) posit that social position variables, such as race/ethnicity, gender, nativity, and family socioeconomic status (SES), as well as the broader societal context of reception (i.e., country of residence), shape the experiences and moderate the developmental outcomes of racial/ethnic minority and immigrant-origin youth. Competing hypotheses could be proposed regarding youth's race/ethnicity and gender. First, regarding youth's race/ethnicity, frequent language brokering may carry both developmental benefits and costs (García Coll et al., 1996; White et al., 2018). For example, compared to White immigrant-origin youth, language brokering youth of color (e.g., Latinx or Asian) may face more risk factors concomitant with their brokering activities (e.g., more racial/ethnic discrimination; Kam, Marcoulides, et al., 2017), making frequent brokering a less pleasant and more harmful experience for them. Alternatively, the larger coethnic communities of youth of color (e.g., for Latinx or Asian vs. European immigrants in the United States) may serve as a protective factor (e.g., by providing more translated documents; Jones et al., 2012), making frequent brokering easier and less detrimental.

Second, regarding youth gender, qualitative evidence suggests that the practice of language brokering is associated with more negative parent-child relationships for Mexican American girls than boys because the parents consider it inappropriate for girls to take on dominant and decision-making roles (Morales et al., 2012). In contrast, quantitative

evidence suggests that frequent brokering is not significantly related to parent-child relationships either for boys or for girls and that brokering activities are associated with more depression for boys but not for girls in U.S. Latinx youth (Buriel et al., 2006). Third, turning to youth nativity, foreign-born youth have been found to broker more frequently and also report lower emotional well-being than their native-born counterparts (Niehaus & Kumpiene, 2014), although it is unclear whether the relation between brokering frequency and youth well-being also differs by nativity. Fourth, as for family SES, qualitative work has documented youth discovering stressful financial situations of their families through brokering (Kwon, 2014). Thus, the relations of brokering frequency to youth adjustment may be more negative for those from a low SES background. Finally, cross-nationally, the broader societal context of reception may differentially shape the experiences of immigrant-origin youth due to different settlement conditions, national immigration policies, and attitudes toward migrants (Suárez-Orozco et al., 2018). For example, the U.S. scores higher in anti-immigration sentiments (e.g., perception that immigrants take jobs and social services away from nonimmigrants), compared to some other countries also with recent influxes of migrants, such as Canada or Germany (Zhao, 2019). Thus, frequent language brokering might be associated with more negative developmental outcomes in immigrant-origin youth in the United States compared to those in other, more pluralistic host countries. However, as limited evidence exists to inform definitive hypotheses, this meta-analysis aimed to explore whether and how the social positions and host country of immigrant-origin youth might moderate the links between brokering frequency and youth's developmental processes and outcomes.

Aside from youth's social positions, the effects of frequent language brokering may also vary depending on the broker's age. Language brokering has been observed in as early as preadolescence and as late as emerging adulthood—between ages 18 and 25 (sometimes to age 30; Arnett, 2004), with most research conducted among adolescents (Shen et al., 2017; Weisskirch, 2017). On the one hand, because language brokering requires adequate vocabularies in both the heritage and the mainstream languages (Villanueva & Buriel, 2010), as well as executive function skills (Rainey et al., 2016), it may be particularly challenging and stressful for youth in pre- to early adolescence due to their limited linguistic and cognitive skills. On the other hand, language brokering may have more negative implications during later rather than earlier developmental periods. Specifically, frequent language brokering, which requires youth to focus on the needs of their family, may be disruptive of the developmental need of self-focus during emerging adulthood (Arnett, 2004)—a period when youth may want to build self-directed experiences, such as establishing a more independent lifestyle, developing



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intimate relationships, or preparing for a career. Moreover, older youth have advanced social cognitive abilities, which allow them to develop better understandings of how others view their racial/ethnic group (Seaton et al., 2009; Umaña-Taylor et al., 2014). Thus, older youth may be more capable of detecting discriminatory treatment by the third party involved in language brokering (e.g., Kam, Marcoulides, et al., 2017) and more vulnerable to its negative effects (Benner & Graham, 2011).

Additionally, from a methodological perspective, although a strong causal claim cannot be made from synthesizing correlational studies, temporal ordering between language brokering dimensions and adjustment measures available in longitudinal studies allows for better discernment of the directionality of the relation between the two sets of constructs. Hence, this study explored study design as a methodological moderator to examine whether similar conclusions could be made from synthesizing longitudinal versus cross-sectional studies. Finally, given the relative consistency of the documented significance of associations between brokering feelings and youth adjustment, moderating effects were not hypothesized for these links, and exploratory moderator analyses involving the abovementioned factors were only conducted when adequate heterogeneity was detected in the magnitudes of associations.

The Present Study

The current meta-analysis systematically synthesized the relations between different dimensions of language brokering (i.e., frequency, positive feelings, negative feelings) and developmental processes (i.e., family relationships, biculturalism, heritage and mainstream cultural orientations, and acculturation stress) or outcomes (i.e., socioemotional,

behavioral, and academic outcomes) in immigrant-origin adolescents and emerging adults. The goals of the present study were (a) to elucidate the extent to which brokering frequency, positive feelings, and negative feelings serve as promotive or risk factors for youth's adjustment and (b) to examine youth's social positions, age, and study methodology as potential moderators that may explain the heterogeneity in the associations between dimensions of brokering and youth's adjustment.

Method

Literature Search

Literature incorporated in this meta-analysis included published journal articles, dissertations and theses, book chapters, conference papers, and unpublished articles and data sets. A literature search was conducted using the PsycINFO, ERIC, Psychology & Behavioral Sciences Collection, Social Sciences Citation Index, PubMed, and ProQuest Dissertations & Theses. Titles, abstracts, and keywords were searched using the following search terms: "*language broker**," "*cultural broker**," *translator AND children*, *translator AND adolescents*, *translator AND emerging adults*, and *translator AND college students*. During the screening phase, 1,203 articles written in English only were extracted up until October 31, 2018. While reviewing the relevant articles, 205 duplicate articles were excluded, and the remaining 998 abstracts were reviewed according to eligibility criteria. The Top 10 recurring authors of published journal articles related to language brokering were personally contacted through email for their unpublished work, resulting in five additional studies to the current meta-analysis.

Inclusion/Exclusion Criteria

Initial screening of the abstracts focused on whether the studies addressed youth's translation or interpretation for their family members. That is, studies that focused on brokering performed by professional interpreters or youth's brokering involving nonfamily members only (e.g., in dual language immersion classrooms) were excluded. Then, full-text articles were assessed for eligibility. The studies had to report enough quantitative information to calculate an effect size involving language brokering, such as bivariate correlation between language brokering frequency and an outcome. Therefore, qualitative articles, review articles, as well as articles that did not have data available on brokering were excluded. Additionally, given the current meta-analysis's focus on youth's family relationships, acculturation processes, as well as socioemotional, behavioral, and academic outcomes—the domains around which key debates in the literature have centered—articles that only examined language brokers' outcomes that did not fall within any of

these domains (e.g., health literacy) were excluded. Finally, as the current meta-analysis focused on language brokering in adolescents and emerging adults, any studies where the mean sample age was below 10 or above 30 were excluded. This screening procedure yielded a total of 65 studies (48 peer-reviewed studies; see Figure S1 for details).

Coding Procedures

Three trained coders recorded information for each study. Each study was independently coded by two of the three coders, and all pairs of codes were compared for agreement between coders. The initial agreement rate on inferential codes (e.g., outcome type) was 88%. Disagreements were resolved collectively among the research team, where everyone agreed to the final resolution. Extracted report characteristics (e.g., first author's name, year of publication) can be found in Table S1. Other key information coded from each study is described below.

Study and Sample Characteristics

Table S1 lists detailed study and sample characteristics. The sample sizes of the reviewed studies ranged from 20 to 1,796 (median $N = 152$). Sample race/ethnicity was coded as a categorical variable representing whether the sample (or subsample with separate correlation data, referred to as "subsample" below) was predominantly of one racial/ethnic group or of mixed races/ethnicities. Studies most often included (sub)samples that were predominantly Latinx ($k = 41$; 63%), followed by predominantly Asian ($k = 9$; 14%) and White (e.g., Eastern European; $k = 9$; 14%) (sub)samples, whereas 22% ($k = 14$) of the 65 studies included samples of mixed races/ethnicities. Moreover, (sub)sample mean age ranged from 10.5 to 28 (grand $M = 16.68$, $SD = 4.78$). Additionally, the developmental period of each sample was coded based on the sample's age distribution and grade levels. Specifically, samples were coded into early adolescents (mean age range = 10–13 with $SD < 1.5$ or sample in 5th through 8th grade; $k = 21$) and middle adolescents (mean age range = 14–17 with $SD < 1.5$ or sample in 9th through 12th grade; $k = 13$). To obtain a relatively homogeneous age group with similar life experiences while simultaneously considering the broader age range of emerging adulthood compared to earlier developmental periods, a slightly different criterion was used for emerging adults (i.e., mean age range = 18–25 with $SD < 2.5$ and sample in college or university; $k = 9$). Studies that had large age spans or mean ages beyond these developmental periods or those focused on university students that did not collect age information were not coded for this sample characteristic to ensure that all effect sizes could be calculated with high precision on the developmental period.

Moreover, the percentages of females and foreign-born youth in the (sub)samples ranged from 0% to 100%

($M_{\% \text{female}} = 57.99\%$, $SD_{\% \text{female}} = 19.76\%$; $M_{\% \text{foreign-born}} = 43.82\%$, $SD_{\% \text{foreign-born}} = 30.47\%$). Additionally, the participants' country of residence was coded as a binary variable (the United States vs. other countries), given that most studies focused on youth in the United States ($k = 54$; 83%). Other countries included Israel ($k = 6$; 9%), Canada ($k = 3$; 5%), and Germany ($k = 2$; 3%). A binary variable representing the presence or absence of indicators of low SES was also coded. If all coders agreed that there was an apparent indication that the sample was predominantly from a low SES background (e.g., 90% being low income as described in the original study), the sample was coded as low SES; otherwise, the sample SES was coded as "mixed/unknown." A total of 14 studies (22%) were coded as low SES. Finally, if the study reported correlations between language brokering frequency or feelings assessed at an earlier time point and a developmental process or outcome assessed later, the study design was coded as longitudinal. Otherwise, studies were coded as cross-sectional, even if the study was drawn from a larger longitudinal project. Most studies were cross-sectional ($k = 59$; 91%) and only six (9%) were longitudinal.

Operational Definitions of Language Brokering and Adjustment Dimensions

Dimensions of language brokering included frequency, positive feelings (e.g., efficacy), and negative feelings (e.g., burden). Brokering frequency was defined as the frequency at which youth reported performing translation or interpretation for their family members. Positive feelings were defined as positive emotions and attitudes (e.g., proud, confident) that youth reported about language brokering, whereas negative feelings were defined as youth's reports of negative emotions and appraisals (e.g., embarrassed, burdensome) involved in brokering.

Family relationships were conceptually defined as youth's perceptions of parenting practices and parent-child relationships, both positive (e.g., parental warmth, parent-child bonding) and negative (e.g., parental hostility, parent-child conflict). However, in practice, the measurement of family relationships often involved reverse-coded items (e.g., the measurement of positive parent-child relationship included items assessing negative dynamics such as "I feel like I am constantly at war with mother/father" that were reverse-coded), and the operationalization of positive versus negative relationships was not completely separable from one another. Therefore, in calculating the overall effect size involving family relationships, this developmental process was operationally defined as *positive* perceptions of parenting and parent-child relationships, and constructs of negative family dynamics were reverse-coded, so that higher scores consistently represented more positive dynamics. However, initial

codes of positive and negative family relationships were maintained for subtype analyses.

Acculturation processes were assessed with four different constructs. The first construct, biculturalism, was defined as one's strong orientations to both heritage and mainstream cultures (rather than preference for only one culture) or reverse-coded marginalization (i.e., exclusion from both the heritage and dominant cultural groups). Additional constructs included heritage cultural orientation (e.g., ethnic identity, heritage cultural values), mainstream cultural orientation (e.g., dominant society immersion, acting mainstream), and acculturation stress (e.g., pressures to adhere to both heritage and mainstream cultural practices). For additional details about the operationalization of mainstream cultural orientation, please see the note for Table S2.

Socioemotional outcomes were conceptually defined as indicators of both socioemotional distress (e.g., anxiety, depression) and well-being (e.g., confidence, self-esteem). However, in the empirical literature, the measurement of socioemotional distress often involved reverse-coding of items assessing well-being (e.g., the measurement of depression included items assessing socioemotional well-being such as "I enjoyed life"), making it difficult to completely separate the operationalization of distress versus well-being. In light of such practices, socioemotional outcomes, as an overall developmental domain, were operationally defined as socioemotional *well-being*, with measures of socioemotional distress reverse-coded, so that higher scores would consistently represent more positive socioemotional outcomes. However, initial codes of socioemotional distress and well-being were maintained for subtype analyses. Behavioral outcomes focused on youth's disruptive and risky health behaviors (e.g., delinquency, alcohol use). However, given that both socioemotional outcomes and academic outcomes (described below) were operationally defined to indicate well-being, measures of behavioral outcomes were also reverse-coded for ease of interpretation, so that higher scores of all outcomes would consistently indicate better adjustment across domains. Academic outcomes were operationally defined as youth's academic engagement, performance, and achievement (e.g., homework completion, grades, standardized test scores), where higher scores represented better academic outcomes. Variables not in the above-mentioned domains (e.g., money issues, health literacy) were not coded (see Table S2 for a complete list of coded variables).

Analytic Strategies

Outliers were first examined before conducting main effect analyses (see the Appendix for detailed information about the effect size metric). If any outlier was detected (i.e., greater than 3 *SDs* from the average effect size), the value was transformed to the nearest nonoutlier value (i.e., winsorizing;

Salkind, 2010). Then, a weighting procedure was used to calculate the pooled effect sizes. That is, greater weight was placed on effect sizes from larger samples since they provide more accurate population estimates (Borenstein et al., 2011; Hedges & Olkin, 1985). To account for effect size dependency (multiple effect sizes were nested within each sample), robust variance estimation was conducted using the *robumeta* package in R (Hedges et al., 2010). To examine potential publication bias, funnel plots were charted, and trim-and-fill analyses were conducted (Duval & Tweedie, 2000). Egger's regression tests were conducted to examine the funnel plot asymmetry. In addition to the main effect sizes, the relations between brokering dimensions and subtypes of adjustment (i.e., problem vs. well-being indicators) were also analyzed for family relationships and socioemotional outcomes. Subtype analyses were not conducted for the other domains of outcomes because all or most studies assessed these adjustment variables in the same direction.

For moderator analyses, I^2 and τ^2 were first calculated to examine heterogeneity in effect sizes. If I^2 is greater than 50, the heterogeneity is notable as sampling variance alone cannot explain the variability (Higgins & Thompson, 2002). As such, when I^2 was found to be greater than 50, moderator analyses were conducted. Moderators were tested using metaregression analyses using the *robumeta* package in R (Hedges et al., 2010). When the number of studies is too small ($df \leq 4$), the robust variance estimation technique may not yield reliable estimates even with the adjustment (Tanner-Smith et al., 2016). In this case, the unit shifting approach (Sanchez et al., 2017) was taken to aggregate multiple effect sizes, so that each study contributes only one effect size at each level of a moderator (Cooper, 1998) using the *metaphor* package in R (Viechtbauer, 2010). For a categorical moderator with more than two categories (e.g., race/ethnicity), an omnibus test was first conducted using the *Q*-statistic. If statistically significant heterogeneity was found across categories, dummy-coded categorical moderators were then entered in the metaregression model. The reference group was rotated to allow for all possible comparisons among categories. Considering the numbers of studies and moderators, separate metaregressions were conducted for each moderator to minimize missing data and maximize statistical power. Nevertheless, there were several moderators in the data set that might have been confounded with one another (e.g., studies on Latinx youth were all conducted in the United States), in which case both moderators were tested within the same metaregression model.

Results

Language Brokering Frequency and Youth Adjustment

Fisher's *z* estimates, 95% confidence intervals, the numbers of studies and effect sizes, sample size for each effect size calculation, and the results of publication bias tests are shown

in Table 1. Pooled Fisher's z s are converted back to Pearson r s for easier interpretation. In terms of brokers' family relationships, the average correlation between language brokering frequency and family relationships was statistically significant ($r = -.10, p = .02$). The funnel plot uncovered the presence of publication bias on the left side of the funnel plot (Figure S2-1). The trim-and-fill analysis (Table 1) identified seven potential missing studies due to publication bias and adjusted the effect sizes after accounting for the missing studies, yielding a significant adjusted effect size of $r = -.17, p < .001$. When the measures indicating positive family relationship (e.g., positive parent-child relationship) were separated from those assessing negative family processes (e.g., parent-child conflict), a significant association was only found for negative family processes ($r = .22, p < .001$), but not for positive family processes ($r = .01, p = .81$).

Regarding brokers' acculturation processes, four sets of analyses were conducted. First, the positive relation between brokering frequency and biculturalism was not significant ($r = .00, p = .99$). Publication bias was not detected (Table 1). Second, the overall positive correlation between brokering frequency and enculturation processes was significant ($r = .09, p = .04$). After accounting for potential publication bias (Figure S2-1), the effect size became nonsignificant ($r = .06,$

$p = .16$). Third, the correlation between brokering frequency and mainstream cultural orientation was not significant ($r = -.01, p = .78$). The funnel plot and the trim-and-fill analysis did not detect any publication bias. Fourth, there was a significant positive correlation between brokering frequency and acculturation stress ($r = .06, p = .02$), with no publication bias.

Turning to brokers' socioemotional outcomes, the overall negative correlation between brokering frequency and socioemotional outcomes was significant in a negative direction ($r = -.10, p = .003$). The funnel plot (Figure S2-2) and the trim-and-fill analysis detected the presence of publication bias (Table 1). The effect size became larger after adjusting for the publication bias ($r = -.17, p < .001$). When socioemotional well-being (e.g., self-esteem) was separated from socioemotional distress (e.g., depressive symptoms), the association was stronger for socioemotional distress ($r = .14, p < .001$) than socioemotional well-being ($r = -.01, p = .88$). Regarding brokers' behavioral outcomes, the overall correlation between brokering frequency and behavioral outcomes was not significant ($r = -.01, p = .83$). The effect size remained nonsignificant after adjusting for publication bias ($r = .02, p = .58$). Finally, brokering frequency did not have a significant relation to academic

Table 1

Summary of Effect Sizes for the Associations Between Language Brokering and Adjustment

Variable	k	n_{es}	N	ES	95% CI	I^2	τ^2	Publication bias			
								Imputed k	Side	Adjusted ES	Adjusted 95% CI
Language brokering frequency											
Family relationships	29	295	6,589	-.10*	[-.18, -.02]	95	.09	7	Left	-.17***	[-.25, -.09]
Biculturalism	5	12	423	.00	[-.23, .23]	72	.03	0	—	—	—
Heritage cultural orientation	14	69	2,505	.09*	[.005, .18]	74	.02	2	Left	.06	[-.02, .15]
Mainstream cultural orientation	11	23	1,405	-.01	[-.11, .08]	63	.01	0	—	—	—
Acculturation stress	5	14	2,212	.06*	[.02, .11]	37	.00	0	—	—	—
Socioemotional outcomes	32	166	9,806	-.10**	[-.16, -.03]	95	.07	11	Left	-.17***	[-.23, -.11]
Behavioral outcomes	7	35	2,267	-.01	[-.08, .07]	61	.01	2	Right	.02	[-.05, .08]
Academic outcomes	13	80	2,997	.03	[-.05, .11]	75	.02	0	—	—	—
Language brokering positive feelings											
Family relationships	14	125	2,914	.11*	[.01, .22]	85	.03	1	Left	.10*	[.01, .19]
Biculturalism	3	4	298	.02	[-.75, .78]	90	.10	0	—	—	—
Heritage cultural orientation	5	11	550	.29*	[.04, .53]	72	.03	0	—	—	—
Mainstream cultural orientation	6	11	655	.01	[-.18, .20]	69	.02	0	—	—	—
Acculturation stress	4	12	1,763	-.01	[-.05, .02]	9	.00	0	—	—	—
Socioemotional outcomes	14	132	2,099	.12**	[.04, .19]	69	.02	1	Left	.10**	[.03, .17]
Behavioral outcomes	5	21	1,709	.10*	[.02, .18]	40	.00	0	—	—	—
Academic outcomes	4	10	280	.27*	[.001, .54]	46	.01	0	—	—	—
Language brokering negative feelings											
Family relationships	12	91	2,800	-.16*	[-.27, -.04]	88	.03	0	—	—	—
Biculturalism	2	3	217	-.08	[-1.04, .88]	13	.00	—	—	—	—
Heritage cultural orientation	4	8	528	-.14	[-.29, .02]	0	0	2	Right	-.09**	[-.17, -.02]
Mainstream cultural orientation	5	7	489	-.05	[-.40, .29]	81	.05	0	—	—	—
Acculturation stress	5	14	1,664	.27*	[.04, .51]	91	.04	1	Left	.24**	[.09, .39]
Socioemotional outcomes	13	74	2,092	-.20***	[-.28, -.11]	68	.02	0	—	—	—
Behavioral outcomes	4	24	1,643	-.06	[-.17, .05]	72	.01	0	—	—	—
Academic outcomes	1	1	614	-.02	—	—	—	—	—	—	—

Note. All domain sizes; ES = effect size (Z_r); CI = confidence interval; I^2 = unaccounted variability; τ^2 = residual heterogeneity.

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

outcomes ($r = .03, p = .42$). The funnel plot (Figure S2-2) and the trim-and-fill analysis did not detect any publication bias (Table 1).

Positive Language Brokering Feelings and Youth Adjustment

With regard to family relationships, positive brokering feelings were positively related to family relationships ($r = .11, p = .04$). The effect size remained significant after adjusting for publication bias ($r = .10, p = .04$). When positive family relationships were separated from negative family relationships, the positive association was only found for positive family relationships ($r = .21, p = .002$), but not for negative family processes ($r = -.02, p = .67$). Regarding acculturation processes, the average correlation between positive brokering feelings and biculturalism was not significant ($r = .02, p = .94$). However, positive brokering feelings were positively associated with enculturation ($r = .28, p = .03$). The average correlations involving mainstream cultural orientation and acculturation stress were not significant ($r = .01, p = .90$; $r = -.01, p = .27$). Publication bias was not detected (Table 1, Figure S2-3).

Regarding brokers' socioemotional outcomes, there was a positive average correlation between positive brokering feelings and socioemotional outcomes ($r = .11, p = .005$). The effect size remained significant after adjusting for publication bias ($r = .10, p = .003$). When socioemotional well-being was separated from socioemotional distress, the association was stronger for socioemotional well-being ($r = .23, p < .001$) than distress ($r = -.05, p = .03$). Regarding behavioral outcomes, positive brokering feelings had a significant positive relation to brokers' behavioral outcomes ($r = .10, p = .03$). No publication bias was detected. Finally, there was a significant positive correlation between positive brokering feelings and academic outcomes ($r = .26, p = .0495$). Publication bias was not detected (Table 1, Figure S2-4).

Negative Language Brokering Feelings and Youth Adjustment

Regarding brokers' family relationships, the average correlation between negative brokering feelings and family relationships was statistically significant and negative ($r = -.15, p = .01$). When positive family relationships were separated from negative family relationships, the association was found to be stronger for negative family relationships ($r = .20, p = .03$) than positive family relationships ($r = -.11, p = .20$). The funnel plot and the trim-and-fill analysis detected no publication bias (Table 1, Figure S2-5). Turning to acculturation processes, the negative association between negative brokering feelings and biculturalism was estimated based on only two unique samples, and the pooled

effect size was not significant ($r = -.08, p = .49$). No publication bias was detected (Table 1, Figure S2-5). The negative association between negative language brokering feelings and enculturation processes was not significant ($r = -.13, p = .07$). After adjusting for publication bias, the effect size became statistically significant in a negative direction ($r = -.09, p = .01$). Negative brokering feelings did not have a significant association with mainstream cultural orientation ($r = -.05, p = .68$). The funnel plot and the trim-and-fill analysis detected no publication bias (Table 1, Figure S2-5). Finally, the positive association between negative brokering feelings and acculturation stress was statistically significant ($r = .27, p = .03$), even after adjusting for publication bias ($r = .24, p = .002$).

In addition, negative brokering feelings and socioemotional outcomes were inversely associated ($r = -.19, p = .001$). The association was stronger for socioemotional distress ($r = .22, p < .001$) than socioemotional well-being ($r = -.17, p = .06$). No publication bias was detected (Table 1, Figure S2-6). The average negative correlation between negative brokering feelings and behavioral outcomes was not statistically nonsignificant ($r = -.06, p = .18$). The funnel plot and the trim-and-fill analysis detected no publication bias (Table 1, Figure S2-6). Finally, there was only one study that reported the relation between negative brokering feelings and academic outcomes (Kam, 2009). The correlation was nonsignificant ($r = -.02, p > .05$).

Testing Moderators

As presented in Table 2, the meta moderation analyses revealed a significant moderating effect of race/ethnicity on the association between brokering frequency and family relationships. The difference in this association between Latinx and White brokers was statistically significant, $t(6.91) = 2.76, p = .03$, where the association was nonsignificant for samples of predominantly Latinx brokers ($r = .00, p = .91$) versus negative for those of predominantly White (e.g., Russian, Polish) brokers ($r = -.26, p < .01$). There were no other significant differences across racial/ethnic groups ($ps = .17-.87$). There was also a significant moderating effect of race/ethnicity on the association between brokering frequency and mainstream cultural orientation (Table 2). The difference in this association was significant between Latinx and White brokers, $t(5.39) = 2.85, p = .03$. However, the effect sizes were not significant for any subgroup (Latinx: $r = .09$; White: $r = -.13$; mixed races/ethnicities: $r = -.09$; $ps = .11-.34$).

In addition, the association between brokering frequency and academic outcomes became more negative as the percentage of female brokers increased in the samples (Table 2). Finally, as the percentage of foreign-born brokers in a sample increased, the associations of brokering frequency to family relationships, enculturation processes, and behavioral

Table 2*Metaregression Analyses for the Associations of Language Brokering Frequency and Feelings to Youth Adjustment*

Predictor	Family relationships		Biculturalism		Heritage cultural orientation		Mainstream cultural orientation		Acculturation stress		Socioemotional outcomes		Behavioral outcomes		Academic outcomes	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Brokering frequency																
Race/ethnicity	$Q_m = 10.77^*$		$Q_m = 1.93$		$Q_m = 6.09$		$Q_m = 9.43^*$		—		$Q_m = 7.15$		$Q_m = 1.49$		$Q_m = 0.15$	
Female %	.000	.001	-.003	.002	-.002	.002	-.002	.002	—	—	.001	.002	.008	.005	-.003*	.002
Foreign-born %	-.002*	.001	-.004	.002	-.003*	.001	-.002	.001	—	—	-.001	.001	-.010**	.003	-.003	.002
Low SES	.012	.111	-.169	.201	-.044	.093	—	—	—	—	-.005	.081	.032	.063	.016	.066
Age	-.014	.011	-.016		-.008	.015	-.015	.008	—	—	.000	.007	-.175	.092	-.019	.009
Developmental period	$Q_m = 2.42$		—		$Q_m = 0.24$		$Q_m = 1.11$		—		$Q_m = 0.26$		$Q_m = 0.05$		$Q_m = 1.13$	
U.S. study	-.129	.083	.246	.177	.123	.094	.08	.10	—	—	.030	.058	—	—	—	—
Longitudinal	-.070	.056	—	—	—	—	—	—	—	—	.065	.037	.094	.057	.030	.071
Brokering positive feelings																
Race/ethnicity	$Q_m = 0.05$		—		$Q_m = 0.49$		$Q_m = 2.16$		—		$Q_m = 0.31$		—		—	
Female %	.000	.002	—	—	.001	.003	.000	.003	—	—	.002	.001	—	—	—	—
Foreign-born %	-.000	.003	—	—	-.007	.010	-.003	.002	—	—	-.002	.002	—	—	—	—
Low SES	-.054	.115	—	—	.020	.210	.341*	.129	—	—	.011	.071	—	—	—	—
Age	.007	.014	—	—	-.002	.035	-.015	.018	—	—	.010	.009	—	—	—	—
Developmental period	$Q_m = 1.02$		—		$Q_m = 0.60$		—		—		$Q_m = 0.72$		—		—	
U.S. study	-.036	.052	—	—	—	—	—	—	—	—	.030	.037	—	—	—	—
Longitudinal	-.152	.116	—	—	—	—	—	—	—	—	-.087	.072	—	—	—	—
Brokering negative feelings																
Race/ethnicity	$Q_m = 2.68$		—		—		$Q_m = 0.87$		—		$Q_m = 0.36$		—		—	
Female %	.000	.001	—	—	—	—	.017	.016	.040**	.012	-.008	.005	.001	.011	—	—
Foreign-born %	-.001	.003	—	—	—	—	-.002	.005	.006	.010	-.001	.002	.006	.016	—	—
Low SES	-.077	.096	—	—	—	—	-.092	.378	-.028	.177	-.033	.079	-.058	.076	—	—
Age	-.020	.014	—	—	—	—	.015	.031	.077	.135	-.015	.011	-.121	.097	—	—
Developmental period	$Q_m = 2.98$		—		—		—		—		$Q_m = 1.06$		—		—	
U.S. study	.108	.056	—	—	—	—	0.34	0.30	—	—	.072	.114	—	—	—	—
Longitudinal	.205	.103	—	—	—	—	—	—	.145	.176	-.007	.096	—	—	—	—

Note. Q_m = Q -statistic for testing moderators. All adjustment domains were coded to indicate more positive or adaptive status, except for acculturation stress. The moderators for the effect sizes of the relations between language brokering frequency/feelings and adjustment were included as predictors in the metaregression analyses. Estimates indicate the extent to which the moderator changes the pooled effect size of the relation between language brokering frequency/feelings and adjustment as the moderator increases by one unit. *SE* = standard error; SES = socioeconomic status.

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

outcomes became more negative (Table 2). The moderating effects of SES, age, developmental period, country, and study design were not significant for any of the associations between brokering frequency and youth adjustment. Moderation analyses were not conducted for the associations between brokering frequency and acculturation stress, due to inadequate variations (i.e., $I^2 < 50$; Table 1).

Turning to the associations involving positive brokering feelings, moderation analyses were conducted for family relationships, heritage and mainstream cultural orientations, and socioemotional outcomes. There were not enough variations in the chosen moderators for other pairs to allow for moderation analyses. As shown in Table 2, family SES emerged as the only significant moderator. Specifically, the overall association between positive brokering feelings and mainstream cultural orientation was greater in magnitude for samples from low SES backgrounds (Table 2, middle panel). As for the associations involving negative brokering feelings, moderation analyses were only conducted for family relationships, mainstream cultural orientation, acculturation stress, socioemotional outcomes, and behavioral

outcomes due to the limited variability in the chosen moderators for other pairs. As shown in Table 2, only one moderation effect involving negative brokering feelings emerged as significant: The association between negative brokering feelings and acculturation stress was greater in magnitude when there was a greater percentage of female brokers in a sample (Table 2, lower panel).

Discussion

In today's world where migration is occurring at an unprecedented level (United Nations, 2019), many immigrant families rely on their children and youth to adapt to the lifestyle in a new nation, with language brokering being one of the most important contributions that youth make to the family's adaptation. Despite growing scholarly attention to this phenomenon, however, both theorization and empirical evidence remain mixed as to whether language brokering is beneficial or harmful for immigrant-origin youth's well-being. The current meta-analysis synthesized the nuanced and mixed findings regarding youth language brokering and

examined the directions, magnitudes, and moderators of the relations between dimensions of brokering and youth's adjustment. Overall, frequent brokering had small negative associations with family relationships and socioemotional adjustment and a small positive association with acculturation stress. Youth's subjective brokering feelings appeared to be more salient predictors of their adjustment than the frequency per se, as youth's appraisals of the brokering experiences as either positive or negative had small-to-moderate associations with better or poorer adjustment across various domains. Moreover, the effects of brokering frequency differed by race/ethnicity, gender, and nativity of the youth. Specifically, the effect of brokering frequency on family relationships was negative for White brokers (vs. nonsignificant for samples of predominantly Latinx brokers); its effect on academic outcomes was more negative for samples with more females, and the effects on family relationships, enculturation processes, and behavioral outcomes were more negative for samples with more foreign-born brokers. These subgroup differences highlight the need for a nuanced perspective in understanding the implications of youth's language brokering.

Dimensions of Language Brokering and Youth Adjustment

Overall, language brokering frequency had a small association with problematic family relationships, acculturation stress, and socioemotional distress. The overall link between brokering frequency and problematic (rather than closer) family relationships lends support for the parentification perspective (Umaña-Taylor, 2003) over the interdependence perspective (Dorner et al., 2008). That is, on average, frequent brokering is associated with more negative family processes, such as parent-child disagreements and conflicts, rather than more positive family processes, such as more parent-child bonding. Additionally, brokering frequency's overall association with acculturation stress (rather than biculturalism) provides stronger evidence for the acculturation difficulty perspective (Umaña-Taylor, 2003) rather than the bicultural maintenance perspective (Acoach, 2004; Buriel et al., 1998). That is, on average, frequent brokering is associated with more perceived stress of navigating two cultures, rather than improved skills in maintaining both cultures. Finally, the overall relation of brokering frequency to socioemotional distress (rather than well-being) suggests frequent brokering to be a stressor (Kam & Lazarevic, 2014a) rather than efficacy enhancer (Dorner et al., 2008). In other words, on average, youth may experience more socioemotional problems (e.g., depressive symptoms) as the broker more often, rather than experience elevated senses of competence or efficacy.

However, in general, the effects of frequent language brokering were subtle and nuanced. For example, across

socioemotional, behavioral, and academic outcomes, the effect sizes involving language brokering ($|r| = .01-.10$) are much smaller compared to the pernicious effects of racial/ethnic discrimination ($|r| = .10-.24$), a common risk factor for immigrant-origin and racial/ethnic minority youth (Benner et al., 2018). In addition, despite the small-to-moderate associations between brokering frequency and negative aspects of family relationships and socioemotional outcomes, frequent brokering was not necessarily linked to lower levels of well-being in the same domains. For example, an immigrant-origin adolescent who language brokers daily for their parents may experience parent-child conflicts more often than another adolescent who only brokers occasionally, but the parent-child bond may still be similarly strong for both adolescents regardless of their brokering frequency. Through systematically investigating both positive and negative experiences of adolescent language brokers, the current meta-analysis was able to summarize the nuanced developmental correlates of frequent brokering comprehensively.

The current meta-analysis also revealed small-to-moderate associations between positive (vs. negative) language brokering feelings and youth's adjustment ($|r| = .10-.29$). Consistent with conclusions from previous narrative reviews (e.g., Kam & Lazarevic 2014a; Shen et al., 2017), positive brokering feelings were indeed significantly associated with more positive (but not negative) family relationships, higher levels of enculturation, more positive (and fewer negative) socioemotional outcomes, as well as more positive behavioral and academic outcomes. Moreover, more negative brokering feelings were associated with more problematic (but not positive) family relationships, lower levels of enculturation, and higher levels of acculturation stress and socioemotional distress (but not socioemotional well-being). These results are similar to previous findings on general family assistance behaviors. Family assistance (e.g., cooking, cleaning, sibling care) has been found to be associated with negative long-term health outcomes, although adolescents who derived positive feelings (e.g., a greater sense of role fulfillment) from helping the family had better health outcomes (Fuligni et al., 2009). Considering that the effect sizes involving brokering feelings were almost always numerically greater than those involving brokering frequency, the results suggest that youth's own appraisal of their helping behavior is important to understand above and beyond the behavior itself for understanding their adjustment. The results further suggest the complexities of the implications of brokering. For example, to the extent that youth can have mixed feelings about brokering, youth may experience complex family relationships (i.e., more parent-child bonding but also more conflicts). Additionally, whereas not having negative brokering feelings alone is not adequate to promote positive well-being, positive appraisals of the brokering experiences are related to not only lower levels of

socioemotional distress but also higher levels of well-being in youth.

Moderators for the Links Between Language Brokering Frequency and Youth Adjustment

There were significant racial/ethnic differences in the association between brokering frequency and family relationships. Frequent brokering had a small-to-moderate negative association with family relationships for samples of predominantly European immigrant-origin youth, but such an association was nonsignificant for samples of predominantly Latinx youth. This finding may be explained by the different cultural resources available to different groups. For example, in the United States, where most of the research on language brokering has been conducted, there may be fewer resources available outside the family (e.g., culturally relevant institutions) for European (e.g., Russian, Polish) immigrants compared to the much larger Latinx immigrant populations (Jones et al., 2012). Thus, frequent language brokering may be more burdensome for European immigrant-origin youth and more disruptive for their family dynamics.

In addition, gender was another significant moderator for the association between language brokering frequency and youth adjustment. Specifically, there was a more negative relation between frequent language brokering and academic outcomes for immigrant-origin adolescent girls than boys. Qualitative evidence suggests that some fathers in Mexican American families find it difficult to let their daughters take on the dominant, decision-making role of a language broker (Morales et al., 2012). Considering that families across many cultures traditionally socialize daughters to take on more subservient roles than sons, perhaps it is the tension between language brokering girls and their parents that contributes to their more negative academic outcomes. However, this potential mechanism is yet to be verified in future research.

Moreover, youth's foreign-born status exacerbated the associations between brokering frequency and youth adjustment, across domains such as family relationships, enculturation, and behavioral outcomes. Foreign-born youth may lack the necessary linguistic skills, especially in the host language, to translate for their parents, which has been linked to more psychological burden caused by brokering and higher levels of parent-child alienation in Chinese American adolescents (Shen et al., 2019). Moreover, language brokering youth may be exposed to stressful events such as racial and linguistic profiling (Dorner et al., 2008) from the third party during the language brokering process. Research has shown foreign-born youth to be more vulnerable than their native-born counterparts to the pernicious effects of racial/ethnic discrimination among Chinese-heritage youth in North America (Juang et al., 2018). Due to these additional

stressors, foreign-born youth may feel embarrassed or angry that their parents are not learning the host language or know less about the host society (Weisskirch & Alva, 2002), leading to tension in parent-child relationships, uncertainties about the utility of maintaining their ethnic heritage, and more behavioral problems due to the externalization of the stress.

The other demographic factors, such as family SES, country, and age or developmental period, did not have any significant moderation effect on the association between brokering frequency and youth's adjustment. The lack of moderation by family SES may be attributed to the overrepresentation of youth from low SES backgrounds in language brokers, as higher SES immigrant parents may have higher educational attainment, including years of formal English education, and thus may not need language brokering assistance from their child. In addition, the lack of a moderation effect by country may be attributed to the overrepresentation of U.S. studies in the English literature, which resulted in an inadequate amount of heterogeneity based on language brokers' country of residence. Finally, although a significant moderation effect of age or developmental period was not found, definitive conclusions cannot be made because the vast majority of studies were cross-sectional, leading age or developmental period of the sample to be confounded with other demographic characteristics of the samples. Thus, non-U.S. studies and longitudinal research spanning multiple developmental periods are needed in the future to understand whether the developmental correlates of frequent language brokering vary across different host countries and across different developmental periods.

Moderators for the Links Between Language Brokering Feelings and Youth Adjustment

As expected, links between positive and negative feelings about brokering and youth well-being were quite consistent across studies. One exception was that positive feelings about brokering were linked positively to mainstream cultural orientation to a greater extent for youth from families in low SES. This finding was somewhat surprising, as low family SES was expected to exacerbate the brokering-adjustment link in general. Perhaps language brokering provides a unique pathway for immigrant-origin youth in low SES families who may otherwise have limited mainstream cultural capital at home to be immersed in the mainstream culture, especially for those who may perceive benefits from and have positive feelings about brokering.

Another exception was that negative feelings about brokering were more strongly linked to acculturation stress for females than for males. Research has suggested that women acquire the mainstream culture faster than men, endorsing mainstream values and practices to a greater

extent (Lorenzo-Blanco et al., 2012). However, adolescent girls and women are expected to value autonomy to a lesser extent and care for the family to a greater extent than adolescent boys and men (Chen, 1999; Gnaulati & Heine, 2001). For adolescent girls and women who hold negative attitudes toward the brokering role, the greater discrepancy between what is expected in and out of the family may contribute to a higher level of acculturation stress—a greater sense of feeling caught between two worlds and distress attempting to balance two sets of cultural values.

Cross-Sectional Versus Longitudinal Designs

For the associations of brokering frequency and feelings with adjustment measures, studies that concurrently assessed them yielded similar effect sizes to longitudinal studies where the adjustment measures were assessed later. This result adds confidence to the hypothesized direction of relations; that is, brokering frequencies and feelings may have an effect on youth adjustment rather than vice versa. However, the correlational nature of the reviewed studies precludes the possibility of making causal conclusions, and all significant associations found in the current meta-analysis should be interpreted with caution in terms of their directionality. For example, those youth with higher levels of enculturation might have more positive feelings toward brokering, whereas those with more problematic family relationships might feel more negatively about having to language broker for their parents. Therefore, more experimental research is needed to determine the direction of effects more definitively.

Implications for Practice and Policy

Given that frequent language brokering has a small yet negative association with family relationships and acculturation stress, young brokers may benefit from culturally sensitive interventions aimed at fostering positive parent–child relationships through family-based and parenting-focused components while simultaneously enhancing bicultural competencies in the youth through socioemotional training. For instance, *Entre Dos Mundos* (Between Two Worlds), a culturally sensitive training program designed for U.S. Latinx adolescents and parents has been found to effectively increase family adaptability and bicultural identity integration in adolescents (Smokowski & Bacallao, 2009). Based on the moderator analysis, interventions could be tailored to youth from European immigrant families, females, and foreign-born youth, who may benefit the most from such interventions. In addition, given the meta-analytic results showing beneficial effects of positive language brokering feelings and harmful effects of negative feelings, interventions may also include components that provide youth with the time and space to reflect on the positive

aspects of their roles as language brokers (e.g., in writing), as well as the support that youth may need to cope with their negative emotions (e.g., counseling service).

Although frequent brokering has a small negative association with youth's well-being, brokering oftentimes happens spontaneously and is necessary for immigrant parents to function effectively (Morales & Hanson, 2005). The banning of using child brokers in high-stakes contexts (e.g., medical settings; Department of Health and Human Services, 2016) may be well-intended (e.g., to ensure the accuracy of communicated information), yet such laws and policies may inadvertently leave the families even more helpless if alternative resources are not provided. To replace young brokers, documents should be made available in multiple languages, and bilingual interpretation services should be available in various medical, legal, and other official settings. These services, especially the hiring of professional interpreters, would require additional funding at the institutions and may be difficult to promote without relevant government policies. Cross-national research suggests that immigrants have better sociocultural adjustment in more pluralistic societies than in societies where social and political attitudes toward immigrants are more negative (Yağmur & van de Vijver, 2012). Thus, safeguarding the well-being of young brokers may need to begin with laws and policies that promote multiculturalism and multilingualism.

Limitations and Future Directions

This meta-analysis is not without limitations. First, due to the correlational nature of the studies included in the current analyses—most of which were cross-sectional—causal inferences cannot be made for the bivariate relations involving key constructs. However, results from the moderator analysis involving study design lend some support for the hypothesized direction of effects. Future research should employ longitudinal and ideally experimental designs (see Kim, Zhang, et al., 2018, for an example), so that stronger conclusions could be made about the directionality of relations between dimensions of language brokering and youth's adjustment. Second, as with any meta-analysis, there may have been publication bias. For example, after accounting for potential publication bias, the association between brokering frequency and enculturation was weakened to nonsignificance. Because the discussions only focused on findings that showed robustness against publication bias, it may not be a substantial threat to the conclusions. Yet, this finding shows the critical need of preregistered research on language brokering with large samples to reveal the true implications of language brokering on youth development.

Third, the bidimensional conceptualization of acculturation as including orientations to one heritage culture and one mainstream culture is limited. For example, immigrant families may come from multicultural heritage backgrounds

themselves (e.g., Russian Jewish migrants) and may resettle in a society with more than one receiving cultural stream (e.g., multilingual regions of Canada). Having to translate information across three or more languages is cognitively and socially more demanding and might further increase acculturation stress and socioemotional distress, although anecdotal evidence has also highlighted how trilingual translating experiences have empowered indigenous Mayan–Guatemalan–American adolescents (Fox, 2019). Finally, the list of moderators was not exhaustive. For example, the context of brokering might also be a moderator, such that translating more difficult materials (e.g., immigration forms) or brokering in situations that directly affect the youth (e.g., parent–teacher conferences) could be more detrimental for youth’s mental and academic outcomes than translating in more casual contexts (e.g., phone calls; at a restaurant; Anguiano, 2013; Roche et al., 2015). Moreover, translating for one’s parents, but not for other family members (e.g., an aunt), has been found to be predictive of acculturation stress (Kam & Lazarevic, 2014b). In addition, social contexts and individual characteristics may similarly influence youth’s brokering feelings and/or moderate the relations between brokering feelings and youth outcomes. For example, higher levels of perceived discrimination are related to greater baseline stress for U.S. Mexican youth who are about to start translating a medical document (Kim, Zhang, et al., 2018). Additionally, negative brokering feelings are more detrimental for U.S. Mexican youth with lower (vs. higher) resilience in terms of their socioemotional outcomes (e.g., depressive symptoms; Kim, Hou, & Gonzalez, 2017). Unfortunately, we could not systematically analyze these additional factors due to the lack or scarcity of empirical studies addressing them, and we call for future studies to begin or continue these investigations.

Conclusions

Our meta-analysis of empirical evidence from the past 2 decades of quantitative research on youth language brokering has revealed several key findings that help to reconcile the mixed evidence documented in the literature. On average, frequent language brokering has a small negative association with youth’s family relationships, acculturation stress, and socioemotional adjustment. However, these associations are nuanced and vary across subgroups, with frequent language brokering showing stronger inverse associations with outcomes for youth from European immigrant families, females, and foreign-born youth than their Latinx, male, and native-born counterparts. Moreover, youth’s subjective appraisals of language brokering experiences as either positive or negative are more salient and consistent predictors of their well-being or lack thereof. Thus, intervention programs may target parent–child relationships, bicultural competencies (e.g., bilingual skills), benefit finding, and coping skills

in the subgroups of young language brokers who are negatively impacted by brokering. Policymakers may also consider promoting multilingual services to better help young language brokers and their families, rather than simply ban the use of child language brokers in official settings.

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Appendix

Effect Size Metric

Fisher's z (Z_r) was used as an indicator of effect size because it is normally distributed unlike Pearson correlation coefficients (i.e., restricted range from -1 to 1). All Pearson r s were converted to Fisher's z using the following formula (Cooper, 1998):

$$Z_r = \left(\frac{1}{2}\right) \ln\left(\frac{1+r}{1-r}\right). \quad (\text{A1})$$

We also included standardized regression coefficients (β) when Pearson r s were not available because excluding these data may result in low statistical power and biased estimation of the pooled effect sizes. β coefficients were converted to semipartial correlation coefficient when the relevant information was available using the following formula (Aloe, 2015):

$$r_{spr} = \frac{t_f \sqrt{1 - R_y^2}}{\sqrt{n - p - 1}}, \quad (\text{A2})$$

where t_f is the t -statistic of the standardized regression coefficient, R_y^2 is the total variance accounted for by the full model with p predictors, and $n - p - 1$ are the degrees of freedom. When the required information to calculate a semipartial correlation coefficient was not available, we converted β coefficients to Peterson–Brown correlation coefficients using the following formula (Peterson & Brown, 2005):

$$r_{PB} = \beta - .05\lambda, \quad (\text{A3})$$

where λ is 1 when β is nonnegative and λ is 0 when β is negative. All converted correlation coefficients were then further converted to Fisher's z . Finally, we recoded all effect sizes so that higher scores indicated adaptive outcomes.

Received September 9, 2021
Revision received February 5, 2022
Accepted June 6, 2022 ■