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Parenting and Centrality: The Role of Life Meaning as a Mediator for Parenting and Language Broker Role Identity

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Abstract

Language brokering is a prevalent phenomenon in ethnic minority immigrant populations. Although accruing evidence points to the beneficial impacts of healthy role identity development, research investigating the formation of a language broker role identity in language brokering adolescents is lacking in the literature. In a sample of 604 Latinx adolescents (54.3% female; M_{age} at Time 1 = 12.41, $SD = .97$), structured equation modeling was conducted with maternal warmth and hostility examined as antecedents and adolescents' life meaning as a mediator for language broker role identities. Results revealed that life meaning mediated the positive association from

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Authors' Contributions

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

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maternal warmth to language broker role identity. However, the negative association from maternal hostility to language broker role identity was no longer significant when accounting for maternal warmth. Corroborating extant findings, reciprocal relations were observed between maternal parenting practices, life meaning and language broker role identity. The results attest to the importance of investigating culturally specific role identity development in immigrant populations and demonstrates the role of maternal parenting practices in affecting adolescents' role identity formation, albeit with contrasting gender effects.

Keywords

language broker role identities; maternal warmth; maternal hostility; life meaning

Introduction

Extant research on ethnic minority identity focuses chiefly on adolescents' racial and ethnic identity with few studies examining different variants of adolescents' social identity development (Kiang, Yip, & Fuligni, 2008). In particular, cultural beliefs and traditions can accentuate an emphasis on familial obligations and manifest in the expectation for adolescents to prioritize the needs of the family before their own (Schwartz et al., 2010). Especially for ethnic minority adolescents with immigrant parents, a corollary of the gap in parents' English language abilities and children's amenability to language learning (Morales & Hanson, 2005) is the formation of the culturally-relevant role identity of "language broker": cultural and linguistic mediators who assist their families in adapting to the host culture through translation and interpretation (Tse, 1995). As language brokers translate over a wide range of contexts (school, hospitals, etc.) and content (e.g., reviewing academic work, explaining medical jargon; Roche, Lambert, Ghazarian, & Little, 2015), the prevalence of translation can predispose immigrant adolescents to internalize "language broker" role meanings into their self-concepts. Surprisingly, no studies in the literature have empirically tested the factors preceding language broker role identity formation, even though (1) language brokering is a common experience among ethnic minority immigrant populations (Chao, 2006) and (2) accruing evidence suggests healthy role identity development culminates in better adolescent adjustment (e.g., self-efficacy, competence and adjustment; Thoits, 2012),

Understanding how translation culminates in the formation of adolescents' language broker role identities offers insight to potentially unique immigrant adolescent identity processes. Language brokering frequently occurs between 8–12 years (Morales & Hanson, 2005) and this time period (i.e., early adolescence) has been found to coalesce with the onset of identity development activities. Adolescents who engage in language brokering may therefore come to possess personal identities that include elements of their social roles as translators (Weisskirch, 2017). As such, the present study sought to identify both contextual antecedents (parenting practices) and psychological mechanisms (life meaning) that manifest in language broker role identity formation. Different parenting practices were investigated because parents inculcate worldviews and engage in socialization practices that profoundly affect children's identities (Kheiroddin, Esmaeili, Gholamzadeh, &

Mohammadpoor, 2012). In addition, as adolescents discern life meaning through their daily interactions with parents (Brassai, Piko, & Steger, 2013), derived meaning in life may be channeled to the development of adolescents' role identity. The aims of the current study are therefore two-fold. The first goal is to provide phenomenological evidence of the language broker role identity by demonstrating the impact of parenting practices, and the mediating role of life meaning, to adolescents' language broker role identity formation. Second, the study seeks to unpack the associations and the complex directionality between parenting practices, life meaning and the language broker role identity and investigate adolescent gender as a potential factor that influence these relationships. To do so, the study examines a sample of Mexican American adolescent language brokers. This population was chosen because Latinx immigrants constitute the largest ethnic minority immigrant population in the United States (U.S. Census Bureau, 2012). In 2016, an estimated 11.6 million immigrants living in the US were of Mexican origin (Pew Research Center, 2018). Further, immigrants from Mexico (31% proficient) and Central Americas (33% proficient) possessed the lowest rates of English proficiency: incidentally, Latinx adolescents are most likely to engage in language brokering for their parents than other immigrant ethnic minorities (e.g., Chinese, Korean etc.; Chao, 2006). Although the current study is focused on Mexican-origin adolescents, extant findings concerning immigrants from both Mexico and Central Americas were presented to provide a more holistic appreciation of Latinx immigrant language brokers.

Language Brokering Role Identity

For Latinx adolescents with immigrant parents, their responsibilities to translate for their families is an important factor that sets them apart from their Latinx counterparts with native-born parents. In particular, adopting a second language is a pre-requisite to communicate with parents at home and function effectively at school. Not surprisingly, nearly 80% of all Mexican youth report some experience in language brokering for their parents (Chao, 2006). For instance, Orellana (2009) interviewed a sample of Latinx adolescents and found that language brokering was frequently perceived as normative (e.g., "I just do my job to help" and "used to it"). Due to the demand for translation, language brokers are often thrust into their roles as translators in order to aid family survival (Morales & Hanson, 2005). Adolescents are compelled to enter adult situations (i.e., face-to-face adult interactions; Love & Buriel, 2007), handle adult content (e.g., rental agreements and business documents; Weisskirch & Alva, 2002) and assume adult responsibilities on behalf of their parents (e.g., primary decision makers of the family; Mercado, 2003). Parent-child dynamics may therefore be altered as adolescents function as socializing agents that disseminate vital cultural information about the media, school, government bodies, and other important institutions to their parents (Tse, 1995).

Given that immigrant adolescents are likely to perceive and categorize themselves based on their social identities and group memberships (Phinney, 2003), language brokering can tangibly affect adolescents' self-identifications (Del Torto, 2008). Classical theories such as role accumulation (Sieber, 1974) and role theory (Biddle, 1979) provide converging support that people differentiate themselves meaningfully based on their role obligations. Although an independent investigation of language broker role identity is lacking in the literature, a

substantial body of work has demonstrated the impact language brokering has on adolescents' ethnic identities (Weisskirch et al., 2011). Language brokering facilitates the learning of values and behaviors associated with one's ethnic cultures, prompting greater understanding of who one is within their particular ethnic cultural context. For instance, heritage language proficiency was found to predict better ethnic identity development in a sample of 414 Latinx adolescents (Oh & Fuligni, 2010); further, Weisskirch (2005) showed that frequency of language brokering was associated with internalized ethnic identity in sixth grade Latinx students. Few studies, however, have been devoted to examining language broker role identities beyond the confines of adolescents' ethnic identities. The limited studies on language broker identities have also only been substantiated through small-scale qualitative assessments, with limited emphasis placed on investigating how the language broker role identity develops in Latinx populations (Del Torto, 2008). An investigation of language broker role identities may therefore inform researchers on an understudied social identity domain that is central to normative adolescent development among Latinx adolescents hailing from immigrant households.

To address the gap in knowledge, the current study adopts an empirical approach to examine Latinx adolescents' language broker role identities. In particular, identity theory (Stryker, 1980) was adopted as the central theoretical perspective for language broker role identity development. Identity theory would suggest that Latinx adolescents assume the status of "language broker" and gain self-understanding of the functions and expectations associated with being a language broker (i.e., self-categorization) through their interactions with family members (Burke & Stets, 2009). The language broker role identity is said to be verified when self-interpretations of language broker role meanings are in sync with those from adolescents' family. As identity verification predicts elevated confidence about managing the world and greater acceptance about the roles individuals occupy (Burke & Stets, 2009), Latinx adolescents with a verified language broker role identity are likely to provide more positive reports about language brokering.

The present research is interested in examining adolescents' language broker *centralities*, a primary correlate of the language broker role identity (Sellers, Smith, Shelton, Rowley, & Chavous, 1998). Language broker centrality corresponds to the extent adolescents perceive their language broker identities to be normatively important (Sellers, Rowley, Chavous, Shelton, & Smith, 1997). As language broker centrality epitomizes adolescents' self-categorization as language brokers and accounts for family members' validation of adolescents' role as language brokers, over time, Latinx adolescents may come to view their language broker role obligations as increasingly vital to their self-identifications. Past studies have found parent ethnic-racial socialization to be positively associated with ethnic centrality (Rivas-Drake, Hughes, & Way, 2009). Extending from these findings, it is likely that family factors also share pivotal influence in shaping language broker centrality.

Parenting Practices and Language Broker Role Identity

The familial environment is a salient factor that has been robustly related to healthy adolescent identity development (Smits et al., 2008). Schwartz, Mason, Pantin, and Szapocznik (2009) examined adolescent identity processes in a sample of 250 Hispanic early

adolescents and found that adolescent-reported improvements in a combined index of family functioning (family environment, parent-adolescent communication, and positive parenting) was related to lower levels of identity confusion. More recent research is devoted to investigating how specific parenting practices are related to adolescent identity development. For instance, parents' emotional support and control were found to be predictive of adolescents' identity achievement (Sartor & Youniss, 2002). In contrast, Cheng and Kuo (2000) showed that in a sample of 135 Chinese children, excessive pressure from parents manifested in adolescent identity trajectories that violated parental expectations.

One reason for distinguishing between different parenting practices is that a general index of parenting, obscures potentially independent effects of different parenting practices on adolescents' psychosocial adjustment. For example, distinctions between warm and hostile parenting practices have been observed on important adolescent psychosocial outcomes (Padilla-Walker, Nielson, & Day, 2016). On the one hand, high levels of parental warmth and low levels of warmth (assumed as hostility), have been found to, respectively, foster and hinder adolescents' receptivity to cultural socialization from their parents and bolster adolescents' ethnic identities (Hernández, Conger, Robins, Bacher, & Widaman, 2014). Yet on the other hand, maternal hostility, but not warmth, was associated with improved inhibition and better executive function in a sample of 333 Chinese children (Lam, Chung, & Li, 2018). These findings suggest that the effects of parental warmth and hostility may have independent effects on adolescent outcomes. Unique to the population of interest, Latinx parenting is typically characterized by harsher and more punitive parenting (Fischer, Harvey, & Driscoll, 2009). The different ways in which Latinx adolescents perceive their parents' parenting practices can therefore connote differential effects of parental hostility on Latinx adolescents' identity development. Thus, a closer examination of parental warmth versus hostility, within the context of Latinx language broker role identities, may shed light on the specificity and differential effects of Latinx parenting practices on adolescents' identity development. Further, the relation between parenting and adolescent identity may be affected by adolescent gender. For example, in a longitudinal investigation of parenting behaviors among Latinx adolescents, parental warmth had a potent effect on sons', but not daughters', ethnic identity exploration (Umaña-Taylor & Guimond, 2012). As few studies in the literature have distinguished between the specificity of different parenting practices on Latinx adolescents' role identity development, examining the relationship from parental warmth and parental hostility, both independently and simultaneously, to language broker centrality, may reveal subtle distinctions in how different Latinx parenting practices affect healthy adolescent identity processes and how they vary by gender.

Adolescent Life Meaning as Mediator for Parenting Practices and Language Broker Centrality

The relation between parenting practices and language broker role identity was further hypothesized to hinge on adolescents' ability to derive a sense of life meaning. Meaning in life has been defined as "the extent to which people comprehend, make sense of, or see significance in their lives, accompanied by the degree to which they perceive themselves to have a purpose, mission, or overarching aim in life" (Steger, 2009). Life meaning therefore

includes the comprehension of, and a quest for, lifelong purpose. While *life meaning* and *purpose* have been distinguished as separate constructs (Kashdan & McKnight, 2009), they are treated as synonymous in the current context and used interchangeably because of their common function as motivational forces for role identity formation (Franzese, 2013). Past research revealed that perceived parenting quality (warmth, control, autonomy support) predicted more favorable identity development in a 2-wave sample of 693 adolescents (Beyers & Goossens, 2008), and other studies have found that purpose in life predicted a more positive self-image for adolescents transiting to adulthood (Hill, Edmonds, Peterson, Luyckx, & Andrews, 2016). It stands to reason that strong parent-child ties contributes to life meaning (Hill, Burrow, & Sumner, 2016), and that feeling purposeful relates to positive identity development (Hill & Burrow, 2012).

Within the literature, meaning in life has been found to relate to both the *presence* of and the *search* for meaning (Steger, Frazier, Oishi, & Kaler, 2006), with the two sub-constructs of life meaning implicating different aspects of identity development. In particular, presence of meaning is a relevant mechanism for the *formation* of identities, while search for meaning is related to the *maintenance* of existing identities (Negru-Subtirica, Pop, Luyckx, Dezutter, & Steger, 2016). The current research, with its focus on examining the formation of language broker role identities, therefore examined presence, and not search for meaning, as a potential mechanism for explaining the association from parenting practices to language broker role identities. Specifically, presence of life meaning is important as it can function as a source of validation for adolescents' language broker role identities. Warm and supportive familial environments provide a greater repository of psychological resources, including an enhanced sense of purpose and life meaning (Huppert, Abbott, Ploubidis, Richards, & Kuh, 2010). Indeed, the work of a language broker has profound impacts on the Latinx adolescent and his/her family as the language broker assumes adult roles and make complex decisions that affect family members' well-being and implicate family survival (Kam & Lazarevic, 2014a). Beyond adolescents' self-perceptions, language brokers can derive a sense of purpose and meaning through parental validation of language broker identities since parents offer a potent source of feedback regarding role performance and responsibilities (Steger, Bundick, & Yeager, 2011). Accordingly, adolescent language brokers rely on not only contextual cues (i.e., parenting), but also rely upon internal processes (life meaning) for language broker role identity verification to allow successful integration of their language broker social categorizations into self-concepts.

Reciprocal Associations between Parenting Practices, Life Meaning and Language Broker Role Identity

One complication that arises is the potential for reciprocal relations between the study's core constructs. Although life meaning has been argued to precede identity development thus far, Thoits (2012) argued that greater involvement in a specific role identity, the greater the subjective importance placed on the role identity, and the more powerful these self-conceptions become in providing existential meaning. For instance, as engagement in the language broker role increases, language brokers may come to view their translator role as instrumental (Corona et al., 2012) and enhance one's own subjective sense of life meaning.

Indeed, a recent longitudinal investigation noted the reciprocal effects between the presence of life meaning and adolescent identity in a sample of 1062 early to middle adolescents (Negru-Subtirica et al., 2016). Clarifying potential bidirectionality between life meaning and language broker role identity development is therefore important as it reveals how presence of life meaning aids adolescents in the construction of their language broker role identities; and how a coherent understanding of the self that incorporate one's role as a language broker enables Latinx adolescents' acquisition of meaning.

Relatedly, Latinx adolescents' sense of meaning in life and language broker centrality may culminate in different perceived parenting practices. Previous research has posited that adolescents are powerful influences of their own parents' parenting behaviors (Kerr & Stattin, 2003). Beyers and Goossens (2008) showed that supportive parenting predicted adolescents' identity commitment making; simultaneously, adolescents' commitment identification predicted more supportive parenting. Within the context of language brokering, as adolescents begin to identify more with their language broker role identities, their positive language broker role performance may encourage parents to engage in more warm parenting behaviors. A cross-lagged panel design was therefore adopted to elucidate potential reciprocal associations (Negru-Subtirica et al., 2016) in the current study to provide a more nuanced understanding of parenting practices, life meaning and language broker role identity formation.

Current Study

Examining the antecedents and mechanisms of language broker centrality can offer insights to how unique adolescent identity processes are developed within their specific sociocultural contexts. Considering that identity formation is an important developmental task during adolescence, the present study focused on early adolescent language brokers for a multiplicity of reasons. For one, there is a dearth of literature examining identity development in early adolescence even though early adolescence is an important period of self-development (Schwartz, 2008). For example, previous longitudinal studies have shown that family functioning played a significant role in impacting Latinx early adolescents' personal identity development during early adolescence (Schwartz et al., 2009). Moreover, since language brokering most frequently begins during early adolescence (Morales & Hanson, 2005), it is a period that can spark the onset of adolescents' understanding of their self-perceptions as translators for their families.

The study was also interested in examining maternal, and not paternal, parenting practices (warmth and hostility) specifically as past studies have (1) revealed discrepancies between maternal and paternal parenting and (2) emphasized maternal warmth and hostility to profoundly influence children's development above and beyond the impact of paternal parenting practices. For example, perceived maternal, but not paternal, social support was indirectly related to child's social competence through parental monitoring in a sample of 674 adolescents (Taylor, Conger, Robins, & Widaman, 2015). Specific to identity development, maternal but not paternal behavioral control was associated with adolescents' identity style (Smits et al., 2008). Pertinent to our investigation on ethnic minorities with immigrant parents, past findings have revealed that Latinx children are more likely to live

with their mothers than fathers due to stage migration (Landale, Thomas, & Van Hook, 2011). Adolescents with immigrant parents are thus most likely to assume the language broker role during mother-adolescent interactions. Previous research has also demonstrated that language brokers are more likely to translate for mothers compared to fathers (Kam & Lazarevic, 2014a); this skewed frequency of language brokering can increase the relevance of the language broker role identity and emphasize adolescents' language broker centralities for mothers.

Taken together, the current study attempted to identify pathways that culminate in adolescents' language broker centralities, based on two different types of maternal parenting practices, maternal warmth and maternal hostility. It was further hypothesized that presence of life meaning mediates the relationship between parenting practices and language broker centrality. Specifically, a positive path from adolescent language brokers' perceived maternal warmth, to presence of life meaning, to adolescents' language broker centrality should be observed; conversely, a negative path from adolescents' perceived maternal hostility, to presence of life meaning to adolescents' language broker centrality should be observed, while assessing for variations by gender. In light of our earlier discussion on the interrelatedness between the different constructs, reciprocal paths were estimated to account for potential bidirectionality between maternal parenting practices, presence of life meaning and language broker centralities. Potential adolescent gender differences were also considered because identity development outcomes have been found to be more pronounced for female adolescents (Umaña-Taylor, Gonzales-Backen, & Guimond, 2009) and also because language broker centrality might be more pronounced in females as gender has been related to adolescents' proclivity to translate (Villanueva & Buriel, 2010).

Methods

Participants

Participants were 604 Mexican American middle-school (between 6–8th grade; $N_{6th} = 273$, 45.2%; $N_{7th} = 153$, 25.3%; $N_{8th} = 178$, 29.5%) adolescent language brokers (54.3% female) recruited from and around a metropolitan city in central Texas. Two waves of data were collected about a year apart (M_{age} at Time 1 = 12.41, $SD = .97$). Participating adolescents were first- or second-generation Mexican immigrants. Both the mean and median family income was between the range of \$20,001 to \$30,000, with three quarters of families ($N = 454$, 75.2%) reporting annual incomes equal to \$40,000 or less. The majority of the adolescents reported their language brokering experiences for their biological mothers ($N_{bio} = 589$, 97.5%; $N_{non.bio} = 5$, 0.8%; $N_{unspecified} = 10$, 1.7%). Mothers' median education level was "some middle school," and around two thirds of mothers ($N = 392$, 64.9%) "finished middle school" or less.

Procedure

Participants were recruited through public records, school presentations, and community recruitment between 2012 and 2015. To qualify for participation, adolescents should be in middle school, have both parents be of Mexican origin, and be translating for at least one of their parents. A family visit was scheduled to obtain parents' consent and adolescents' assent

should they decide to participate in the study. Once families decided to participate in the study, bilingual and bicultural interviewers (trained research assistants) went on a second family visit (usually took 2.5 hours), administered the questionnaires, read questions aloud, and inputted participants' responses on laptop computers. Both languages, English and Spanish, were also presented together on the questionnaires administered to participants.

Of the 604 families participating in Wave 1 (W1), 80% also agreed to participate in Wave 2 (W2; $N = 483$). Families were compensated \$60 at W1 and \$90 at W2 to prevent attrition. Attrition analyses were conducted on adolescent age, sex; mothers' education level, and family income. No differences were found between participants who remained in the study versus those who dropped out at W2, except that for families that continued participating, mothers tended to be more highly educated, $t(591) = 2.41, p < .05$.

Measures

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

Adolescent perception of maternal warmth and hostility.—Adolescent reports of perceived maternal warmth and perceived maternal hostility were assessed using items adopted from the Iowa Youth and Families Project (Ge, Best, Conger, & Simons, 1996). Adolescents reported on seven items that assessed the affective dimension of maternal warmth. Items assessed whether adolescents perceived that their mothers “listened carefully” or “acted supportive and understanding” to the child. Adolescents' report of maternal hostility was measured based on six items assessing their perception of mothers' hostile behaviors including “shout or yell” or “get into a fight or argument” with the child. Items for both perceived maternal warmth and perceived maternal hostility were rated on a scale between 1 (never) and 7 (always) with higher mean scores reflecting higher levels of perceived maternal warmth ($\alpha = .91$ and $.92$ for W1 and W2, respectively) and perceived maternal hostility ($\alpha = .84$ and $.85$ for W1 and W2, respectively).

Life meaning.—Presence of life meaning was measured using three items from the presence subscale in the meaning in life questionnaire (Steger et al., 2006). Some items included in the measure were “My life has a clear sense of purpose” and “I have a good sense of what makes my life meaningful”. Items were rated on a scale between 1 (*strongly disagree*) and 5 (*strongly agree*) with higher mean scores reflecting higher levels of life meaning ($\alpha = .87$ and $.90$ for W1 and W2, respectively).

Language broker centrality.—Language broker centrality was measured using three items from a language broker measure (Kim, Hou, Shen, & Zhang, 2017). Language broker centrality measures the extent to which adolescents perceived the language broker role identity as important to self-concepts. The original measure included two separate scales for situations when brokering for mother versus for father. Given the purpose of the current study, only the language broker centrality measure pertaining to adolescents' language

brokering experience for their mother was used. Items included in the measure were “Being a translator for my mother is important to who I am” and “A key part of how I see myself is being a translator for my mother.” Items were rated on a scale between 1 (*strongly disagree*) and 5 (*strongly agree*) with higher mean scores reflecting higher levels of centrality ($\alpha = .86$ for both Wave 1 and 2).

Covariates.—Adolescent self-reported their age, grade (6th, 7th, or 8th grade), gender (male vs. female). Mother reported their family income in the past year using a 11-point scale in \$10,000 increments (ranging from “0 = *less than \$10,000*” to “11 = *more than \$110,000*”). Mothers also reported their highest level of educational attainment using a scale ranging from “1 = *no formal schooling*” to “11 = *finished graduate degree*.”

Analysis Plan

Structured equation modeling was adopted to analyze the proposed models in Mplus 7.4 (Muthén & Muthén, 1998–2016) using maximum likelihood with robust standard errors (MLR) estimation method. Crosssectional and longitudinal paths, as well as direct and indirect effects among the model constructs, were tested simultaneously. The full information maximum likelihood (FIML) method was incorporated to handle missing data. To test the main hypotheses for the current study, three models were tested: adolescents’ perception of maternal warmth as a predictor (Model 1); adolescents’ perception of maternal hostility as a predictor (Model 2); and a combined model that incorporated both adolescents’ perceived maternal warmth and hostility as predictors (Model 3) to examine whether the predictive power of maternal parenting on language broker centrality through life meaning still remained after controlling for the contrasting parenting practice. For all models, the endogenous variable was language broker centrality and the latent mediating variable was presence of life meaning. In order to simultaneously account for the auto-regressive and cross-lagged effects of two-wave predictors, mediators and outcomes, the crosslagged model was adopted. Measurement model of W1 and W2 presence of life meaning were tested first to ensure good model fit and > 0.3 loadings. Models were considered as showing good fit indices when Chi-Square test was not significant at a threshold of $p = .05$, possessed comparative fit index (CFI) larger than 0.900, root mean square error of approximation (RMSEA) smaller than 0.06, 90% confidence interval of the RMSEA falls in the range of [0.000, 0.080], standardized root mean square residual (SRMR) lower than 0.05 (Hooper, Coughlan, & Mullen, 2008). Adolescents’ age, grade, gender, parental educational level, and family income were included as covariates. Descriptive and correlational analyses for study and control variables are shown in Table 1.

Prior research suggested that adolescent gender can influence frequency of language brokering, with females more likely to engage in translation for parents (Villanueva & Buriel, 2010). To test for gender variance in the paths, sensitivity analyses were conducted through multiple group comparison across gender for the combined model. Additionally, previous studies have found that life meaning and identity development possessed mutually influencing effects, and the relations between maternal parenting practices and adolescent identity development may be bidirectional. To provide greater confidence for the proposed model (maternal parenting practices to presence of life meaning to language broker

centrality, see Figure 1), model fits of alternate mediation models were tested to demonstrate which temporal ordering of variables were the most tenable. Four mediation models were conducted using a subsample of 155 adolescents where the third wave of data is available in order to examine the temporal order of maternal parenting practices, presence of life meaning, and language broker centrality. Specifically, fit indices among four models (Figure 2) were compared for: a) the effect of W1 maternal parenting practices to W3 centrality via W2 life meaning, b) the effect of W1 maternal parenting practices to W3 life meaning via W2 centrality, c) the effect of W1 centrality to W3 maternal parenting practices via W2 life meaning, and d) the effect of W1 life meaning to W3 maternal parenting practices via W2 centrality.

Results

Analyses of Hypothesized Models

The descriptive information and correlations between the study variables and covariates were presented in Table 1, for male and female adolescent language brokers separately.

The measurement model for presence of life meaning showed good fit: $\chi^2(5, N = 604) = 6.098, p = .297, CFI = .999, RMSEA = .019, 90\%CI [.000, .062], SRMR = .017$. Loadings of all three items range from .788 to .895 for W1 life meaning, and from .841 to .911 for W2 life meaning.

The three hypothesized models revealed relatively good fit: Model 1 (maternal warmth only), $\chi^2(41, N = 604) = 53.773, p = .087, CFI = .994, RMSEA = .023, 90\%CI [.000, .038], SRMR = .017$; Model 2 (maternal hostility only), $\chi^2(41, N = 604) = 60.702, p = .028, CFI = .990, RMSEA = .027, 90\%CI [.011, .042], SRMR = .018$; Model 3 (the combined model), $\chi^2(51, N = 604) = 80.179, p = .006, CFI = .988, RMSEA = .031, 90\%CI [.017, .043], SRMR = .021$. Analyses revealed that the cross-sectional relationships among adolescents' reports of perceived maternal parenting practice, life meaning, and centrality were significant in all three models. Stability pathways (i.e., W1 to W2 maternal warmth/hostility; W1 to W2 life meaning; W1 to W2 centrality) were found to be significant for all measured model constructs in Models 1, 2 and 3. Cross-lagged paths (e.g., W1 life meaning to W2 warm) in the three models were not significant, except for a significant relationship between W1 centrality and W2 life meaning in Models 1 and 3, and a significant relationship between W1 life meaning and W2 perceived maternal hostility in Models 2 and 3 (see Figures 3 and 4).

Main Analyses

Supporting the study's hypothesis, significant indirect effects from adolescents' reports of perceived maternal warmth to centrality were found in Model 1 (maternal warmth only model, see Table 2). Cross-sectionally, the indirect pathway from W1 perceived maternal warmth to W1 centrality was mediated by W1 life meaning ($\beta_{\text{indirect}} = .09, p < .001$). Longitudinally, three significant indirect pathways from W1 perceived maternal warmth to W2 centrality were found. The first indirect path was via W1 centrality ($\beta_{\text{indirect}} = .13, p < .001$). The second pathway was via W2 perceived maternal warmth ($\beta_{\text{indirect}} = .13, p < .001$).

Of interest, a third indirect path was found via W1 life meaning and W1 centrality ($\beta_{\text{indirect}} = .04, p < .001$). A significant cross-lagged path from W1 centrality to W2 life meaning ($\beta = -.10, p = .025$) was found, suggesting bidirectionality between presence of life meaning and language broker centrality.

Similarly, for Model 2 (maternal hostility only model, see Table 2), results revealed significant indirect effects from adolescents' perception of maternal hostility to centrality. Cross-sectionally, the indirect pathway from W1 perceived maternal hostility to W1 centrality was mediated by W1 life meaning ($\beta_{\text{indirect}} = -.06, p < .001$). Longitudinally, two significant indirect pathways from W1 perceived maternal hostility to W2 centrality were found. The first path was via W1 centrality ($\beta_{\text{indirect}} = -.04, p = .022$). The second path was via W1 life meaning and W1 centrality ($\beta_{\text{indirect}} = -.03, p = .001$). A significant cross-lagged path from W1 life meaning to W2 perceived maternal hostility ($\beta = -.11, p = .018$) was found, suggesting bidirectional associations, this time, between perceived maternal hostility and presence of life meaning.

In Model 3 (the combined model, see Table 2), where both perceived maternal warmth and perceived maternal hostility were included as predictors, only significant indirect pathways for adolescents' perceptions of maternal warmth, both cross-sectionally and longitudinally, were found. Cross-sectionally, the indirect pathway from W1 perceived maternal warmth to W1 centrality was found to be mediated by W1 life meaning ($\beta_{\text{indirect}} = .08, p < .001$). Longitudinally, three significant indirect pathways from W1 perceived maternal warmth to W2 centrality were found. The first pathway was via W1 centrality ($\beta_{\text{indirect}} = .13, p < .001$). The second pathway was via W2 perceived maternal warmth ($\beta_{\text{indirect}} = .14, p < .001$). Finally, a third path was found via W1 life meaning and W1 centrality ($\beta_{\text{indirect}} = .04, p = .001$). Mirroring the results in Models 1 and 2, significant cross-lagged path from W1 life meaning to W2 perceived maternal hostility ($\beta = -.12, p = .010$) and W1 centrality to W2 life meaning ($\beta = -.11, p = .025$) was found, suggesting bidirectional associations between perceived maternal hostility and presence of life meaning and between language broker centrality and presence of life meaning.

Sensitivity Analyses

Gender invariance tests.—Previous studies suggested that adolescent identity development processes differ meaningfully by gender. Further, as cross-gender differences were observed in the correlations among study variables (see Table 1 for details), gender invariance tests were conducted to examine whether there were significant gender differences on the effects of maternal warmth and maternal hostility on language broker centrality through life meaning. Given the utilized multiple group comparison strategy, the cross-lagged SEM model (with latent life meaning at W1 and W2) was too complex. To reduce model complexity and to ensure model convergence, cross-lagged path models (observed variables for life meaning at W1 and W2) were used for invariance tests.

Results from the Satorra-Bentler Scaled Chi-Square difference test between the unconstrained model and the fully constrained Model 3 (constrained all paths to be equal between male and female adolescent participants) was significant, $\chi^2(26) = 40.98, p = .03$. Then, the paths in fully constrained Model 3 were unconstrained one by one and only when

the path of W2 maternal hostility to W2 centrality was unconstrained, this partially constrained model was not significantly different from the unconstrained Model 3 in goodness of fit, $\chi^2(25) = 35.42, p = 0.08$. This suggests that the relationship between W2 maternal hostility and adolescents' language broker centrality differed by adolescent gender. This relationship was positive for female brokers ($\beta = .13, p = .03$), whereas the association was not significant for male brokers ($\beta = -.06, p = 0.31$). Therefore, effects of maternal warmth and maternal hostility on language broker centrality through presence of life meaning was not different between male and female adolescent participants, except for the path of W2 maternal hostility on W2 language broker centrality.

Alternative models (N = 155, 3 waves).—The significant cross-lagged paths in the main analyses suggested that reciprocal associations were observed between the study constructs, accordingly, additional analyses were conducted to provide greater clarity of their temporal order and boost confidence regarding the proposed model. In the alternative model testing, four mediation models (Figure 2) were tested and the model fit indices were assessed and compared. In accordance with guidelines for RMSEA, values lower than .06 indicated good model fit; although the general consensus among scholars suggest that the upper limit should be less than .08 (Hooper et al., 2008).

All four models displayed moderate to good fits: Model a (proposed temporal order for the present study; W1 maternal parenting practices \rightarrow W2 life meaning \rightarrow W3 language broker centrality) exhibited good model fit, $\chi^2(2, N = 155) = .008, p = .996, CFI = 1.000, RMSEA = .000, 90\%CI [.000, .000], SRMR = .001$; Model b (W1 maternal parenting practices \rightarrow W2 language broker centrality \rightarrow W3 life meaning) exhibited acceptable model fit, $\chi^2(2, N = 155) = 4.457, p = .108, CFI = .984, RMSEA = .089, 90\%CI [.000, .203], SRMR = .014$; Model c (W1 language broker centrality \rightarrow W2 life meaning \rightarrow W3 maternal parenting practices) exhibited acceptable model fit, $\chi^2(6, N = 155) = 14.407, p = .025, CFI = .943, RMSEA = .095, 90\%CI [.031, .159], SRMR = .030$; Model d (W1 life meaning \rightarrow W2 language broker centrality \rightarrow W3 maternal parenting practices) exhibited acceptable model fit, $\chi^2(6, N = 155) = 11.606, p = .071, CFI = .973, RMSEA = .078, 90\%CI [.000, .144], SRMR = .021$. Results showed that Model a had the best overall model fit, suggesting a better likelihood that the relationships among maternal parenting practices, life meaning, and language broker centrality followed the sequence of our proposed model.

Discussion

Identity development is a crucial developmental task during adolescents (Erikson, 1968). For ethnic minority adolescents who serve as “language brokers” for their English limited parents (Morales & Hanson, 2005), translation and interpretation can culminate in the formation of a “language broker” role identity (Weisskirch, 2017). The current research adds to the literature by providing phenomenological evidence for the language broker role identity through examining maternal parenting practices as an antecedent and life meaning as a mediator for language broker role identity formation. The present research also adds to the literature by clarifying the reciprocal associations among parenting practices, life meaning and language broker role identity, and the possible moderating role of gender. Specifically, cross-lagged SEM models and alternative model testing demonstrated that

perceived maternal parenting practices (warmth and hostility) contributed to Latinx adolescents' sense of life meaning and their language broker role centralities, with reciprocal relationships between maternal parenting, life meaning and language broker centralities. Despite a considerable pool of literature that is focused on the study of language brokering, no research has examined language brokering through a role identity framework. The current study thus serves as a preliminary foray into ethnic minority role identities, and attests to how language brokering can powerfully influence Latinx adolescents' self-concepts and implicate an understudied domain of identity development. Further, understanding the effects that maternal parenting practices possess on shaping adolescent role identities and adolescents' sense of meaning in life sheds light on the importance of Latinx mothering and how maternal socialization practices impacts healthy adolescent identity formation.

Of note, the results revealed the indirect effects of maternal warmth and maternal hostility to be significant in single-predictor models (i.e., only Models 1 and 2), while only the effects of maternal warmth remained significant in Model 3 where both maternal warmth and hostility were included as predictors. These results are in line with the study's hypotheses that maternal warmth and hostility possessed differential effects on language broker role identity formation. Although maternal hostility was hypothesized to negatively influence Latinx adolescents' language broker role identity formation, the results showed that maternal hostility possessed positive effects on female adolescents' language broker centralities, whereas no effects were observed for male adolescents' language broker centralities. One explanation for these findings may be attributed to the qualitative differences in Latinas' childrearing practices. In a study of 50 first generation Latinx parents and their children, Latinas reported less autonomy granting and more demandingness when parenting daughters than sons (Domènech Rodríguez, Donovanick, & Crowley, 2009). This difference in Latinx maternal parenting practices can impact how adolescents conceptualize maternal hostility in Latinx households and potentially explain the positive influence of maternal hostility on daughters' language broker role identity formation. Moreover, research on maternal control (which can result in greater levels of perceived maternal hostility) has been found to be associated with higher levels of self-esteem in Latinx females (Halgunseth, Ispa, & Rudy, 2006), suggesting that maternal hostility can improve female adolescents' psychological development. With that said, it may also be possible that an artificial positive effect in Model 3 was found as a result of controlling for too many paths simultaneously in the combined model. Specifically, the zero-order bivariate correlations (see Table 1) revealed an inconsistent pattern from what was observed in Model 3, where the correlation between W2 maternal hostility and W2 language broker centrality was significantly negative for male but not significant for female adolescents. Yet, it is equally important to point out that the path from W2 maternal hostility and W2 language broker centrality was not part of the indirect effect and as such it is difficult to ascertain whether the observed results was a statistical artifact. When taken as a whole however, the present study provided evidence for the impact of maternal warmth on influencing Latinx adolescents' language broker role identity formation, supported extant findings in the literature about the heterogeneity of different parenting practices on identity development processes, and highlighted the need for assessments by gender in the study of adolescent identity. Thus, it will be important for future research to assess whether the current pattern of results may be replicated and

whether these effects generalize to other samples to achieve a nuanced understanding of the effects of maternal warmth and hostility on language broker role identity formation. Investigating other parenting practices can also allow researchers to obtain a more concrete picture of how parenting practices implicate language broker role identities.

Confirming past literatures, the main constructs of interest revealed significant reciprocal effects (Beyers & Goossens, 2008; Negru-Subtirica et al., 2016). Specifically, the significant cross-lagged paths in the combined model suggested that presence of life meaning negatively related to perceived maternal hostility, and that language broker centrality was inversely related to presence of life meaning (see Figure 4). The bidirectional finding between life meaning and maternal parenting suggests that adolescents' life meaning also tangibly affected their subjective feelings about mother's parenting practice (Kerr & Stattin, 2003) beyond maternal parenting's influence on adolescents' sense of life meaning and language broker role identity formation. These associations, however, are specific only to perceived maternal hostility and not perceived maternal warmth, again, highlighting the distinct effects of warmth and hostile parenting. The interrelatedness between presence of life meaning and maternal hostility also lend support to an ecological-transactional model of *identity* development (Cicchetti, Toth, & Maughan, 2000). By unpacking the relations between maternal parenting practices and life meaning, the present study demonstrated that adolescents played an active role in influencing their own psychological well-being and to exact significant influence on perceived mothers' parenting practices directly and indirectly.

One potential explanation for the inversed relationship between life meaning and language broker centrality may be related to adolescents' perceived ability to cope with the demands of language brokering. As language brokering begins in early adolescence, young children who have limited language proficiency might find it burdensome to translate for their parents due to having no formal training or competence in the English language (Wu & Kim, 2009). The increase in parental dependence and a sense of obligation to translate can in turn relate to lower levels of life meaning (Kim, Hou, et al., 2017). However, it is likely that as adolescents become more competent in the English language and come to develop a more cogent understanding of their roles as language brokers, their psychological well-being (including a sense of life meaning) would witness corresponding improvements as well. For example, (Kam & Lazarevic, 2014b) argued that the detriments associated with language brokering during early adolescence (i.e., stress) dissipates over time should language brokers possess positive beliefs and norms about language brokering. The present work only followed Latinx adolescents over a one-year period. Over developmental time, adolescents who are successful in reconciling their roles as language brokers and the demands associated with it are therefore more likely to enjoy better psychological well-being and perhaps see improvements in self-reported life meaning. Adopting an applied perspective, helping Latinx language brokers become competent and confident in engaging in translation (Burke & Stets, 2009), working towards instilling meaning (Ryff & Singer, 2008), would all prove valuable to adaptive adolescent identity processes. Relatedly, presence of meaning but not the search for meaning was investigated as a mechanism for language broker role identity in the present study due to an interest in elucidating language broker role identity formation during early adolescence. Since search for meaning has been implicated as an important mechanism for maintaining adolescents' identities (Negru-Subtirica et al., 2016),

incorporating the search for meaning in future research may be especially critical for an examination of how the broad construct of life meaning and adolescents' language broker role identities are related over time. Indeed, beyond early adolescence, language brokering has been found to possess long term effects on language brokers during middle and late adolescence (Niehaus & Kumpiene, 2014), college (Weisskirch et al., 2011), and even in adulthood (Weisskirch, 2006). When taken together, future longitudinal studies may reveal whether the possession of a language broker identity remains detrimental to adolescents' sense of presence of life meaning, how search for meaning aids in the maintenance of Latinx adolescents' language broker role identity across developmental stages or how presence and search for meaning jointly influence role identity development. Demonstrating the longitudinal trajectories of language broker identities will be useful in clarifying the relatedness of parenting and life meaning in adolescents' role identity development. Tangentially, exploratory analyses based on a sub-sample of Wave 3 participants was conducted to disentangle the complex association and confirm the temporal ordering of the study's main constructs. Though there is greater confidence regarding the directionality of the proposed model, bidirectionality cannot be ruled out considering the significant cross-lagged pathways. The current study is limited by the fact that adolescents were followed only across two time points. Again, future research would benefit from an intensive longitudinal research design to provide more robust interpretations of the reciprocal relations between parenting practices, life meaning and language broker role identity.

Although examining Latinx adolescents' language broker role identities can provide a succinct framework to interpret and understand how language brokers' role as translators implicate different domains of their lives, investigating how their language broker role identities affect adolescents' overall identity development would be crucial to understanding typical adolescent identity development processes. As discussed, language broker role identity can implicate adolescents' ethnic identities (Weisskirch, 2005). Especially for Latinx adolescents from immigrant families, language brokers may interpret their role as translators to be crucial to their understanding of what it means to be Latinx. Indeed, in some preliminary work, language broker centrality was found to aid in the intergeneration transmission of ethnic identities (Sim, Kim, Velez, Shen, & Zhang, in press). Accordingly, it may be important to study the unique roles that adolescents from immigrant households undertake that directly or indirectly support their own ethnic identity development. In association, various studies have demonstrated how the possession of multiple social identities can enhance not only life meaning, but also offer behavioral guidance and generate positive self-appraisals that improved physical and mental health (Thoits, 2012). Using a person-centered approach, Kiang et al. (2008) revealed how identification across different social domains can contribute to Latinx adolescents' adaptive levels of positive and negative affect, self-esteem and perceived opportunities. For Latinx immigrant adolescents, the addition of their language broker role identities may better situate language brokers to reap these benefits associated with the possession of multiple identities. In the current study, only one role identity that is relevant to Latinx adolescents was examined. More importantly, future research may explore how the language broker role identity ties in with other aspects of Latinx adolescents' social identities to improve adolescents' overall well-being. In addition, language brokering has been shown to be related to adolescents' emotional

adjustment (Martinez, McClure, & Eddy, 2009) and physiological health (Kim, Zhang, Zeiders, Sim, & Gleason, 2018). Future studies may build upon the current work and investigate the links between language broker role identity and other significant identity outcomes and critical psychosocial correlates to promote greater understanding of the development of ethnic minority adolescents from immigrant families.

Despite the novel findings, there are limitations worth mentioning. Only maternal parenting practices was assessed as a predictor of adolescents' language broker role identities in the present study. Though the results concurred with general findings in literature that mothering played a potent role in shaping adolescents' identity development (Taylor et al., 2015), analyzing both mothers and fathers' parenting practices can shed light on the dissimilar influence of parental warmth and hostility on adolescents' identity development (Smits et al., 2008). It has been suggested that while mothers exact significant influence on their children's development during childhood and early adolescence, over time, fathers may play a more active role in influencing child development as parenting strategies shift according to adolescents' developmental demands (Stolz, Barber, & Olsen, 2005). For example, Kim and colleagues showed that mothers gradually relinquish their control over children as fathers increase their stake in childrearing as children transit from childhood to adolescence (Kim, Chen, Sim, & Hou, 2017). This may inevitably shift the influence of mothers' parenting practices to fathers' parenting practices in molding adolescents' language broker role identities over time. When investigating the long-term trajectories of language broker role identity development then (i.e., moving beyond early adolescence), an examination of both mother and father parenting practices may be especially important since fathers, more than mothers, may play a more significant role in molding Latinx adolescents' language broker role identities longitudinally. Moreover, as parents can exact contrasting influence on adolescent identities (Beyers & Goossens, 2008), incorporating fathers' warmth and hostility in future studies can provide a more holistic appreciation regarding the relation between parenting practices and role identity formulation in immigrant families.

Conclusion

Considering the rising number of immigrants in the US (Pew Research Center, 2018), investigating Latinx adolescent identities from immigrant families offer a glimpse into the psychosocial well-being and normative development of a substantial and growing sub-sample of the US population. Specifically, the current study demonstrated that the social roles that Latinx adolescents from immigrant families undertake, to manifest in distinct self-identifications and implicate their identity development processes. In particular, maternal parenting practices and a sense of life meaning can impact Latinx adolescents' language broker role identity formation. This study is the first to examine the culturally-relevant role identity of language broker in Latinx adolescents from immigrant families; however more work is necessary to provide an elucidation of how language broker role identities are formed and maintained over time and how adolescents' language broker role identity affect development. The present study also raises important question about the factors that facilitate adolescent identity development, their interrelatedness, and adolescents' agency in mutually affecting his/her environment. Accordingly, future research should adopt a framework of identity development that captures the interdependence between adolescents'

own psychology and vital contextual variables (i.e., parenting practices). As the present results demonstrated the dynamicity between parenting practices, life meaning, and language broker role identities, studies should be conducted to also understand how the language broker role identity implicates domains beyond that of adolescents' psychological health. Additionally, only one variant of minority adolescents' social identities was explored in the present work, though it is likely that other salient social identities remain developmentally important for these adolescents (Kiang et al., 2008). Investigating the multifaceted aspects of adolescent identities, and how adolescents internalize their multiple identities within a longitudinal framework, can offer insight to ethnic minority adolescents' identity development processes and overall well-being.

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References

- Beyers W, & Goossens L (2008). Dynamics of perceived parenting and identity formation in late adolescence. *Journal of Adolescence*, 31(2), 165–184. doi:10.1016/j.adolescence.2007.04.003 [PubMed: 17629552]
- Biddle BJ (1979). *Role theory: Expectations, identities, and behaviors* New York, NY: Academic Press.
- Brassai L, Piko BF, & Steger MF (2013). Individual and parental factors related to meaning in life among Hungarian minority adolescents from Romania. *International Journal of Psychology*, 48(3), 308–315. doi:10.1080/00207594.2011.645483 [PubMed: 22376146]
- Burke PJ, & Stets JE (2009). *Identity theory* New York: Oxford University Press.
- Chao RK (2006). The prevalence and consequences of adolescents' language brokering for their immigrant parents. In Bornstein MH & Cote LR (Eds.), *Acculturation and parent-child relationships: Measurement and development* (pp. 271–296). Mahwah, NJ: Erlbaum.
- Cheng SH, & Kuo WH (2000). Family socialization of ethnic identity among Chinese American pre-adolescents. *Journal of Comparative Family Studies*, 31(4), 463–484.
- Cicchetti D, Toth SL, & Maughan A (2000). An ecological–transactional model of child maltreatment. In Sameroff AJ, Lewis M, & Miller SM (Eds.), *Handbook of developmental psychopathology*, 2nd ed. (pp. 689–722). Dordrecht: Kluwer Academic Publishers.
- Corona R, Stevens LF, Halfond RW, Shaffer CM, Reid-Quiñones K, & Gonzalez T (2012). A qualitative analysis of what Latino parents and adolescents think and feel about language brokering. *Journal of Child and Family Studies*, 21(5), 788–798. doi:10.1007/s10826-011-9536-2
- Del Torto LM (2008). Once a broker, always a broker: Non-professional interpreting as identity accomplishment in multigenerational Italian–English bilingual family interaction. *Multilingua - Journal of Cross-Cultural and Interlanguage Communication*, 27(1–2), 77. doi:10.1515/MULTI.2008.005
- Domènech Rodríguez MM, Donovan MR, & Crowley SL (2009). Parenting styles in a cultural context: Observations of “protective parenting” in first-generation Latinos. *Family process*, 48(2), 195–210. [PubMed: 19579905]
- Erikson EH (1968). *Identity: youth and crisis* Oxford, England: Norton & Co.

- Fischer C, Harvey EA, & Driscoll P (2009). Parent-centered parenting values among Latino immigrant mothers. *Journal of Family Studies*, 15(3), 296–308. doi:10.5172/jfs.15.3.296
- Franzese AT (2013). Motivation, motives, and individual agency. In DeLamater J & Ward A (Eds.), *Handbook of social psychology*, 2nd ed. (pp. 281–318). New York, NY: Springer Science + Business Media.
- Ge X, Best KM, Conger RD, & Simons RL (1996). Parenting behaviors and the occurrence and co-occurrence of adolescent depressive symptoms and conduct problems. *Developmental Psychology*, 32(4), 717–731. doi:10.1037/0012-1649.32.4.717
- Halgunseith LC, Ispa JM, & Rudy D (2006). Parental Control in Latino Families: An Integrated Review of the Literature. *Child Development*, 77(5), 1282–1297. doi:10.1111/j.1467-8624.2006.00934.x [PubMed: 16999798]
- Hernández MM, Conger RD, Robins RW, Bacher KB, & Widaman KF (2014). Cultural socialization and ethnic pride among Mexican-origin adolescents during the transition to middle school. *Child Development*, 85(2), 695–708. doi:10.1111/cdev.12167 [PubMed: 24117445]
- Hill PL, & Burrow AL (2012). Viewing Purpose Through an Eriksonian Lens. *Identity*, 12(1), 74–91. doi:10.1080/15283488.2012.632394
- Hill PL, Burrow AL, & Sumner R (2016). Sense of purpose and parent–child relationships in emerging adulthood. *Emerging Adulthood*, 4(6), 436–439. doi:10.1177/2167696816640134
- Hill PL, Edmonds GW, Peterson M, Luyckx K, & Andrews JA (2016). Purpose in life in emerging adulthood: Development and validation of a new brief measure. *The Journal of Positive Psychology*, 11(3), 237–245. doi:10.1080/17439760.2015.1048817 [PubMed: 26958072]
- Hooper D, Coughlan J, & Mullen M (2008). Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, 6(1), 53–60.
- Huppert FA, Abbott RA, Ploubidis GB, Richards M, & Kuh D (2010). Parental practices predict psychological well-being in midlife: Life-course associations among women in the 1946 British birth cohort. *Psychological Medicine*, 40(9), 1507–1518. doi:10.1017/S0033291709991978 [PubMed: 19995477]
- Kam J, & Lazarevic V (2014a). Communicating for one’s family: An interdisciplinary review of language and cultural brokering in immigrant families. *Annals of the International Communication Association*, 38(1), 3–37.
- Kam J, & Lazarevic V (2014b). The Stressful (and Not So Stressful) Nature of Language Brokering: Identifying When Brokering Functions as a Cultural Stressor for Latino Immigrant Children in Early Adolescence. *Journal of Youth and Adolescence*, 43(12), 1994–2011. doi:10.1007/s10964-013-0061-z [PubMed: 24241786]
- Kashdan TB, & McKnight PE (2009). Origins of purpose in life: Refining our understanding of a life well lived. *Psihologijske teme*, 18(2), 303–313.
- Kerr M, & Stattin H (2003). Parenting of adolescents: Action or reaction? In Crouter AC & Booth A (Eds.), *Children’s influence on family dynamics: The neglected side of family relationships* (pp. 121–151). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Kheiroddin JB, Esmaeili B, Gholamzadeh M, & Mohammadpoor W (2012). The relationship between parenting styles and identity styles in adolescent. *Journal of Psychology*, 16(2), 161–175.
- Kiang L, Yip T, & Fuligni AJ (2008). Multiple social identities and adjustment in young adults from ethnically diverse backgrounds. *Journal of Research on Adolescence*, 18(4), 643–670. doi:10.1111/j.1532-7795.2008.00575.x
- Kim SY, Chen S, Sim L, & Hou Y (2017). Stability and change in parenting and adjustment profiles across early, middle, and late adolescence in Chinese American families. In Choi Y, Hahm HC, Choi Y, & Hahm HC (Eds.), *Asian American parenting: Family process and intervention* (pp. 69–88). Cham, Switzerland: Springer International Publishing.
- Kim SY, Hou Y, Shen Y, & Zhang M (2017). Longitudinal measurement equivalence of subjective language brokering experiences scale in Mexican American adolescents. *Cultural Diversity and Ethnic Minority Psychology*, 23(2), 230–243. doi:10.1037/cdp0000117 [PubMed: 27362872]
- Kim SY, Zhang M, Zeiders KH, Sim L, & Gleason MEJ (2018). Acute salivary cortisol response among Mexican American adolescents in immigrant families. *Cultural Diversity and Ethnic Minority Psychology*, 24(4), 510–520. doi:10.1037/cdp0000218 [PubMed: 30058831]

- Lam CB, Chung KKH, & Li X (2018). Parental Warmth and Hostility and Child Executive Function Problems: A Longitudinal Study of Chinese Families. *Frontiers in psychology*, 9, 1063. [PubMed: 30022960]
- Landale NS, Thomas KJ, & Van Hook J (2011). The living arrangements of children of immigrants. *The Future of Children*, 21(1), 43–70. [PubMed: 21465855]
- Love JA, & Buriel R (2007). Language brokering, autonomy, parent-child bonding, biculturalism, and depression: A study of Mexican American adolescents from immigrant families. *Hispanic Journal of Behavioral Sciences*, 29(4), 472–491. doi:10.1177/0739986307307229
- Martinez CR, Jr., McClure HH, & Eddy JM (2009). Language brokering contexts and behavioral and emotional adjustment among Latino parents and adolescents. *The Journal of Early Adolescence*, 29(1), 71–98. doi:10.1177/0272431608324477 [PubMed: 19898605]
- Mercado V (2003). Effects of language brokering on children of Latino immigrants. In Unpublished doctoral dissertation Pace University, New York.
- Morales A, & Hanson WE (2005). Language Brokering: An Integrative Review of the Literature. *Hispanic Journal of Behavioral Sciences*, 27(4), 471–503. doi:10.1177/0739986305281333
- Muthén LK, & Muthén BO (1998–2016). *Mplus User's Guide*, 7th edn. Muthén & Muthén: Los Angeles, CA, USA.
- Negru-Subtirica O, Pop EI, Luyckx K, Dezutter J, & Steger MF (2016). The meaningful identity: A longitudinal look at the interplay between identity and meaning in life in adolescence. *Developmental Psychology*, 52(11), 1926–1936. doi:10.1037/dev000176 [PubMed: 27598255]
- Niehaus K, & Kumpiene G (2014). Language brokering and self-concept: An exploratory study of Latino students' experiences in middle and high school. *Hispanic Journal of Behavioral Sciences*, 36(2), 124–143.
- Oh JS, & Fuligni AJ (2010). The role of heritage language development in the ethnic identity and family relationships of adolescents from immigrant backgrounds. *Social Development*, 19(1), 202–220. doi:10.1111/j.1467-9507.2008.00530.x
- Orellana MF (2009). *Translating childhoods: Immigrant youth, language, and culture* New Brunswick, NJ: Rutgers University Press.
- Padilla-Walker LM, Nielson MG, & Day RD (2016). The role of parental warmth and hostility on adolescents' prosocial behavior toward multiple targets. *Journal of Family Psychology*, 30(3), 331. [PubMed: 26414417]
- Pew Research Center. (2018). *Key findings about U.S. immigrants* Washington, D.C.: Pew Research Center.
- Phinney JS (2003). Ethnic identity and acculturation. In Chun KM, Balls Organista P., Marín G, Chun KM, Balls Organista P., & Marín G (Eds.), *Acculturation: Advances in theory, measurement, and applied research* (pp. 63–81). Washington, DC, US: American Psychological Association.
- Rivas-Drake D, Hughes D, & Way N (2009). A preliminary analysis of associations among ethnic racial socialization, ethnic discrimination, and ethnic identity among urban sixth graders. *Journal of Research on Adolescence*, 19(3), 558–584. doi:10.1111/j.1532-7795.2009.00607.x
- Roche KM, Lambert SF, Ghazarian SR, & Little TD (2015). Adolescent language brokering in diverse contexts: Associations with parenting and parent–youth relationships in a new immigrant destination area. *Journal of Youth and Adolescence*, 44(1), 77–89. doi:10.1007/s10964-014-0154-3 [PubMed: 25056805]
- Ryff CD, & Singer BH (2008). Know thyself and become what you are: A eudaimonic approach to psychological well-being. *Journal of happiness studies*, 9(1), 13–39.
- Sartor CE, & Youniss J (2002). The relationship between positive parental involvement and identity achievement during adolescence. *Adolescence*, 37(146), 221–234. [PubMed: 12144156]
- Schwartz SJ (2008). Self and identity in early adolescence: Some reflections and an introduction to the special issue. *Journal of Early Adolescence*, 28, 5–15.
- Schwartz SJ, Mason CA, Pantin H, & Szapocznik J (2009). Longitudinal relationships between family functioning and identity development in Hispanic adolescents: Continuity and change. *The Journal of Early Adolescence*, 29(2), 177–211. doi:10.1177/0272431608317605 [PubMed: 19756226]
- Schwartz SJ, Weisskirch RS, Hurley EA, Zamboanga BL, Park IJK, Kim SY, ... Greene A D. (2010). Communalism, familism, and filial piety: Are they birds of a collectivist feather? *Cultural*

Diversity and Ethnic Minority Psychology, 16(4), 548–560. doi:10.1037/a0021370 [PubMed: 21058818]

- Sellers RM, Rowley SAJ, Chavous TM, Shelton JN, & Smith MA (1997). Multidimensional Inventory of Black Identity: A preliminary investigation of reliability and construct validity. *Journal of Personality and Social Psychology*, 73(4), 805–815. doi:10.1037/0022-3514.73.4.805
- Sellers RM, Smith MA, Shelton JN, Rowley SAJ, & Chavous TM (1998). Multidimensional model of racial identity: A reconceptualization of African American racial identity. *Personality and Social Psychology Review*, 2(1), 18–39. doi:10.1207/s15327957pspr0201_2 [PubMed: 15647149]
- Siebert SD (1974). Toward a theory of role accumulation. *American Sociological Review*, 39, 567–578.
- Sim L, Kim SY, Velez M, Shen Y, & Zhang M (in press). Role-Based Identity Development in Latinx Children from Immigrant Families: The Development of Language Broker Role Identity. In Chuang S, Johnson DJ, Rasmi S, & Glözman J (Eds.), *Re/Formation and Identity: The Intersectionality of Development, Culture, and Immigration*
- Smits I, Soenens B, Luyckx K, Duriez B, Berzonsky M, & Goossens L (2008). Perceived parenting dimensions and identity styles: Exploring the socialization of adolescents' processing of identity-relevant information. *Journal of Adolescence*, 31(2), 151–164. doi:10.1016/j.adolescence.2007.08.007 [PubMed: 18423253]
- Steger MF (2009). *Meaning in life* (2 ed.). Oxford, UK: Oxford University Press.
- Steger MF, Bundick MJ, & Yeager D (2011). Meaning in life. In *Encyclopedia of adolescence* (pp. 1666–1677): Springer.
- Steger MF, Frazier P, Oishi S, & Kaler M (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, 53(1), 80–93. doi:10.1037/0022-0167.53.1.80
- Stolz HE, Barber BK, & Olsen JA (2005). Toward disentangling fathering and mothering: An assessment of relative importance. *Journal of Marriage and Family*, 67(4), 1076–1092.
- Stryker S (1980). *Symbolic interactionism: A social structural version* Menlo Park, CA: Benjamin-Cummings Publishing Company.
- Taylor ZE, Conger RD, Robins RW, & Widaman KF (2015). Parenting practices and perceived social support: Longitudinal relations with the social competence of Mexican-origin children. *Journal of Latina/o Psychology*, 3(4), 193–208. doi:10.1037/lat0000038 [PubMed: 26751039]
- Thoits PA (2012). Role-identity salience, purpose and meaning in life, and well-being among volunteers. *Social Psychology Quarterly*, 75(4), 360–384.
- Tse L (1995). Language brokering among Latino adolescents: Prevalence, attitudes, and school performance. *Hispanic Journal of Behavioral Sciences*, 17(2), 180–193. doi:10.1177/07399863950172003
- U.S. Census Bureau. (2012). Facts for Features Hispanic Heritage Month: 2012 Retrieved from http://www.census.gov/newsroom/releases/archives/facts_for_features_special_editions/cb12-ff19.html.
- Umaña-Taylor AJ, Gonzales-Backen MA, & Guimond AB (2009). Latino adolescents' ethnic identity: Is there a developmental progression and does growth in ethnic identity predict growth in self-esteem? *Child Development*, 80(2), 391–405. doi:10.1111/j.1467-8624.2009.01267.x [PubMed: 19466999]
- Umaña-Taylor AJ, & Guimond AB (2012). A longitudinal examination of parenting behaviors and perceived discrimination predicting Latino adolescents' ethnic identity. *Journal of Latina/o Psychology*, 1(S), 14–35. doi:10.1037/2168-1678.1.S.14
- Villanueva CM, & Buriel R (2010). Speaking on behalf of others: A qualitative study of the perceptions and feelings of adolescent Latina language brokers. *Journal of Social Issues*, 66(1), 197–210. doi:10.1111/j.1540-4560.2009.01640.x
- Weisskirch RS (2005). The Relationship of Language Brokering to Ethnic Identity for Latino Early Adolescents. *Hispanic Journal of Behavioral Sciences*, 27(3), 286–299. doi:10.1177/0739986305277931
- Weisskirch RS (2006). Emotional aspects of language brokering among Mexican American adults. *Journal of Multilingual and Multicultural Development*, 27(4), 332–343.

- Weisskirch RS (2017). A developmental perspective on language brokering. In Weisskirch RS & Weisskirch RS (Eds.), *Language brokering in immigrant families: Theories and contexts* (pp. 7–25). New York, NY, US: Routledge/Taylor & Francis Group.
- Weisskirch RS, & Alva SA (2002). Language brokering and the acculturation of Latino children. *Hispanic Journal of Behavioral Sciences*, 24(3), 369–378. doi:10.1177/0739986302024003007
- Weisskirch RS, Kim SY, Zamboanga BL, Schwartz SJ, Bersamin M, & Umaña-Taylor AJ (2011). Cultural influences for college student language brokers. *Cultural Diversity and Ethnic Minority Psychology*, 17(1), 43–51. doi:10.1037/a0021665 [PubMed: 21341896]
- Wu NH, & Kim SY (2009). Chinese American adolescents' perceptions of the language brokering experience as a sense of burden and sense of efficacy. *Journal of Youth and Adolescence*, 38(5), 703–718. [PubMed: 19636765]

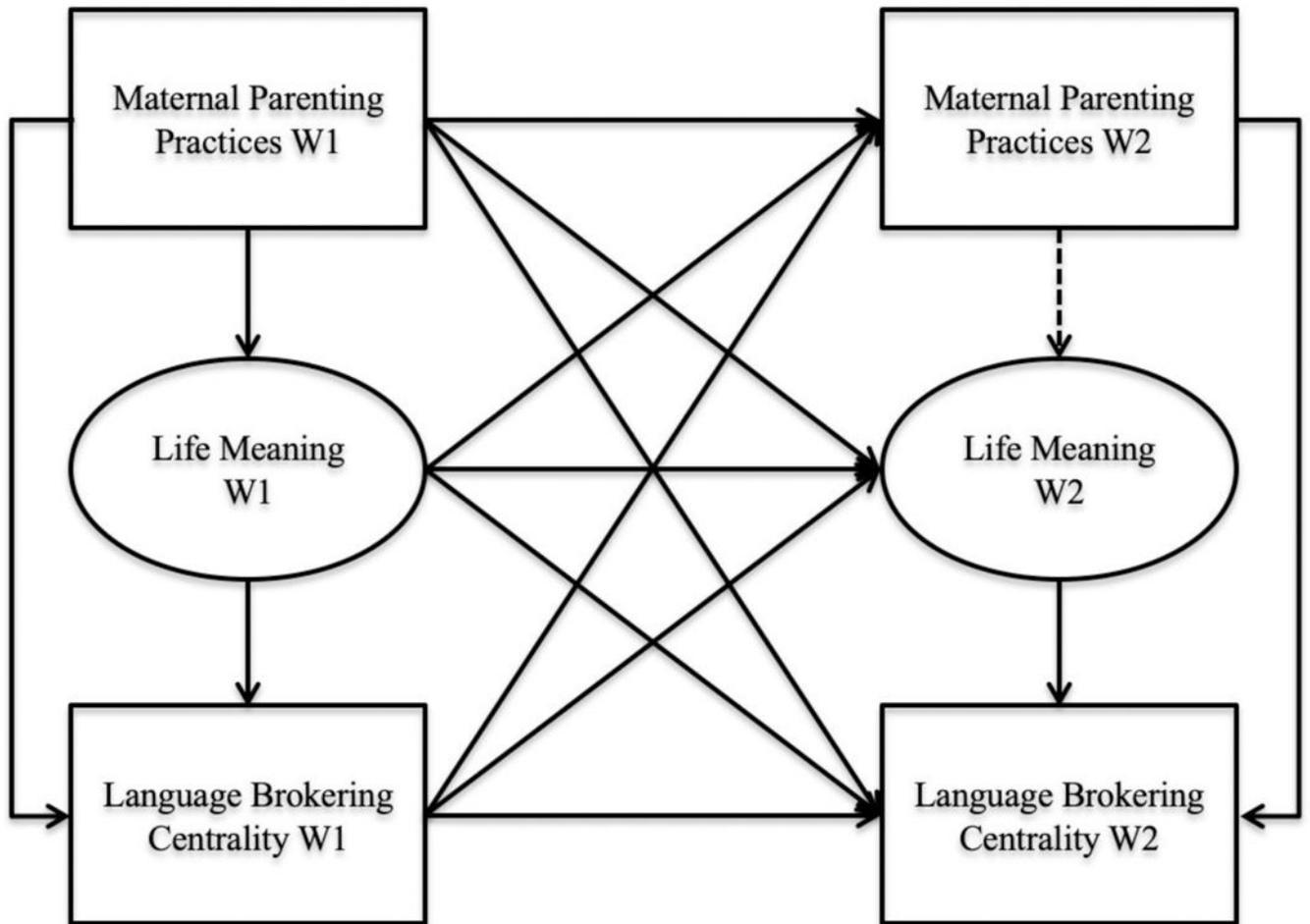


Figure 1. Conceptual model linking perceived parenting practices to language broker role identity through adolescents' life meaning.

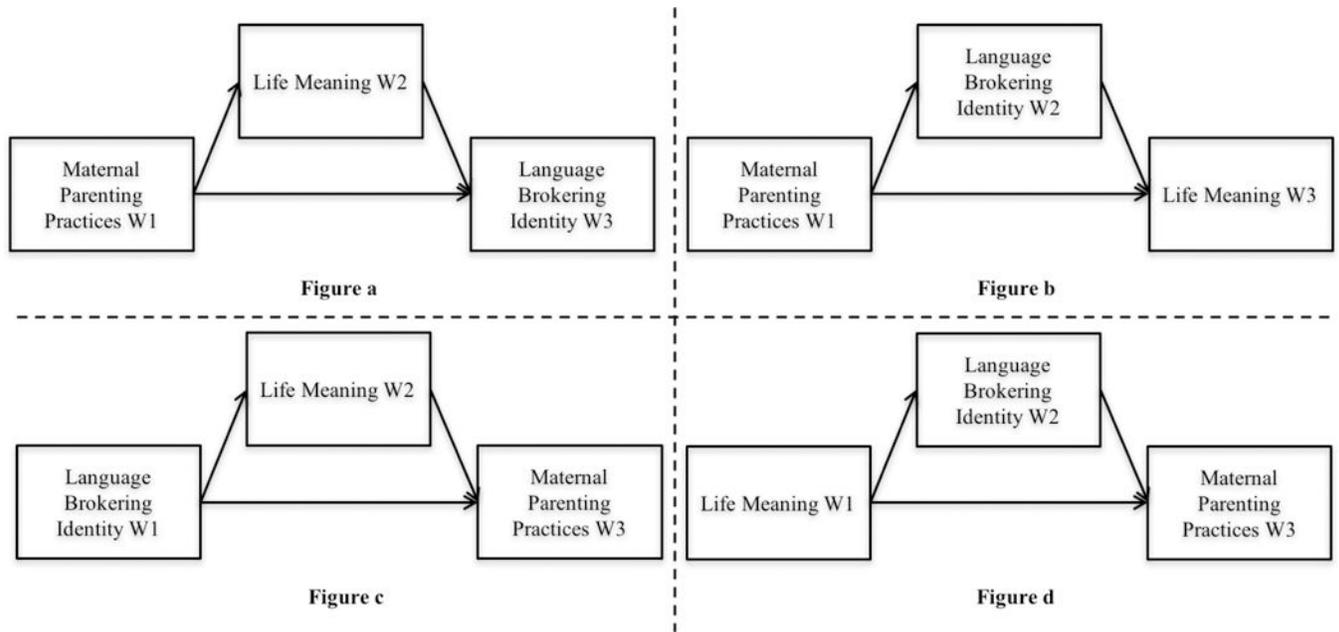


Figure 2. Conceptual models of four mediation models in the sensitivity analyses: a) the effect of W1 maternal parenting practices to W3 language broker centrality via W2 life meaning, b) the effect of W1 maternal parenting practices to W3 life meaning via W2 language broker centrality, c) the effect of W1 language broker centrality to W3 maternal parenting practices via W2 life meaning, and d) the effect of W1 life meaning to W3 maternal parenting practices via W2 language broker centrality.

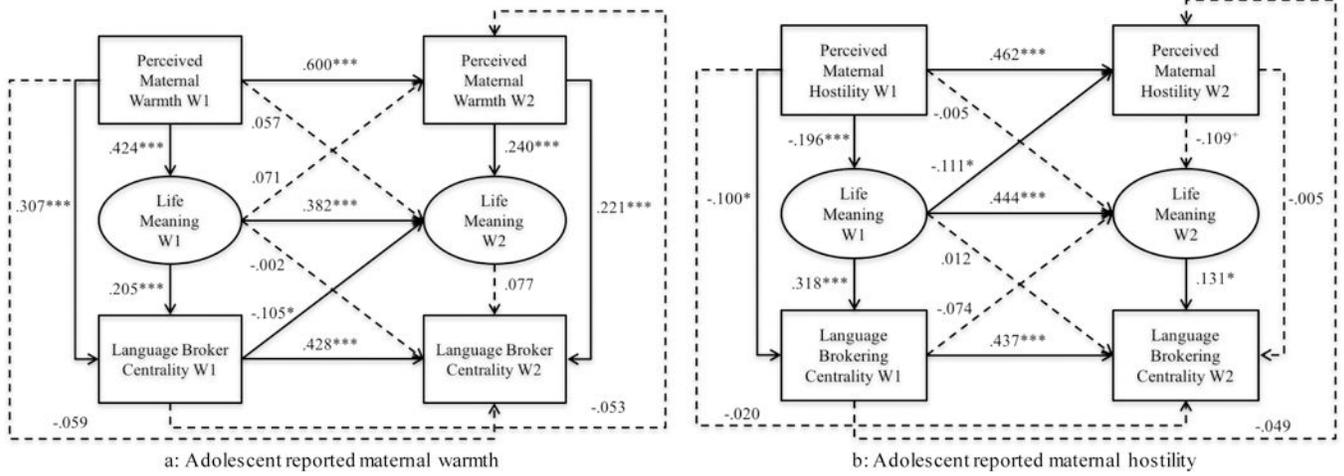


Figure 3. Standardized coefficients of adolescent report of perceived maternal parenting to life meaning to language broker centrality after controlling for adolescent age, grade, gender, mothers’ education level and household income are presented above. Dashed arrows represent non-significant pathways. Solid arrows represent significant pathways. + $p < .06$, * $p < .05$, ** $p < .01$, *** $p < .001$.

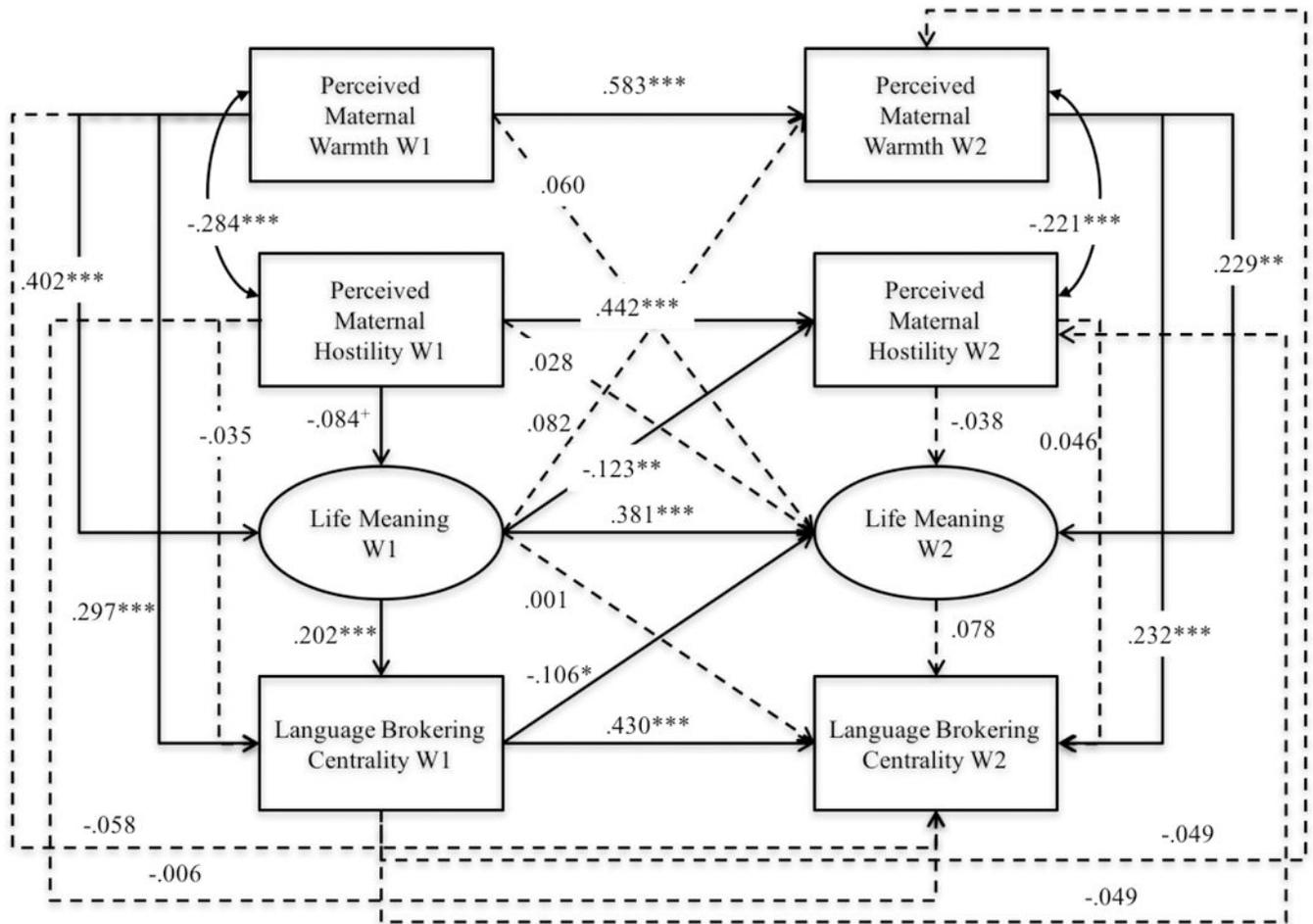


Figure 4. Standardized coefficients of adolescent report of perceived maternal warmth and perceived maternal hostility to life meaning to language broker centrality after controlling for adolescent age, grade, gender, mothers’ education level and household income are presented above. Dashed arrows represent non-significant pathways. Solid arrows represent significant pathways.
 * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1

Descriptive statistics and correlations by gender among study variables

	1	2	3	4	5	6	7	8	9	10	11	Mean	SD
1 W1 perceived maternal warmth (N= 604)	-	.39**	.40**	.39**	.61**	-.38**	.28**	.31**	-.09	-.03	-.05	5.18	1.27
2 W1 perceived maternal hostility (N= 604)	-.15*	-	-.19**	-.17**	-.28**	.48**	-.13**	-.13*	.15**	.08	.03	2.76	1.12
3 W1 life meaning (N= 604)	.41**	-.21**	-	.32**	.30**	-.26**	.38**	.19**	-.09	-.10	-.08	3.73	.77
4 W1 language broker centrality (N= 602)	.42**	-.20**	.36**	-	.15*	-.18**	.03	.50**	-.13*	-.13*	-.13*	3.49	.81
5 W2 perceived maternal warmth (N= 483)	.62**	-.28**	.26**	.29**	-	-.39**	.42**	.33**	-.06	.08	.05	5.09	1.26
6 W2 perceived maternal hostility (N= 483)	-.14*	.53**	-.17*	-.21**	-.33**	-	-.22**	-.06	.09	.11	-.05	2.73	1.07
7 W2 life meaning (N= 483)	.34**	-.14*	.43**	.19**	.27**	-.15*	-	.17**	-.07	.04	.00	3.70	.78
8 W2 language broker centrality (N= 482)	.23**	-.17**	.24**	.44**	.26**	-.24**	.19**	-	-.15*	-.06	.01	3.33	.81
9 W1 adolescent age (N= 604)	.00	.02	-.01	-.13*	.03	.07	-.07	-.10	-	-.04	.02	12.41	.97
10 W1 mother education (N= 593)	.00	.15*	-.07	-.00	-.04	.11	.01	.0*	-.15*	-	.26**	4.81	2.20
11 W1 family income (N= 553)	-.05	-.08	-.02	-.06	.05	-.07	.02	-.05	.08	-.01	-	2.23	1.56

Note. Coefficients for correlations among study variables are listed. W1 = Wave 1, W2 = Wave 2. Correlations below the diagonal are for male adolescents, values above the diagonal are for female adolescents. Means and standard deviations are displayed in the right panel across male and female adolescents.

* $p < .05$

** $p < .01$.

Table 2
 Test of Indirect Effects for Maternal Warmth and Maternal Hostility to Language Broker Centrality

Paths	Indirect	Direct	Total
Model 1(maternal warmth only model)			
Warmth(W1) → Life Meaning(W1) → Centrality(W1)	0.087***	0.307***	0.394***
Warmth(W1) → Centrality(W2)	0.327***	-0.059	0.269***
Warmth(W1) → Centrality(W1) → Centrality(W2)	0.131***		
Warmth(W1) → Warmth(W2) → Centrality(W2)	0.133***		
Warmth(W1) → Life Meaning(W1) → Centrality(W1) → Centrality(W2)	0.037***		
Model 2(maternal hostility only model)			
Hostility(W1) → Life Meaning(W1) → Centrality(W1)	-0.062***	-0.100*	-0.162***
Hostility(W1) → Centrality(W2)	-0.093**	-0.020	-0.113*
Hostility(W1) → Centrality(W1) → Centrality(W2)	-0.044*		
Hostility(W1) → Life Meaning(W1) → Centrality(W1) → Centrality(W2)	-0.027**		
Model 3(combined model)			
Warmth(W1) → Life Meaning(W1) → Centrality(W1)	0.081***	0.297***	0.378***
Warmth(W1) → Centrality(W2)	0.323***	-0.058	0.266***
Warmth(W1) → Centrality(W1) → Centrality(W2)	0.128***		
Warmth(W1) → Warmth(W2) → Centrality(W2)	0.135***		
Warmth(W1) → Life Meaning(W1) → Centrality(W1) → Centrality(W2)	0.035**		

Note. Standardized coefficients of significant indirect paths are presented. Only significant pathways are shown.

* $p < .05$

** $p < .01$

*** $p < .001$.