



Adoptive parent linguistics: Links to adoptees' relationships with their birth mother

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Abstract

Objective: The study addressed whether specific linguistic variables used by adoptive parents were associated with ratings of the adoptee's relationship with their birth mothers.

Background: Parents transmit their beliefs and values to children through verbal and nonverbal communication. The ways in which adoptive parents discuss their child's adoption and birth family can influence the child's adoptive identity development and satisfaction with their adoption arrangements.

Method: Participants included mothers, fathers, and adolescents (M age = 15.7 years) in 177 adoptive families of children who were adopted domestically as infants by same-race parents. The Linguistic Analysis and Word Count 2015 (LIWC2015) program was used to code adoptive parents' interviews regarding their thoughts and feelings about adoption and their child's birth family. Adolescents' views of birth mothers were coded from their interviews.

Results: There were significant differences in linguistic patterns when adoptive parents discussed adoption generally compared to when they discussed their child's birth family. Specific linguistic variables used by adoptive mothers and fathers were significantly associated with adopted adolescents' perceptions and feelings towards their birth mothers.

KEYWORDS

adoption, birth mother, family communication, parent linguistics, relationships

1 | INTRODUCTION

The *adoptive kinship network* is a family system that includes the adopted person, the adoptive family, and the adopted person's birth family (Brodzinsky & Goldberg, 2016; Grotevant et al., 2013). Members of the network have varying interactions based on the type of contact (e.g., in-person meetings, phone calls, de-identified letters;

Brodzinsky & Goldberg, 2016; Grotevant et al., 2019). Over the last few decades, adoption practices in many Western countries including the United States have moved towards *open adoption arrangements* involving greater levels of contact and communication that provide adoptees access to more information about their history, and relationships with birth relatives than was once typical (Grotevant, 2020). Given this trend, there is a growing body of literature documenting

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the potential value of contact between birth and adoptive families (referred to as *structural openness*; Brodzinsky, 2006) for all members of the adoptive kinship network (Grotevant, 2020). Researchers, however, have argued that the mere act, frequency, or duration of contact may not be indicative of the well-being of family members, rather members' subjective experiences of relationships (i.e., attitudes, expectations, emotions) may be potentially more important (Farr & Goldberg, 2015; Grotevant et al., 2011; Lo et al., 2023).

Communication patterns may be one way of measuring these subjective experiences of relationships. Adoptive parents' communication about adoption has been found to have a significant impact on an adoptee's level of uncertainty about their adoptive status (Colaner & Kranstuber, 2010). Additionally, discourse within and outside of the family is a key factor for defining the identity, connections, and dynamics of the group, particularly in diverse families (e.g., adoptive families; Galvin, 2006). Therefore, the current study utilized a contemporary linguistic analysis tool to extend our understanding of how adoption-related communication in the adoptive family relates to adoptees' perceptions of their relationship with their birth mother, in a US-based sample of families with varying levels of structural openness.

2 | ADOPTION COMMUNICATION IN THE ADOPTIVE FAMILY

Within Western countries like the United States, cultural and professional expectations concerning adoption-related communication have evolved. Historically, adoption-related communication pertained to whether the adoption was disclosed to the child at all (Kirk, 1964), and in some non-Western (e.g., Asian) countries, this level of secrecy still persists (e.g., Mohanty et al., 2017). Adoption practices in many Western countries now emphasize the importance of adoption disclosure and a focus on *communicative openness*. In contrast to theories of structural openness, in which the focus is on the nature (type, frequency, duration) of contact between adoptive and birth families, communicative openness theory posits the importance of the quality of parent-child communication about the adoption. The key to communicative openness is not only the exchange of information but also sensitively navigating the emotions such communication may bring about (Brodzinsky, 2006).

Sensitive adoption communication occurs when an adoptive parent acknowledges their child has dual connections with both their adoptive and birth families, regardless of the actual level of birth family contact (Kirk, 1964, 1981; Lo et al., 2021). By acknowledging that the adoptee may have feelings about their adoption that differ from their parents, adoptive parents are able to foster emotionally attuned communication that supports the child's needs (Lo et al., 2021; Lo & Grotevant, 2020). Communicative openness can influence the development of adopted persons in multiple domains. Adoptive parents' communicative openness was found to be positively associated with adoptee's desire to find more information about their adoption and to connect with birth family members (Skinner-Drawz et al., 2011). More open and honest communication has also been linked to higher

adoptee ratings of satisfaction with their experience of adoption (Feast & Howe, 2003). Lastly, more open and emotionally attuned communication about adoption predicts more positive social, emotional, and behavioural adjustment among adoptees (Aramburu Alegret et al., 2020; Ranieri et al., 2021; Soares et al., 2017).

Although the implications of communicative openness for adopted children are well known, the specific language parents use during adoption-related communication has received less attention. Examination of the linguistics used by parents is an important extension of communicative openness theory. Children learn how to think about themselves and their experiences by listening to their parents talk about these topics (Baxter, 2004). For adopted children, family communication on adoption can shape adoptive identity, relationships within the adoptive kinship network, and understanding of their family in relation to others (Colaner & Horstman, 2021). Given that parents construct and communicate narratives early on in the child's life, the words they choose to describe events shape the way their children think about themselves and their experiences (Kellas & Trees, 2006). In adoptive families, adoption stories (or adoption entrance narratives) (e.g., Colaner & Horstman, 2021; Harrigan, 2010) are a format through which parents explain how the child came to join their adoptive family. These stories build familiarity with adoption early on for children and may become key narratives (Jones & Hackett, 2007).

Adoptive parents' own feelings, beliefs, and opinions about adoption or the birth family may influence the language used in these adoption stories, potentially impacting how adoptees internalize their narratives (Brodzinsky, 2011). Broader literature demonstrates how parents' opinions can be transferred to their children, consciously or subconsciously. Parents' subtle prejudices predict their children's implicit biases towards racial and ethnic minorities, regardless of parenting style (Pirchio et al., 2018; Wang et al., 2020). Another study found that children's perceptions of their parent's beliefs and values mattered more in explaining children's own values than did the actual beliefs self-reported by their parents (Šimunović et al., 2018). Within the context of adoption, parents' thoughts and feelings about their child's adoption and the level of structural openness can influence child psychosocial outcomes; higher family satisfaction with contact arrangements with the birth family predicted lower rates of externalizing behaviour in adoptees during adolescence and emerging adulthood (Grotevant et al., 2011).

Past studies of adoption communication utilized ratings of interviews as well as self-report scales (Brodzinsky, 2006; Lo et al., 2021). One well-established method seen less often in the adoption literature is the study of linguistics, or the specific word choices and sentence structures individuals use (Tausczik & Pennebaker, 2010). Focus on adoptive family linguistics may provide a level of detail not possible by other methods.

3 | LINGUISTIC INQUIRY AND WORD COUNT

The Linguistic Inquiry and Word Count (LIWC) software was developed to analyse text and provide output that details the emotional,

cognitive, and structural components of language (Pennebaker, Booth, et al., 2015). Text files of written or transcribed language are entered and the program outputs 83 codes per segment of text. Codes include overall word count, linguistic dimensions including pronoun use or negations, aspects of grammar such as quantifiers or interrogatives, and psychological dimensions including affective processes and drives, among many others (Pennebaker, Booth, et al., 2015). In addition, researchers have developed supplemental codes using methods outlined by Pennebaker, Booth, et al. (2015), many of which are readily available. The LIWC was initially used to analyse “structural components present in individuals' verbal and written speech samples” (Pennebaker, Boyd, et al., 2015, pg.1), and additional guides for conducting analyses of verbal conversation using the LIWC software have been developed (Kush, 2023). For more detailed information on the development and application of the LIWC, see Pennebaker, Boyd, et al. (2015).

A growing body of literature has explored the use of the LIWC and its effectiveness in providing insight into human behaviour or psychosocial functioning (Tausczik & Pennebaker, 2010). Linguistic patterns change with age, vary by gender, and differ based on the circumstances a person is experiencing (Pennebaker et al., 2003). Across both written and spoken communication, men have been found to use language more often to convey information while women more frequently use it to express internal processes and discuss social processes (Newman et al., 2008). When expressing emotions verbally or through writing, women use more positive emotion, anxiety, and sadness words, whereas men use more anger words (Mehl & Pennebaker, 2003; Newman et al., 2008).

Several studies have verified that codes from the LIWC, such as the positive and negative emotion scores, correlate with other self-reported measures of emotionality (Tov et al., 2013). Studies have also documented that higher levels of authenticity, across both written and spoken communication, indicate a higher level of comfort with the topic a participant is discussing (Newman et al., 2003; Pennebaker, Boyd, et al., 2015). Additionally, linguistic patterns change based on circumstances, such as following traumatic events (Cohn et al., 2004; Jones et al., 2019), or with fluctuations in stress level or mood, for verbal communication (Forgas, 1999) and written text (Wang et al., 2016). Together, these findings suggest that inferences can be drawn about aspects of a person's cognitive and emotional state, within a certain context or about a particular topic, based on their written or transcribed language.

An important asset of the LIWC is that it serves as an unobtrusive measure. The LIWC is able to identify patterns and mitigate socially desirable responses. One study compared self-report of emotions to linguistic affect variables, noting that participants seemed to be attempting to “put on a happy face” and report more positive emotions via questionnaire, while their linguistic patterns in an interview indicated they felt otherwise (Hexem et al., 2013).

Studies have also looked at how the linguistic patterns of others influence our own thoughts and feelings. LIWC has been used to examine familial relationships and social identities, providing potential

implications for intervention and practice (Seager van Dyk et al., 2022). When we interact with others, we tend to match our language style to those around us (Gonzales et al., 2010). Adopted children are likely to mirror their language about their birth parents to that of their adoptive parents; this in turn can shape the way they think and feel about these relationships. Additionally, shared family narratives can influence how members feel about their family and are related to overall ratings of family satisfaction (Kellas, 2005). Therefore, it is likely that the family narratives adoptive parents share with their child regarding their adoption and birth family would influence adoptive youths' satisfaction ratings and feelings about their birth family.

4 | LIWC AND ADOPTION COMMUNICATION

Eight linguistic variables previously established in the LIWC literature may be particularly relevant to understanding adoption-related communication in adoptive families. One variable is *authenticity*, or a person's levels of openness versus guardedness (Newman et al., 2003). Past research has shown that comfort in discussing adoption topics can lead to greater communicative openness, which has been associated with better adoptee outcomes (Brodzinsky, 2006; Wrobel et al., 2003). Also of relevance may be *pronoun* variables, which reflect rates at which a person represents themselves as part of a group (first-person plural pronouns use, e.g., “we”) versus singular (first-person singular pronoun use, e.g. “I”). Such variables have been explored in past family narrative research (Kellas, 2005). First-person plural pronoun use by adoptive parents may signify acknowledgement of their child's dual connection with birth and adoptive families, which is essential to communicative openness (Lo et al., 2021). In addition, *positive* and *negative emotion word* codes may reflect adoptive parent's emotions regarding topics of adoption and birth family. Given past work documenting the transfer of implicit thoughts from parent to child on several topics (Pirchio et al., 2018; Presson et al., 2014; Wang et al., 2020), parental emotional tone when discussing adoption may influence adolescent's feelings towards their birth family members.

Furthermore, adoptive parents may speak with different rates of family-oriented language when speaking about their child's adoption and birth family. A heavier family-focus in parent's language would suggest a stronger value of family, togetherness, and acknowledgement of the adoptive kinship network. Thus, *family word count* may be important to examine. Lastly, two composite variables created by Pietraszkiewicz et al. (2019) assess a person's overarching drive in life; specifically, whether they gain feelings of fulfilment through building relationships with others (*drive for communion*) versus achieving individual and personal accomplishments (*drive for agency*; Diehl et al., 2004). An adoptive parent's drive for communion may be consistent with the idea of acknowledging a dual connection with birth and adoptive families, and their willingness to expand their family's boundaries.

5 | PRESENT STUDY

The present study had two aims that sought to integrate theories of adoption communication with contemporary linguistic literature. First, we examined whether adoptive parents linguistic characteristics differed when answering questions on adoption generally or answering questions on their child's birth parents (Aim 1). Second, we sought to determine whether adoptive parent linguistics was significantly related to adoptees' feelings regarding their relationship with their birth mother (Aim 2).

Based on past LIWC and adoption research, eight parent linguistic variables were hypothesized to be related to five variables reflecting adoptee's perceptions about their relationships with their birth mother (adoptee satisfaction with the level of structural openness in their relationship with their birth mother, level of curiosity about their birth mother, positive and negative affect towards her and level of relationship expectations for her). The linguistic variables were selected due to their documented relation to interpersonal communication (Kellas, 2005; Newman et al., 2003; Pietraszkiewicz et al., 2019; Pirchio et al., 2018; Presson et al., 2014; Wang et al., 2020). The five adoptee variables were selected based on prior research identifying such factors as being associated with positive outcomes and demonstrating good levels of variability across levels of structural openness (Farr & Goldberg, 2015; Grotevant et al., 2011; Lo et al., 2023).

Concerning aim 1, it was hypothesized that parents would show significant differences in each of the selected linguistic variables between adoption generally versus the more specific topic of their child's birth parents. This hypothesis was driven by research documenting how linguistic patterns vary based on thoughts and feelings related to different topics (Cohn et al., 2004; Forgas, 1999; Jones et al., 2019; Newman et al., 2003; Pennebaker et al., 2003).

Regarding aim 2, it was hypothesized that parents who spoke with more authenticity, used higher rates of positive emotion language, used more first-person plural pronouns, used more family-related words, and showed a higher drive for communion when discussing their child's birth parents would have children who expressed more positive feelings, fewer negative feelings, more curiosity, higher expectations and higher satisfaction with the level of structural openness in their relationships with their birth mother. In addition, it was hypothesized that parents who spoke in a more guarded, less authentic way, used more negative emotion language, used fewer first-person plural pronouns, used fewer family-related words, and showed a higher drive for agency when discussing their child's birth family would have children who expressed more negative emotions, fewer positive emotions, less curiosity, lower expectations and less satisfaction with the level of structural openness in their relationships with their birth mother. Overall, hypotheses for aim 2 were based on adoption communication and communicative openness literature documenting that open, honest and emotionally attuned communication that acknowledges the shared connection between adoptive and birth families is important for predicting positive adoptee outcomes and positive perceptions of family (Colaner & Horstman, 2021; Feast & Howe, 2003; Skinner-Drawz et al., 2011).

6 | METHOD

6.1 | Participants

The current study used secondary data analyses from a national longitudinal study of adoptive families in the United States (Grotevant & McRoy, 1997). Participants in this report came from the 177 adoptive families who participated in Wave 2 (1996–2001) of the larger study and included 156 adopted adolescents (52% female; M age = 15.7, SD = 2.1 years), 173 adoptive mothers (M age = 47.5, SD = 3.5 years), and 161 adoptive fathers (M age = 49.2, SD = 3.7 years). Data were available from 148 mother-adolescent dyads, 142 father-adolescent dyads, 157 mother-father dyads, and 141 mother-father-adolescent triads. Children were adopted as infants (M age at adoption = 4.0 weeks; SD = 5.9 weeks) through private domestic (U.S.) adoptions by two-parent, heterosexual couples who were the same race as the adopted child (98% White).

Across the 177 adoptive families, there was a wide range of structural openness arrangements, spanning from confidential arrangements in which there was no contact or exchange of information to fully disclosed adoptions that included direct contact (e.g., phone calls, in-person meetings). Arrangements in which contact was mediated by the adoption agency were also present. For a detailed discussion of structural openness within this sample, see (Grotevant et al., 2011).

6.2 | Procedures

Data used in this report came from interviews and demographic questionnaires individually administered to mother, father, and adolescent. Procedures were approved by the University of Minnesota Institutional Review Board. Adoptive mothers and fathers gave informed consent for their own participation and for their adolescents. Adolescents provided written assent for their participation.

Adoptive families were visited in their homes during one session. Interviews were conducted with adoptive mothers and fathers separately and followed a semi-structured format. Interview questions covered a wide range of topics related to adoption including parents' reflections on being in an adoptive family in a society that values biological parenting, relationship with their adopted child, experiences around contact or lack of contact with the child's birth family, and views on structural openness in adoption. The adolescent interview included questions concerning their experiences, feelings, knowledge, and attitudes about their adoption, adoptive identity, adoptive family situation, and birth parents.

Parent interviews were transcribed and prepared for analysis using the guidelines provided by LIWC 2015 (Pennebaker, Booth, et al., 2015) and commonly followed by researchers using this tool (Hexem et al., 2013; Robbins et al., 2019). The LIWC 2015 software was used to analyse each adoptive parent interview in two defined segments (detailed in the Measures section to follow). Linguistic data were exported and variables were organized based on interview segment and parent gender.

6.3 | Measures

6.3.1 | Adoptive parent interview

Transcripts of the interviews were divided into two segments, with broad adoption-related questions in *Segment 1* (the parent's relationship with their adopted child and experiences with being an adoptive family in society), and questions relating to the birth family organized in *Segment 2* (their views about the family's experiences with contact or no contact with birth family members; views about the structural openness levels with their child's birth family; and hopes for the future regarding relationships with birth family).

6.3.2 | Linguistic inquiry and word count variables

Eight LIWC variables were included in the present analyses: (1) *authenticity*, (2) *first-person singular pronoun* use (e.g. I, me, mine), (3) *first-person plural pronoun* use (e.g. we, us, our), (4) *positive emotion* words (e.g. happy, love), (5) *negative emotion* words (e.g. sad, hurt), and (6) *family words* (e.g. daughter, dad), (7) *drive for agency*, and (8) *drive for communion*.

The *authenticity* summary variable was a composite created to determine the speaker's level of comfort and openness in speaking about the given topic (Newman et al., 2003). The score was on a 0–100 scale, with higher scores associated with a more honest, personal, and comfortable disclosure while lower numbers suggest a more guarded and closed conversation.

The *drive for agency* and *drive for communion* variables were scales created by Pietraszkiewicz et al. (2019) to assess the “Big Two” aims that people pursue in life: *agency*, or one's desire to be independent and in control of one's environment, and *communion*, or one's desire to be part of a community and have close relationships with others. These scales were scored as a percentage of words from that category found within the analysed text. The remaining variables were all scored as a ratio of words within those categories to the overall word count in the analysed text.

As an initial test of convergent validity for the LIWC variables, bivariate correlations were conducted between the total (*Segment 1* and *Segment 2* combined) LIWC variables for adoptive mothers and a separate measure of adoptive mothers' adoption communicative openness at Wave 2. The measure of communicative openness was created through coding of adoptive mothers' interviews at Wave 2, and was previously found to positively predict adopted emerging adults' information-seeking intentions/behaviours towards their birth relatives (Skinner-Drawz et al., 2011). Consistent with our hypotheses that LIWC variables would capture aspects of parents' communicative openness, adoptive mothers' level of communicative openness was positively correlated with their use of first-person plural pronouns, use of family words, and drive for communion (r 's = .21–.28, $p < .01$). In addition, communicative openness was negatively correlated with mothers' use of first-person singular pronouns, drive for agency, and authenticity (r 's = –.33 – –.36, $p < .001$).

Adolescent relationship with birth mother

Several variables assessing adopted adolescents' relationship with their birth mothers were coded from the Adolescent Interview. Interviews were rated by two independent trained coders.

Satisfaction

Adoptee satisfaction with the level of structural openness in their relationship with their birth mother, regardless of the type of contact, was coded on a five-point Likert scale, with 0 = *very dissatisfied*, 1 = *dissatisfied*, 2 = *neutral*, 3 = *satisfied*, and 4 = *very satisfied*.

Curiosity

Adolescents' level of curiosity about their birth mother was coded from the interview. Original scores ranged from 0 = *no curiosity* to 4 = *strong curiosity* with an additional code of 6 = *not curious because the adopted child already knows everything*. However, for the present study, participants who rated a score of 6 were excluded because it was unclear from the coding how they felt about the information they had and whether they received the information due to their own initiative, passively, or unwillingly. The uniqueness and vagueness of this score made results difficult to interpret, which led to the decision to exclude them.

Affect towards birth mother

Adolescents' positive and negative affect towards their birth mother were each individually coded on a scale of 1 = *no [positive or negative] affect* to 5 = *strong [positive or negative] affect*. A score of 0 was originally coded for respondents who stated “I have no feelings about her,” indicating they were void of both positive or negative affect, but this score was excluded from the present analyses due to the inherent difference from the other scores on the scale. All participants who were coded as a 0 on the positive affect scale were also coded as a 0 on the negative affect scale.

Relationship expectations for birth mother

The adoptee's relationship expectations for their birth mother were defined as the degree to which the adolescent viewed their relationship with her as manageable, reliable, and safe. Scores ranged from 1 to 5: 1 = *very low*, indicating that the adolescent expected the relationship would be dangerous, threatening, or overwhelming; 2 = *low*, they expected the relationship to be precarious or unreliable; 3 = *moderate*, they felt their relationship had some success though could be unpredictable or confusing at times; 4 = *high*, the relationship felt relatively understandable, safe, successful, rewarding, and reliable; and 5 = *very high*, indicating an expectation that the relationship was generally safe, reliable, rewarding, and fulfilling.

6.4 | Analysis

For aim 1, paired sample t-tests were conducted in SPSS 25 (IBM, 2017) to evaluate significant differences in parent linguistic variables between interview *Segment 1* (general adoption-related

questions) and *Segment 2* (birth family-related questions) for adoptive mothers and adoptive fathers, respectively.

To address aim 2, multiple regression analyses were conducted to examine the relations between parent linguistic variables and adolescents' feelings about their birth mothers. Multicollinearity among the linguistic variables was first assessed through examination of variance inflation factors (VIF; acceptable is below 5) and tolerance values (acceptable is above .2; Kim, 2019). Based on the cutoffs, VIF, and tolerance values indicated potentially problematic multicollinearity between the *Segment 2* Drive for Communion variable and the *Segment 2* 1st-person plural pronoun variable within both mothers and fathers. Thus, the decision was made to exclude the mother and father *drive for communion* variable, as well as the complementary *drive for agency*, from the aim 2 regression analyses. Following the exclusion of those variables, VIF and tolerance values for all remaining linguistic variables were within acceptable ranges.

Regression analyses were conducted in MPlus 8 (Muthén & Muthén, 1998–2017) due to missing data in the five adolescent variables. MPlus addresses missing data through full-information maximum likelihood estimation. Separate regression models were conducted for each of the five adoptee's feelings about birth mother variables. In addition, analyses were run for adoptive mothers and fathers separately, to test how each parent's linguistics related to their child's relationship experiences. All linguistic variables were included in each model simultaneously. *Segment 1* (adoption-related questions) linguistic variables were included in order to determine the effect of parent linguistics when discussing their child's birth family (*Segment 2*) while controlling for their linguistic patterns when discussing adoption more broadly.

7 | RESULTS

7.1 | Descriptives

Parent interview responses were elaborate, resulting in transcriptions that ranged in length between 1,140 to 32,484 words for mothers and 583–10,833 words for fathers. The average *Segment 1* (general adoption questions) transcript was 3,823 (SD = 2,432) words for mothers and 3,422 (SD = 1,816) words for fathers. *Segment 2* (birth family questions) transcripts had an average length of 2,975 (SD = 1,838) words for mothers and 2,439 (SD = 1,556) words for fathers. Correlations among total LIWC variables and adolescent variables are presented in Table 1.

7.2 | Linguistic differences between segments 1 & 2

Regarding aim 1, t-tests revealed significant differences in linguistics between interview segments 1 and 2 on several variables (Table 2). Fathers tended to speak with more authenticity when speaking about the birth family compared to adoption broadly, meaning that when

the topic became more personal and specific, they became more open with the interviewer. Mothers did not show significant differences in their level of authenticity between topics. Both parents used significantly more first-person singular pronouns and showed a higher drive for agency when talking about the adolescent's birth family in comparison to talking about adoption in general. In addition, parents used significantly fewer first-person plural pronouns, positive and negative emotion words, and family words, and showed a lower drive for communion when talking about the adolescent's birth family, compared to when talking about adoption broadly.

7.3 | Association between parent linguistics and Adoptee's relationship with birth mothers

Adoptees tended to be satisfied or very satisfied with the level of structural openness in their relationship with their birth mother (53%), although approximately a third (34%) were dissatisfied or very dissatisfied, while the remaining 13% were neutral. When it came to their level of curiosity about their birth mother, 28% of adopted adolescents showed a strong curiosity, 36% showed moderate curiosity, and 17% showed little or no curiosity. The remaining 19% were coded as "not curious because they already knew everything" and were excluded from subsequent analysis on the curiosity variable. Seventy-two percent of adopted adolescents expressed high or very high expectations for their relationship with their birth mother. Twenty percent had moderate expectations, while only 8% had low or very low expectations. When it came to affect towards the birth mother, the vast majority of adopted adolescents showed no negative affect (82%), and 79% expressed moderate to strong positive affect towards her. Only 7% of adopted adolescents expressed no positive affect at all towards their birth mother.

Results from regression analyses are presented in Tables 3 and 4. Given that multiple models were tested, significant coefficients within each model were only interpreted if the linguistic variables explained a significant amount of variance in the adolescent variable. In addition, given the aim 2 hypotheses, only coefficients from *Segment 2* (i.e., parent linguistics when discussing the birth family) were interpreted.

7.3.1 | Satisfaction

Adoptive mothers' linguistic variables explained a significant amount of variance in the level of satisfaction adopted adolescents had in their level of structural openness with their birth mother, $R^2 = .15$, $SE = .05$, $p = .007$. When mothers used more family words when talking about their adolescents' birth family, there were higher levels of adoptee satisfaction in the structural openness in their relationship with their birth mother, $b = .36$, $SE = .16$, $p = .028$. Adoptive fathers' linguistic patterns also explained a significant amount of variance, $R^2 = .14$, $SE = .05$, $p = .009$. However, no single linguistic variable from *Segment 2* was significantly related to adolescents' satisfaction.

TABLE 1 Correlations for Total linguistic variables and adolescent variables.

Variable	n	1	2	3	4	5	6	7	8	9	10
1. Mother's authenticity	173	1									
2. Mother's 1st person singular pronouns	173	0.58	1								
3. Mother's 1st person plural pronouns	173	-0.23	-0.42	1							
4. Mother's total positive emotions	173	0.01	0.08	0.02	1						
5. Mother's total negative emotions	173	-0.15	-0.09	-0.09	-0.07	1					
6. Mother's family words	173	-0.23	-0.19	0.01	-0.25	0.09	1				
7. Mother's drive for agency	173	0.41	0.5	-0.16	0.03	-0.06	-0.19	1			
8. Mother's drive for communion	173	-0.23	-0.43	0.83	0.17	-0.07	0.06	-0.21	1		
9. Father's authenticity	161	0.28	0.25	-0.15	0.12	-0.15	-0.25	0.17	-0.12	1	
10. Father's 1st person singular pronouns	161	0.22	0.27	-0.08	-0.03	-0.04	-0.11	0.16	-0.08	0.6	1
11. Father's 1st person plural pronouns	161	-0.09	-0.19	0.29	-0.06	-0.11	0.02	-0.16	0.17	-0.28	-0.35
12. Father's total positive emotions	161	0	-0.01	0.08	0.08	-0.13	-0.04	0.01	0.05	0.01	0.19
13. Father's total negative emotions	161	-0.08	-0.16	-0.01	-0.06	0.24	-0.03	-0.03	0.06	-0.13	0.02
14. Father's family words	161	-0.13	-0.17	-0.01	0.01	0.06	0.4	-0.1	0.11	-0.32	-0.21
15. Father's drive for agency	161	0.13	0.25	-0.11	-0.12	-0.06	-0.1	0.29	-0.18	0.32	0.49
16. Father's drive for communion	161	-0.13	-0.23	0.3	0.03	-0.07	0.01	-0.13	0.26	-0.3	-0.36
17. Adoptee satisfaction	150	-0.13	-0.18	0.13	-0.08	-0.15	0.11	-0.21	0.13	-0.04	0
18. Adoptee curiosity	122	0.14	0.18	-0.06	0.01	-0.05	0.02	0.15	-0.06	0.04	-0.08
19. Positive affect toward birth mother	124	-0.11	-0.22	0.12	-0.09	-0.17	0.09	-0.3	0.12	-0.12	-0.05
20. Negative affect toward birth mother	125	-0.07	-0.05	0.05	0	0.13	-0.07	0.05	0.11	0.02	-0.2
21. Relationship expectations	145	0.06	-0.01	0.1	-0.07	-0.24	0.3	-0.1	0.12	-0.03	-0.01
M		28.8	4.86	2.01	2.86	0.82	1.16	6.07	3.89	31.38	4.37
SD		12.62	1.12	0.58	0.57	0.28	0.41	1.12	0.73	12.83	1.18

Note: Significant correlations are in bold.

TABLE 1 (Continued)

Variable	11	12	13	14	15	16	17	18	19	20	21
1. Mother's authenticity											
2. Mother's 1st person singular pronouns											
3. Mother's 1st person plural pronouns											
4. Mother's total positive emotions											
5. Mother's total negative emotions											
6. Mother's family words											
7. Mother's drive for agency											
8. Mother's drive for communion											
9. Father's authenticity											
10. Father's 1st person singular pronouns											
11. Father's 1st person plural pronouns	1										
12. Father's total positive emotions	-0.01	1									
13. Father's total negative emotions	-0.16	0.03	1								
14. Father's family words	0.06	-0.12	0.08	1							
15. Father's drive for agency	-0.28	0.13	0.03	-0.34	1						
16. Father's drive for communion	0.87	0.13	-0.1	0.19	-0.33	1					
17. Adoptee satisfaction	0.14	-0.14	-0.06	0.13	-0.06	0.12	1				
18. Adoptee curiosity	0.02	0.12	-0.1	-0.01	-0.18	0.04	0.54	1			
19. Positive affect toward birth mother	0.13	0.11	0.02	0.05	-0.2	0.14	0.26	0.18	1		
20. Negative affect toward birth mother	-0.05	-0.13	-0.1	-0.18	-0.05	0.01	-0.23	0.04	-0.18	1	
21. Relationship expectations	0.17	0.09	-0.18	0.2	-0.11	0.14	0.1	0.38	0.43	-0.48	1
M	2.28	2.67	0.81	1.18	6.1	4.16	2.23	2.36	3.18	1.34	3.99
SD	0.68	0.56	0.26	0.39	1.05	0.9	1.06	1.35	1.08	0.79	0.95

Note: Significant correlations are in bold.

TABLE 2 Paired sample T-tests.

LIWC variable	Segment 1 mean (SD)	Segment 2 mean (SD)	T	Df	p
Adoptive mothers					
Authenticity	28.61 (12.24)	30.52 (16.29)	-1.84	172	.067
1st person singular pronouns	4.47 (1.06)	5.56 (1.58)	-11.46	172	<.001
1st person plural pronouns	2.17 (0.62)	1.73 (0.77)	7.54	172	<.001
Positive emotions	2.94 (0.71)	2.82 (0.76)	1.99	172	.048
Negative emotions	0.90 (0.34)	0.70 (0.30)	6.64	172	<.001
Family words	1.23 (0.40)	1.02 (0.05)	4.72	172	<.001
Drive for agency	5.93 (1.10)	6.39 (1.60)	-4.41	172	<.001
Drive for communion	4.28 (0.80)	3.28 (1.00)	12.77	172	<.001
Adoptive fathers					
Authenticity	30.12 (12.76)	34.33 (17.61)	-3.20	160	.002
1st person singular pronouns	4.11 (1.15)	4.91 (1.59)	-8.14	160	<.001
1st person plural pronouns	2.35 (0.72)	2.09 (0.90)	3.84	160	<.001
Positive emotions	2.75 (0.70)	2.58 (0.62)	3.04	160	.003
Negative emotions	0.88 (0.31)	0.70 (0.36)	5.65	160	<.001
Family words	1.23 (0.41)	1.07 (0.62)	3.38	160	.001
Drive for agency	5.94 (1.09)	6.45 (1.44)	-5.22	160	<.001
Drive for communion	4.42 (0.99)	3.69 (1.15)	8.54	160	<.001

Note: Segment 1 is the portion of the interview focused on broad, adoption-related questions. Segment 2 is the portion focused specifically on birth family-related questions.

TABLE 3 Regression results for outcome variables of satisfaction and curiosity.

	Outcome variables							
	Satisfaction				Curiosity			
	Segment 1		Segment 2		Segment 1		Segment 2	
	Unst.	SE	Unst.	SE	Unst.	SE	Unst.	SE
Mother variables								
Authenticity	.00	.01	-.01	.01	.02	.01	-.01	.01
1st person sing.	-.03	.12	-.09	.09	.21	.18	-.03	.13
1st person plural	.09	.16	.05	.14	.49*	.23	-.39†	.21
Pos. Emotions	.17	.13	-.20	.13	.13	.19	-.10	.18
Neg. Emotions	-.35	.26	-.22	.32	.00	.37	.27	.44
Family	-.35	.23	.36*	.16	-.15	.34	.26	.27
	$R^2 = .15, SE = .05, p = .007$				$R^2 = .11, SE = .06, p = .052$			
Father variables								
Authenticity	.00	.01	-.00	.01	.01	.01	.00	.01
1st person sing.	.18†	.11	-.03	.10	-.32†	.16	-.09	.14
1st person plural	.02	.15	.24†	.13	.42*	.21	-.50**	.19
Pos. Emotions	-.40**	.14	.28†	.15	.20	.20	.03	.22
Neg. Emotions	-.11	.30	.01	.25	.24	.44	-.42	.35
Family	-.05	.24	.19	.16	-.28	.35	.20	.22
	$R^2 = .14, SE = .05, p = .009$				$R^2 = .13, SE = .06, p = .033$			

Note: Overall R^2 from the full models containing both Segment 1 and Segment 2 variables are presented below the regression coefficients.
† $p < .1$. * $p < .05$. ** $p < .01$.

TABLE 4 Regression results for the outcome variables of positive affect, negative affect, and relationship expectations.

	Outcome variables											
	Positive affect				Negative affect				Relationship expectations			
	Segment 1		Segment 2		Segment 1		Segment 2		Segment 1		Segment 2	
	Unst.	SE	Unst.	SE	Unst.	SE	Unst.	SE	Unst.	SE	Unst.	SE
Mother variables												
Authenticity	.01	.01	-.00	.01	-.01	.01	.00	.01	.01	.01	.00	.01
1st person sing.	-.16	.14	-.05	.11	.03	.11	.01	.08	.12	.10	-.08	.08
1st person plural	.18	.19	-.04	.16	-.09	.14	.12	.12	.18	.14	.09	.12
Pos. Emotions	.06	.15	-.23	.15	-.03	.12	-.05	.11	.10	.12	-.05	.12
Neg. Emotions	-.18	.30	-.71*	.35	.32	.23	.07	.27	-.42 [†]	.22	-.23	.27
Family	-.35	.25	.34 [†]	.18	-.27	.19	.03	.14	.11	.19	.52**	.14
	$R^2 = .16, SE = .06, p = .011$				$R^2 = .06, SE = .05, p = .158$				$R^2 = .24, SE = .06, p < .001$			
Father variables												
Authenticity	-.01	.01	-.00	.01	.01	.01	.01	.01	-.00	.01	.01	.01
1st person sing.	.20 [†]	.12	-.12	.12	-.10	.09	-.20*	.08	.21*	.10	-.15 [†]	.09
1st person plural	.02	.16	.15	.15	-.01	.12	-.18 [†]	.10	.19	.13	.02	.12
Pos. Emotions	-.06	.19	.27	.20	.06	.14	-.21	.14	.02	.13	.08	.14
Neg. Emotions	.22	.33	-.10	.28	.15	.24	-.37 [†]	.20	-.35	.27	-.07	.22
Family	-.14	.26	.04	.18	-.40*	.19	-.05	.13	.20	.22	.24 [†]	.14
	$R^2 = .09, SE = .05, p = .084$				$R^2 = .22, SE = .07, p = .002$				$R^2 = .14, SE = .05, p = .007$			

Note: Overall R^2 from the full models containing both Segment 1 and Segment 2 variables are presented below the regression coefficients.

[†] $p < .1$. * $p < .05$. ** $p < .01$.

7.3.2 | Curiosity

Adoptive mothers' linguistic variables did not explain a significant amount of variance in adolescents' curiosity about their birth mother, $R^2 = .11, SE = .06, p = .052$. However, adoptive fathers' linguistic variables did account for a significant amount of variance, $R^2 = .13, SE = .06, p = .033$. Adoptive fathers who used more first-person pronouns when talking about the birth family had adolescents who were less curious about their birth mother, $b = -.50, SE = .19, p = .009$.

7.3.3 | Affect towards birth mother

Adoptive mothers' linguistic variables explained a significant amount of variance in adolescents' positive affect towards their birth mother, $R^2 = .16, SE = .06, p = .011$. When mothers used lower rates of negative emotion words while talking about their child's birth family, adoptees showed higher rates of positive emotion towards their birth mother, $b = -.71, SE = .35, p = .041$. Adoptive fathers' linguistics did not account for a significant amount of variance in adoptees' positive emotions towards their birth mother, $R^2 = .09, SE = .05, p = .084$.

Adoptive mothers' linguistic patterns did not account for a significant amount of variance in adolescents' negative emotions towards their birth mother, $R^2 = .06, SE = .05, p = .158$. However, fathers' linguistic patterns did explain a significant amount of variance in

negative emotions, $R^2 = .22, SE = .07, p = .002$. Specifically, lower use of first-person singular pronouns when talking about the birth family was associated with higher rates of adolescents' negative affect towards their birth mother, $b = -.20, SE = .08, p = .014$.

7.3.4 | Relationship expectations for birth mother

Adoptive mothers' linguistic variables explained a significant amount of variance in adolescents' expectations for their relationship with their birth mother, $R^2 = .24, SE = .06, p < .001$. Specifically, when mothers used higher rates of family words when talking about the birth family, the adoptee had higher expectations for their birth mother, $b = .52, SE = .14, p < .001$. Adoptive fathers' linguistics also explained a significant amount of variance in relationship expectations, $R^2 = .14, SE = .05, p = .007$. However, no single Segment 2 variable was significantly related to adolescents' relationship expectations.

8 | DISCUSSION

The present study sought to understand differences in adoptive parent linguistic patterns when discussing adoption generally compared to when discussing their child's birth family specifically. Further, how linguistic patterns could be related to adolescent adoptees' satisfaction

with the level of structural openness, expectations about their relationship, as well as curiosity and affect towards their birth mother were explored. Findings contribute to the importance of communicative openness in adoptive families, and the relevance of studying linguistic patterns. Specifically, this study identified novel parental linguistic factors that support the importance of not only the content of what adoptive parents communicate, but how the subtle use of words, such as first-person singular or plural pronouns, emotion words, or family words may also influence feelings adoptees have towards their birth mother, regardless of the extent of structural openness and contact, and supporting prior linguistic research (Colaner & Horstman, 2021; Kvillemo & Bränström, 2014; Pirchio et al., 2018; Presson et al., 2014; Seager van Dyk et al., 2022; Wang et al., 2020).

The finding from aim 1 supported the hypothesis that adoptive parent linguistics vary depending on whether talking about adoption generally or their child's birth parents specifically. This was consistent with other research documenting change in linguistics based on a speaker's mood and attitudes towards a given topic and environment (Forgas, 1999; Pennebaker et al., 2003; Wang et al., 2016). When the topic changed to their child's birth family, parents' linguistic patterns contained less emotion, a lower drive for communion, a higher drive for the agency, and fewer family-specific words. These patterns suggest that adoptive parents may have been unconsciously distancing or differentiating themselves from birth parents. Such patterns may suggest that regardless of whether adoptive parents talk about adoption and the inclusivity of the birth family, subtle language usages when referencing the birth family may serve to keep birth parents at a distance; this may undermine the adoptee's sense of being connected to both families, which is important for adoptee adjustment (Kirk, 1964, 1981; Lo et al., 2021).

Research has shown that comfort with discussing adoption topics can lead to greater communicative openness (Brodzinsky, 2006; Wrobel et al., 2003) and that adoptive parents tend to feel uncomfortable with contact initially; however, they can become more comfortable with open adoption arrangements over time (Crea & Barth, 2009). Findings from the present study, however, suggest that some parents may continue to use distancing linguistic patterns (i.e., fewer first-person plural pronouns, lower drive for communion) long after the adoption has taken place. Persistent use of these linguistics could deteriorate efforts for contact over time and belief in their value, thereby undermining the very efforts to establish open adoption arrangements in the first place. This would then undo one of the benefits of open adoption arrangements, namely helping adopted children and youth normalize connections to two families and integrate their identities within a broader adoptive kinship network (Del Pozo et al., 2018).

Hypotheses from aim 2 were supported by study findings, building upon prior communicative openness and linguistic research documenting the impact of explicit and implicit messages from parents on how children learn to understand their experiences and shape their values (Baxter, 2004; Colaner & Horstman, 2021; Kellas & Trees, 2006) and the transfer of subconscious beliefs or values through linguistics (Pirchio et al., 2018; Wang et al., 2020). However, specific linguistic variables were not always identified to be significant

predictors and varied depending on which parent was speaking in the current study. Although only a limited number of individual *Segment 2* (birth family questions) linguistic variables were significantly related to adolescents' thoughts and feelings in each model, in some models, parent linguistic variables accounted for moderate to large proportions of the variance in adoptee ratings (up to 24%). These findings suggest that multiple linguistic factors together may be more predictive of adolescent thoughts/feelings than any one linguistic feature. In addition, study findings also contribute to the underlying importance of adoptive parents' communication with their children about adoption and birth parents, even in adolescence (Colaner & Horstman, 2021; Kellas & Trees, 2006).

In terms of adolescent adoptee's feelings and perceptions towards their birth mother, which parent was communicating mattered. Studies have consistently found adoptive parents play an important role in helping adoptees feel greater satisfaction with birth relative contact (Farr et al., 2014). The current findings extend this research by identifying specific patterns within the speech of mothers and fathers which are differentially related to adolescent adoptee's thoughts and feelings. Specifically, the use of family words by mothers, but not fathers, significantly predicted adolescent adoptee's satisfaction with the level of structural openness in their relationship with their birth mother, as well as their expectations about this relationship.

Regarding adoptee feelings or affect towards their birth mother, both linguistic patterns of adoptive fathers and mothers were important, but in different directions. The finding regarding mothers was consistent with the hypotheses. However, the finding regarding fathers' pronoun use was a bit more perplexing. It is possible that the adoptive father's distancing himself from the topic of the birth family by referencing himself less sends a subliminal message to the adoptee that there are reasons to feel negative emotions towards their birth mother. Conversely, it is possible that fathers who know their adopted child feels negatively towards their birth mother will choose to distance himself from the topic when speaking about the birth family by referencing himself less often; however, given the cross-sectional nature of the data, no conclusions can be drawn about the directionality of the association. Future research to better understand the impact of adoptive parent linguistics on adoptee adjustment is needed.

Adoptive mothers' linguistics did not influence adolescent adoptee curiosity about their birth mothers in this study, but adoptive fathers' linguistics did. It is possible that when fathers use more first-person plural pronouns in discussing the birth family, they are demonstrating a closeness within the adoptive kinship network which is indicative of more information passing between families and therefore a reduced need for curiosity by the adoptee. The fact that 19% of adolescent adoptees in the present study were not curious about their birth mothers because they "already knew everything" speaks to the success of open adoption arrangements in helping adoptees have information that can satiate their curiosity. However, the majority of adoptees in this study also indicated some level of curiosity about their birth mother, further supporting the notion that contact does not minimize adoptee's thoughts about birth parents, but rather alters the nature of those thoughts (McGinnis et al., 2009). The differences

in linguistic association between mothers and fathers may again be linked to gender differences in linguistic styles seen in past research (Mehl & Pennebaker, 2003; Newman et al., 2008). However, more work is warranted in parsing out how mothers vs. fathers influence adoptee curiosity about their birth family.

We also explored the linguistic variable of *authenticity*, which has been found relevant in other LIWC literature but has not been examined within adoptive families. There was a wide range in parents' levels of authenticity for both interview segments (Table 2). Findings suggest that the words adoptive parents say when discussing their adolescent's adoption and birth family matter independently of how openly or honestly they are sharing their true feelings. Furthermore, bivariate correlations indicated that the authenticity variables were negatively correlated with the LIWC variables hypothesized to capture parents' acknowledgement of the adolescents' connection with birth family members, and mothers' authenticity was negatively correlated with the measure of mothers' adoptive communicative openness. Such findings indicate that more research is needed to understand what the authenticity variable truly captures in the context of adoptive family communication.

8.1 | Implications

The present findings have important implications for providers working with adoptive families. In a systematic review of the benefits and risks to children in open adoption arrangements (Smith et al., 2020), two key ingredients for successful post-adoption contact are commitment and communication skills. Unfortunately, not all members of the adoptive kinship networks are so prepared. The current findings demonstrate a need for the education of social workers and professionals on the importance of adoption communication so that they can help parents make plans around not only structural openness (type, frequency, duration of contact) but also how to develop narratives while remaining aware of the impact of subtle linguistics. Furthermore, although the directionality of the relationship is not confirmed, the current study suggests adoptive parents may influence adoptee's perceptions and feelings towards birth parents through adolescence, a period when many adoptees begin to feel less comfortable with their adoption status. Social workers and other providers working with adoptive parents need to be trained to be aware of the linguistics adoptive parents use when speaking about adoption and their child's birth family. Adoption communication is complex and subtle, yet professionals can help adoptive parents understand that it is not only what they say about adoption or their child's birth family, but also more subtle linguistic nuances that can send implicit messages to their adopted children. If adoptive parents hope to foster higher satisfaction and positive feelings in their adoptee's relationship with their birth mother, they can make efforts to authentically speak with more positive emotion words, show a drive for communion, and moderate their use of negative emotion words when discussing the birth family.

Additionally, the current findings have important implications for future adoption research. We found that the linguistic variables

included in our study correlated highly with a previously established coding system for communicative openness, suggesting the two constructs may capture similar family processes. The process for qualitative coding of communicative openness is a quite involved and tedious task, while the LIWC coding is almost instantaneous. Future research teams may consider whether the LIWC variables are a suitable stand-in for examining the quality of adoption communication if they do not have the resources to allocate to a complex qualitative coding system.

8.2 | Strengths, limitations, and future directions

A major strength of this study was the extensive parent interviews discussing targeted topics which could be evaluated using the LIWC2015 software. Parent responses were elaborate and thoughtful, often including rich personal details, which likely increased the validity of the LIWC2015 output as measurements of parent attitudes towards adoption and birth families. Further, including observer-rated adoptee variables complemented the LIWC2015 output variables. One limitation was the use of secondary analysis, which limited the choice of variables selected for our study aims.

Another strength is the homogeneity of the sample, which included adoptive parents of children placed through private, domestic adoption, shortly after birth. Thus, the duration of time in which parent linguistics may have been influencing adoptee thoughts and emotions was consistent across the sample. As an initial investigation of linguistic patterns in adoptive families, the current study was strengthened by the uniformity in adoption type. Nevertheless, future research should examine linguistic patterns and implications within families who adopt under different circumstances. Some parents who adopt through the child welfare system have the additional task of communicating difficult circumstances involving the birth parents and reasons for placement (e.g., substance use, maltreatment, mental health challenges; Brodzinsky, 2011). Furthermore, in transracially adoptive families, how adoptive parents speak about racial and ethnic differences varies widely and has implications for the child (Anderson et al., 2015; Crolley-Simic & Vonk, 2011). Focus on such factors could reveal unique practice guidelines for different types of adoption.

One limitation of the present study is that individuals sometimes change their linguistics based on the context or environment they are in. Hexem et al. (2013) found that parents of children with cancer were speaking with more positive language than their self-reported emotions indicated when talking to their child's medical providers. It is possible that adoptive parents similarly speak with more positive, family-oriented language to adoption researchers than they do to their children or other family members. Future studies could benefit from exploring parents' language patterns when speaking about adoption in a more natural environment, with their child directly.

Another limitation is the low level of authenticity, suggesting a moderate level of guardedness, on average, with which the parents spoke during their interview. Other studies exploring rates of authenticity have documented means of 60–76 (Pennebaker, Boyd,

et al., 2015) versus mean levels of 29–31 found in our study. It is possible that this dampened the effect that may have been seen if parents felt comfortable enough to speak more authentically. Additionally, a limitation of the LIWC and linguistic analysis in general, is that it analyzes word use without consideration of context. It is possible that the same word can be used in two different contexts and give two qualitatively different meanings, yet the tool would not be able to differentiate between these varying uses and will code based on how the dictionaries were developed.

Due to the small number of birth fathers with whom participants in the present study had contact, an analysis of how parent linguistics related to adoptee relationships with their birth father was not possible. However, it is possible that parent linguistics influences adoptees' feelings towards numerous birth relatives. Future research would benefit from the inclusion of participants who have contact with different birth relatives, as well as parent interview questions that assess their relationships with these family members more individually. Such research could explore differences in linguistics as parents discuss one family member to another, and how that subsequently influences adoptees' relationships with them.

Lastly, in the current study, regression analyses did not account for dependency introduced by mothers and fathers being within the same family (Minuchin, 1985). Although simpler analyses were chosen due to this being the first study to examine relations between adoptive parents' linguistics and their child's outcomes, future examinations would benefit from modelling dependency through the use of multi-level modelling or actor-partner modelling. Actor-partner modelling could also utilize latent variables in combining linguistic variables together, given that the results suggest multiple linguistic variables together may be more influential towards adolescent outcomes than singular linguistic features.

There are multiple directions future studies can take to build upon the findings presented. One would be to explore whether parent linguistics when discussing adoption influence the ways in which the adoptees feel about their relationship with their adoptive parents. Another would be to determine whether specific linguistic patterns relate to a child psychological adjustment. We know that adoptive families' feelings surrounding the adoption and openness arrangements influence adoptees' externalizing behaviours in adolescence and early adulthood (Grotevant et al., 2011). It is likely that these feelings are conveyed through the linguistics parents use. In addition, future studies may more closely examine linguistics in the context of variations in birth family contact experiences. For example, two adopted adolescents with equally high reports of satisfaction may have completely opposite levels of contact and thus qualitatively different experiences (Mendenhall et al., 2004). By extension, there may be different adoptive parent linguistic factors contributing to the high levels of satisfaction that could not be identified in the current study.

Additionally, the linguistic differences by parent gender, suggested by the results of this study, warrant future research to explore the potentially differential influence of adoptive mothers' and fathers' linguistic patterns on their children, and whether such differences

would hold among same-sex adoptive parents. A final suggestion is to explore whether parent linguistics can be shaped through intervention and whether this influences adoptee outcomes. We know that individual maladaptive thoughts can be shaped effectively through cognitive restructuring in the context of cognitive behavioural therapy to improve child and adolescent psychological symptoms (Oud et al., 2019). It is not unreasonable to presume that maladaptive patterns in parent communication could be effectively shaped through intervention to improve child outcomes as well. This would have significant clinical implications, in that if parents could learn to change their patterns of word use or reframe their narrative when speaking to, or around, their child, they could have a meaningful impact across a range of domains.

9 | CONCLUSION

We have long understood that parents' feelings, beliefs, and values can be transferred to their children either explicitly or implicitly through their use of language. We have also known that adoptive parents' attitudes have direct implications for the feelings and functioning of their adopted child. This study provided additional evidence that adoptive parents' attitudes about their child's birth family, expressed through their linguistic patterns, related to adoptee attitudes towards their birth mother regardless of the level of openness in the adoption. The present findings contribute to the growing body of literature exploring the utility of linguistic inquiry, as well as the research on adoptive family communication and adoptive parent-child dynamics. Continuing to explore family communication and linguistic influence on adopted children will provide increased understanding to promote positive relationships and functioning post-adoption.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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