Language-Dependent Reminiscing: Bilingual Mother-Child Autobiographical Conversations

Differ Across Thai and English

Sirada Rochanavibhata[1,2] and Viorica Marian[1]

[1]Department of Communication Sciences and Disorders, Northwestern University,

2240 Campus Drive, Evanston, IL 60208

[2]Department of Child and Adolescent Development, San Francisco State University,

1600 Holloway Avenue, HSS 359, San Francisco, CA 94132

Correspondence about this article should be addressed to Dr. Sirada Rochanavibhata. E-mail:

sirada.rochanavibhata@northwestern.edu

Abstract

Cross-linguistic differences in narrative patterns were examined in bilingual mother-preschooler dyads. Twenty-six Thai-English bilingual mothers and their four-year-old children completed a reminiscing task where they jointly recalled autobiographical memories in response to word prompts. Bilingual mothers and children exhibited different reminiscing styles in each of their languages. Specifically, bilinguals adopted high-elaborative and child-centered styles (e.g., use of evaluative feedback) when speaking English and low-elaborative and adult-centered styles (e.g., use of directives) when speaking Thai. Additionally, positive associations between maternal and child narrative patterns in both languages suggested that mothers' scaffolding strategies influenced children's own emerging linguistic skills. Findings from the present study show that bilingual mothers socialize their children differently across languages. In turn, children learn to present themselves in distinct ways depending on the linguistic and social contexts. We conclude that language can cue culture-specific communicative and behavioral norms as early as preschool.

Keywords: autobiographical memories, bilingual, language development, mother-child dyads, narrative, Thai

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Conversations Differ Across Thai and English

Autobiographical reminiscing is one of many adult-guided activities that facilitates children's development of narrative skills (Peterson & McCabe, 1992; Reese et al., 1993). Through the process of recalling personal memories with their caregivers, children learn the appropriate ways to narrate stories and discuss their experiences. Even though mother-child reminiscing is a universal activity, there is variability in the reminiscing styles of mothers and children from different cultural and linguistic backgrounds (e.g., Melzi et al., 2011; Minami & McCabe, 1995; Reese et al., 1993; Wang et al., 2000). The present study examines cross-linguistic differences in bilingual mothers' strategies for eliciting personal stories from children, as well as in bilingual children's narrative styles, by comparing mother-child reminiscing in Thai-English bilingual dyads across their two languages.

Cross-Cultural Differences in Monolingual Parent-Child Communication

Culture informs our knowledge of behavioral norms, beliefs, and customs. Cross-cultural researchers have previously characterized cultures on an individualism – collectivism continuum (Markus & Kitayama, 1991). More individualistic societies are characterized by values placed on independence and autonomy, whereas more collectivist cultures are characterized by emphases on interdependence and group conformity. A key attribute that correlates with the individualism – collectivism dimension is power distance, which describes the power dynamic between group members (Hofstede, 2001). Individualistic cultures are typically considered low-power-distance, meaning that power is evenly distributed among group members, and everyone has relatively equal power. Conversely, collectivist cultures are oftentimes considered high-power-distance, meaning that certain groups of people (e.g., adults) possess more power than other groups (e.g.,

children). Due to these distinct value systems, cultures also differ in the extent to which parent-child interactions are adult- versus child-centered (Keller, 2007; Vigil & Hwa-Froelich, 2004). In individualistic low-power-distance cultures, adults and children have relatively equal power and children are socialized to become autonomous. As a result, adults tend to follow the child's lead, particularly responding to the child's wants and preferences, with the goal of nurturing the child's individuality. Conversely, in collectivist high-power-distance cultures, adults have more power than children and children are raised to respect their elders. Additionally, children are socialized to develop an identity that fits within their community. Thus, adults often take the lead in guiding dyadic interactions, while children defer to adults and learn their role in the society.

The theory of language socialization posits that language is used as a medium for transmitting cultural norms (Miller et al., 2007; Schieffelin & Ochs, 1986). Children simultaneously acquire linguistic and cultural competence by interacting with other members of their society. Because narrative discourse is universal and is an instrumental process through which cultural norms are conveyed (Miller et al., 2007), a common approach to studying language socialization is to examine conversations between parents and children. Researchers examining parental language scaffolding during dyadic discourse have found cultural differences in the ways that children's linguistic skills are supported. Particularly, children are socialized to use language in ways that are congruent with the broader cultural norms. Parents from Western cultures adopt a relatively high-elaborative scaffolding style, whereas parents from Eastern cultures adopt a relatively low-elaborative scaffolding style. For example, European-American and Anglo-Australian caregivers tend to have longer conversations, ask more questions, and provide more evaluations, whereas Japanese, Korean, and Thai caregivers tend to have more concise conversations, repeat their children, and request information that has been stated (e.g.,

Minami & McCabe, 1995; Mullen & Yi, 1995; Rochanavibhata & Marian, 2020; Winskel, 2010). These distinct conversation styles are reflective of the previously mentioned norms of individualistic low-power-distance and collectivist high-power-distance cultures, respectively.

In turn, children acquire culture-specific communicative norms that are in line with their parents' scaffolding, resulting in positive correlations between maternal and child communicative styles (Chang, 2003; Dunn et al., 1987; Fivush, 1991; McCabe & Peterson, 1991; Peterson & McCabe, 1994; Rochanavibhata & Marian, 2020; Wang et al., 2000; Winskel, 2010). For example, children from Western cultures learn to produce longer narratives and evaluative statements, while children from Eastern cultures contribute shorter narratives (e.g., Rochanavibhata & Marian, 2020; Winskel, 2010). Additionally, mothers who provide more evaluations tend to have children who produce more evaluative statements themselves (e.g., Rochanavibhata & Marian, 2020; Wang et al., 2000). Thus, previous research has shown that children mirror or internalize the communicative patterns that their caregivers model for them. The timeframe during which parent-child associations were observed varied across studies. Some of the previous work (e.g., Rochanavibhata & Marian, 2020; Wang et al., 2000; Winskel, 2010) examined the *concurrent* association between adult and child reminiscing styles, which characterized synchronous and contingent scaffolding during one specific time point. Other studies (e.g., Dunn et al., 1987, Fivush, 1991; Peterson & McCabe, 1994) examined the association between adult and child reminiscing styles *over time* (e.g., maternal reminiscing style when their child was three years old and child reminiscing style when the child was five years old), which allowed researchers to observe the process of acculturation and children's ability to internalize behaviors that were scaffolded for them by adults.

Cross-Linguistic Differences in Bilingual Communication

As findings from previous cross-cultural studies suggest, individuals from similar backgrounds and social milieus have value systems that are shared by others in their culture. These culture-specific frames of reference in turn influence individuals' cognition and behaviors (e.g., Hong et al., 2000). Given the interrelatedness between culture and language, questions remain regarding the co-existence of two different languages in bilingual speakers and how knowing more than one language may influence the nature of their communication. Evidence from bicultural and multicultural individuals demonstrates cultural frame switching, where people shift their values, attitudes, and preferences depending on culture-relevant stimuli (e.g., Hong et al., 2000; Ramírez-Esparza et al., 2006). For example, bicultural Chinese Americans exhibit self-attributions (explaining actions or situations with internal traits or characteristics) when primed with Western cues (e.g., the United States Capitol) and group attributions (explaining actions or situations with external factors) when primed with Asian cues (e.g., the Great Wall). Therefore, this phenomenon suggests that individuals can access multiple cultural frames of reference and switch between frames depending on the context.

Congruent with cultural frame switching, studies examining the relationship between language and memory have shown that the language spoken at a given time mediates memories and self-narratives in bilinguals (Bartolotti & Marian, 2012; Marian, 2023; Marian & Kaushanskaya, 2004; Marian & Neisser, 2000; Schroeder & Marian, 2014), suggesting that *language* can serve as a cue for cultural frames. Specifically, bilinguals recall and express their memories differently depending on the language of memory encoding and retrieval. For instance, Marian and Kaushanskaya (2004) found that Russian-English bilinguals produced more individualistic narratives (focusing more on themselves as the main agent and producing more

personal pronouns) when speaking English–a language associated with an individualistic culture–and produced more collectivist narratives (focusing more on others as the main agent and producing more group pronouns) when speaking Russian–a language associated with a collectivist culture.

Given the evidence that language can trigger culture-specific frames of reference or self-schemas, it is likely that the languages spoken by bilinguals will also influence their narrative discourse styles and social interactions in everyday life. There is evidence from bilingual families showing cross-linguistic differences in caregivers' child-directed speech (Hoff & Shanks, 2024) and nonverbal communication (Rochanavibhata et al., 2023). When playing with their toddlers, Spanish-English bilingual mothers produced a greater number of utterances and dominated the conversation more when speaking Spanish compared to English. This pattern mirrored the cross-cultural difference between their Spanish and English monolingual counterparts, where there was greater adult talk during the interactions of Spanish monolingual mother-child dyads and greater child talk during the interactions of English monolingual mother-child dyads (Hoff & Shanks, 2024). Additional evidence of language-specific conversation styles comes from research on older children's autobiographical memories. In one study, 8- to 14-year-old Chinese-English bilingual children were interviewed about personal memories in either English or Chinese (Mandarin or Cantonese, depending on the children's preference). Children who were interviewed in English provided more elaborate narratives, characteristic of individualistic Western values, whereas children who were interviewed in Chinese produced more concise narratives, characteristic of Eastern values (Wang et al., 2010). These language-dependent reminiscing styles suggest that language may prime the closely associated cultural frames, making the relevant traditions and behavioral norms more easily accessible (Ross et al.,

2002; Schrauf, 2000), and that it ultimately influences the way that individuals present themselves, even among school-age children. Thus, bilingual mothers and their preschoolers are also expected to show language- and culture-specific elicitation strategies and narrative patterns.

The Present Study

As an individualistic culture, the European-American culture promotes independence and autonomy (Bornstein, 2012; Harkness et al., 1992; Tamis-LeMonda & McFadden, 2010). Personal accomplishments, uniqueness, and self-reliance are valued traits. Children are taught to express themselves and establish their own beliefs and opinions, even when there may be points of disagreement between children and adults (Lansford et al., 2011; Nucci & Weber, 1995). Such emphasis on individuality and autonomy is evident from very early in development. Young children are often treated as intentional agents capable of making their own decisions, for example, where babbling from an infant is viewed as meaningful (Paradis et al., 2011). As a collectivist culture, Thai culture emphasizes interconnectedness and relationships with other people. There is also an age-based hierarchy among social members that is predominantly driven by Buddhist teachings (Eberhardt, 2014). Filial piety–the belief that children must respect, obey, and defer to their parents and others who are older than them–is a core value in Thai culture. Another value that is taught from early childhood is the concept of "kreng chai," which means "to have consideration for" and instills a mindset that aims to minimize disturbance to others (Suvannathat, 1979). Such power dynamic between individuals is reflected in communicative and social interaction norms. Adults often teach many of these norms explicitly by modeling the appropriate language to show respect and by correcting children for inappropriate or disrespectful speech (Howard, 2011). These differences in the American and Thai norms related

to social interactions, specifically with regards to parent-child relationships, allow us to examine cross-cultural and cross-linguistic differences in conversation styles.

Although Thailand is culturally and linguistically homogenous relative to other countries due to its history of never having been colonized by a Western country (Baker & Jarunthawatchai, 2017), globalization has inevitably influenced language policy and use. Despite Thai being the official language, the prominence of English has increased over the years as it is the working language of the Association of Southeast Asian Nations. English is typically associated with modernization and a way to communicate with the rest of the world, but at the same time is viewed as the language of the "other" or "outsider" (Baker & Jarunthawatchai, 2017). There are specific contexts in which English is commonly used in Thailand, including schools, international business, tourism, the internet, and media (Foley, 2005; Wongsothorn et al., 1996).

With the rise in popularity and number of international schools, as well as English or bilingual programs in Thailand (Fry, 2018), it has become more common for children to start acquiring English as early as three years of age. In addition to English itself being associated with globalization and the rest of the world, children are typically taught English by foreign teachers who have come from other countries, including those from Western societies such as the United States, United Kingdom, Canada, Australia, and New Zealand (Punthumasen, 2007), which further strengthens the association of English with a Western cultural frame. Considering that Thai and English are associated with distinct cultural values and norms, focusing on Thai-English bilingual mother-child dyads from Thailand allows us to examine any potential cultural frame switching effects on interaction and communication styles.

In the present study, we aimed to examine cross-linguistic differences in maternal linguistic scaffolding strategies and children's own narrative styles. To elicit autobiographical narratives from mothers and children, bilingual dyads participated in a prompted reminiscing task. Based on previous research showing cross-cultural differences in the interactions of American and Thai *monolingual* mother-child dyads (Rochanavibhata & Marian, 2020, 2021, 2022a, 2023), conversation styles of Thai-English *bilingual* dyads were expected to be qualitatively different when speaking Thai vs. English. Thai-English bilinguals were expected to hold and emphasize different values across their two languages, and thus exhibit different scaffolding and narrative patterns depending on which language was spoken at a given time. Considering that previous cross-cultural research has provided evidence that there are multiple social norms simultaneously at play, including the low- versus high-elaborative styles of recounting autobiographical memories (e.g., Minami & McCabe, 1995), child- versus adult-centered styles of interpersonal communication (e.g., Vigil & Hwa-Froelich, 2004), and low- versus high-power-distance interactions (e.g., Hofstede, 2001), bilinguals were expected to show behaviors that aligned with the culture- and language-appropriate constructs. The bilinguals' conversation styles were expected to resemble those of their Thai monolingual counterparts when speaking Thai and to resemble those of their English monolingual counterparts when speaking English. Specifically, bilingual dyads were predicted to adopt a relatively low-elaborative style, characterized by greater use of requests for repetition, when speaking Thai and a relatively high-elaborative style, characterized by greater use of questions (open- and closed-ended), evaluative statements (positive and negative feedback), and longer narratives (as measured by number of words and utterances produced) when speaking English. Moreover, bilingual mothers were expected to be more likely to adopt adult-centered and high-power-

distance styles, characterized by use of commands (action requests and attention directives) and grammatical corrections (expansions) in Thai, and child-centered and low-power-distance styles, characterized by use of affirmations and repetitions, in English.

In addition to comparing bilinguals' narrative styles across two languages, we also aimed to examine the relationship between mothers' and children's discourse patterns. Based on previous work demonstrating that children tend to concurrently recount personal memories in ways that are similar to their mothers (e.g., Rochanavibhata & Marian, 2020; Wang et al., 2000; Winskel, 2010), specifically their use of labels, descriptions, affirmations, negative feedback, and narrative length (both in the number of utterances and words), bilingual mothers' and children's narratives were expected to be positively correlated in both languages on these linguistic measures. However, we also predicted that positive correlations between maternal and child use of specific narrative devices would emerge only in one language, as evidenced by previous cross-cultural work on Thai and American mother-child dyads. For example, in accordance with the social hierarchy and norm of children respecting their elders in Thai culture, bilingual mothers and children were hypothesized to show positive correlations on use of directives only in English and not in Thai (Rochanavibhata & Marian, 2020). Findings from the present study will provide insight into the social and cultural influences on bilingual children's cognition by focusing on an understudied and underrepresented population in developmental research.

Method

Participants

Participants were 26 Thai-English bilingual mother-child dyads (12 boys, 14 girls) living in Thailand. Children were 4-year-old preschool children. Participants in Thailand were recruited

through contacts at bilingual preschools in Bangkok, Thailand, as well as through snowball

sampling. Mothers', fathers', and children's background information were obtained using

questionnaires. Mothers and fathers were asked to fill out the *Language Experience and*

Proficiency Questionnaire (LEAP-Q; Marian et al., 2007) to assess their language profiles

including their proficiency in speaking, understanding, and reading in the languages they speak,

as well as ages of acquisition, and lengths of immersion for each language. Information

regarding maternal and paternal education was also obtained from the questionnaire. Mothers

filled out an adapted version of the LEAP-Q that assessed their child's language background and

experience. Previous research examining bilingual children (e.g., Marchman et al., 2010;

Marchman et al., 2004; Place & Hoff, 2011) suggests that the less-frequently heard language

should constitute at least 10%, and preferably more, of the bilingual children's language

exposure. Therefore, our inclusionary criteria for bilingual dyads were (a) mothers and children

were exposed to their less dominant language at least 20% daily and (b) mothers' and children's

proficiency in their less dominant language were at least 5 on the 0-10 LEAP-Q scale.

   In addition to mothers' self-report language measures from the LEAP-Q and maternal

report of children's language profiles, mother-child dyads were given the *Peabody Picture*

Vocabulary Test–Third Edition (PPVT-III; Dunn & Dunn, 1997), a standardized test of English

receptive vocabulary and the *Expressive Vocabulary Test* (EVT; Williams, 1997), a standardized

test of English expressive vocabulary that is co-normed with the PPVT-III, and the translated

Thai versions of the two tests. Because the Thai translations of the receptive and expressive

vocabulary tests have not been normed, we calculated the total raw scores (i.e., subtracting the

total number of incorrect items from the ceiling item) for both the English and Thai tests, instead

of the standardized PPVT and EVT scores typically reported. See Table 1 for children's and mothers' demographic and language background.

Table 1

Demographic and Language Background of Thai-English Bilingual Children and Mothers

	Children Mean (SD)	Mothers Mean (SD)
Gender (% female)	53.8%	-
Age (years)	4.54 (0.36)	36.72 (3.74)
Education (years)	-	19.77 (2.05)
Age of Thai acquisition (years)	0.02 (0.10)	0.48 (1.17)
Age of English acquisition (years)	0.22 (0.33)	6.35 (2.74)
Current exposure[a] to Thai (%)	52.30 (15.76)	64.81 (15.90)
Current exposure[a] to English (%)	46.63 (16.09)	35.00 (16.06)
Mother-reported Thai proficiency[b]	7.56 (1.26)	9.32 (0.96)
Mother-reported English proficiency[b]	7.29 (1.01)	7.08 (1.12)
Thai receptive vocabulary (PPVT)	67.19 (19.05)	198.46 (2.55)
English receptive vocabulary (PPVT)	63.00 (18.02)	153.04 (23.21)
Thai expressive vocabulary (EVT)	36.15 (5.96)	125.73 (14.93)
English expressive vocabulary (EVT)	48.38 (9.14)	109.50 (16.58)

[a]Exposure was reported in terms of percentage per day. [b]Proficiency was averaged across speaking and understanding domains, measured using the LEAP-Q, on a 0-10 scale.

Because the present study focused on the interaction between mothers and children, we did not have inclusionary criteria for the fathers. See Table 2 for information about the fathers' demographic and language background.

Table 2

Demographic and Language Background of Fathers

	Fathers Mean (SD)
Age (years)	38.99 (5.40)
Education (years)	20.00 (3.14)
Age of native language acquisition (years)	1.07 (1.33)
Age of second language acquisition (years)	7.76 (5.54)
Current exposure[a] to native language (%)	71.16 (25.01)
Current exposure[a] to second language (%)	26.20 (22.34)
Self-reported native language proficiency[b]	9.24 (1.09)
Self-reported second language proficiency[b]	6.36 (1.76)

[a]Exposure was reported in terms of percentage per day. [b]Proficiency was averaged across speaking, understanding, and reading domains, measured using the LEAP-Q, on a 0-10 scale.

Procedure

To examine mothers' scaffolding strategies and children's narrative skills during mother-child conversations, mothers have typically been asked to elicit memories of interesting past events and experiences from their children (e.g., Melzi et al., 2011; Minami & McCabe, 1995; Reese & Fivush, 1993). The present study used word prompts to elicit mother-child reminiscing. Previous work has shown that prompts are effective in eliciting autobiographical memories in bilingual adults (e.g., Bartolotti & Marian, 2012; Marian & Kaushanskaya, 2004; Marian & Neisser, 2000; Schroeder & Marian, 2014), as well as in monolingual children (Rochanavibhata & Marian, 2020).

Mothers were told that because it might be difficult to recall multiple memories on request, they would be given topics to facilitate the reminiscing process. Mothers were instructed

to use the prompts to help their child recount specific one-time events that occurred in the past. The following two sets of 11 word prompts were used: (Set 1) airplane, birthday, blanket, blood, boat, butterfly, cat, holiday, laughing, lunch, and school, (Set 2) car, dinner, doctor, dog, friend, kitchen, party, spider, summer, yard, and zoo. Their Thai translations, respectively, are: (Set 1) เครื่องบิน, วันเกิด, ผ้าห่ม, เลือด, เรือ, ผีเสื้อ, แมว, วันหยุด, การหัวเราะ, อาหารเที่ยง, and โรงเรียน, (Set 2) รถ, อาหารเย็น, หมอ, หมา, เพื่อน, ครัว, งานเลี้ยง, แมงมุม, ฤดูร้อน, สนาม, and สวนสัตว์. Half of all bilingual mothers received Set 1 in Thai and Set 2 in English. The other half of the participants received Set 1 in English and Set 2 in Thai. The order of presentation of the two sets was counterbalanced.

All mothers were instructed to converse with their child as they normally would when jointly recounting past events. Mothers were asked to go through word prompts one at a time and to spend as much time as they would like on each prompt. When mothers accidentally skipped a word, the experimenter informed the mothers of the word they missed. After their child has provided an answer to the prompt, mothers were instructed to use two questions ("what else do you remember?" and "can you tell me more?") once each before moving on to the next topic. The purpose of the two questions was to probe whether the child was done reminiscing. Once the child indicated that they were finished, mothers would move on to the next cue word. Each child was told that they were going to play a game and should answer as quickly as they could with a past event that comes to mind when hearing each word. Mothers and children were asked to complete the task exclusively in one language (English *or* Thai, depending on the session). All interactions were video-recorded. The average duration of the prompted reminiscing task was 21.75 minutes (*SD* = 9.10 minutes) for bilingual dyads' Thai session and 23.08 minutes (*SD* =

9.99 minutes) for their English session. The average duration of the sessions did not differ between English and Thai ($ps > .05$).

Coding and Data Analysis

Video recordings were transcribed using a standardized format available through the Child Language Data Exchange System (MacWhinney, 2000). Native speakers of Thai and English transcribed and coded all conversations in their respective languages. Transcripts were coded using a frequency-based approach, where maternal and child linguistic measures were coded when they occurred and the total number for each measure was tallied. Intercoder reliability was established between the coders on 20% of the transcripts using Cohen's Kappa for all of the measures ($\kappa = 0.90$ for Thai coders, $\kappa = 0.94$ for English coders). A bilingual speaker blinded to the hypotheses also coded 20% of both the Thai and English transcripts to ensure that the coding schemes were comparable across both languages.

In previous parent-child reminiscing studies, researchers have examined different linguistic scaffolding and elicitation strategies that are characteristic of the elaborative and repetitive reminiscing styles, including use of open-ended questions (e.g., Chang, 2003; Fivush & Fromhoff, 1988; Winskel, 2010), closed-ended questions (e.g., Chang, 2003; Fivush & Fromhoff, 1988; Winskel, 2010), descriptives (e.g., Fivush & Fromhoff, 1988; Leichtman et al., 2000), agreement/approval (e.g., Winskel, 2010), revision statements (e.g., Winskel, 2010), evaluations (e.g., Chang, 2003; Fivush & Fromhoff, 1988; Wang et al., 2000), directives (e.g., Winkel, 2010), repetitions (e.g., Wang et al., 2000), and length of conversation (e.g., Leichtman et al., 2000; Mullen & Yi, 1995). Thus, in the present study, maternal and child utterances were coded for 16 linguistic measures: affirmation, attention directive, closed-ended question, description, direct action request, expansion, extension, indirect action request, label, negative

feedback, open-ended question, positive feedback, recast, reframe, repetition, request for

repetition. See Table 3 for the full list of measures with their corresponding operational

definitions. Additionally, measures of conversation length, including the total number of

utterances and total number of words, were obtained from the transcripts. Example transcripts

can be found in the Appendix.

Table 3

Linguistic Measures and Corresponding Operational Definitions

Linguistic measure	Definition
Label	Naming objects or people
Description	Describing objects or people using adjectives
Open-ended question	Asking a question for which there are multiple answers
Closed-ended question	Asking a question for which there is a dichotomous answer (e.g., yes or no)
Reframe	Changing the expression of words or concepts from the preceding utterance (e.g., correcting an incorrect label)
Affirmation	Provision of agreement with the preceding utterance
Repetition	Repeating the content of the preceding utterance
Request for repetition	Asking for information in the preceding utterance to be repeated or clarified
Expansion	Grammatical rendering of the preceding utterance
Extension	Adding semantic information or new content to the preceding utterance
Recast	Restating the preceding utterance in a different form (e.g., changing a declarative into an interrogative)
Direct action request	Giving commands in the imperative form
Indirect action request	Giving commands in the interrogative form
Attention directive	Giving commands that direct attention
Positive feedback	Provision of confirmation or encouragement

Negative feedback	Provision of negation or criticism

To compare bilingual mothers' and children's conversation styles across their two languages, the total count of each maternal and child linguistic measure was fitted to generalized linear mixed models using the glmmTMB function (Brooks et al., 2017). Instances of code-switching into the non-target language were excluded from analyses. Models included fixed effects of language (English, Thai), child gender (male, female), and an interaction term. Both fixed effects of language and child gender were treatment coded (Thai coded as 1, English coded as 0; male coded as 1, female coded as 0). Total number of words produced, L1 and L2 proficiency, and L1 and L2 exposure were added as covariates. The models also included random intercepts for participants. The best fitting models for each linguistic measure were selected by comparing AIC values using the AICtab function of the bbmle package (Bolker & R Development Core Team, 2021). Model assumptions (including overdispersion and zero-inflation) were checked using the performance package (Lüdecke et al., 2021). Post-hoc comparisons, with Bonferroni correction, were conducted to follow up any significant interaction between language and child gender. Because models included covariates, estimated marginal means were computed. Effect sizes for the generalized linear mixed effects models (Poisson and negative binomial regressions) were estimated with rate ratios (Coxe, 2018; Wilson, 2022). To examine the relationship between maternal and child narrative patterns, correlations were run. Estimated marginal means of all linguistic measures are presented in Tables 4 and 5.

Table 4

Estimated Marginal Means of Bilingual Mothers' Language Use

Maternal linguistic measure	Language	Mean	Standard error	95% confidence interval		Gender	Mean	Standard error	95% confidence interval	
				Lower	Upper				Lower	Upper
Label	English	4.72	1.95	2.05	10.90	Boys	2.05	1.40	0.52	8.10
	Thai	0.88	0.73	0.17	4.70	Girls	2.04	1.21	0.61	6.77
Description	English	19.30	3.20	13.80	26.90	Boys	12.50	2.26	8.66	18.00
	Thai	10.00	1.91	6.84	14.70	Girls	15.50	2.59	11.07	21.70
Open-ended question	English	73.80	5.08	64.20	84.80	Boys	82.10	6.16	70.60	95.50
	Thai	91.50	6.21	79.90	105.00	Girls	82.30	5.76	71.40	94.70
Closed-ended question	English	93.10	10.02	74.90	116.00	Boys	89.50	6.70	77.00	104.00
	Thai	84.10	8.94	67.80	104.00	Girls	87.40	6.12	75.80	101.00
Reframe	English	0.17	0.10	0.05	0.57	Boys	0.19	0.16	0.03	0.99
	Thai	0.16	0.15	0.03	1.01	Girls	0.15	0.10	0.03	0.61
Affirmation	English	51.80	8.32	37.40	71.50	Boys	50.00	10.18	33.20	75.30
	Thai	45.60	7.16	33.30	62.60	Girls	47.20	9.01	32.20	69.40

Repetition	English	45.90	5.03	36.80	57.30	Boys	33.00	4.11	25.70	42.40
	Thai	29.30	3.12	23.70	36.30	Girls	40.90	4.72	32.40	51.60
Request for repetition	English	4.25	1.04	2.59	6.97	Boys	3.28	0.92	1.87	5.76
	Thai	2.36	0.59	1.43	3.89	Girls	3.05	0.80	1.80	5.17
Expansion	English	1.71	0.35	1.13	2.58	Boys	2.08	0.45	1.35	3.22
	Thai	4.69	0.86	3.24	6.78	Girls	3.84	0.69	2.68	5.50
Extension	English	0.07	0.08	0.01	0.65	Boys	0.10	0.17	0.004	2.63
	Thai	0.25	0.42	0.01	7.76	Girls	0.17	0.17	0.03	1.19
Recast	English	2.19	0.53	1.35	3.55	Boys	1.74	0.36	1.14	2.64
	Thai	2.15	0.38	1.50	3.08	Girls	2.71	0.63	1.70	4.33
Direct action request	English	5.48	1.30	3.39	8.85	Boys	10.14	2.14	6.62	15.50
	Thai	14.19	3.23	8.97	22.44	Girls	7.66	1.54	5.12	11.50
Indirect action request	English	5.83	1.02	4.11	8.28	Boys	3.92	0.74	2.69	5.73
	Thai	3.16	0.58	2.18	4.58	Girls	4.70	0.82	3.31	6.67
Attention directive	English	0.37	0.15	0.16	0.85	Boys	0.70	0.24	0.35	1.39
	Thai	0.48	0.20	0.21	1.09	Girls	0.25	0.11	0.11	0.60

Positive feedback	English	1.78	0.44	0.90	2.67	Boys	3.54	0.78	2.27	5.52
	Thai	3.40	1.20	0.98	5.83	Girls	1.38	0.34	0.84	2.27
Negative feedback	English	11.00	1.55	8.32	14.65	Boys	7.42	1.28	5.24	10.50
	Thai	5.00	0.82	3.59	6.96	Girls	7.44	1.10	5.53	10.00
Total utterances	English	227.00	26.80	179.00	288.00	Boys	268.00	35.40	205.00	350.00
	Thai	277.00	32.50	218.00	350.00	Girls	235.00	28.80	183.00	301.00
Total words	English	937.00	113.00	734.00	1195.00	Boys	1513.00	221.00	1127.00	2032.00
	Thai	2141.00	259.00	1678.00	2732.00	Girls	1325.00	180.00	1009.00	1741.00

Table 5

Estimated Marginal Means of Bilingual Children's Language Use

Child linguistic measure	Language	Mean	Standard error	95% confidence interval		Gender	Mean	Standard error	95% confidence interval	
				Lower	Upper				Lower	Upper
Label	English	3.53	1.29	1.69	7.37	Boys	2.52	1.12	1.03	6.18
	Thai	0.97	0.53	0.32	2.90	Girls	1.35	0.74	0.45	4.05
Description	English	18.10	2.25	14.10	23.20	Boys	18.50	2.70	13.80	24.80
	Thai	18.20	2.23	14.20	23.30	Girls	17.80	2.44	13.50	23.50
Open-ended question	English	4.88	1.12	3.08	7.73	Boys	4.58	1.25	2.64	7.94
	Thai	3.73	0.87	2.33	5.97	Girls	3.98	0.98	2.43	6.53
Closed-ended question	English	5.18	0.96	3.56	7.52	Boys	4.23	1.11	2.50	7.18
	Thai	3.50	0.72	2.31	5.29	Girls	4.28	0.86	2.86	6.40
Reframe	English	0.0004	0.01	2.22e-16	4.69e+18	Boys	0.0004	0.01	2.22e-16	5.04e+18
	Thai	0.001	0.01	2.22e-16	5.37e+09	Girls	0.001	0.01	2.22e-16	5.13e+09
Affirmation	English	3.62	0.91	2.18	6.02	Boys	3.94	1.26	2.06	7.53
	Thai	2.73	0.67	1.66	4.48	Girls	2.51	0.78	1.34	4.71

Repetition	English	11.35	1.55	8.63	14.90	Boys	10.50	1.68	7.58	14.50
	Thai	9.45	1.30	7.17	12.50	Girls	10.20	1.55	7.56	13.90
Request for repetition	English	1.00	0.40	0.45	2.22	Boys	1.43	0.63	0.59	3.45
	Thai	0.87	0.33	0.40	1.89	Girls	0.61	0.63	0.24	1.53
Expansion	English	0.001	0.03	0.00	7.41e+47	Boys	0.13	0.08	0.04	0.00
	Thai	0.18	0.09	0.06	1.00	Girls	0.001	0.05	0.00	1.03e+48
Extension	English	0.04	0.05	0.004	0	Boys	0.09	0.09	0.01	1.00
	Thai	3.77e-06	0.04	0.00	Inf	Girls	1.92e-06	0.02	0.00	Inf
Recast	English	4.09e-08	7.74e-05	2.22e-16	Inf	Boys	2.78e-08	5.27e-05	2.22e-16	Inf
	Thai	7.88e-05	9.27e-03	2.22e-16	5.42e+98	Girls	1.16e-04	7.31e-03	2.22e-16	1.82e+51
Direct action request	English	1.26	0.39	0.68	2.34	Boys	0.83	0.34	0.37	1.88
	Thai	0.36	0.13	0.17	0.75	Girls	0.54	0.22	0.24	1.21
Indirect action request	English	0.98	0.48	0.37	2.62	Boys	0.66	0.43	0.18	2.43
	Thai	0.26	0.22	0.05	1.44	Girls	0.38	0.27	0.09	1.55
Attention directive	English	2.39	1.13	0.93	6.17	Boys	2.25	0.96	0.95	5.29
	Thai	0.85	0.51	0.25	2.86	Girls	0.90	0.60	0.24	3.41

Positive feedback	English	2.08e-04	0.02	2.22e-16	9.22e+75	Boys	4.21e-09	0.0001	2.22e-16	Inf
	Thai	1.66e-09	3.28e-05	2.22e-16	Inf	Girls	8.23e-05	0.01	2.22e-16	2.94e+66
Negative feedback	English	4.24	1.01	2.62	6.85	Boys	3.62	0.98	2.09	6.26
	Thai	2.05	0.46	1.31	3.21	Girls	2.40	0.57	1.49	3.86
Total utterances	English	181.00	17.20	149.00	219.00	Boys	183.00	23.80	140.00	238.00
	Thai	176.00	16.80	146.00	214.00	Girls	174.00	21.00	137.00	222.00
Total words	English	596.00	60.50	486.00	731.00	Boys	691.00	91.50	530.00	902.00
	Thai	745.00	75.70	607.00	914.00	Girls	642.00	79.00	502.00	823.00

Results

Maternal Language Measures

When reminiscing with their child, bilingual mothers produced more descriptions (*Estimate* = -0.63, *SE* = 0.29, *z* = -2.14, *p* = .03, rate ratio = 0.53, 95% CI [0.31, 0.94]), labels (*Estimate* = -2.12, *SE* = 0.80, *z* = -2.65, *p* = .008, rate ratio = 0.12, 95% CI [0.02, 0.57]), negative feedback (*Estimate* = -0.67, *SE* = 0.24, *z* = -2.73, *p* = .006, rate ratio = 0.51, 95% CI [0.32, 0.82]), and repetitions (*Estimate* = -0.37, *SE* = 0.15, *z* = 2.50, *p* = .013, rate ratio = 0.69, 95% CI [0.52, 0.92]) when speaking in English than in Thai. On the other hand, bilingual mothers produced a greater number of words (*Estimate* = 0.68, *SE* = 0.13, *z* = 5.30, *p* < .001, rate ratio = 1.97, 95% CI [1.54, 2.54]), as well as used more direct action requests (*Estimate* = 0.72, *SE* = 0.34, *z* = 2.11, *p* = .03, rate ratio = 2.05, 95% CI [1.08, 3.98]) and expansions (*Estimate* = 0.97, *SE* = 0.31, *z* = 3.14, *p* = .002, rate ratio = 2.64, 95% CI [1.47, 4.82]) when speaking in Thai than in English. See Figure 1 for a summary of mean differences between English and Thai in bilingual mothers' communicative patterns. See the Supplementary Materials for full outputs from the best-fitting generalized linear mixed models (Tables S1-S18).

Figure 1

Mean Differences Between English and Thai in Bilingual <u>Mothers'</u> Linguistic Measures During Prompted Reminiscing
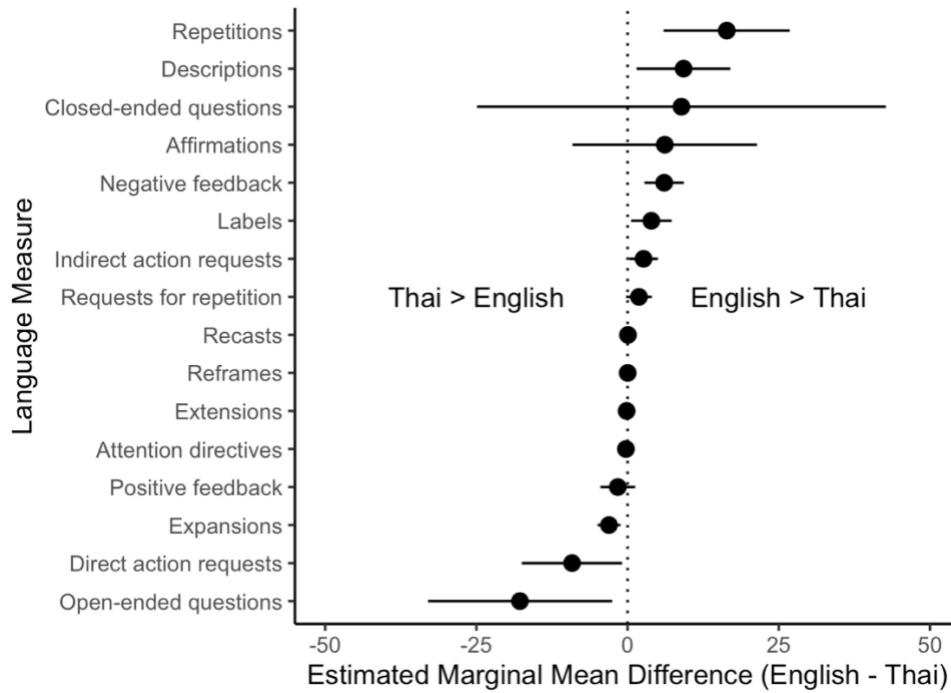

Note. Positive mean difference values indicate mothers' greater use of the linguistic measure in English compared to Thai. Negative mean difference values indicate mothers' greater use of the linguistic measure in Thai compared to English. Error bars represent 95% confidence intervals.

There was no significant main effect of child gender for any of the maternal linguistic measures. There was a significant interaction between language and child gender for the number of words mothers produced (*Estimate* = 0.30, *SE* = 0.14, z = 2.13, p = .03, rate ratio = 1.35, 95% CI [1.04, 1.77]). Post-hoc comparisons revealed significant simple effects, with mothers of boys and girls producing more words in Thai than in English (ps < .025), but the magnitude of the cross-linguistic difference was larger among mothers of boys than among mothers of girls. See Figure 2 for the significant interaction between language and child gender on the number of words produced by mothers.

Figure 2

Number of Words Bilingual Mothers Produced by Language and Child Gender
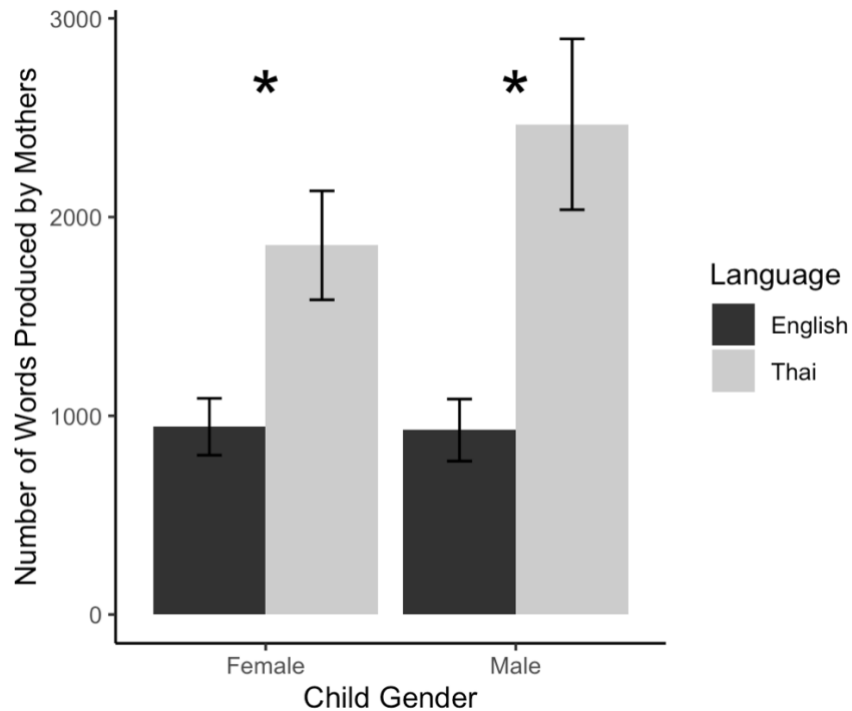
*Note.* Error bars represent standard error. *p < .025.

Child Language Measures

When reminiscing with their mothers, bilingual children produced marginally more words in Thai than in English (*Estimate* = 0.25, *SE* = 0.13, *z* = 2.00, *p* = .05, rate ratio = 1.28, 95% CI [1.00, 1.65]), but produced more affirmations (*Estimate* = -0.79, *SE* = 0.27, *z* = -2.94, *p* = .003, rate ratio = 0.45, 95% CI [0.27, 0.77]), attention directives (*Estimate* = -1.72, *SE* = 0.69, *z* = -2.51, *p* = .01, , rate ratio = 0.18, 95% CI [0.05, 0.68]), closed-ended questions (*Estimate* = -0.53, *SE* = 0.25, *z* = -2.14, *p* = .03, rate ratio = 0.59, 95% CI [0.37, 0.96]), direct action requests (*Estimate* = -1.40, *SE* = 0.48, *z* = -2.94, *p* = .003, rate ratio = 0.25, 95% CI [0.10, 0.63]), labels

(*Estimate* = -1.94, *SE* = 0.69, *z* = -2.82, *p* = .005, rate ratio = 0.14, 95% CI [0.04, 0.55]), and

negative feedback (*Estimate* = -0.59, *SE* = 0.28, *z* = -2.13, *p* = .03, rate ratio = 0.55, 95% CI

[0.33, 0.95]) in English than in Thai (*p*s < .05). See Figure 3 for a summary of mean differences

between English and Thai in bilingual children's communicative patterns. Boys produced more

indirect action requests than girls (*Estimate* = 1.81, *SE* = 0.70, *z* = 2.59, *p* = .01, rate ratio = 6.11,

95% CI [1.62, 23.79]). Additionally, there were significant interactions between language and

child gender for child use of affirmations (*Estimate* = 1.01, *SE* = 0.34, *z* = 2.94, *p* = .003, rate

ratio = 2.75, 95% CI [1.44, 5.31]) and requests for repetition (*Estimate* = 4.76, *SE* = 1.36, *z* =

17.15, *p* = .02). However, follow-up analyses did not reveal significant simple effects for use of

affirmations and requests for repetitions (*p*s > .025). See the Supplementary Materials for full

outputs from the best-fitting generalized linear mixed models (Tables S19-S36).

Figure 3

Mean Differences Between English and Thai in Bilingual <u>Children</u>'s Linguistic Measures During Prompted Reminiscing
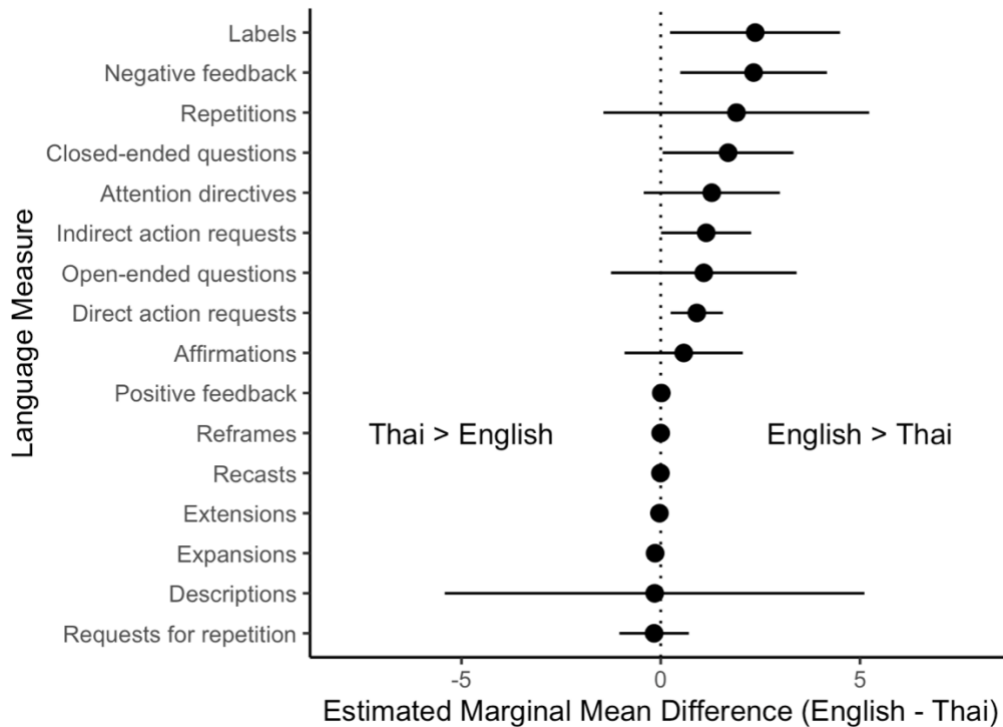
Note. Positive mean difference values indicate children's greater use of the linguistic measure in English compared to Thai. Negative mean difference values indicate children's greater use of the linguistic measure in Thai compared to English. Error bars represent 95% confidence intervals.

Associations Between Maternal and Child Narrative Styles

Correlation analyses revealed significant positive correlations ($ps < .05$) between maternal and child number of utterances (English $r = 0.90$, Thai $r = 0.97$), number of words (English $r = 0.54$, Thai $r = 0.55$), use of descriptions (English $r = 0.84$, Thai $r = 0.59$), use of labels (English $r = 0.92$, Thai $r = 0.72$), and use of negative feedback (English $r = 0.77$, Thai $r = 0.43$) when speaking both languages. There was a significant positive correlation between maternal and child use of expansions ($r = 0.41$) only when speaking Thai, and significant

positive correlations between maternal and child use of affirmations ($r = 0.83$), attention directives ($r = 0.48$), and indirect action requests ($r = 0.64$) only when speaking English. A complete list of the correlation results is presented in Table 6.

Table 6

Pearson's r Correlations Between Bilingual Mothers' and Children's Language Use During Prompted Reminiscing

Linguistic measure	Language	
	English	Thai
Label	0.92 ***	0.72 ***
Description	0.84 ***	0.59 **
Open-ended question	0.03	0.23
Closed-ended question	0.16	-0.03
Reframe	-0.09	-0.08
Affirmation	0.83 ***	0.17
Repetition	0.31	0.34 †
Request for repetition	0.24	0.21
Expansion	-0.06	0.41 *
Extension	0.03	0.15
Recast	N/A	0.25
Direct action request	0.34 †	0.19
Indirect action request	0.64 ***	-0.17
Attention directive	0.48 *	0.33 †
Positive feedback	0.14	N/A
Negative feedback	0.77 ***	0.43 *
Total utterances	0.90 ***	0.97 ***
Total words	0.54 **	0.55 **

†$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$.

Discussion

The present study examined cross-linguistic differences in bilingual mother-child autobiographical conversations and the associations between maternal and child narrative patterns during dyadic interactions. Findings from the cross-linguistic comparisons provide evidence for language-dependent reminiscing styles, suggesting that each of the bilingual's two languages serves as a cue for the associated culture-specific communicative norms. Additionally, gender differences and associations between maternal and child speech patterns were observed.

Cross-linguistic comparisons of bilingual mothers' scaffolding strategies echoed the cross-cultural patterns observed between English and Thai monolingual mothers (Rochanavibhata & Marian, 2020; Winskel, 2010). Bilingual mothers exhibited a high-elaborative style when speaking English. Relative to when they were speaking Thai, mothers used scaffolding strategies in English to build on their children's narratives, including more descriptions and labels. Bilingual mothers also used negative feedback more when speaking English than when speaking Thai, resembling American-English monolingual mothers who tend to model autonomy and individuality (Rochanavibhata & Marian, 2020). Evaluative statements have typically been associated with the high-elaborative and child-centered styles (Minami & McCabe, 1995; Mullen & Yi, 1995; Rochanavibhata & Marian, 2020; Winskel, 2010). Conversely, bilingual mothers exhibited a low-elaborative style when speaking Thai, as evidenced by the use of direct action requests, which has typically been viewed as monitoring child behavior as opposed to eliciting narratives (Fivush & Fromhoff, 1988). Additionally, bilingual mothers' greater use of directives and expansions when speaking in Thai than in English likely reflected the adult-centered high-power-distance social dynamic associated with Thai culture, where adults model appropriate behaviors (in this case, grammatical and adult-like

utterances) and teach children to respect and defer to adults (Hofstede, 2001; Rochanavibhata &

Marian, 2020).

Despite the evidence suggesting that bilingual mothers' narrative styles resembled the

high-elaborative style when speaking English, there was one incongruent finding. Contrary to

our prediction, mothers produced longer narratives when speaking Thai, as measured by number

of words. The fact that cross-linguistic differences were observed in the total number of words

but not in the number of utterances produced suggests that it may not be a cultural difference in

loquaciousness per se that is being captured here. Rather, the difference may be driven by

language proficiency. It is possible that bilingual mothers produced more words in Thai because

Thai was their more proficient language (as evidenced by mothers' self-reported proficiency and

vocabulary scores). An alternative explanation is native language status - bilingual mothers may

have produced more words in Thai because it is their native language. The third possible

explanation is tied to differences in linguistic properties of Thai and English. Compared to

English, Thai may be a more morphologically rich language where a greater number of words is

typically used to convey the same meaning. For example, Thai has no tense marking on the verb,

so separate morphemes are required to mark present, past, and future tenses (Winskel, 2007). It

is necessary to note that the cross-linguistic difference in number of words produced did not

influence the other linguistic measures of interest because the statistical models accounted for

narrative length (defined by total word count).

Results also revealed that bilingual children exhibited two contrasting reminiscing styles–

high-elaborative when speaking English and low-elaborative when speaking Thai – mirroring

those of their monolingual counterparts (Rochanavibhata & Marian, 2020; Winskel, 2010). The

present study is the first to show these language-dependent effects in *bilingual children as early*

as preschool. Children produced more affirmations, closed-ended questions, labels, and negative feedback in English than in Thai. On the other hand, children did not use any of the linguistic measures significantly more frequently in Thai than in English. In addition to providing evidence for cross-linguistic differences in elaboration, bilingual children's narrative patterns were in line with previously established cultural differences in parent-child power dynamic. Bilingual children produced more commands – attention directives and direct action requests – and evaluative statements when speaking English, a language associated with an individualistic low-power-distance Western culture, than when speaking Thai, a language associated with a collectivist high-power-distance Eastern culture. It is possible that when speaking English, bilingual children accessed the Western cultural frame and thus felt more comfortable making requests and expressing both their agreement and disagreement. These communicative differences across languages provide support for the child-centered interaction style associated with Western cultures (Hofstede, 2001; Rochanavibhata & Marian, 2020).

Similar to their mothers but contrary to our prediction, bilingual children produced more words when recounting memories in Thai compared to in English. As previously discussed, this discrepancy between our findings and predictions could be due to language proficiency, native language status, or linguistic differences in the number of words required to express an idea, rather than culturally driven. However, because the mother-reported proficiency and objective vocabulary scores were similar across the children's two languages, it is unlikely that the cross-linguistic difference observed among the children is an effect of proficiency. The most likely explanation is that child narrative patterns are influenced by maternal narrative patterns.

Correlation analyses revealed positive associations between maternal and child linguistic measures, specifically in their use of descriptions, labels, negative feedback, and narrative length

(both in number of utterances and words). In line with previous research focused on monolingual

dyads (e.g., Reese et al., 1993; Reese & Newcombe, 2007; Rochanavibhata & Marian, 2020,

Wang et al., 2000; Winskel, 2010), the findings suggest that bilingual mothers' scaffolding

influences their children's narrative patterns in both languages. Congruent with patterns observed

in previous studies, mothers who talked more had children who produced longer narratives.

However, for other linguistic measures, positive correlations were observed only in one

language. There was a significant positive correlation between maternal and child use of

expansions only in Thai, and significant positive correlations between maternal and child use of

affirmations, attention directives, and indirect action requests only in English. These language-

specific positive associations between maternal and child speech patterns may be indicative of

cross-linguistic differences in the scaffolding strategies and narrative devices that each culture

considers important (Rochanavibhata & Marian, 2020). For example, the correlation between

mothers' and children's use of affirmations and directives in English may reflect the process of

maternal socialization of Western values including self-expression, individuality, and autonomy

(Bornstein, 2012; Harkness et al., 1992; Tamis-LeMonda & McFadden, 2010). Because the

present study examined concurrent associations between maternal and child narrative styles,

inferences cannot be made about the influence of maternal acculturation on children's

communication over time. The patterns observed here reflected maternal contingent scaffolding

and children's real-time responses at one time point in their developmental trajectory.

The lack of positive associations between mothers and children for measures such as

requests for repetition, closed-ended questions, and open-ended questions was consistent with

previous work (Rochanavibhata & Marian, 2020) and could potentially be explained by the

inherent nature of the language elicitation strategies. In line with the idea that adults scaffold

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children's participation, one may expect mothers' question-asking during the reminiscing task to be positively correlated with children's provision of information, not with children's question-asking (e.g., Winskel, 2010). It is possible, however, that as part of the developmental trajectory, younger children start out by complementing their interlocutors and then at a later point begin to resemble their mothers (Chang, 2003; Reese et al., 1993). For example, children whose mothers ask more questions at 4 years old may initially provide answers to the questions but start asking more questions themselves at a later age. Longitudinal research is needed to test this hypothesis and examine the development of communicative patterns as children mature.

Additionally, results revealed that maternal and child conversations differed as a function of child gender, and that for specific linguistic measures, child gender moderated the cross-linguistic differences in bilinguals' narrative patterns. These findings suggest that cultural norms may not be the only factor determining socialization goals. Instead, gender-specific behavioral expectations may work in tandem with culture-specific beliefs to influence adult scaffolding strategies. For instance, the fact that bilingual boys produced more action requests than bilingual girls may be reflective of the societal preference for girls to be polite and soft-spoken (e.g., Fivush, 1994; Gleason, 1987). If boys are typically not socialized to be deferential, it follows that they would be more likely than girls to use directives with their mothers.

The sample size in the present study is comparable to that of previous studies on parent-child interactions in linguistically and culturally diverse groups (e.g., Chang, 2003; Hoff & Shanks, 2024; Mullen & Yi, 1995; Wang et al., 2000; Winskel, 2010), which had sample sizes ranging from 10 to 30 dyads, and is characteristic of sample sizes for research with preschoolers tested in their homes (e.g., Chang, 2003; Mullen & Yi, 1995; Peterson & McCabe, 1994; Reese et al., 1993; Wang et al., 2000). To increase external validity and develop more inclusive and

accurate theories of language development, future researchers should aim to recruit larger samples of understudied populations (Byers-Heinlein et al., 2019; Kidd & Garcia, 2022; Rochanavibhata & Marian, 2022b).

In sum, the present study makes two novel contributions to the field of cognitive development. First, when interacting with their children, bilingual mothers exhibit two distinct narrative styles, each one emerging depending on which language is spoken at a given time. Second, bilingual preschoolers also show unique communicative patterns in their first and second languages, resembling each of the two monolingual counterparts. To our knowledge, this is the first study in which language-dependent conversation styles are observed in bilingual children at this age. We conclude that it is important to consider the influences of social and cultural factors on the development of bilingual children from culturally and linguistically diverse backgrounds.

Acknowledgements

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Appendix

Transcript Examples

English
Example of maternal use of descriptions
Mother: **Big** boat or **small** boat?
Mother: Do you want to go on a **big** boat or a **small** boat?
Child: Big.
Mother: **Big** boat.
Mother: And sit properly please. Sit like a princess *laughs*.
Mother: What color is the boat?
Mother: **Brown**?

Example of maternal use of repetitions
Mother: Cat.
Child: Cat.
Mother: What's a cat?
Child: Meow.
Mother: **Meow.**
Mother: Do you want a cat?
Child: *nods*
Mother: What color do you want?
Child: White.
Mother: **White.**
Child: No black.
Mother: Small cat or a big cat?
Child: Small.
Mother: **Small**.

Example of maternal use of negative feedback
Mother: **No. Put it back, put it away.**
Child: *reaches for next prompt card*
Mother: *laughs* **No not yet.** Do you have something else to tell me about butterfly?
Child: Dragonfly too.
Mother: **No, now we (are) talking about butterfly, not dragonfly** *smiles*.

Example of child use of affirmations
Mother: At home we cook in the kitchen.
Child: **Yeah.**
Mother: Have you ever go(ne) inside a kitchen?
Child: Yes.
Mother: Have you ever helped baking something?
Child: Yes.
Mother: What? Tell me about it.
Child: Baking a cake, bunny cake, a bunny bunny cake *smiles*.

Child: I make the grass and then I make the grass.
Mother: How do you make the grass?
Child: I put some green things.
Mother: Colors.
Child: **Yes**, some green colors inside the bowl and then mix.

Thai
Example of maternal use of direct action requests
Mother: **Quick, answer.** What does the doctor do?
Child: I don't know.
Mother: Did the doctor give you medicine?
Child: Yes.
Mother: **Speak louder**, I can't hear you.
Child: Yes.
Mother: Yes, the doctor gave you medicine, right?
Child: Yes *stands on chair.*
Mother: **Sit down.**

Example of maternal use of expansions
Mother: When they become butterflies, what do they eat?
Child: Nectar.
Mother: Nectar. From where?
Child: Flower.
Mother: **Ah, they eat nectar from flower**.