Vietnamese-Australian Children's Language Proficiency and Use

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Abstract

Aim: To explore Vietnamese-Australian children's proficiency and use of Vietnamese and English and identify associated factors that are related to demographics, language practices, language ideologies, and language management.

Methodology: Vietnamese-Australian parents (n = 151) completed a questionnaire (in English or Vietnamese) regarding their child's language proficiency and use, demographic details and a range of factors as conceptualized by Spolsky's language policy theory: language practices, language ideologies, and language management.

Data and Analysis: Bivariate analyses (Pearson's correlation and analysis of variance (ANOVA)) and multiple regression models were conducted to explore associations between language proficiency and use and associated factors and identify the most significant factors.

Findings/Conclusions: Factors associated with *children's Vietnamese language proficiency* (oral/written) included demographic factors, language practices, language ideologies, and language management. In contrast, *children's English language proficiency* (oral/written) was linked to demographic factors and language practices. *Children's Vietnamese language use* was not significantly correlated with demographics but rather with language practices, language ideologies, and language management. Children's home language use and proficiency did not have a negative impact upon their English proficiency.

Originality: This study is the first to consider factors associated with Vietnamese-Australian children's language proficiency and use.

Significance/Implications: Demographic factors, language practices, language ideologies, and language management were associated with children's language proficiency and use. The results can be used by parents, educators, policy makers, speech-language pathologists and other professionals to support Vietnamese-Australian and multilingual children around the world to develop and maintain their home and majority languages.

Vietnamese-Australian children's language proficiency and use

Multilingualism has been associated with a number of benefits including career opportunities and economic outcomes, enhanced executive brain function, greater social adaptation, greater appreciation and understanding of different cultures, a stronger sense of identity, and the ability to form relationships with family and community members who may only speak the home language (Bialystok, Craik, & Freedman, 2007; Blake, McLeod, Verdon, & Fuller, 2018; Canadian Heritage, 2016; Chiswick & Miller, 2007; Espinosa, 2015; Klein, Christie, & Parkvall, 2016; Kroll & Dussias, 2017; Oh & Fuligni, 2010; Okal, 2014; Sandhofer & Uchikoshi, 2013). While English competence is important for multilingual children to participate in English-speaking societies, being able to speak their home language is also important for their education, participation in their community as well as social and emotional wellbeing (Kroll & Dussias, 2017; Oh & Fuligni, 2010; Okal, 2014; McLeod, Harrison, Whiteford & Walker, 2016).

In Australia, there are more than 300 languages spoken and 22.2% of the population speak a language other than English at home (ABS, 2016). Vietnamese is in the top four most commonly spoken languages other than English in Australia and one of the top 20 most commonly spoken languages in the world (ABS, 2016; Eberhard, Simons, & Fennig, 2020). The first wave of Vietnamese immigrants to Australia, which started in the 1970s-80s as a result of the war in Vietnam, brought more than 80,000 Vietnamese refugees to Australia (Thomas, 2015). Over 30 years later, the purpose of migration has changed from refuge and family reunion to education and employment with a four-fold increase of immigrant numbers (ABS, 2016; Migration Heritage Centre, 2020). With approximately 300,000 speakers of Vietnamese, the language is now spoken by 1.2% of the Australian population (ABS, 2016). Despite being one of the main languages other than English in Australia and the known benefits of multilingualism, Vietnamese may be lost among the second and third generation

of immigrants, like other immigrant languages in Australia and elsewhere in the world (Alba, Logan, Lutz, & Stults, 2002; Verdon, McLeod, & Winsler, 2014). Home language education in Australia has been unsystematic and inefficient (Clyne, 2005; Lo Bianco, 2008), and has been mostly dependent on parents' capacity and efforts (Piller, 2018).

Limited research has been undertaken exploring how Vietnamese-Australian families use languages, including both English and Vietnamese. Understanding what factors are associated with the use and proficiency of Vietnamese and English among Vietnamese-Australian children will assist parents and educators to support children in their multilingual development and home language maintenance. The first aim of this paper is to provide an understanding of multilingual Australian-Vietnamese children's language proficiency and use. The second aim is to explore the associations between Vietnamese-Australian children's language proficiency and use (reported by parents) and factors related to demographics, language practices, language ideologies, and language management (Spolsky, 2004). *Language proficiency* refers to an individual's ability to speak, understand, read, and write a language, while *language use* is related to the use of the language in different communicative situations. The two constructs are interrelated: language use enhances language proficiency and language proficiency in turn encourages the use of the language (Albirini, 2014; Makarova, Terekhova, & Mousavi, 2019).

Theoretical orientation

The current study is underpinned by Spolsky's language policy theory (Spolsky, 2004), which identifies three interrelated components of language policy: language practices, language ideologies, and language management. *Language practices* are related to which languages are used in which context, while *language ideologies*, or language beliefs and attitudes, refer to the degree of support for the use of a language. *Language management* refers to explicit policies and plans at work to influence the language practices and ideologies

of communities. In the case of families, language policy or language choice of a family or family member is affected by the language practice in the family, which is determined by language management – the family's efforts to maintain a certain language use. Language management in turn is driven by the family's beliefs of the importance of a language (Spolsky, 2007). The current study explored each of these three components in addition to demographic factors (e.g., age, income) to identify their association with Vietnamese-Australian children's language proficiency and use. Spolsky's framework is interpreted within the larger perspective of the sociology of language (i.e. the influence of demographic factors on language maintenance and shift). The understanding and use of Spolsky's theory provided a framework for investigating different language policy factors associated with children's language proficiency and use in multilingual contexts.

Factors associated with home language proficiency and use

Children's language proficiency and use are associated with their personal/demographic characteristics as well as their family's language policy, which involves language practices, language ideologies, and language management. Each of these categories includes factors related to the child, parent, family, and community (Tran, Verdon, McLeod, & Wang, 2019) and were used to create the questionnaire used in the current research.

Demographic factors

Demographic factors are related to both children and parents. Child demographic factors associated with children's home language proficiency and use include: the child's age (Biedinger, 2015), gender (Kondo, 1997; Verdon et al., 2014), and length of stay in English-speaking countries (Babaee, 2013; Hakuta, 1992; Karidakis & Arunachalam, 2016; Urzúa, 2008). Most studies found early home language education had positive effects on children's home language proficiency and use (Decapua, 2009; Gollan et al., 2015; Ninnes, 1996;

Wang, 2004). A study by Nines (1996) with 197 Vietnamese-Australian year-eleven students found the length of stay in Australia and the age at which that residence started were the most influential factors in home language maintenance.

Parent demographic factors include socio-economic status and education (Buac, Gross, & Kaushanskaya, 2014; Dixon, Zhao, Quiroz, & Shin, 2012), parent-child cohesion (Babaee, 2013; Keh & Stoessel, 2017; Tannenbaum & Howie, 2002), and parent gender (Saravanan, 2001). For example, the study by Biedinger et al. (2015) of 450 Turkish-origin families in Germany found a negative influence of parents with higher education upon children's home language ability. At the same time, Dixon et al. (2012) studied 282 Singaporean children and found Malay parents' level of income was positively correlated with their children's home language proficiency while the result was opposite in Chinese- and Tamil-speaking families.

Language practice factors

Language practice factors related to the child include: children's home language proficiency (Saranavan, 2001) and age of exposure to English (Ahn, Chang, DeKeyser, & Lee-Ellis, 2017; Chumak-Horbatsch, 2008; Gollan, Starr, & Ferreira, 2014; Hakuta & D'Andrea, 1992; Hammer, Davison, Lawrence, & Miccio, 2009; Kim & Pyun, 2014). For example, Ahn et al. (2017) studied 21 bilingual Korean-speaking students in the US and found that the earlier the students were exposed to English, the lower they scored on a test of Korean speech sound perception.

Parent factors related to language practices include parents' home language input, and parents' language proficiency. Parents' home language input includes parents' direct input by speaking and teaching their home language to their children and indirect input through the use of books, TV, radio, videos and games (Biedinger et al., 2015; DeCapua & Wintergerst, 2009; Keh & Stoessel, 2017; Kim & Pyun, 2014; Verdon & McLeod, 2015; Verdon et al.,

2014). Parents' language proficiency was also found to affect children's use of home language (Biedinger, Becker, & Klein, 2015; Gollan et al., 2014; Saravanan, 2001). For example, Saravanan (2001) studied 54 Singaporean families and found a significant correlation between parents' language proficiency and preference and children's home language proficiency. Children whose fathers had higher English proficiency and preferred to use English at home scored lower in their home language proficiency.

Family factors related to language practices include: contact with grandparents and presence of siblings. Children used their home language more often when living with grandparents who spoke the home language (Bayley, Schecter, & Torres-Ayala, 1996; Biedinger et al., 2015; Castellanos, 2001; Luo & Wiseman, 2000; McAlister, 2018; Verdon et al., 2014; Xia, 2016). In contrast, the presence of siblings was found to have a negative impact on children's home language maintenance in many studies (Enstice, 2012; Fillmore, 1991; Fukuda, 2017; Xia, 2016) as siblings often conversed in the dominant language of the community. For example, in a study with 55 Chinese-speaking families in the US, Xia (2016) found that children in families with more than one child preferred to speak English with their siblings. However, a population study of 4252 young children in Australia did not report a negative impact of siblings upon home language maintenance (Verdon et al., 2014).

Language ideology factors

Child factors related to language ideology include: children's perception of identity (Bankston & Zhou, 1995; Keh & Stoessel, 2017; Luo & Wiseman, 2000; Oh, 2003) and children's attitudes towards home language use (DeCapua & Wintergerst, 2009; Extra & Yagmur, 2010; Hakuta & D'Andrea, 1992; Jee, 2018; Keh & Stoessel, 2017; McAlister, 2018). For example, a study by Bankston and Zhou (1995) with 387 Vietnamese-American high school students found their literary in Vietnamese was positively related to their perception of cultural identity. While most studies found children's positive attitudes towards

the use of home language promoted their use of the language at home, some studies found either no impact (McAlister, 2018) or inconsistent impact (Extra & Yagmur, 2010) on the use of home language or on the participants' proficiency of the language. For example, Hakuta and D'Andrea (1992) studied 308 Mexican-American high school students and found positive attitudes towards Spanish were predictive of the participants' Spanish language use outside the home but not predictive of their proficiency of Spanish.

Parent factors related to language ideology include: parents' attitudes toward home language use (Keh & Stoessel, 2017; Luo & Wiseman, 2000; Oh, 2003), and perception of identity (DeCapua & Wintergerst, 2009; MacLeod, Fabiano-Smith, Boegner-Pagé, & Fontolliet, 2013). For example, Oh (2003) studied 24 American Korean-speaking children and found that parents' positive attitudes towards home language maintenance significantly increased children's use of Korean at home.

One community factor related to language ideology affecting home language use and proficiency was teacher and peer influence (Baez, 2013; Biedinger, 2015; DeCapua, 2009; Kondo, 1997; Li, 1999; Luo, 2000; McAlister, 2018; Tse, 2001). The school environment can be either encouraging or hindering depending on the attitudes of teachers and friends towards children's use of home language. For example, in Kondo's study (1997), Japanese-American participants hesitated to use Japanese in class as their classmates teased them for speaking home language and teachers did not encourage home language use at school as they believed English learning was more important than home language. However, the participants found their university environment more supportive.

Language management factors

Frequent visits to home countries, which were organized by parents to maintain connections with language and culture, were associated with an increase children's home language proficiency and use (Babaee, 2013; Cho, 1998; DeCapua & Wintergerst, 2009;

Enstice, 2012; Kondo, 1997; Lee, 2002; Ramezanzadeh, 2010; Xia, 2016). For example, Lee's study (2002) with 40 Korean-American university students showed that higher self-rated Korean proficiency was found among the participants who visited Korea more than four times in their life time. The relationship between language management factors and home language proficiency and use has been addressed by considering community factors such as the home language community, and home language schools, and home language immersed education. Access to home language communities or isolation from the majority language community has been found to be influential factors for home language use and proficiency (Babaee, 2013; Bayley et al., 1996; Biedinger et al., 2015; Chinen, 2004; Gollan et al., 2014; McAlister, 2018; Oriyama, 2011; Verdon & McLeod, 2015). Home language schools were reported to have a positive impact on children's home language proficiency and use (Castellanos, 2001; Chinen, 2004; Cho, 1998; Oriyama, 2011; Park, 2010; Yi, 2009); however, they were also found to have limited impact on children's home language in other studies (Kondo, 1997; Lee, 2002; Tse, 2001; Xia, 2016). Children's home language proficiency and use was found to be positively associated with home language immersed programs at schools and childcare centres (Ballinger & Lyster, 2011; Kennedy & Romo, 2013; Tse, 2001; Winsler, Rafael, Espinosa, & Rodriguez, 1999). For example, Ballinger and Lyster (2011), in a study with year 1-8 Spanish-speaking American students and their teachers, found the two-way immersion program (with both English and Spanish used at school) increased students' willingness to speak Spanish to their teachers.

To date, there has been no study that has simultaneously and comprehensively considered child, parent, family and community factors related to the language proficiency and use of a bilingual population framed by theory. Therefore, the current study simultaneously explored a comprehensive set of factors informed by a narrative review (Tran

et al., 2019) and how they were associated with Vietnamese-Australian children's home language maintenance.

Research questions

This study is a part of an Australian Research Council Discovery Grant titled "VietSpeech: Vietnamese-Australian children's speech and language competence" and gained ethical approval from the Human Research Ethics Application Committee of the researchers' university (H18084). As stated previously, the aim of this paper is to explore the associations between parent-reported Vietnamese-Australian children's language proficiency and use and related factors. Specifically:

1. How factors related to demographics, language practices, language ideologies, and language management are associated with Vietnamese-Australian children's *proficiency* in Vietnamese and English?
2. How factors related to demographics, language practices, language ideologies, and language management are associated with Vietnamese-Australian children's *language use* in Vietnamese and in English?

Method

Participants

A total of 151 Vietnamese Australians who were parents or guardians of children under 18 years old consented to answer a questionnaire about factors associated with language proficiency, use and maintenance. Among them, 108 participants completed the questionnaire in English (online = 108; paper = 0) and 43 participants completed the translated questionnaire in Vietnamese (online = 27; paper = 16). These participants were parents of children aged from 1 to 18 years old (M = 10.28 years, SD = 4.58). Of 151 participants, 114 (76%) were females and 36 (24%) were males. The high ratio of female carers could be explained by the dominant role of mothers in children's care and language

teaching. Participants had an average age of 40.96 years (*SD* = 6.49, range = 25-69 years) and were from all six states in Australia (i.e., New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania) and from one of the two territories (i.e., Australian Capital Territory). Most were born in Vietnam (94.7%) and were first generation immigrants (86.7%) indicating that they most likely had migrated to Australia for educational or employment purposes and not as refugees, which would explain the high levels of education among the sample. Vietnamese was the first language of 97.3% of the participants, as well as the first language of their mothers (99.3%) and fathers (97.5%). The majority (92.6%) of the participants had a tertiary education (i.e., bachelor's degree or above) and 72.5% were professionals or managers. The high proportion of participants with high levels of education could be due to accessing migrants who came to Australia for education and/or employment. The authors used convenience and snowball sampling which drew upon people in the research team's networks and snowball sampling using the online survey increasing accessibility among people whose work involves the use of computer and internet access.

Measures

Questionnaire.

A questionnaire with two parts was developed with reference to established surveys (Ho, 2010; Lam, 2011; Park, 2007; Tannenbaum, 2003) and factors identified by a literature review of factors affecting language proficiency, use and maintenance (Tran et al., 2019). Part 1 of the survey explored participants' language proficiency, cultural identify, and demographic details (see McLeod et al., 2019 and Wang et al., 2021) while part 2 focused on family language use and preference, family language policies and rules, and demographic information (e.g., income, language, and education). A detailed description of the survey development can be found in McLeod, Verdon, Wang, and Tran (2019). The current study used data from Part 2 of the survey which was completed by parents of children under the age

of 18. Parents were asked to think about one child when answering questions about their child's language proficiency, use and language practices. This was to avoid the diverse answers parents may have to the same questions if answering for all the children in the family. The questionnaire was designed in English and translated into Vietnamese by the first author, who is a translator accredited by the National Accreditation Authority for Translators and Interpreters (NAATI).

Child language proficiency.

Children's Vietnamese and English language proficiency was explored using items adapted from Blake, Bennetts Kneebone, and McLeod (2017). For both Vietnamese and English proficiency, participants were asked to provide rating of their children's language proficiency in four areas: speaking, understanding, reading, and writing on a 5-point scale (1 = *not at all*, 2 = *not well*, 3 = *average*, 4 = *well*, 5 = *very well*). Children's Vietnamese and English language proficiency in speaking, understanding, reading, and writing are presented in Table 1. Since children have different levels of proficiency in each skill depending on their age (e.g., children aged 2-4 can speak and understand at different levels compared to their reading and writing skills), measurement of their language proficiency was separated into oral and written skills for more accurate results. Mean scores of children's Vietnamese and English oral proficiency were created based on the ratings of their speaking and understanding. Mean scores of children's Vietnamese and English written proficiency were created based on the ratings of their reading and writing. A higher score indicated higher proficiency in the respective domains.

Child language use.

Children's language use was measured using 13 items adapted from 22 items in Tannenbaum (2003). These items were identified by the research team to represent the communicative situations in Vietnamese-Australian families. These situations captured child

language use in different situations (e.g., "What language would your child usually use when you are with your child at the supermarket checkout, and your child is asking you to buy him/her some chocolate?"). A 5-point scale was used for participants to report their children's language use (1 = *English always*, 2 = *English and Vietnamese equally*, 3 = *Vietnamese, 4 = other language*, 5 = *not applicable*). Children's language use in different situations is presented in Table 2. A mean score of language use was created by averaging responses 1-3 for each question (and excluding responses to 4 and 5). More use of Vietnamese was represented by a higher score and more use of English a lower one.

Factors associated with child language proficiency and use.

Personal factors as well as factors aligning with the components of language practices, language ideologies, and language management as outlined in Spolsky's language policy theory (Spolsky, 2004) were identified to examine their influence upon Vietnamese-Australian children's language proficiency and use.

Demographic factors.

Demographic factors included children's age, parents' gender, age, education, migration status, income, parent-child cohesion, and the availability of community meeting places. Parents' gender was a nominal variable with values 0 and 1 for male and female respectively. Education was initially coded with eight categories but for analysis purposes was recoded into three categories. These include a lower level of education (*an advanced diploma, certificate, year 12, year 10, or below*), coded as 0, bachelor's degree, coded as 1, and a high level of education (*graduate diploma/certificate* or *postgraduate degree*), coded as 2. Income was an ordinal variable relating to the total income parents received per week: 1 = *nil income*, 2 = *$1-$399 per week* to 7 = *$3,000 or more per week*. Questions regarding parents' birth country and first language were excluded from the analysis because of the high percentage of parents being born in Vietnam (94.7%) and speaking Vietnamese as their first language

(97.3%). Parents' migration status was an *ordinal* variable relating to parents' length of time living in English-speaking countries and ranged from one year to all of their life. In terms of parent-child cohesion, the questions related to this variable were adapted from the FACES IV Balanced Cohesion subscale (Olson, Gorall, & Tiesel, 2006). While parent-child cohesion is not a traditional demographic variable, it depicts characteristics of participants in terms of family relationships. Participants were asked to what extent they agreed or disagreed about the connectedness and support between family members (e.g., family members are supportive of each other during difficult times), on a 5-point scale (1 = *strongly disagree,* 2 = *disagree*, 3 = *neither agree nor disagree,* 4 = *agree*, 5 = *strongly agree*) (7 items; α = .93). They were also asked whether there was access to a community meeting place.

Language practice factors.

Language practice factors are related to the child, parent, and family. Child language practice factors include children's Vietnamese oral proficiency, Vietnamese written proficiency, English oral proficiency, English written proficiency, language use, and Vietnamese language school attendance. Vietnamese language school attendance referred to whether or not the children attended any weekend Vietnamese community language school. Children who were under the age of 5 (n =18) were excluded in regard to the number of children attending Vietnamese community language schools due to their young age.

Parent language practice factors are related to parents' language proficiency and use. Similar to measuring child language proficiency, for parents' language proficiency, parents self-rated four skills: speaking, understanding, reading and writing and on a 5-point scale (1 = *not at all*, 2 = *not well*, 3 = *average*, 4 = *well*, 5 = *very well*) (4 items; α = .95). A higher score indicated higher Vietnamese and English language proficiency and a lower one lower proficiency.

Parents' language use was examined in terms of parents' language use with child and parents' language use in social situations. Parents' language use with their child was measured by exploring the language that parents used with their children in nine communicative situations (e.g., asking my child to pass me some food at family dinner, helping my child with homework) adapted from Tannenbaum (2003). Parents' language use in social situations was measured by calculating the mean of 29 items across three different categories: language use with different people, language use in different situations, and language use in different communication media. Participants self-reported their language use on a 7-point scale (1 = English always, 2 = mostly English sometimes Vietnamese, 3 = English and Vietnamese equally, 4 = mostly Vietnamese sometimes English, 5 = Vietnamese always, 6 = another language, 7 = not applicable). A mean score of language use (out of a total of five) was created with a higher score indicating more usage of Vietnamese relative to English and a lower score indicating more usage of English relative to Vietnamese. Responses of 6 and 7 were reported but were not included in the calculation of mean scores of language use.

Language ideology factors.

Language ideology factors included parents' perceptions of home language maintenance and parents' perceptions of cultural identity. Parents' beliefs and attitudes towards Vietnamese language maintenance were explored using questions adapted from Becker (2013). Parents were asked to rate how important it was for their child to maintain the ability to speak, understand, read, and write Vietnamese (4 items; $\alpha = .94$) on a 5-point scale (1 = *not at all important*, 2 = *somewhat important*, 3 = *important*, 4 = *very important*, 5 = *extremely important*). Parents' perceptions of cultural identity was measured by asking participants to rank themselves on a 5-point scale regarding whether they consider themselves more Vietnamese (1) or Australian (5).

Language management factors.

Language management factors include the presence of family language policies and rules, parents' regularity of visits to Vietnam, vicinity to the Vietnamese community, and attendance of community events. The question related to presence of family language policies and rules asked whether or not the family maintained a set of rules around the use of Vietnamese or English by family members. Parents' connections with Vietnam was explored via two questions asking whether or not the parents frequently visited Vietnam and if they intended to live in Vietnam in the future. Parents were also asked whether or not they lived close to a Vietnamese community and how often they attended community events (0 = *never,* 1 = *yearly*, 2 = *monthly*, 3 = *fortnightly*, and 4 = *weekly*).

Procedure

Participants were recruited using convenience and snowball sampling through social media, personal and professional contacts. The questionnaire was available in both English and Vietnamese in online and paper (with paid return envelope) formats. The information and consent section were on the first page of the questionnaire so that participants had to indicate their consent before starting to answer the questions. Data from the paper-based questionnaires were entered by two research assistants who were proficient in both English and Vietnamese. De-identified responses from the online version were downloaded for analysis.

Data analysis

Missing data. Missing data ranged from 0.7% to 11.9% across all variables. Missing data were imputed using the complete dataset (n = 151), with the maximum likelihood EM (Expectation-Maximization) method in the *Statistical Package for Social Sciences* (SPSS) program Version 25 (IBM Corp., 2017). Categorical variables such as gender and education were not imputed.

Bivariate analysis. To explore the association between five outcome variables of children's language proficiency and use and a range of demographic, language practice, language ideology, and language management factors, Pearson's correlation analysis and Analysis of Variance (ANOVA) were conducted in SPSS (IBM Corp., 2017).

Multiple regression analysis. Significant variables from the bivariate analyses were included simultaneously in five multiple regression models to further explore the relative associations of significant factors and each of the five outcome variables relating to children's language proficiency and use.

Results

Child language proficiency and use

The majority of participants rated their children's ability to speak (68.8%) and understand (83%) Vietnamese as either *average*, *well* or *very well*. On the contrary, the majority of participants rated their children's Vietnamese reading (55.4%) and writing (61.4%) as either *not at all* or *not well*. For children's English proficiency, the participants rated their children's ability to speak (86.5%), understand (87.2%), read (79.3%) and write (73.1%) as *well* or *very well* (Table 1).

In terms of children's language use, it appears that in general, children were reported to use either English or a combination of English and Vietnamese (Table 2). There was a slightly higher use of Vietnamese when the communicative partners only involved family members and when the topic was relatively simple (i.e., asking for a drink when not feeling well; asking for more juice at a family dinner). Details related to children's language use are discussed in a later section.

Bivariate analysis

The bivariate relationships between children's language proficiency and use and a range of factors are shown in Tables 3-5.

Child Vietnamese proficiency.

Children's Vietnamese proficiency was linked with a number of parents' demographic, language practice, language ideology, and language management factors (Table 3).

Oral Vietnamese proficiency.

Children had higher Vietnamese oral proficiency if they were older (r = .19, p =.02), had higher Vietnamese written proficiency (r = .60, p < .001), and used Vietnamese language more frequently in their interactions (r = .69, p < .001). Specifically, children spoke and understood Vietnamese at a lower level if their parents had higher income (r = -.30, p < .001), had higher English proficiency (r = -.24, p < .01) and stayed in English-speaking countries longer (r = -.57, p < .001). On the other hand, children's Vietnamese oral proficiency was higher in families where parents had higher Vietnamese proficiency (r = .51, p < .001), and used more Vietnamese both with their child (r = .66, p < .001), as well as in different social situations (r = .52, p < .001). In addition, children's Vietnamese oral proficiency was higher when their parent believed it was important to maintain Vietnamese (r = .50, p < .001), considered themselves culturally as Vietnamese (r = -.39, p < .001), intended to live in Vietnam in future (F (2,147) = 7.83, p < .01), and had home language policies (F (1,144) = 17.13, p < .001). All other factors were not significant.

Written Vietnamese proficiency.

For children's Vietnamese written proficiency, the pattern of results was similar to that for children's Vietnamese oral proficiency. Children had higher Vietnamese written proficiency if they were older (r = .41, p < .001), had higher Vietnamese oral proficiency (r = .60, p < .001) and English written proficiency (r = .23, p < .01), and used Vietnamese more frequently in their interactions (r = .50, p < .001). Children whose parents stayed in English-speaking countries longer (r = -.45, p < .001) read and wrote Vietnamese at a lower level. At

the same time these skills were higher in families where parents had higher Vietnamese proficiency ($r = .31$, $p < .001$), used more Vietnamese both with their child ($r = .49$, $p < .001$), and across different social situations ($r = .36$, $p < .001$). In addition, children's Vietnamese written proficiency was higher when there was higher parent-child cohesion ($r = .18$, $p = .03$), when their parents believed it was important to maintain Vietnamese ($r = .50$, $p < .001$), considered themselves culturally as Vietnamese ($r = -.34$, $p < .001$), intended to live in Vietnam in the future (F (2,147) = 4.77, p =.01), and had home language policies (F (1,144) = 5.52, $p = .02$). Living closer to Vietnamese communities (F (2,147) = 4.16, $p = .02$), and attending community events more frequently ($r = .17$, $p = .03$) were also linked to higher Vietnamese written proficiency. However, attending Vietnamese community language schools did not have significant effects on children's either oral or written Vietnamese proficiency. All other factors were not significant.

Child English proficiency.

Children's English proficiency is generally associated with demographic factors including children's age, parents' age, parents' income, length of stay in English-speaking countries, number of children living in the family, and language management factors including attendance of community events (Table 4).

Oral English proficiency.

Children's English oral proficiency (i.e., speaking and listening) was higher when they were older ($r = .55$, $p < .001$) and when their English written proficiency was higher ($r = .81$, $p < .001$). The children's English oral proficiency was higher for children whose parents were older ($r = .37$, $p < .001$) and had higher income ($r = .20$, $p =. 01$), and whose parents had older partners ($r = .40$, $p < .001$). In addition, children who came from families that had more children ($r = .36$, $p < .001$) and that attended community events more

frequently (r = .17, p = .04) had higher English oral proficiency. All other factors were not significant.

Written English proficiency.

Children's English written proficiency (i.e., reading and writing) was reported to be higher when they were: older (r = .70, p < .001), had higher Vietnamese written proficiency (r = .23, p < .01), and had better English oral proficiency (r = .81, p < .001). Similar to English oral proficiency, children's English written proficiency was positively related to parent-related factors including: the age of their parents (r = .46, p < .001), age of their parents' partners (r = .51, p < .001), and their parents' income (r = .33, p < .001). In addition, children whose parents spent longer periods of time in English-speaking countries were reported to read and write better in English (r = .18, p = .03). Furthermore, children also had higher English written proficiency (r = .45, p < .001) when coming from families that had more children. Children who attended community events more frequently also had higher written English proficiency (r = .20, p = .02). All other factors were not significant.

Child language use.

Similar to children's Vietnamese proficiency, children's Vietnamese language use was significantly correlated with a number of demographic, language practice, language ideology, and language management factors. As presented in Table 5, a large, significant, and positive relationship was found between child language use and child Vietnamese oral proficiency (r = .69, p < .001) and Vietnamese written proficiency (r = .50, p < .001). Children who had higher proficiency in Vietnamese language used more Vietnamese. Child language use was also significantly associated with some parent factors. Specifically, children whose parents had higher income (r = -.21, p < .01) and stayed in English speaking countries longer (r = -.43, p < .001) were more likely to use less Vietnamese and more English. On the other hand, children whose parents' Vietnamese proficiency was higher (r

= .25, p = .01), used more Vietnamese with their child (r = .78, p < .001) as well as in different social situations (r = .43, p < .001), used more Vietnamese than English in communicating with their parents. In addition, children used more Vietnamese language when their parent believed it was important to maintain Vietnamese (r = .34, p < .001), considered themselves culturally as Vietnamese (r = -.30, p < .001), intended to live in Vietnam in the future (F (2,147) = 5.02, p < .01), and had home language policies (F (1,144) = 12.88, p < .001). Children who lived closer to a Vietnamese community used more Vietnamese at home (F (2,147) = 4.0, p = .02). All other factors were not significant.

Multiple regression analysis

The bivariate analyses presented factors significantly associated with children's language proficiency and language use. These significant factors for each of the five outcome variables were then included simultaneously in the respective multiple regression models to identify their relative importance in predicting child language proficiency and use (see Tables 6-10) and are summarized in Table 11.

Child Vietnamese proficiency.

Oral proficiency.

As shown in Table 6, among all significant bivariate factors, four factors significantly predicted child Vietnamese oral proficiency in the multiple regression model. The factor with the most predictive value was child Vietnamese language use. Children had higher Vietnamese oral proficiency when they used Vietnamese language more frequently (β = .43, p < .001). Children also had higher Vietnamese oral proficiency when they had higher Vietnamese written proficiency (β = .17, p = .02) and when their parents had higher Vietnamese language proficiency (β = .26, p < .01). In addition, compared to children whose families were unsure about their intention to live in Vietnam in the future, children whose families intended to live in Vietnam had higher Vietnamese oral proficiency (β = -.16, p

= .03). Children whose parents believed that maintaining Vietnamese is important were marginally significantly more likely to have higher Vietnamese oral proficiency. The model in total explained 64.7% of the variance in child Vietnamese oral proficiency use.

Written proficiency.

Table 7 presents the results of the multiple regression model of all the significant bivariate factors predicting child Vietnamese written proficiency. The four significant factors include child age (β = .35, $p < .001$), child Vietnamese language use (β = .17, $p = .05$), parents' number of years living in English speaking countries (β = -.25, $p < .01$), and parents' perceptions of the importance of Vietnamese language maintenance (β = .30, $p < .001$). Children read and wrote better when they were older or used more Vietnamese. They also had higher Vietnamese written proficiency when their parents had positive attitudes towards home language maintenance. Children whose parents lived longer in English-speaking countries, however, were more likely to have lower Vietnamese written proficiency. The model in total explained 52.7% of the variance in child Vietnamese written proficiency use.

Child English proficiency.

Oral proficiency.

As shown in Table 8, the most significant predictor of child English oral proficiency was child English written proficiency (β = .88, $p < .001$). Children's speaking and listening in English was better when their reading and writing was better. The model in total explained 65.1% of the variance in child English oral proficiency use.

Written proficiency.

As shown in Table 9, six factors significantly predicted child English written proficiency in the multiple regression model. The most significant factor was child English oral proficiency. Children had higher English written proficiency when they had higher English oral proficiency (β = .56, $p < .001$). In addition, children's reading and writing in

English was better when they were older (β = .18, $p < .01$), and when their Vietnamese reading and writing was better (β = .10, $p = .05$). Children who came from families with higher income (β = .17, $p < .001$) and with more children (β = .14, $p < .01$), and were born to parents whose partners were older (β = .14, $p = .01$) also performed better in English writing and reading skills. The model in total explained 78.6% of the variance in child English written proficiency use.

Child language use.

As shown in Table 10, four factors significantly predicted child language use. The most significant predictors of child language use were parents' Vietnamese language use with children (β = .61, $p < .001$), child Vietnamese oral proficiency (β = .33, $p < .001$), parents' perceptions of Vietnamese language maintenance (β = -.13, $p = .04$), and vicinity to the Vietnamese community (β = - .11, $p = .04$). Children used more Vietnamese when their parents used more Vietnamese with them. They also communicated in Vietnamese more often when their Vietnamese oral proficiency was higher and when their parents believed it was important for them to maintain Vietnamese. Children living closer to a Vietnamese community were also more likely to use more Vietnamese than those who did not have a Vietnamese community close by. The model in total explained 66.4% of the variance in child language use.

Discussion

This research is among few studies that has explored a comprehensive set of factors associated with language proficiency and use in multilingual families. The purpose of the study was to identify factors associated with language proficiency and use among Vietnamese-Australian children and to have an understanding of multilingualism in Australia from the perspective of Vietnamese community using Spolsky's language policy theory (Spolsky, 2004). Table 11 demonstrates a variety of factors that were found to be related to

demographics, language practices, language ideologies, and language management (Spolsky, 2004). Children's Vietnamese proficiency (oral/written) was significantly associated with the following factors: child age, parents' length of stay in English-speaking countries, child language use, parents' Vietnamese proficiency, parents' perception of the importance of Vietnamese language maintenance, and parents' intention of future residence in Vietnam. Children's English proficiency (oral/written) was significantly associated with the following factors: child age, parents' income, parents' length of stay in English-speaking countries, number of children, and children's Vietnamese written proficiency. Language use was significantly associated with the following factors: children's Vietnamese oral proficiency, parents' language use with children, parents' perception of the importance of Vietnamese language maintenance, and vicinity to the Vietnamese community.

Language practices, language ideologies, and language management (Spolsky, 2004) played a significant role in determining Vietnamese-Australian children's language proficiency and use. Specifically, children's Vietnamese proficiency was strongly associated with child language use, parents' Vietnamese proficiency (language practices), parents' perception of the importance of Vietnamese language maintenance (language ideologies), and parents' intention of future residence (language management). Child language use was associated with child Vietnamese proficiency, parents' language use (language practices), parents' perceptions of Vietnamese language maintenance (language ideologies), and vicinity to the Vietnamese community (language management).

In families where parents were reported to use more Vietnamese in different communicative situations with their children (language practices), children were also found to use more Vietnamese when communicating with their parents. This finding is consistent with previous studies (De Houwer, 2007; DeCapua & Wintergerst, 2009; Enstice, 2012; Jee, 2018; Kennedy & Romo, 2013; McAlister, 2018; Verdon & McLeod, 2015). Previous studies

of home language maintenance of different migration communities in Canada, Australia, and the US also found children's language use and proficiency was significantly associated with language ideologies, including parents' positive attitudes and insistence in children's using the home language (Ukrainian, Korean, Chinese, or Spanish) (Bayley et al., 1996; Chumak-Horbatsch, 1999; Jee, 2018; Kennedy & Romo, 2013; Li, 1999; Luo & Wiseman, 2000; Oh, 2003; Wang, 2004; Xia, 2016). Children from families who lived closer to the Vietnamese community (language management) also used more Vietnamese than those who were in relative isolation from the community. Researchers have similarly found either living close to the home language community or having opportunities to interact with a number of home language speakers was positively associated with children's home language use or proficiency (Gollan et al., 2014; McAlister, 2018; Oriyama, 2011). However, in the current research, studying Vietnamese at community language schools was not a predictor of children's Vietnamese proficiency and use. This can be explained by the lack of systematic and efficient community language education in Australia (Clyne, 2005; Lo Bianco, 2008) and is in line with findings from previous studies in Australia and in the US that children disliked going to community language schools and these schools were not efficient in helping children maintain their home language (Bradshaw, Deumert, Burridge, Willoughby, & Izon, 2008; Kondo, 1997; Lee, 2002; Tse, 2001; Xia, 2016). In Australia, the lack of quality regulation of community language schools has been a barrier to the evaluation of teaching and learning quality at these schools (Baldauf, 2005). Given that the Australian government has been providing funding to promoting the function of community language schools (Australian Government, 2019; The University of Sydney, 2017), this finding stresses the importance of parents' role in home language education. Similarly, contact with grandparents and relatives was not a predictor of children's Vietnamese proficiency and use, which echoed findings by Verdon et al. (2014) but differed from other studies finding children living with or keeping

close contacts with grandparents and relatives had higher home language skills (Bayley, Schecter, & Torres-Ayala, 1996; Biedinger et al., 2015; Castellanos, 2001; Clyne, 1991; DeCapua & Wintergerst, 2009; Enstice, 2012).

While children's *Vietnamese proficiency* was affected by both demographic factors (including child age and parents' length of stay in English-speaking countries), and language policy factors (including parents' Vietnamese proficiency, perceptions of the importance of home language maintenance, and intention of future residence), their *English proficiency* (especially written skills), was relatively independent from language policy factors. Instead, English proficiency was notably linked to demographic factors (including child age, number of children living in the family, parents' income, and parents' partner's age), and only one language policy factor (children's Vietnamese written proficiency). These findings echoed previous research in predictors of English proficiency among children speaking a home language other than English. Children were more likely to achieve higher English proficiency when they were older (Halle, Hair, Wandner, McNamara, & Chien, 2012; Pham & Tipton, 2018) and when their parents had higher SES and education levels (Duursma et al., 2007; Halle et al., 2012; Kim, Curby, & Winsler, 2014; Lee & Burkam, 2002). In the current study, children's English proficiency was also associated with the number of children in the family and the age of their parents' partner. Previous studies also indicated that children's English proficiency was associated with the presence of siblings in the family (Enstice, 2012; Fillmore, 1991; Fukuda, 2017; Xia, 2016). Previous research with young Australian multilingual children found no significant impact from sibling presence (Verdon et al., 2014). This could be due to the young age of the participants in Verdon et al. as other studies have shown that more influence from siblings was seen when children started going to school and tended to use the school language, which is often the majority language, to communicate with each other (Fukuda, 2017; Xia, 2016). With regards to the age of the parents' partner as a

significant predictor, previous literature has shown a tendency of an age gap between female immigrants and their male English-speaking spouses (Balistreri, Joyner, & Kao, 2017). This indicates the association between parents' English proficiency and children's English proficiency. In short, children who were older, were born to parents with higher education and income, and had more siblings performed better in English. The positive association between children's English proficiency and Vietnamese written proficiency, which is contrary to previous research of Vietnamese-Australian students' self-assessed language competence (Ninnes, 1996), indicates a change in the level of fluent bilingualism among the Vietnamese younger generation in Australia. Additionally, this finding is in keeping with research which demonstrates that strength in the home language, particularly in written modalities, can actually support English language acquisition and proficiency (Bankston & Zhou, 1995; Soltero-González, 2009; Williams & Lowrance-Faulhaber, 2018) and cchildren's home language use and proficiency did not have a negative impact upon their English proficiency (Hammer et al., 2009).

In the current study, a range of demographic factors were found to significantly influence Vietnamese written proficiency (child age, parents' length of stay in English speaking countries) and English written proficiency (child age, parents' income, parents' partner's age, number of children in the family). Previous research also found a correlation between demographic factors and children's home language proficiency (Dixon, Zhao, Quiroz, & Shin, 2012; Enstice, 2012; Fillmore, 1991; Fukuda, 2017; Jee, 2018; Luo & Wiseman, 2000; Saravanan, 2001; Urzúa & Gómez, 2008; Willard, Agache, Jakel, Gluck, & Leyendecker, 2014; Ninnes, 1996) and English proficiency (Ahn, Chang, DeKeyser, & Lee-Ellis, 2017; Halle, Hair, Wandner, McNamara, & Chien, 2012; Kim, Curby, & Winsler, 2014; Pham & Tipton, 2018). Therefore, it is important that the role of demographics is

considered alongside identified language-related factors (Spolsky, 2004; 2007) when investigating children's language proficiency and use.

Children's Vietnamese language proficiency and use are interrelated. The more the children used the language, the higher proficiency they have and vice versa. This finding supported the concept of "virtuous and vicious cycles" in language learning (Piller, 2019, n.p.) and was aligned with findings from previous studies (Albirini, 2014; Makarova et al., 2019). Children, if given more opportunities to use the language would obtain higher language proficiency, while in contrast, children with less practice opportunities have lower proficiency.

Limitations and future research

There are a number of limitations in the current study. First, despite the size of the sample (n = 151), it was not a representative sample of all people with Vietnamese heritage living in Australia. There was a high percentage of participants with tertiary education and who were female and first-generation immigrants. Previous research indicated that parents with high educational backgrounds were interested in children's bilingual development via home language maintenance (Curdt-Christiansen, 2009; King, 2006) but only a few have explicit family language policies (Tran et al., in press). Future research is encouraged to apply stratified sampling to strive for a more representative sample and participation of people with lower socio-economic status. Second, parent and child language proficiency and use were measured via self-report. It is suggested that future studies assess language proficiency and use using standardized assessments to reduce the potential shared method variance associated with self-reported data from single informants. Furthermore, focusing parents' responses on only one child may have limited the ability of the study to investigate the diversity in language proficiency and use and the factors that affect them that exist within the one family. Future research may also consider an in-depth exploration of the role and

challenges of Vietnamese community language schools in home language maintenance/proficiency. Parents' perceptions and practices related to home language maintenance could also be investigated further through a qualitative study in order to have a more comprehensive picture of parents' role in home language maintenance. Despite the limitations, the current study contributed to the literature as one of the first studies to explore the association of Vietnamese-Australian children's language proficiency and use with a comprehensive set of factors.

Conclusion

The findings of this study revealed the different factors that influence different aspects of language proficiency and use for Vietnamese children in Australia. In summary, the three aspects of Spolsky's language policy theory (language practices, language ideologies and language use) were highly influential in achieving proficiency in Vietnamese. In contrast, demographic factors (such as age and income) were far more influential in achieving English proficiency. When it came to language use, Spolsky's language policy theory was strongly related to use of Vietnamese by children in the study. The study demonstrates that parents play an important role in children's language proficiency and use. Vietnamese-Australian parents' language practices, ideologies, and management (language choice, perceptions of the importance of home language maintenance, and decision of where to live) positively impacted children's Vietnamese proficiency and use but did not have a similar impact on the children's English proficiency, which was affected more by parents' demographic factors including parents' income and parents' length of stay in English speaking countries. Similarly, home language maintenance did not put children's English proficiency at risk. This message can be made transparent to parents as well as the community and other related sectors including policy makers, educators, and children's language-related professionals to promote parents' role in home language maintenance and multilingualism.

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Table 1. *Child Language Proficiency in Vietnamese and English (n = 151)*

Language	Proficiency	Not at all *n* (%)	Not well *n* (%)	Average *n* (%)	Well *n* (%)	Very well *n* (%)	Mean (SD)	Valid data
		1	**2**	**3**	**4**	**5**	**/5**	
Vietnamese	**Speak**	18 (12.8%)	26 (18.4%)	34 (24.1%)	41 (29.1%)	22 (15.6%)	3.16 (1.26)	141
	Understand	11 (7.8%)	13 (9.2%)	42 (29.8%)	52 (36.9%)	23 (16.3%)	3.45 (1.11)	141
	Read	43 (30.9%)	34 (24.5%)	26 (18.7%)	22 (15.8%)	14 (10.1%)	2.50 (1.34)	139
	Write	48 (34.3%)	38 (27.1%)	31 (22.1%)	17 (12.1%)	6 (4.3%)	2.25 (1.18)	140
English	**Speak**	7 (5.0%)	4 (2.8%)	8 (5.7%)	43 (30.5%)	79 (56.0%)	4.30 (1.05)	141
	Understand	2 (1.4%)	3 (2.1%)	13 (9.2%)	45 (31.9%)	78 (55.3%)	4.38 (0.85)	141
	Read	16 (11.4%)	3 (2.1%)	10 (7.1%)	39 (27.9%)	72 (51.4%)	4.06 (1.31)	140
	Write	17 (12.1%)	5 (3.5%)	16 (11.3%)	40 (28.4%)	63 (44.7%)	3.90 (1.34)	141

Table 2. *Child Language Use in Different Situations (n = 151)*

Child Language Use	**English** **n (%)** **1**	**English + Vietnamese** ***n*** **(%)** **2**	**Vietnamese** ***n*** **(%)** **3**	**Other Language** ***n*** **(%)** **4**	**Not Applicable** ***n*** **(%)** **5**	**Valid data**	**Mean (SD)** **/3**
1. Your child asks you to buy some chocolate	53 (37.9%)	46 (32.9%)	32 (22.9%)	-	9 (6.4%)	140	1.84 (0.79)
2. Your child is not well and asks for a drink	44 (31.4%)	36 (25.7%)	50 (35.7%)	-	10 (7.1%)	140	2.05 (0.85)
3. Your child arrives home and tells you what he/she did friends	59 (42.4%)	41 (29.5%)	28 (20.1%)	-	11 (7.9%)	139	1.76 (0.79)
4. Your child asks you to help with homework	47 (33.8%)	50 (36.0%)	26 (18.7%)	-	16 (11.5%)	139	1.83 (0.75)
5. Your child tells you about a fight at school	54 (38.6%)	47 (33.6%)	24 (17.1%)	-	15 (10.7%)	140	1.76 (0.76)
6. Your child tells you something interesting they did at school	66 (47.1%)	36 (25.7%)	22 (15.7%)	1 (0.7%)	15 (10.7%)	140	1.65 (0.77)
7. Your child tells your partner about the fun you had together at the park	42 (30.0%)	45 (32.1%)	39 (27.9%)	2 (1.4%)	12 (7.9%)	140	1.98 (0.80)
8. Your child tries to persuade you to change your mind about visiting a friend	54 (38.6%)	38 (27.1%)	34 (24.3%)	-	14 (10.0%)	140	1.84 (0.82)
9. Your child asks for some more juice at a family dinner	38 (27.3%)	46 (33.1%)	45 (32.4%)	1 (0.7)	9 (6.5%)	139	2.05 (0.80)
10. Your child asks you questions about the exhibits in the museum	58 (41.7%)	42 (30.2%)	26 (18.7%)	-	13 (9.4%)	139	1.75 (0.78)
11. Your child asks you to help serve a friend some cookies at home	66 (47.1%)	35 (25.0%)	23 (16.4%)	-	16 (11.4%)	140	1.65 (0.78)
12. In general, when your child is gloomy or sad	49 (35.3%)	46 (33.1%)	33 (23.7%)	1 (0.7)	10 (7.2%)	139	1.88 (0.79)
13. In general, when your child is happy and cheerful	41 (29.5%)	60 (43.2%)	29 (20.9%)	-	9 (6.5%)	139	1.91 (0.73)

Table 3. *Bivariate Associations between Child Vietnamese Oral and Written Language Proficiency and Related Factors (n=151)*

Factors			**Vietnamese Oral Proficiency**	**Valid *n***	**Vietnamese Written Proficiency**	**Valid *n***
Demographic/personal	Child	Age	$r = .19^{*}$	151	$r = .41^{***}$	151
	Parent	Age	$r = .001$	151	$r = .04$	151
		Gender	$F\ (1,148) = .001$	150	$F\ (1,148) = .64$	150
		Education	$F\ (2,146) = 2.18$	149	$F\ (2,146) = .343$	149
		Income	$r = -.30^{***}$	151	$r = -.14$	151
		Partner's age	$r = .06$	151	$r = .20$	151
		Length of stay in English-speaking countries	$r = -.57^{***}$	151	$r = -.45^{***}$	151
		Parent-child cohesion	$r = .15$	151	$r = .18^{*}$	151
	Family	Living with grandparents/great-grandparents	$F\ (1,141) = .07$	143	$F\ (1,141) = .003$	143
		Number of children	$r = -.13$	151	$r = .05$	151
	Community	Availability of community meeting places	$F\ (2,146) = .50$	149	$F\ (2,146) = .072$	149
Language practices	Child	Vietnamese oral proficiency	-	-	$r = .60^{***}$	151
		Vietnamese written proficiency	$r = .60^{***}$	151	-	-
		English oral proficiency	$r = .05$	151	$r = .09$	151
		English written proficiency	$r = -.05$	151	$r = .23^{**}$	151
		Vietnamese language use	$r = .69^{***}$	151	$r = .50^{***}$	151
		Vietnamese community language school attendance	$r = .05$	151	$r = .11$	151
	Parent	Vietnamese proficiency	$r = .51^{***}$	151	$r = .31^{***}$	151
		English proficiency	$r = -.24^{**}$	151	$r = -.15$	151
		Vietnamese language use with children	$r = .66^{***}$	151	$r = .49^{***}$	151
		Vietnamese language use in social situations	$r = .52^{***}$	151	$r = .36^{***}$	151
Language ideologies	Parent	Perceptions of importance of home language maintenance	$r = .50^{***}$	151	$r = .50^{***}$	151
		Perceptions of cultural identity	$r = -.39^{***}$	151	$r = -.34^{***}$	151
Language management	Parent	Regular visit to Vietnam	$F\ (1,148) = .90$	150	$F\ (1,148) = .000$	150
		Intention of future residence in Vietnam	$F\ (2,147) = 7.83^{**}$	150	$F\ (2,147) = 4.77^{*}$	150

	Presence of language policies	F (1,144) = 17.13***	146	F (1,144) = 5.52*	146
	Vicinity to Vietnamese community	F (2,147) = 1.71	150	F (2,147) = 4.16*	150
	Frequency of community event attendance	r = .10	151	r = .17*	151

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

Table 4. *Bivariate Associations between Child English Oral and Written Language Proficiency and Related Factors (n=151)*

Factors			**English Oral Proficiency**	**Valid *n***	**English Written Proficiency**	**Valid *n***
Demographic/personal	Child	Age	$r = .55^{***}$	151	$r = .70^{***}$	151
	Parent	Age	$r = .37^{***}$	151	$r = .46^{***}$	151
		Gender	F (1,148) = .62	150	F (1,148) = .17	150
		Education	F (2,146) = .24	149	F (2,146) = .47	146
		Income	$r = .20^{*}$	151	$r = .33^{***}$	151
		Partner's age	$r = .40^{***}$	151	$r = .51^{***}$	151
		Length of stay in English-speaking countries	r = .14	151	$r = .18^{*}$	151
		Parent-child cohesion	r = .06	151	r = .04	151
	Family	Living with grandparents/great-grandparents	F (1,141) = .82	143	F = (1,141) = .38	143
		Number of children	$r = .36^{***}$	151	$r = .45^{***}$	150
	Community	Availability of community meeting places	F (2,146) = 1.06	149	F (2,146) = 1.07	149
Language practices	Child	Vietnamese oral proficiency	r = .05	151	r = -.05	151
		Vietnamese written proficiency	r = .09	151	$r = .23^{**}$	151
		English oral proficiency	-	151	$r = .81^{***}$	151
		English written proficiency	$r = .81^{***}$	151	-	151
		Vietnamese language use	r = -.02	151	r = -.03	151
		Vietnamese community language school attendance	r = .03	151	r = .05	151
	Parent	Vietnamese proficiency	r = .09	151	r = .08	151
		English proficiency	r = .08	151	r = .16	151
		Vietnamese language use with children	r = -.10	151	r = -.15	151
		Vietnamese language use in social situations	r = -.004	151	r = -.05	151
Language ideologies	Parent	Perceptions of importance of home language maintenance	r = -.03	151	r = -.05	151
		Perceptions of cultural identity	r = .10	151	r = .10	151
Language management	Parent	Regular visit to Vietnam	F (1,148) = .04	150	F (1,148) = .02	151
		Intention of future residence in Vietnam	F (2,147) = 1.76	150	F (2,147) = .46	150
		Presence of language policies	F (1,144) = 1.56	146	F = (1,144) = 1.37	146

	Vicinity to Vietnamese community	F (2,147) = .29	150	F (2,147) = .11	150
	Frequency of community event attendance	$r = .17^{*}$	151	$r = .20^{*}$	151

Note. $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Table 5. *Bivariate Associations between Child Language Use and Related Factors (n=151)*

Factors			**Child Language Use**	**Valid *n***
Demographic/personal	Child	Age	$r = .15$	151
	Parent	Age	$r = .05$	151
		Gender	$F\ (1,148) = .07$	150
		Education	$F\ (2,146) = 1.69$	149
		Income	$r = -.21^{**}$	151
		Partner's age	$r = -.08$	151
		Length of stay in English-speaking countries	$r = -.43^{***}$	151
		Parent-child cohesion	$r = .13$	151
	Family	Living with grandparents/great-grandparents	$F\ (1,141) = .50$	143
		Number of children	$r = .03$	151
	Community	Availability of community meeting places	$F\ (2,146) = 2.44$	149
Language practices	Child	Vietnamese oral proficiency	$r = .69^{***}$	151
		Vietnamese written proficiency	$r = .50^{***}$	151
		English oral proficiency	$r = -.02$	151
		English written proficiency	$r = -.03$	151
		Vietnamese language use	-	151
		Vietnamese community language school attendance	$r = -.07$	151
	Parent	Vietnamese proficiency	$r = .25^{**}$	151
		English proficiency	$r = -.16$	151
		Vietnamese language use with children	$r = .78^{***}$	151
		Vietnamese language use in social situations	$r = .43^{***}$	151
Language ideologies	Parent	Perceptions of importance of home language maintenance	$r = .34^{***}$	151
		Perceptions of cultural identity	$r = -.30^{***}$	151
Language management	Parent	Regular visit to Vietnam	$F\ (1,148) = .07$	150
		Intention of future residence in Vietnam	$F\ (2,147) = 5.02^{**}$	150
		Presence of language policies	$F\ (1,144) = 12.88^{***}$	146
		Vicinity to Vietnamese community	$F\ (2,147) = 4.02^{*}$	150

	Frequency of community event attendance	$r = .04$	151

Note. $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Table 6. *Multiple Regression Model of the Significant Bivariate Factors for Child Vietnamese Oral Proficiency (n=151)*

Factors		**Significant factors from bivariate analysis**	**Child Vietnamese Oral Proficiency**	
			β	***p***
Demographic/personal	Child	Age	.03	$p = .65$
	Parent	Income	-.07	$p = .25$
		Length of stay in English-speaking countries	-.09	$p = .30$
Language practices	Child	Vietnamese written proficiency	.17	$p = .02^{*}$
		Vietnamese language use	.43	$p < .001^{***}$
	Parent	Vietnamese proficiency	.26	$p = .001^{**}$
		English proficiency	-.001	$p = .99$
		Vietnamese language use with children	-	-
		Vietnamese language use in social situations	-.03	$p = .68$
Language ideologies	Parent	Perceptions of importance of home language maintenance	.13	$p = .06^{+}$
		Perceptions of cultural identity	.002	$p = .98$
Language management	Parent	Presence of language policies	-.04	$p = .50$
		Intention of future residence in Vietnam (No vs. Yes)	-.10	$p = .17$
		Intention of future residence in Vietnam (Not sure vs. Yes)	-.16	$p = .03^{*}$

Note. $^{+}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Table 7. *Multiple Regression Model of the Significant Bivariate Factors for Child Vietnamese Written Proficiency (n=151)*

Factors		**Significant factors from bivariate analysis**	**Child Vietnamese Written Proficiency**	
			β	***p***
Demographic/personal	Child	Age	.35	$p < .001^{***}$
	Parent	Length of stay in English-speaking countries	-.25	$p = .003^{**}$
		Partner's age	.03	$p = .69$
		Parent-child cohesion	.001	$p = .98$
Language practices	Child	Vietnamese oral proficiency	.16	$p = .10$
		Vietnamese language use	.17	$p = .05^{*}$
	Parent	Vietnamese language use in social situations	-.10	$p = .21$
Language ideologies	Parent	Perceptions of importance of home language maintenance	.30	$p < .001^{**}$
		Perceptions of cultural identity	.02	$p = .82$
Language management	Parent	Presence of language policies	.02	$p = .73$
		Intention of future residence in Vietnam (No vs. Yes)	.01	$p = .92$
		Intention of future residence in Vietnam (Not sure vs. Yes)	-.03	$p = .74$
		Vicinity to Vietnamese community (No vs. Yes)	-.09	$p = .17$
		Vicinity to Vietnamese community (Not sure vs. Yes)	.09	$p = .14$
		Frequency of community event attendance	.05	$p = .38$

Note. $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$; Child English written proficiency, parents Vietnamese language proficiency, and parents' language use with children were not included in the model due to their high correlations with child age, child Vietnamese oral proficiency, and child language use respectively.

Table 8. *Multiple Regression Model of the Significant Bivariate Factors for Child English Oral Proficiency*

Factors		**Significant factors from bivariate analysis**	**Child English Oral Proficiency**	
			β	***p***
Demographic/personal	Child	Age	-.04	$p = .59$
	Parent	Age	.03	$p = .65$
		Income	-.09	$p = .11$
		Partner's age	-.03	$p = .63$
	Family	Number of children	-.01	$p = .87$
Language practices	Child	English written proficiency	.88	$p < .001^{***}$
Language management	Parent	Frequency of community event attendance	.002	$p = .96$

Note. $^{***}p < .001$

Table 9. *Multiple Regression Model of the Significant Bivariate Factors for Child English Written Proficiency*

Factors		**Significant factors from bivariate analysis**	**Child English Written Proficiency**	
			β	***p***
Demographic/personal	Child	Age	.18	$p = .008^{**}$
	Parent	Age	.01	$p = .91$
		Income	.17	$p < .001^{***}$
		Partner's age	.14	$p = .01^{**}$
		Length of stay in English-speaking countries	.02	$p = .68$
	Family	Number of children	.14	$p = .002^{**}$
Language practices	Child	Vietnamese written proficiency	.10	$p = .05^{*}$
		English oral proficiency	.56	$p <.001^{***}$
Language management	Parent	Frequency of community event attendance	.02	$p = .70$

Note. $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Table 10. *Multiple Regression Model of the Significant Bivariate Factors for Child Language Use*

Factors		**Significant factors from bivariate analysis**	**Child English Written Proficiency**	
			β	***p***
Demographic/personal	Parent	Income	.001	$p = .99$
		Length of stay in English-speaking countries	.05	$p = .52$
Language practices	Child	Vietnamese oral proficiency	.33	$p < .001^{***}$
		Vietnamese written proficiency	.09	$p = .16$
	Parent	Vietnamese language use with children	.61	$p = < .001^{***}$
		Vietnamese language use in social situations	-.05	$p = .49$
Language ideologies	Parent	Perceptions of importance of home language maintenance	-.13	$p = .04^{*}$
		Perceptions of cultural identity	.04	$p = .48$
Language management	Parent	Presence of language policies	-.04	$p = .49$
		Intention of future residence in Vietnam (No vs. Yes)	-.03	$p = .72$
		Intention of future residence in Vietnam (Not sure vs. Yes)	.01	$p = .85$
		Vicinity to Vietnamese community (No vs. Yes)	-.11	$p = .04^{*}$
		Vicinity to Vietnamese community (Not sure vs. Yes)	-.04	$p = .45$

Note. $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Table 11. *Summary of Significant Factors from Multiple Regression Models*

Factors			**Vietnamese Oral Proficiency**	**Vietnamese Written Proficiency**	**English Oral Proficiency**	**English Written Proficiency**	**Language Use**
Demographic/personal	Child	Age		***		**	
	Parent	Income				***	
		Partner's age				**	
		Length of stay in English-speaking countries		**			
	Family	Number of children				**	
Language practices	Child	Vietnamese oral proficiency					***
		Vietnamese written proficiency	*			*	
		English oral proficiency				***	
		English written proficiency			***		
		Vietnamese language use	***	*			
	Parent	Vietnamese proficiency	**				
		Vietnamese language use with children					***
Language ideologies	Parent	Perceptions of importanc	+	***			*

		e of home language maintenance			
Language management	Parent	Intention of future residence in Vietnam	*		
		Vicinity to Vietnamese community			*

Note. $^{+}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$