A Case Study of Individual, Linguistic and Psychosocial Factors on Heritage Language Maintenance Among Malaysian Chinese

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Abstract—Despite Asian immigrants have increasingly received attention in the scholarly study as heritage language learners (Lee, 2003; Kim & Chao, 2009; Dixon et al., 2012; Park et al., 2012), there is still a crucial gap in exploring heritage language (HL) maintenance among the multilingual Chinese descendants in Southeast Asia. This study intends to reveal individual influences as well as linguistic and psychosocial factors in maintaining the Chinese language as a heritage language (CHL) among the new generation of Chinese learners in Malaysia. Sets of questionnaires were distributed to 238 informants ages 16-18 native speakers of Chinese. From the statistical analysis fact, it is concluded that 1) under the postcolonial education system, the diverse education stream or the type of school is one of the most influential individual factors on CHL maintenance level, i.e. SMJK>STPC>SMK in that order when considering the overall achievement on the Chinese language as a core subject, while age and gender had least impacted CHL maintenance; 2) linguistic factor which referring to parental language or dialects did not contribute to the differences in their CHL levels due to the fact that the Chinese language is commonly used in their daily lives and domestic domains; 3) attitudes towards ethnic identity as Malaysian Chinese and Chinese language classroom learning anxiety were significantly contributed to psychosocial factors in the given setting. It is hoped that this study helps to reinforce Chinese language maintenance to a greater connectedness between the young generation of Malaysian HL learners and the Chinese HL community.

Index Terms—individual factors, linguistic factors, psychosocial factors, heritage language maintenance, Malaysian Chinese

I. INTRODUCTION

With the development of globalisation, exchanges between countries are increasing, and immigrant groups in major countries of the world continue to expand. The language maintenance, ethnic identity and cultural adaptation of heritage language learners are becoming a primary concern for scholars. A heritage language learner is a person who learns a language other than the official language of the family, speaks or at least understands the language, and is bilingual or multilingual to a certain extent (Valdés, 2000). Current research on heritage language learners has focused on countries with high levels of immigration, such as the United States, Canada, Singapore and Europe, with the most significant number of studies on Spanish as an inherited language, mostly on immigrants of Mexican and Latino descent (Oh & Fuligni, 2010; Montrul, 2016). In recent years, Asian immigrants have also received increasing attention from scholars, with most of them being of Chinese, Korean and Vietnamese descent (Lee, 2003; Kim & Chao, 2009; Dixon et al., 2012; Park et al., 2012; Geerlings et al., 2015; Choi et al., 2016).

The maintenance and development of the heritage language (HL) are influenced by many factors, of which individual differences, family, and the Chinese community are undoubtedly the most direct influencers. It has been shown that parents’ use of heritage language with their children has a very positive impact on the development of their inheritance...
language vocabulary (Dixon et al., 2012; Park et al., 2012). The language environment in the family also influences the genetic language development of immigrant offspring (Dixon et al., 2012), and Choi et al. (2016) found that families living in communities where Korean was less spoken needed to invest more money and language resources to ensure daily exposure to the Korean language. Motivation and attitudes are also essential factors in the maintenance of HL. Research on Korean Australians, who live in an environment more open to different wording than the US, has found that they show highly positive attitudes towards Korean (Shin et al., 2016) and stronger intrinsic and instrumental motivation (Yang, 2003; Noels, 2005). There are differences in learners’ psychological and language learning outcomes in different sociocultural contexts (Schumann, 1976; Gardner, 1988), and there is a need for country-specific and context-specific research. However, studies have mainly focused on the West, particularly on American and Canadian immigrants, and the research on Chinese heritage language maintenance in Malaysia is still limited. Moreover, quantitative research methods are less commonly used in previous heritage language maintenance studies (Fang, 2017).

Malaysia is a typical multilingual and multicultural country of immigration, and the Malaysian Chinese community is diverse, with a wide range of differences in place of birth, dialectal background, and attitudes and motivations towards the Chinese language. Ellis (1994, pp. 469 - 474) points out that individual differences among Chinese learners are key factors affecting their heritage language maintenance, both extrinsic and intrinsic, and that there is no clear boundary between them. Therefore, a quantitative method is used in this study to examine the influence of individual demographic factors (including age, gender and school type), linguistic factors (parents’ language background and family language use) and psychosocial factors (including attitudes and motivations towards mother-tongue associations) on Malaysian Chinese learners’ heritage language maintenance.

II. MALAYSIAN CHINESE AND CHINESE LANGUAGE

The main body of Malaysian Chinese is immigrants and their descendants who migrated to Malaya from Fujian, Guangdong, Guangxi and Hainan in the nineteenth century. The Malaysian Chinese are the second largest ethnic group among Malaysian citizens, comprising about 6.91 million people (Guo, 2020). The Malaysian Chinese community is multilingual and multicultural, with a complex linguistic situation. The Malaysian Chinese are typically multilingual, with Malay (the national language), English (the international language), and Mandarin as the common Chinese language and their respective source dialects, all widely spoken in the Chinese community. Of these, Mandarin has a special status in Malaysia, as it is both the common language of the Chinese community, the standard language of the Chinese community, and the officially recognised language of Malaysia. The standard language is considered a prestigious community language or code (Holmes & Wilson, 2017). Article 152 of the Federal Constitution states, “while Malay is the national language, the freedom to learn, use and develop the mother tongue of all communities is expressly guaranteed”. As a result, Chinese language education is used as the medium of instruction in the Malaysian education system, replacing the dialectic schools of the British colonial era.

This study’s Chinese language refers to standard Chinese (Mandarin Chinese) and Chinese dialects in general. Among the various Chinese dialect groups in the Malaysian Chinese community, Hokkien, Cantonese, and Hakka are the most populous groups in Malaysia (Platt, 1977). The smaller groups are Chiu Chow, Hing Wah, Hainan, Foochow, and Guangxi speakers. Chinese dialect groups are not mutually intelligible (Brammer, 2000; Kurpaska, 2010). When different Chinese subgroups meet, a shared language is needed to communicate. This problem has traditionally been addressed through multilingual competence, but it has been recently reported that Standard Chinese is gradually taking on this role, even gradually replacing Chinese dialects in the home sphere, such as in Johor, Penang and Sarawak (Ting & Chang, 2008; Wong, 2020). Standard Chinese is taught and used in all Chinese primary schools (SRJK (C)), national Chinese secondary schools (SMJK (C)) and Chinese independent secondary schools (STPC). However, Mandarin Chinese (MC) has been transformed into a particular style by the Chinese speakers of Malaysia, which is jokingly called ‘Mangdarin’ (as in ‘Manglish’); we will call it ‘Malaysian Mandarin’ (MM), which is also different from the Mandarin used in China.

III. HERITAGE LANGUAGE (HL) AND HL MAINTENANCE

The Ontario Heritage Language Project Group first introduced the Heritage Language (HL) concept in Canada in the 1970s (Hornberg & Wang, 2008). Then in the 1990s, it was widely accepted and promoted by American academics concerned with language maintenance, revitalisation and non-English language teaching (Valdès, 2001). In the US, Fishman (2001) defines Heritage Language (HL) as all ancestral languages other than non-English languages with special family ties to the learner, including the languages of indigenous peoples, colonial countries and immigrant languages. For overseas Chinese, ethnic Chinese and Chinese descent, the Chinese language (including various dialects) they learned in the local region is a heritage language learning. Although Cantonese, Hakka, Minnan, etc., are taught in some Chinese schools in different overseas dialect communities, the mainstream trend in international Chinese inheritance language teaching is now to unify the use of Mandarin as the standard and to teach Mandarin as the Chinese inheritance language for students of Chinese descent (Dai, 2017).

Heritage language learners exhibit unusual characteristics and complexities, unlike second/foreign language and mother-tongue learners. On the one hand, they have the same problems as foreign language learners, such as small
vocabulary, interference with the dominant language of the host country, slow speed of speech and slurred speech; on the other hand, they have better grammar, use the tongue closer to native speakers and identify more with the language/culture they have learned. In general, acquiring an inherited language begins at home, while typical second language learning begins in the school classroom. Inherited language acquisition can be seen as an unfinished monolingual acquisition that occurs in a bilingual rather than a monolingual environment. It has many characteristics of bilingual acquisition, i.e., monolingual and bilingual features, but it differs from conventional monolingual and bilingual acquisition (Cao, 2014). Montrul (2010) compares the characteristics of first, second and inherited language acquisition, as detailed in Table 1. In terms of Chinese as a heritage language learner, He (2001) defines a learner of Chinese as a heritage language as a student who lives in a Chinese-speaking household, who can speak or at least understand Chinese language and is bilingual to some extent in both Chinese and national language. Wu (2008) defines a Chinese heritage language learner as a learner who can be exposed to Chinese outside the formal education system, especially in family and community settings. This paper adopts the view of Cao (2014) the current Chinese language education overseas is heritage language teaching in a narrow sense, i.e., the Chinese language (including the dialects) that Chinese descendants learn is their heritage language, they are Chinese heritage language learners (CHL).

Language maintenance is the continued use of the mother tongue within and between generations of a given linguistic community and the maintenance of language competence (Winford, 2003). Benrabah (2007) states that language maintenance is the continued use of the mother tongue despite cultural pressures from more prestigious or politically dominant languages and the need to face the threat of language transfer. Most of the research on factors influencing language maintenance has focused on family (Fishman, 1991; Collier et al., 2011; Guardado, 2002), society (Tannenbaum, 2003), culture (Schumann, 1976) and policy (Borland, 2006; Bianco, 2017) and other extrinsic environmental factors, with less research on individual learner factors. Motivation and attitude are individual factors that have received the most attention in language learning research. It is “a state of cognitive and affective arousal” that “motivates learners to put effort into achieving a set of goals over some time” (Williams & Burden, 1997, p. 23) and plays an essential role in language maintenance. Furthermore, Li (1994) argues that levels of genetic language are positively associated with an individual’s sense of ethnic identity and relationship with members of the group, as members of the group are better able to understand the cultural values, ethics and behaviour of the group.

In a subsequent study, Tse (1997) found that inherited languages are closely related to ethnic groups and that attitudes towards the ethnic group and the people who speak the inherited language influence the linguistic competence of inherited language speakers and their interest in learning the inherited language, a view supported by McGroarty and Urzúa’s (2008) study of three Mexicans. In addition, Kondo (2006) surveyed second-generation immigrants in Canada on language adaptation learning patterns. He found that parental encouragement and support for learners of the inherited language made their acquisition of the inherited language more effective. Parents’ positive attitudes towards learning the inherited language also positively affected second-generation immigrants’ learning of the inherited language. The maintenance of the Chinese language may also be influenced positively or negatively by these individual factors, yet there is minimal research on this.

IV. CHINESE AS A HERITAGE LANGUAGE (CHL) IN MALAYSIA

A compilation and analysis of previous literature reveal that most of the research on Chinese as a Heritage Language (CHL) in Malaysia focuses on the overall educational situation (Samuel & Tee, 2013; Samuel, 2014; Lin et al., 2015), followed by teaching materials, schools, curriculum and teachers (Lee, 2011; Lim & Presmeg, 2011; Tan & Santhiram, 2017), with less research on CHL learning motivation (Comanaru & Noels, 2009; Tan et al., 2013). Specific studies in this area tend to comb and summarise data from a single pedagogical perspective (Smith, 2001; Wu & Teoh, 2008; Samad et al., 2010), and do not present the multidimensional and cross-disciplinary characteristics of today’s interdisciplinary studies, for example, they do not integrate psychology, sociology, linguistics and other related disciplines for cross-sectional research. The research methods are mainly inductive, using historical and relevant language policy materials and case study methods for data analysis (Zong & Han, 2015; Wu, 2015; Zhu & Wang, 2016). However, there is little use of empirical methods, more from personal subjective emotions, and the conclusions drawn are somewhat biased due to the limitations of the position. The existing research is not very theoretical, with only a few
applications of “holistic education” and the Copenhagen School’s “concept of social security”, and the scope of the research is mainly focused on the scope of research has also been focused on the macro area of language education (Merriam & Mohamad, 2000; Lee, 2007; Zou, 2018). Consequently, this study explores three aspects of Chinese heritage language learners: individual factors, linguistic factors, and psychosocial factors, and examines the influence of the three factors on their heritage language maintenance.

V. METHODS AND PROCEDURES

A. Participants

The target population of this study consisted of 232 participants with criteria as (i) ages 16-18; (ii) local-born Chinese with Chinese language (Mandarin) as their mother tongue; (iii) completed six years of Chinese primary education. Precisely there are 84 participants from the Chinese Nat Secondary school (SMJK), 62 from the National Secondary school (SMK) and another 83 from the Chinese Ind Secondary school (STPC) participated in the study.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of Chinese language learning</td>
<td>4-11 years</td>
<td>206</td>
<td>88.8</td>
</tr>
<tr>
<td>Duration of Chinese language learning</td>
<td>12 years and above</td>
<td>26</td>
<td>11.2</td>
</tr>
</tbody>
</table>


B. Instruments

This study uses a quantitative research method. Three instruments are used in this study:

(a) The demographic questionnaire to assess the heterogeneity between the groups in this study. The questionnaire consists of closed-ended questions (Q1-Q16) that elicited information about each participant’s age, ethnicity, gender, grade level, and self-rated Chinese heritage language proficiency (including listening, speaking, reading, and writing) was adapted from Language and Social Background Questionnaire (Luk & Bialystok, 2013). The self-assessment is relative to a native speaker’s performance, rating their proficiency level on a scale of 0-100 for the following listening, speaking, reading and writing activities conducted in the Chinese heritage language. A self-reported demographic questionnaire has certain advantages because “it can provide information from a large participant, and it can be objectively compared and interpreted through statistical data analysis” (Park, 1997, p. 212).

(b) The Language Background and Daily Use Questionnaire contains single-choice and rectangular-square questions on respondents’ language background and everyday use, based on Fishman’s (1972) domain theory. It investigates respondents’ language use with different communication groups in different contexts, including the family domain, the religious domain, the formal context, talking to Chinese in an informal context, talking to Malaysians in an informal context and with Indians in an informal context.

(c) Chinese as Heritage Language Learning Motivations and Attitudes questionnaire adapted from Gardner’s (1985) Attitude and Motivation Test Battery (AMTB). Motivation and attitude are essential factors in the maintenance of HL. Many studies have reported that HL learners show stronger intrinsic motivation than L2 learners (Yang, 2003), and they have stronger intrinsic and instrumental motivation (Noels, 2005). The underlying principle of selecting (Gardner & Lambert, 1972)’s AMTB was its established validity and reliability over the last two decades, as it has been used in a significantly large number of qualitative and quantitative studies which focused on examining different affective components influencing second/foreign language, such as Masgoret and Gardner (2003), Kristmanson (2000) and Williams et al. (2002).

In addition to being used extensively in a foreign language and second language research, AMTB has also been used to test the motivation and attitudes of Heritage Language (HL) learners towards language learning. For example, several studies that have examined HL learners within the AMTB framework have found that HL learners show strong intrinsic and instrumental motivation (Noels, 2005) and are more intrinsically motivated than L2 learners (Yang, 2003). Most studies of Korean Americans have concluded that their primary motivation for learning their mother tongue is to
communicate with their parents and relatives, and therefore show higher levels of integrative motivation, which is significantly higher than instrumental motivation (Jee, 2011; Yang, 2003). Studies of Australians of Korean descent have come to similar conclusions: their primary motivation for learning Korean is to communicate with their families and relatives, which also shows higher integrative motivation (Shin, 2008; Shin et al., 2016; Min, 2017). Thus, these studies suggest that AMTB equally applies to language learning motivation and attitude measures for HL learners.

According to Gardner and Lambert (1985), the AMTB explores language learning in three major sections: a) attitudes, motivations and classroom anxiety; b) motivational intensity; c) teacher and curriculum. Therefore, the questionnaire was developed by adapting the a) and b) sections of the AMTB for their relevance to the research. This section contains a total of 10 parts 55 items: Attitudes toward Malaysian Chinese (P1:Q1-6), Attitudes toward mainland Chinese (P2:Q1-5), Positive Attitudes towards learning the Chinese language (P3:Q1-4), Negative Attitudes towards learning the Chinese language (P4:Q1-4), Integration motivation (P5:Q1- Q8), Instrumental motivation (P6:Q1-8), Chinese language Class Anxiety (P7:Q1-8), Parental Encouragement (P8:Q1-8), Motivational Intensity (P9:Q1-10), and Desire to Learn Chinese (P10:Q1-10). The reliability coefficient of the whole set of questionnaires is 0.916.

C. Procedure

Participants were recruited over approximately three months through personal or friend contact. They were asked to complete a background information questionnaire, a language background and daily use questionnaire, and a questionnaire on attitudes and motivation. The questionnaires were developed online, and the exact instructions and format were provided to all participants.

D. Data Analysis

This study used SPSS 26.0 version to analyse the data quantitatively. Descriptive data analysis was conducted to demonstrate participants’ basic information, Chinese language proficiency, daily language use, attitudes and motivation levels among Malaysian Chinese. ANOVA and Pearson correlation analyses were also conducted on personal, linguistic and psychosocial factors (motivation, attitudes) affecting the subjects’ Chinese heritage language maintenance concerning their listening, speaking, reading and writing self-ratings. Finally, multiple linear regression analyses were conducted to determine how many individual and psychosocial factors explained the CHL proficiency of Malaysian Chinese.

VI. RESULTS AND DISCUSSION

A descriptive analysis of 232 participants’ CHL listening, reading, writing proficiency, motivation and attitudes towards CHL learning revealed that: the subjects’ overall CHL proficiency was high (total mean score of 82.45 for the four skills), with high proficiency in listening (86.32), speaking (84.58) and reading (82.20) skills (over 80%) and a relatively low score in writing (76.70). In addition, the overall mean score for motivation and attitude towards CHL learning was 3.49, with the relatively low (below 3) motivation and attitude being “Chinese language class anxiety” and “attitude towards Chinese language learning (negative)”. The overall mean of the standard deviation was 0.72, with relatively high (above 1) scores for “desire to learn Chinese” and “motivation intensity”.

A. The Impact of Individual Factors on Chinese Heritage Language Maintenance

(a). Age

<table>
<thead>
<tr>
<th>Table 3</th>
<th>ANOVA Analysis for Participants’ Age and Listening, Speaking, Reading, and Writing Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16.0 (n=69)</td>
</tr>
<tr>
<td>Listening</td>
<td>86.06±15.44</td>
</tr>
<tr>
<td>Speaking</td>
<td>84.19±15.22</td>
</tr>
<tr>
<td>Reading</td>
<td>81.06±17.27</td>
</tr>
<tr>
<td>Writing</td>
<td>77.10±17.57</td>
</tr>
</tbody>
</table>

* p<0.05 ** p<0.01

We used ANOVA to analyse the differences in the effects of Age on the four Chinese language skills listening, speaking, reading, and writing. Table 3 shows that the four skills of listening, speaking, reading and writing are not significant across age groups (p>0.05), implying that the age groups show consistency in listening, speaking, reading and writing, and there is no difference, which may be related to the small age span of the sample in this study.

(b). Gender
From Table 4, we can see that the gender samples do not show significance (p>0.05) for the two skills of speaking and reading in CHL, meaning that there is no difference between the gender samples for speaking and reading in CHL. However, the gender samples did show significance (p<0.05) for the two listening and writing skills, implying differences between the gender samples in listening and writing in CHL. Gender showed a 0.05 level of significance (F=4.106, p=0.044) for CHL listening skills, and the difference in specific comparisons showed that the mean for males (83.57) was significantly lower than the mean for females (87.81). In comparison, gender showed a 0.05 level of significance for CHL writing skills (F=6.498, p=0.011), and other comparative differences showed that male’s mean for CHL writing skills (72.83) was also significantly lower than the female’s mean (78.81).

(c). Types of School

From Table 5, we can see that different secondary school types did not show significance (p>0.05) for CHL reading skills, which means that subjects of different secondary school types showed consistency in CHL reading skills, and there was no difference among them. However, subjects of different secondary school types showed significant performance (p<0.05) in the three skills of CHL listening, speaking and writing, which means that there are differences in listening, speaking and writing in CHL between the different types of secondary schools. Details of the differences are shown below (Figure 1).

From the specific analysis of the above figure, it can be seen that: 1) The subjects’ secondary school type showed a significance of 0.01 for the CHL listening skills (F=6.552, p=0.002), and it could be seen from the specific comparison differences that the average score of the group with noticeable differences was “SMJK>SMK; SMJK>STPC”; 2) The subjects’ secondary school type showed a significance of 0.05 for CHL speaking skills (F=4.173, p=0.017), and it could be seen from the further comparison that the average score of the group with a more pronounced difference was “SMJK>SMK; SMJK>STPC”; 3) The subjects’ secondary school type showed a significance of 0.05 for CHL writing skills (F=3.120, p=0.046), and the specific comparison difference showed that the average score of the group with a more noticeable difference was “SMJK>SMK”. Thus, the results show that SMJK participants have higher levels in all three areas of listening, speaking and writing than SMK and STPC participants.

The reason for the above differences may be the Chinese syllabus, class hours and educational policy of the three
types of schools. Among them, the National Chinese Secondary School or Central China (SMJK), was a private Chinese secondary school that accepted the government’s proposal to “restructure” before and after Malaysia’s independence (1956-1962), and now there are about 81 in the country. It is included in the mainstream of national education and receives part of the subsidy from the Ministry of Education. Although it is a restructured secondary school, it is a national secondary school under the government’s jurisdiction. The syllabus of each subject in schools, the use of teachers’ textbooks and students’ textbooks are all regulated by the Ministry of Education. The medium of instruction is Malay. Except for Mandarin, all other subjects are taught in Malay or English. Chinese is listed as a regular subject at SMJK and is regarded as an essential compulsory subject, with a teaching time of 5 lessons per week (each lesson is about 35 minutes), which is a compulsory subject (Ling, 2011). The Chinese Language is an optional National High School (SMK) subject, with three weekly lessons. Chinese language classes are not necessarily regular classes, depending on the specific situation, some National Secondary Schools have 3 Chinese language classes outside the classroom, so the teaching scale is insignificant. The teaching materials used in the National Secondary School are prepared in accordance with the Secondary Chinese Curriculum Syllabus and Curriculum Description of the Curriculum Development Centre of the Ministry of Education of Malaysia (Guo, 2010). Finally, at the Chinese Independent Secondary School (STPC), Chinese is the primary medium, and there are at least 6 Chinese lessons per week, and most other subjects are also taught in Mandarin, so the scale of Chinese teaching is relatively large (Fang & Li, 2012).

However, the teaching materials used in STPC are prepared by the United Chinese School Committees Association of Malaysia (Dong Zong) for the STPC development under Dong Zong’s responsibility. Although STPC has the most significant number of Chinese lessons and the medium language of instruction is Mandarin, the fact that they are run outside the national education system (private secondary schools) has given them a unique “freedom and variety” in their curriculum content. Moreover, the Unified Examination Certificate (UEC) is not recognised by the Malaysian government, and the content of the UEC is complex, especially in Chinese subjects. STPC graduates only can continue their studies at local private colleges or overseas universities after graduation (Lim, 2019). As a result, many STPC students are more motivated by instrumental learning and feel more anxious about Chinese learning, affecting their Chinese language proficiency to a certain extent.

B. The impact of Linguistic Factors on Chinese Heritage Language Maintenance

**ANOVA Analysis for the Native Language of Participants’ Parents, the Family Language and Listening, Speaking, Reading, Writing**

<table>
<thead>
<tr>
<th>Type</th>
<th>Father’s native language</th>
<th>Mother’s native language</th>
<th>The MOST often used family language</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>p</td>
<td>F</td>
</tr>
<tr>
<td>Listening</td>
<td>0.665</td>
<td>0.742</td>
<td>1.095</td>
</tr>
<tr>
<td>Speaking</td>
<td>0.874</td>
<td>0.549</td>
<td>1.068</td>
</tr>
<tr>
<td>Reading</td>
<td>0.397</td>
<td>0.935</td>
<td>0.486</td>
</tr>
<tr>
<td>Writing</td>
<td>0.662</td>
<td>0.743</td>
<td>0.645</td>
</tr>
</tbody>
</table>

* p<0.05 ** p<0.01

ANOVA was used to investigate the differences in the effects of the native language of the subjects’ parents and the family language they most commonly use in their daily lives on the four CHL skills of listening, speaking, reading and writing. The above table shows that the different samples of the father’s native language, mother’s native language and most commonly used home language do not show significance (p>0.05) for all four skills of CHL listening, speaking, reading, writing, implying that the sample of family languages most commonly used by the subjects in their daily lives showed consistency and no variability in listening, reading and writing in CHL. Unlike previous studies (Dixon et al., 2012; Park et al., 2012), the subjects’ family language use was not statistically correlated with their CHL listening, speaking, reading and writing skills in this study. This may be because the subjects were all Malaysian Chinese secondary school students, and most of them spoke Mandarin (89.66%), and Chinese dialect (9.05%) as their family language, and their parents’ native languages were predominantly Mandarin and Chinese dialects (98.71%).

C. The Impact of Psychosocial Factors on Chinese Heritage Language Maintenance

(a). Correlation Analysis

1. Motivations

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1. Dong Zong: Persekutuan Persatuan-persatuan Lembaga Pengurus Sekolah Cina Malaysia / United Chinese School Committees Association of Malaysia (UCSCAM) was established on 22 August 1954. The Federation is made up of the State Chinese School Boards Associations or the Federation of Chinese School Boards, with the Board of Trustees of Independent Chinese Schools and the Board of Trustees of Chinese Primary Schools as the main members. The State Chinese School Boards Association and the National Chinese School Boards Association are registered societies, while the School Boards are a body under the Education Act. Board members generally include patrons, alumni, parents and local educators from all walks of life and from all ethnic groups.
Table 6 shows the correlations between the six motivational dimensions of Instrumental orientation, Integrative orientation, Chinese Language Class Anxiety, Parental Encouragement, Motivational intensity, Desire to Learn Chinese and the four CHL skills of listening, speaking, reading, and writing using Pearson correlation coefficients to show the strength of the correlations. The specific analysis showed that:

1) There is a positive correlation between Integrative Orientation, Instrumental Orientation, Parental Encouragement and CHL listening, speaking, reading, and writing skills. The correlation coefficients were 0.219, 0.256, 0.222, 0.218 (integrative orientation), 0.201, 0.201, 0.226, 0.261 (instrumental orientation), and 0.164, 0.151, 0.166, 0.183 (Parental Encouragement), all of them are greater than 0.

2) There is a negative correlation between Chinese language class Anxiety and the four skills of CHL listening, speaking, reading, and writing. The correlation coefficients were -0.281, -0.308, -0.316, and -0.190, all less than 0.

3) The correlation coefficients between Motivational Intensity and reading and writing were 0.129, all greater than 0, implying a positive relationship between Motivational Intensity and reading. At the same time, there was no significant relationship between Motivational Intensity and CHL listening, speaking and writing, with correlation coefficients close to 0.

4) All three items between Desire to learn Chinese and CHL speaking, reading and writing are significant, with correlation coefficients of 0.196, 0.262 and 0.235, respectively, all greater than 0. This means there is a positive correlation between the Desire to learn Chinese and CHL speaking, reading and writing. At the same time, there was no significant correlation between the Desire to learn Chinese and listening, with the correlation coefficients close to 0.

Therefore, at the motivational level, Chinese Language Classroom Anxiety (CLCA) greatly impacted CHL retention, particularly in CHL reading (p<0.316) and listening skills (p<0.308). Anxiety is categorised as ‘facilitative anxiety’ and ‘inhibitory anxiety’. However, this study only showed that anxiety was a negative CHL learning inhibitor and a significant negative correlate of CHL levels, which suggests that the more anxiety learners perceive, the poorer the level of heritage language retention. American Chinese college students’ Chinese language performance and anxiety were not significantly correlated because “English is still used most of the time” in the classroom, and there is little or no environment for using Chinese outside of the classroom (Zhang, 2015, p. 9). However, in this study, there was an environment outside the classroom where the Chinese language was spoken, and Malaysian Chinese students had more opportunities to use Chinese at home and in the community. The next factor influencing CHL retention levels was integration motivation, with all effect values above 0.21, which is also generally consistent with previous research findings. Integration motivation in language learning refers to the idea of becoming interested in the language itself while learning it and then wanting to communicate directly with the target language community, to have more contact with the target language culture, and even to integrate further into the language community and become part of it (Gardner et al., 1972; Zhang, 2015). In addition, this study shows that instrumental motivation also plays an essential role in CHL retention levels, in line with previous studies on Chinese American college students (Zhang, 2015; Wen, 2013) and Japanese Chinese adult learners (Shao, 2018). However, integration motivation is more strongly related to heritage language retention levels and is a significant predictor of CHL maintenance, in line with the findings of studies in bilingual settings and some studies on incoming Chinese students (Cao et al., 2002). Nevertheless, some studies in India (Lukmani, 1972), the Philippines (Gardner, 1985) and Bahrain (Al-Ansari, 1998) suggest instrumental motivation is more conducive to language learning. This difference is because learners have different exposure levels to the target language community and culture. If there is no exposure to the target language community outside the classroom, integrative motivation will not work (Al-Ansari, 1998; Zhang & Li, 2015). Malaysian CHL learners, on the other hand, have more exposure to the Chinese language community.

2. Attitudes

Table 7 shows the correlations between attitudes towards Chinese (mainland) (AC (M)), attitudes towards Malaysian Chinese (AMC), attitude towards Chinese language learning (positive) (ACLL (P)), and attitude towards Chinese language learning (negative) (ACLL (N)).

Table 8

Pearson Correlation of Participants’ Chinese Language Learning Motivations and Listening, Speaking, Reading, and Writing

<table>
<thead>
<tr>
<th></th>
<th>Int-O</th>
<th>Ins-O</th>
<th>CLCA</th>
<th>PE</th>
<th>MI</th>
<th>DLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening</td>
<td>0.219**</td>
<td>0.201**</td>
<td>-0.281**</td>
<td>0.164*</td>
<td>0.038</td>
<td>0.113</td>
</tr>
<tr>
<td>Speaking</td>
<td>0.256**</td>
<td>0.201**</td>
<td>-0.308**</td>
<td>0.151*</td>
<td>0.115</td>
<td>0.196**</td>
</tr>
<tr>
<td>Reading</td>
<td>0.222**</td>
<td>0.226**</td>
<td>-0.316**</td>
<td>0.166*</td>
<td>0.129*</td>
<td>0.262**</td>
</tr>
<tr>
<td>Writing</td>
<td>0.218**</td>
<td>0.261**</td>
<td>-0.190**</td>
<td>0.183**</td>
<td>0.098</td>
<td>0.235**</td>
</tr>
</tbody>
</table>

Note. * Ins-O stands for instrumental orientation, Int-O stands for integrative orientation, CLCA stands for Chinese language class anxiety, PE stands for parental encouragement, MI stands for motivational intensity, and DLC stands for the desire to learn Chinese.

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Pearson correlation analysis was used in this study to explore the correlation between participants' attitudes towards mainland Chinese, Malaysian Chinese, Chinese language learning (positive and negative), and the four basic skills in CHL listening, speaking, reading and writing. The research findings can be concluded as below:

1) Attitudes towards mainland Chinese and listening, speaking, reading, and writing does not show significance, the correlation coefficients were -0.008, 0.009, -0.019, 0.064, all close to 0, and all p-values were more significant than 0.05, implying that there was no correlation between attitude to mainland Chinese and CHL listening, speaking, reading, writing skills.

2) There is a significant correlation between Attitude towards Malaysian Chinese with listening (0.311), speaking (0.297), reading (0.257) and writing (0.238), respectively. The correlation coefficient values were all greater than 0, implying that a positive relationship is linked between Attitude towards Malaysian Chinese and CHL learning skills.

3) Attitudes towards Chinese language learning (positive) and CHL listening, speaking, reading, and writing showed significant positive correlations with coefficients of 0.225, 0.288, 0.281, and 0.292, respectively.

4) The correlation between attitude to Chinese language learning (negative) and CHL speaking (-0.129), reading (-0.172), and writing (-0.152) all showed significance with coefficient values less than 0, implying a negative relationship between attitude to Chinese language learning (negative) and CHL speaking, reading, and writing skills. At the same time, there was no correlation between attitude to Chinese language learning (negative) and CHL listening (p>0.05).

In terms of attitudes, contrary to previous studies by Gerber (1991) and Crawford (2000), participants’ Attitudes towards Malaysian Chinese (AMC), mainstream Malaysian society, were quite more optimistic than their Attitudes towards the Mainland Chinese. Furthermore, both attitudinal factors, participants’ positive attitudes towards learning Mandarin (Park, 1995; Shin et al., 2016) and Malaysian Chinese (Jee, 2011; Shin, 2008; Shin et al., 2016; Yang, 2003), played an essential role in their CHL maintenance.

(b). Regression Analysis

Multiple regression analysis is usually used to explore the issue of affective factors such as motivation (Svanes, 1987; Wen, 1997). In this study, the ten significantly correlated factors (Int-O, Ins-O, CLCA, PE, MI, DLC, AC (M), AMC, ACLL (P), ACLL (N)) as independent variables and CHL proficiency (mean scores of the four skills of listening, reading and writing) as dependent variables in a linear regression analysis to build a multiple regression model to explain CHL proficiency, while “Chinese language class Anxiety” significantly negatively affects CHL proficiency. Therefore, in the subsequent teaching of the Chinese heritage language, attention should be
paid to the anxiety of the participants in the classroom, rationalisation of the Chinese language syllabus and examination syllabus, and increasing the fun of classroom teaching to enhance the interest in heritage language learners in Chinese language learning.

VII. CONCLUSION

In summary, the result of individual factors affecting CHL maintenance among Chinese Malaysians shows that: 1) the most important one is the type of school. Due to the specificity of the Malaysian Chinese education system, there are significant differences in CHL maintenance among the subjects in the three types of schools, with the mean scores in listening, speaking, reading and writing skills being higher in SMJK than in SMK and STPC. This is due to the fact that SMJK schools are government-run Chinese secondary schools with sufficient Chinese language lessons and more Chinese students, and have some advantageous conditions and environment for learning CHL as compared to STPC students who are independent of the government system and have relatively less pressure for further studies; however, school type was only correlated with the subjects’ CHL listening, speaking and writing skills and not with their reading levels, which may be related to the fact that the environment of Chinese language use in the three types of schools, where SMK is dominated by Malay teachers and students, who usually use Malay more frequently in school, while SMJK and STPC are dominated by Chinese students, who use Chinese more frequently in school, which to some extent affects their Chinese listening and speaking skills, and the differences in syllabus, teaching methods and lesson time may also contribute to the differences in their CHL levels, but the consistency in reading skills among the three types of schools need to be further investigated; 2) Age was not a factor affecting the retention of Chinese CHL due to the small age span of the sample; 3) Gender only showed differences in listening (p=0.011) and writing (p=0.044) of Malaysian Chinese CHL proficiency, but in terms of mean scores, female’s scores on both listening and reading skills were higher than those of the male, suggesting that the CHL levels of the female were generally higher, which may be explained by the fact that the female’s sample was nearly twice as large as the male’s sample. Secondly, regarding linguistic factors affecting CHL maintenance among Chinese Malaysians, there was no statistical correlation between the native language of the subjects’ parents, the most commonly spoken family language and their CHL proficiency, which may be due to the consistency of the subjects’ family language and the background of their parent’s native language, the vast majority of whom spoke mandarin or Chinese dialect. Finally, in terms of psychosocial factors, 10 of the motivational and attitudinal factors (Int-O, Ins-O, CLCA, PE, MI, DLC, AC (M), AMC, ACLL (P), ACLL (N)) explained 21.7% of the CHL level variables. This significant effect size is similar to the previously mentioned findings that motivation influences 33% of second language acquisition levels (Jakobovits, 1971). Among the significant factors were “attitudes towards Malaysian Chinese” and “Chinese language class anxiety”, which explained 16.2% of the variance in CHL proficiency. Consequently, the type of school the subjects attended, “Attitude towards Malaysian Chinese (AMC)”, and “Chinese Language Class Anxiety (ALCA)” were the three most significant factors influencing the maintenance of CHL in Malaysia.

Despite the above findings, this study still has the following limitations: 1) The study’s breadth and depth are insufficient. Subsequent studies could explore the issue of CHL maintenance in Malaysia by surveying more subjects from different regions of Malaysia, of different age groups and different Chinese family backgrounds (e.g., pure Chinese families, Batu Pahat and Anglo-Chinese families, etc.); 2) The analysis methods need to be refined. The data could be analysed in subsequent studies in stratified groups to explore the differences between the groups of subjects; 3) Since the subjects score Chinese language proficiency on a self-assessment basis, there is a certain degree of subjectivity and the current instruments for testing Chinese heritage language (CHL) proficiency are still limited (there are more instruments for testing Chinese as a second language), the development of this aspect should be strengthened in future studies.

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