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Mandarin Chinese as a Heritage Language:

A Case Study of U.S.-born Taiwanese

A thesis submitted in partial satisfaction
of the requirements for the degree Master of Arts
in Applied Linguistics

by

Chung-yu Chen

2013

ABSTRACT OF THE THESIS

Mandarin Chinese as a Heritage Language:

A Case Study of U.S.-Born Taiwanese

by

Chung-yu Chen

Master of Arts in Applied Linguistics

University of California, Los Angeles, 2013

Professor Olga Kagan, Chair

To date, there have been no major studies that assess how proficiently U.S.-born Taiwanese speak Mandarin and read Chinese, their heritage language (HL), and what factors contribute to such proficiency. Mandarin refers to the language spoken by the majority of Chinese people around the world and Chinese refers to the written script. This study investigates how well U.S.-born Taiwanese speak Mandarin and read Chinese as their HL, and also analyzes the factors that contribute to their proficiency. For this study, spoken Mandarin and written Chinese proficiencies were assessed using a modified version of the oral proficiency interviews (“modified OPI”) according to American Council on the Teaching of Foreign Languages (ACTFL) Guidelines in combination with a separate reading test. In addition, semi-structured interviews were conducted to determine the participants’ personal motivations, ethnic and cultural identities and attitudes, time spent in and experience with community-based Chinese schools, and several other factors. Eight of the ten participants were rated as either intermediate

or advanced speakers in Mandarin while only five participants read Chinese at the third grade level. These results suggest that, while attending community-based Chinese schools can be considered prerequisite for HL proficiency, the following factors have had the most impact on the participants' Mandarin/ Chinese proficiencies: personal motivation, not only ethnic but also cultural identification with Chinese and/or Taiwanese, and Mandarin /Chinese input and use. Other factors such as parental attitudes and efforts and parents' English proficiency were found to be less important.

The thesis of Chung-yu Chen is approved.

Alison Bailey

John Schumann

Olga Kagan, Committee Chair

University of California, Los Angeles

2013

DEDICATIONS

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Introduction

Purpose and Significance of Study

When immigrants are asked whether or not they want their children to speak their home language, most would answer in the affirmative. However, this is not an easy task to accomplish. As many studies have shown, children of immigrants rarely maintain their parents' mother tongue. This situation is particularly true in the U.S.: since English is the world's lingua franca, many children do not find learning or maintaining another language necessary. It would therefore be interesting to know how well children of immigrants acquire their home language and why some achieve a high level of proficiency while others fail to do so. Motivated by the relatively scant research on Mandarin/Chinese as a heritage language, especially among U.S.-born Taiwanese, my objective in this study is to look at how well U.S.-born Taiwanese speak and read their heritage language, and what factors contribute to their proficiency. In this study, the participants are individuals whose parents are both from Taiwan but who were themselves born and raised in the U.S. By focusing on U.S.-born Taiwanese who are linguistically (Taiwan Mandarin versus mainland Mandarin¹), culturally, and geo-politically different from children of immigrant parents from mainland China, it focuses on an understudied group and adds to the literature on Mandarin/Chinese as a heritage language in general.

¹ As a result of being politically separated from mainland China for decades, Mandarin used in Taiwan "has diverged from that used on the Mainland" (McEnery & Xiao, 2004, p. 1175). They can be considered two varieties of the same language. The terms "Taiwan Mandarin" and "Taiwanese Mandarin" have been used interchangeably in literature.

Background: Language Context in Taiwan and Taiwanese Immigration in the U.S.

Language context in Taiwan and a note on terminology.

Taiwan is a multilingual society with Mandarin, Taiwanese², Hakka, and over a dozen aboriginal languages spoken in the island. The official language in Taiwan is Mandarin, which has been promoted by Chinese Nationalists (or Kuomintang, KMT) since they retreated to Taiwan after losing mainland China to the communists in 1949. KMT's Mandarin-only policy lasted until 1987. Yet Taiwanese, the Hokkien dialect of Min Nan (literally "southeast part of mainland China"), is still spoken by about 70% of the population of Taiwan, followed by Hakka, the second-largest non-Mandarin Chinese dialect spoken in Taiwan. Additionally, there are over a dozen existing aboriginal languages spoken in Taiwan, all of them Austronesian languages. Adding to the linguistic mix, Taiwanese people who are over 70 also know how to speak Japanese as a result of Japanese rule from 1895 to 1945 when the languages spoken in the Taiwan were mainly Japanese and Taiwanese. Within the last few decades, however, there has been a language shift from Taiwanese to Mandarin (Sandel, Chao & Liang, 2006),³ which in

² It is controversial to call the language (other than Mandarin) spoken by the majority of the people in Taiwan "Taiwanese" because it implies that other languages, for example, Hakka and other aboriginal languages, are therefore not "Taiwanese." Some people therefore use the word "Hokkien" or "Taiwanese Hokkien" (the latter differentiates itself from the language spoken by many other communities in southeastern part of China and Southeast Asia). Sandel, Chao & Liang (2006) went further to argue that the term "'Tai-yu' (Hsiao, 1997)", which literally means "Taiwan(ese)- language" in Mandarin, is unsatisfying because it is a Mandarin term. The solution they suggest is "Tai-gi," which literally translates to "Taiwan(ese) language" in this very language. Though I appreciate their suggestion, I still adopt the common term "Taiwanese" to refer to this language because it makes the terminology more accessible to my participants and to the general public.

³ Sandel et al. (2006) revealed that parents tend to speak Taiwanese to elders, mix Taiwanese and Mandarin to peers, and Mandarin to children. Many parents explain their language choice as a result of accommodating their Mandarin-speaking or Mandarin-dominant children (one of the factors might be that children watched Mandarin-

2001 led to the implementation of “mother-tongue education”—a common term used to refer to a curriculum of Taiwanese, Hakka or the aboriginal languages in Taiwan—in elementary schools as a compulsory subject. Due to Taiwan’s linguistic diversity and China-Taiwan political tensions, the teaching of these languages has led to some controversy.⁴

It is necessary to differentiate the terms Chinese, Mandarin, and Taiwanese. Mandarin is the official spoken language in mainland China and Taiwan. Mandarin is considered “standard dialect” while Taiwanese is widely considered a dialect of Mandarin among Chinese people, though linguistically speaking, Mandarin and Taiwanese are different languages because of the mutual unintelligibility. Following the literature, especially that on dialect background, and for the sake of clarity, I will refer to “Taiwanese” as a “dialect” (as did Wiley 2007). I will also consistently use the term “Mandarin” to refer to the official spoken language of mainland China and Taiwan, and “Chinese” to refer to the writing system,⁵ including traditional and simplified Chinese characters used in Taiwan and mainland China.⁶ To better unravel the dynamics of Taiwanese within the larger Chinese linguistic and cultural contexts, I will also use “Taiwanese” and “Chinese” respectively to refer to people from each country (though Taiwan is diplomatically isolated and is not a “national state” in the eyes of the United Nations).

speaking programs on television.) The language shift from Taiwanese to Mandarin is occurring at a faster pace in nuclear and urban families.

⁴ For example, the standardized spelling systems evoked a heated controversy in 2011. Some scholars proposed a Romanized spelling system because it has a long history of being used in churches, while others proposed using Chinese characters and making some adaptations to make Taiwanese characters. For a fuller account of the recent language policy and planning in Taiwan, see Scott and Tiun (2007) and Wu (2011).

⁵ Different Chinese dialects, in a way, share the same writing systems, though they have their own as well. These have only been standardized within recent decades.

⁶ For a critical account of the term “Chinese,” see Leung and Wu (2011).

Taiwanese immigrants and their languages in the U.S.

There have been three major waves of Chinese immigration to the U.S. since the 19th century. According to Chang (as cited in Wiley et al., 2008, p. 71), the first wave of Chinese immigrants who came to California during the Gold Rush era were mostly Cantonese-speaking peasants from the Guangdong Province (Canton). The second wave entered after 1949 following the civil war between the Nationalists and the Communists.⁷ Many intellectuals and business men left China, going to Hong Kong, Taiwan, and the U.S. Compared to the first wave, the second wave “tended to settle down around universities or research centers rather than in Chinatowns.” Immigrants from mainland China and Taiwan were primarily Mandarin-speaking, while others from Hong Kong were speakers of Cantonese. Most literate people in the second wave used traditional written characters. The third wave occurred when a large number of mainland Chinese students and scholars came to the U.S. after 1979. Most of them spoke Mandarin and used simplified Chinese characters. According to Institute of International Education’s 2012 list of the top 25 places of origin for international students, China, Taiwan and Hong Kong ranked as 1, 6 and 16 with a total of 225,311 Chinese-speaking students.

The number of Chinese people in the U.S. is difficult to pinpoint because Chinese and Taiwanese are sometimes included in the same ethnic category. Yet, by any count, the number of Chinese people in the U.S. is well over three million (2010 Census).⁸ There are 230,382

⁷ As Lai (2004) noted, “There were few Taiwanese in America before World War II” (p. 243). Ng (1998) has divided Taiwanese immigration into three periods: post-WWII, 1965 to 1979 and post- 1979. The 1965 Immigration Act “increased the quote of Chinese immigrants to twenty thousand” and family reunification was “not restricted by any quota numbers” (p. 16). In 1979, the U.S. “established formal diplomatic relations with the People’s Republic of China and broke off relations with Taiwan, or the People’s Republic of China” (p. 17).

⁸ There are three grouped categories in the U.S. census: “alone” (e.g., Chinese), “alone or in combination with one or more other categories of [the] same race” (e.g., Chinese and Korean), and “alone or in any combination” (mixed race included, e.g., Chinese, Korean, and Black). Depending on the categories, there are 4,010,114 Chinese alone

Taiwanese “alone or in any combination” according to the same census. Migration Policy Institute (McCabe, 2012) reported a greater number of 475,000 self-identified members of the Taiwanese diaspora living in the U.S. in 2010; 20.7 % (or 98,000) were U.S.-born or born abroad to U.S. citizens.

In terms of the languages spoken, approximately 83 % of Chinese Americans “speak Chinese or a regional Chinese dialect at home” (Zhou, 2009, p. 47). In 2010, it is estimated that 19.62% of people over five years old (or 57,048,617) speak a language other than English and 2.96% (1,685,655) in the entire U.S. speak Chinese. California has the largest Chinese-speaking population with 544,008 speakers over age five, followed by New York (Modern Language Association, 2010). However, the so-called Chinese speakers may be composed of Mandarin speakers and speakers of another Chinese “dialect.”

Because of the prevalence of Taiwanese (as a Chinese “dialect”) in Taiwan, many of the participants’ in this study have parents who, having grown up in Taiwan, are able to speak or at least understand Taiwanese even when *their* parents (my participants’ grandparents) do not speak this dialect. As mentioned earlier, a language shift from Taiwanese to Mandarin is underway in Taiwan, though many efforts have been made to reverse this trend; for example, Taiwanese is taught in formal education as a subject. Even in the U.S., there is call for promoting Taiwanese as a heritage language, though the campaign has not yet been very successful (Leung & Wu, 2011). In the U.S., Mandarin serves as the language of general communication in the Chinese community and is the language of instruction in Chinese schools (with the exceptions of some

or in any combination. Excluding Taiwanese, there are 3,794,673 Chinese alone or in any combination or 3,137,061 Chinese alone. There are 230,382 Taiwanese alone or in any combination and 196,691 are counted as Taiwanese alone in the U.S.

Hong Kongnese-run Chinese schools which use Cantonese as the language of instruction). As a result, almost all of the participants report they do not speak Taiwanese. Though the use of Taiwanese is still fairly common and though Taiwanese can also be considered by some of the participants' as a heritage language (in addition to Mandarin), Mandarin proficiency and the factors contributing to such proficiency will be the main concerns of this study.

Research Questions

In this paper, I attempt to answer the following questions:

1. How proficient are the participants in speaking Mandarin?
2. How proficient are they in reading Chinese?
3. What are the possible factors that may influence their proficiency in Mandarin? What were the influences of (a) personal motivation, (b) parental attitudes and efforts, (c) ethnic and cultural identity and attitudes, (d) time and experience in community-based Chinese schools, (e) parents' English proficiency, and (f) Mandarin input and use?

Literature Review

I will begin with the definitions of a heritage speaker and heritage language. Then I will discuss the literature on how heritage languages are maintained in the U.S. context, with a particular focus on Chinese as a heritage language. Next, I will discuss the literature on heritage speakers' speaking proficiencies are assessed. Then factors contributing to their proficiency are discussed point by point, as proposed in the third research questions.

Definition of Heritage Language and Heritage Speaker

Valdés (2000) formulated the widely accepted definition that a heritage speaker (HS) in the U.S. context is someone “raised in a home where a non-English language is spoken, who speaks or merely understands the heritage language, and who is to some degree bilingual in English and the heritage language” (p. 375). Refining this definition, Polinsky and Kagan (2007) proposed a “broad” and a “narrow” definition of heritage language (HL). The broad definition emphasizes “possible links between cultural heritage and linguistic heritage,” and argues that, broadly defined HL learners may not be very different from traditional foreign/second language learners in that they learn their HL in formal settings as adults, though with a cultural motivation. The narrow definition of HL learners, on the other hand, is composed of two specific, critical criteria. The first criterion is that the HL was “first in the order of acquisition but was not completely acquired because of the individual’s switch to another dominant language.” The second criterion is that the HL learner has some functional proficiency in the HL. Since all of the participants reported that they are able to speak Mandarin, and since they all initially acquired Mandarin at home, they fall into the narrow definition of HL learners.

HL Maintenance in the U.S., Particularly with Mandarin as a HL

In terms of signs of linguistic shift and HL maintenance, Fishman (1966) proposed a three-generation model which suggests that immigrants lose their heritage languages by the third generation. Children of immigrants who are born in the U.S. (the second generation) are mostly bilingual, but English-dominant. Grandchildren of immigrants (the third generation) are for the most part English monolingual (Alba, Logan, Lutz & Stults, 2002) The study by Alba et al. revealed that for the second generation Chinese immigrants, the probability of a child speaking

only English range from 0.04 to 0.77, and is determined mainly by the language use of family members rather than geographical proximity to their ethnic community. Rumbaut, Massey, and Bean (2006) found that, in Southern California, the “life expectancy” for the Chinese language (as well as for Vietnamese and Korean) among immigrants varies “in the narrow range between 1.3 and 2.0 generations of US residence” (p. 458). According to Lee (2008), exogamy is a common phenomenon among second-generation Asian Americans, and Kim (2010) added that this “reduces the chance of transmission of the heritage language to the third generation” (p. 174). Alba et al.’s study suggested that, taking the tendency to exogamy into consideration, the probability that third generation immigrants will not speak their HL is actually closer to 1 since English is usually the dominant language at home. In other words, there is a very strong chance of third generation Chinese immigrants being monolingual English speakers; in every major study, the probabilities range between 0.5 and 1.

Wong Fillmore (1991) argued that there are both “internal and external pressures” that result in language shift to English, including the assimilative forces in the outside world and children’s own awareness that they speak a language different than the mainstream. More recently, Wong Fillmore (2000) added that language shift is increasing rather than decreasing precisely because “powerful social and political forces operate against the retention of minority languages” and that “English is more than a societal language; it is an ideology” (p. 207). Another likely reason for language shift is that Chinese parents are more concerned with their children’s English ability, so they do not actively push their children to learn Mandarin (Xiao 2010).

Recently, however, as China gains visibility on the world stage, there has been a marked push toward Chinese maintenance. Chinese is now considered a “critical language” by the U.S. federal government, and the importance of mainland China in today’s global market is evidenced by its status as the second largest import and fourth largest export market to the U.S. (U.S.-China Business Council 2008).

Use and Interpretation of American Council on the Teaching of Foreign Languages Oral Proficiency Interviews with HS

Since HL is a relatively new field, test administrators in colleges and universities seeking to place HS at the appropriate level of instruction usually use tests designed for second/foreign language learners. However, there is no consensus on whether it is appropriate to use second/foreign language standards such as the American Council on the Teaching of Foreign Languages (ACTFL) Guidelines, or whether it is necessary to establish a new set of standards to measure the language proficiency of HS. Valdés (1989) argued against using the ACTFL OPI with Spanish HS, pointing to the dialectal variations that may affect the ratings. Since then, some empirical studies have been conducted to explore various aspects of HL acquisition and retention. These, however, often rely on self-reporting for HL proficiency (e.g., Lee 2002). As Kondo-Brown (2003) reminded us, relying on self-reporting or using ACTFL OPI to measure HL’s proficiency can be problematic. Further study is needed to validate such measurements or provide modifications.

Kagan and Friedman (2004), however, argued that, as there are relatively few dialectal variations in Russian due to “uniform education in the Soviet Union and the standardization of speech on radio and television” (p. 537), ACTFL OPI *is* useful in assessing Russian HS. The

authors considered a typical educated native speaker as a valid reference point, and suggested using multiple assessment measures to better understand HS's language proficiency (e.g., biographical information and written tests if the subjects are literate, since it is typical among HS to have uneven profiles of oral and literacy abilities). At the same time, Kagan and Friedman acknowledged that, since the ACTFL Guidelines are intended for second/foreign language learners, certain guidelines do not fit well with HS. For example, they found that some HS's performance diverged from traditional foreign language speakers' with regard to pronunciation, fluency (rate of speech), and vocabulary. This is due to the fact that HS tend to have better phonology and can therefore be understood by native speakers without much difficulty. Additionally, their speaking is rather fluent when compared to traditional foreign language learners, displaying a certain "fearlessness' and readiness to engage in any conversational interaction" (p. 540). HS also demonstrate a wider vocabulary yet rely heavily on code-switches and calques. Kagan and Friedman demonstrated that Russian HS who received up to four years of schooling in Russian-speaking countries fall in the range of the Intermediate to Advanced level on the ACTFL scale. Polinsky and Kagan (2007) proposed a HL continuum model and hypothesized that Russian "basilectal" HS, who are U.S.-born or at most completed elementary education in a Russian-speaking country, would perform at the Intermediate Low/ Mid level using ACTFL ratings (based on ACTFL Proficiency guidelines, 1999). Ilieva (2012) conducted a comparative study with Hindi HS and Hindi foreign language learners and found that HS tend to overuse personal experience to illustrate abstract topics, insert English in their Hindi utterances and adopt meaning negotiation strategies typical of native speakers.

The Factors of HL Maintenance in the U.S., Particularly Mandarin as a HL

There are many factors that contribute to the language outcome for children of immigrants. Here I will discuss the literature more directly applicable to U.S.-born Taiwanese in an attempt to answer my third research question concerning the influences of: (a) personal motivation, (b) parental attitude and efforts, (c) cultural identity and attitudes, (d) time spent and experience in community-based Chinese schools, (e) parents' English proficiency, and (f) Mandarin input and use. Since the settings and profiles of the participants vary from study to study, I have described these previous studies in some detail. This will help to contextualize my conclusions.

Personal motivation.

As personal motivation has always been understood as one of the key factors that contribute to second language acquisition (SLA), most of the studies on HL assume similar motivations. While the motivations for studying HL vary, based on the survey conducted by the National Heritage Language Resource Center (NHLRC), Carreira and Kagan (2011) found that the main reasons HS study their HL in college are the following: “(1) to learn about their cultural and linguistic roots (59.8%), (2) to communicate better with family and friends in the United States (57.5%), and (3) as a purely pragmatic goal, to fulfill their language requirement (53.7%)” (p. 48). Yet, a sizable number of HS (49%) also cited “professional reasons, though there were notable differences between languages with regard to this goal” (p. 48); 61.9% of Mandarin and Cantonese HS (69.5% were U.S.-born and 24% arrived in the U.S. before age 11) cited “professional goals” as their major reason to study their HL. The “utility principle” proposed by Lynch (2003) for Spanish HS, and the “Benefits Hypothesis” He (2006) proposed for Chinese

HS are similar in this regard: knowing their HL is of practical value for these individuals. He acknowledged that the benefits hypothesis is similar to the instrumental motivation from Gardner and Lambert (1972).

In a study conducted with heritage and non-heritage college-level Chinese learners, Wen (2011) found that, out of the six salient factors—including (1) positive learning attitudes and experience, (2) instrumentality,⁹ (3) interest in current culture, (4) intended strategic efforts, (5) social milieu, and (6) language requirement[s]—instrumentality was considered a highly motivating factor across heritage and non-heritage Chinese learners alike. Yet HL learners in particular were found to be “more highly motivated by social milieu, cultural interest, and language requirement[s], whereas [non-heritage learners] were more highly motivated by positive learning attitudes and experience” (p. 52). In a comparative analysis of heritage and non-heritage college students in a mixed Chinese classroom, Lu and Li (2008) adopted the instrumental and integrative motivational model (Gardner, 2001; Gardner & Lambert 1959, 1972) and Dörnyei’s argument to include situational factors. They found that HL learners reported higher instrumental motivation than their non-heritage classmates, and reported that HS might think Chinese classes are less demanding as a possible explanation. While integrative motivation was highly correlated with their self-perceptions of listening and speaking abilities (but not reading or writing abilities), neither motivation strongly correlated with their actual proficiency (p. 94).

⁹ In Wen’s study (2011), three items originally in the integrative motivation were fused into instrumentality (two items) and interest in current culture (one item). Wen suggested that “items in the original integrative orientation category may be more in the nature of other motivations than the integrative orientation” (p. 57).

In addition to instrumental and integrative motivations, Avineri (2012) added affective and intergenerational motivations to categorize her interviewees' motivations to "(re)connect with Yiddish." Yiddish learners in her study "noted a strong emotional component in their drive to learn the language, in addition to a strong determination to connect with their families and previous (though frequently not future) generations of Jews" (p. 142). Agreeing with Avineri's two additional motivations, however, O. Kagan (personal communication, April 13, 2013) questions whether "integrative" motivation is appropriately applied in the HL field since "integrativeness" (a variable of integrative motivation) is defined as "a genuine interest in learning the second language in order to come closer to the other language community" (Gardner, 2001, p. 5). It might not be useful to explain HS's motivation in this manner as they are already members of the target culture.

To account for the differences between HL learners and traditional foreign language learners, Kelleher (2008) adopted Norton's theory of investment (to be discussed in the identity factor), which defines investment as "integral to a dynamic and on-going process of identity formation—rather than Gardner and Lambert's [1972] more fixed notions of instrumental and integrative motivation¹⁰, constructs commonly used in SLA research (Norton, 2000)" (p. 241). As Dörnyei (as cited in Kelleher, 2008, p. 241) pointed out, "Norton's reconceptualization moves discussions of motivation beyond a pervasive overemphasis on the psychology of individual difference, opening a path to relate the personal to the social context." A further

¹⁰ Even in the field of SLA, Gardner and Lambert's instrumental and integrative motivations (1959, 1972) have been met with criticism. For example, Hermann (1980) argues that "the motivational hypothesis does not fully account for the interrelationship between attitudes and success or failure in the second-language acquisition process" and that "foreign-language learning causes the formation of positive and negative attitudes" (p. 254). More recently, researchers in SLA and HL typically use updated models such as Norton's concept of investment to account for different levels of linguistic achievement. Yet, Lambert and Gardner's model of instrumental and integrative motivations remains influential in most of the studies.

combined approach is used in Weger-Guntharp's study (2006), which investigated heritage learners' motivations, perceptions and identifications in a classroom composed of both HL learners and foreign language learners. Drawing largely from Dörnyei's process oriented model, which "emphasizes that motivation is dynamic and strongly dependent on a temporal dimension" and Norton Peirce's identity theory, which "argues that motivation needs to be problematized and framed in terms of individual learner identity, social context, and investment" (p. 29), Weger-Guntharp demonstrated that, in the classroom setting, HL learners' identities are multiple, conflicting and are co-constructed by their peers and teachers. Similar ideas about the overlapping nature of motivation and identity in HL learners were demonstrated by He (2006), who stated that "the vast majority of (adult) HL learners cite 'cultural/social identity' as the principal reason for studying the language; to a greater extent than the [second language] learner, the HL learner is likely to be motivated by an identification with the intrinsic cultural, affective, and aesthetic values of the language" (p. 2).

As for whether motivation plays different roles for people with varying proficiencies in their HL, consistent with Comanaru and Noels's study (2009), Wen (2011) found that the motivations among the subgroups of HL learners (with or without Chinese language proficiency) were "more alike than different, and pre-existing Chinese language proficiency generally plays a minor role from the standpoint of social psychology" (p. 58). However, Wen also addressed the limitations of her study, stating that many issues, "such as the impact of proficiency levels, ethnic backgrounds, and *language achievements* [emphasis added] on attitudes and motivation" remained unaddressed (p. 58). In other words, despite the clearer picture of the different motivations HS have from traditional foreign/second language learners, exactly how these

motivations play out in the HS's language proficiency remains underexplored (with some exceptions, e.g., the aforementioned study by Lu & Li, 2008).

Parental attitude and efforts.

Park and Sarkar (2007) found that Korean immigrant parents in Canada wanted their children to maintain their Korean language ability as a means to maintain their Korean identity, as well as to secure future job opportunities, and to communicate with their extended families. They endeavored to teach them Korean by speaking the HL at home regardless of their English and French proficiency, used Korean books to teach them at home, and encouraged their children to maintain contact with their relatives in Korea. These Korean immigrant parents believed that it was their responsibility to teach their children their Korean language and culture. Though useful, this study was exploratory in nature, and did not include information regarding children's attitudes and level of Korean proficiency. Thus, whether or not there is a connection between parental attitudes and behavior and children's attitudes and language proficiency is unknown. Similar to the findings of Park and Sarkar, Zhang and Slaughter-Defoe's study (2009) revealed that Chinese parents have positive attitudes toward maintaining Chinese because they consider Chinese a resource for their children in the future, an embodiment of ethnic identity, and a necessary communicative tool for family cohesion. Their efforts included purposefully using and teaching children Chinese at home, bringing children to Chinese cultural activities, and sending children to Chinese schools. One notable difference between these two studies is that Christianity and Korean churches are often considered by Korean parents to play an important role in helping children of Korean immigrants maintain their language, while Chinese religious institutions do not seem to have a similar function.

Regarding children's proficiency in Mandarin, Zhang (2004) reported in a qualitative study that the children she interviewed did maintain Chinese to some extent because of their parents' efforts. Despite some parents' dedication, however, some children were not always motivated, and some were even resistant to learning Chinese (also Zhang & Slaughter-Defoe, 2009). Parents generally attributed this reluctance or resistance to lack of a language environment and positive attitudes toward the minority language in the wider society. Similarly, Wu (2005) concluded that when parents "express stronger views" on preserving HL, children are also likely to do so. Yet Wu also noted that the children in her study regarded themselves as good Chinese speakers, while parents were often unsatisfied with their children's ability and even considered them unmotivated, uninterested, or too lazy to learn. Luo and Wiseman (2000) adopted different scales to measure dependent and independent variables in their quantitative study on first and second generation Chinese immigrants, and found that the father's attitude was significantly correlated with children's use of Chinese, but not with children's fluency or language attitude. In contrast, the mothers' attitudes were significantly associated with their children's attitudes toward ethnic language maintenance. Also, parental attitudes are only effective when the parent-child relationship is cohesive, and this study showed that "mother-child cohesiveness significantly influenced the children's Chinese proficiency, Chinese use frequency, and children's attitude toward ethnic language maintenance" (p. 320). Using oral assessments to determine pre-school-aged children's HL proficiency, Park, Tsai, Liu, & Lau (2012) found that while "parental cultural maintenance values appeared influential, parental behavioral support of HL showed more robust prospective associations with children's HL development" (p. 226).

Liao (2009) conducted the only study that focuses on how Taiwanese immigrant parents attributed “meaning” to their U.S.-born children’s HL and what “strategies” they used. Though it focused on parental attitudes and efforts rather than HS per se, I discuss this study in detail specifically due to its focus on Taiwanese mothers. Despite having children in the same weekend Chinese school, these five immigrant mothers’ attitudes and efforts to help their children learn Mandarin differed greatly. The mothers placed various meanings on their children’s learning Chinese, including maintaining Taiwanese/Chinese culture, bonding family relationships, and providing future career opportunities, among others. Their efforts and strategies were even more diverse. For example, two families systematically taught the children Chinese at home, and even made their children finish the curriculum in Chinese school in a shorter time period. Another mother decided to delay her elder son’s enrollment to accommodate her younger son so that she did not need to take them to Chinese school twice.

Liao argued that mothers with more “economic capital” (i.e. those who worked at home or were full-time homemakers) were able to utilize their “social capital” to spend more time teaching their children, to hire language tutors (not Mandarin but Japanese, Spanish, and English), and to travel frequently not only to Taiwan but also Japan and Argentina, where one of the families in this study expected their child to be fluent in Japanese and Spanish as well. On the other hand, mothers with less economic and social capital could not afford to do any of these things.

Their children’s proficiencies were both reported by their mothers and unofficially assessed by Liao as being anywhere from native-like in their HL to English monolingual. One mother also reported her daughter’s high score on SAT II Chinese (760/800). Despite

successfully raising her daughter as Mandarin speaker, this mother reported her daughter's strong resistance often resulted in "corporal punishment" (p. 78) by the child's father. Another mother, who received a certificate in teaching Chinese and had taught it in Hong Kong and the U.S., tested her son in SAT II Chinese with practice materials and reported that he did well. This study therefore detailed five mothers' very different methods of teaching their children their HL, some of which were very intense and not being reported in other studies, e.g., "1008 handmade flash cards held together with rubber bands" (p. 79). Liao made it clear in the study that she "maximized the variations of the social capital of the five subjects" (p. 26) and did not intend to generalize.

Ethnic and cultural identity and attitudes.

The notion of identity has been discussed in different disciplines with using definitions and perspectives. I will focus my discussion on how identity, including social, racial, ethnic, and cultural identities, relates to the HL. Specifically I will be considering how identity influences HL use and proficiency (or fluency) and how HL in turn influences identity.

In 1995, Norton Peirce argued for "a conception of investment rather than motivation to capture the complex relationship of language learners to the target language and their sometimes ambivalent desire to speak it" (p. 9). She then extended her concept of investment from her previous work to HL loss and asserted that immigrants might have "multiple and sometimes conflicting investments" in the target language and the mother tongue, and that the loss of the mother tongue "puts identities into crisis" (Norton, 2000, p. 458-459). He (2006) studied Chinese HS in the U.S. and concluded that their HL "development depends on the degree to which s/he is able to find continuity and coherence in multiple communicative and social

worlds in time and space and to develop *hybrid, situated identities and stances* [emphasis added]” (p. 1). Wong and Xiao (2010) also applied the concept of investment in studying Mandarin as a HL with students from dialect backgrounds, and found that students’ investment in Mandarin becomes a form of capital in a globalized world, where knowing Mandarin enhances future job prospects. In discussing HL, Val and Vinogradova (2010) also understood identity as “dynamic and socially constructed” and “linguistically constructed,” definitions which closely match much recent scholarship on language and identity. Blackledge and Creese (2010) observed that in HL community-based schools (referred to as complementary schools in the United Kingdom, where the research was conducted), the “teaching of ‘heritage’ and ‘language’ became sites at which identities were negotiated in discourse” although “not all identity positions are equally negotiable” (p. 173). Many studies have used “social identity” as an overarching term (e.g., Lynch’s social identity principle, 2003; He’s use of cultural/social identity, 2006; Val & Vinogradova, 2010) or as a preferred term (to that of cultural identity, Norton, 1997), to encompass multiple variables or aspects, including racial, ethnic, national and cultural identity. For the purposes of this study, however, it will be necessary to make explicit which variables are under consideration.

For Asians, racial identity is often “visible.” Echoing previous scholars (e.g., Lo & Reyes, 2009, pp. 6-7), Chik (2010) stated that “the flip-side of the ‘model minority’ stereotype is that of the ‘forever foreigner’ (p. 12). She reported that, due to “a racially stratified environment,” Chinese parents send their children to Chinese schools in preparation for the day that their children would consider HL an element of their ethnic identity (p. 159). Similarly, Ngo (2010) reminded us that “The dominance of discourse that positions Asian Americans as perpetual

foreigners and model minorities has prompted scholars such as Mia Tuan (1998) to ask if we will be ‘Forever foreigners or honorary whites?’” (p. 53). The Western stereotypical practice to “call Asian people just Chinese” further underscores “the marginalization and misrecognition of identities” (p. 55).

Tse has proposed an often-cited ethnic identity formation model (as cited in Tse, 2001a).

It consists of four stages, which can be summarized thus:

Stage 1, “ethnic unawareness,” being unaware of differential status between the heritage language and the dominant language and the consequences of being a speaker of each; Stage 2, “ethnic ambivalence/ evasion,” feeling ambivalent or negatively about knowing and using the HL and associating with HL speakers, and at the same time preferring English and the dominant culture; Stage 3, “ethnic emergence,” wanting to explore minority identity and, for some, developing interest in the heritage language to gain a better understanding of and/or to gain membership into HL groups; and Stage 4, “ethnic incorporation,” discovering the ethnic-minority American group (e.g., Chicanos, Vietnamese Americans) and incorporating minority identity into one’s overall social identity. (p. 694)

By examining the published first-person narratives of Asian Americans, Tse (2000) suggested that, during the Ethnic Ambivalence/Evasion stage, since language was “a symbol of membership”, “knowledge of the HL produced embarrassment and shame similar to the feelings that resulted from association with ethnic group members” while the ability to speak the dominant language is associated with “being American” and affords prestige (p. 197). As they entered the “emergence” stage in late adolescence or early adulthood, however, all Tse’s (2001a) HS participants “went through a period of greater interest in developing the heritage language” (p. 694), especially in developing their HL literacy, and gained high levels of literacy in their HL.

Consistent with these findings, other studies have also reported that U.S.-born Chinese do not hold very positive attitudes toward the Chinese language when they are children as they do

not find learning Chinese necessary (Zhang, 2004; Zhang & Slaughter-Defoe, 2009). Yet many of them change their perceptions as they grow older. As Lee (2002) observed with U.S.-born Korean college students, “It usually requires psychological maturation on the part of the individual to realise the true value and benefit of knowing one’s heritage language and culture, which often comes at a later age” (p. 130). In her Vancouver-based study, Lo (2007) found most of her student participants, age 12 to 15, were proud of their “Chinese cultural identity” even though their parents and teachers thought the students “were not mature enough to understand the real meaning of identity” (p. iv). He (2006) proposed “The Enrichment Hypothesis,” stating that the “Success in CHL [Chinese as a HL] development correlates positively with the extent to which the learner has created a niche (linguistic, social, cultural) in the English-speaking community” and attributed adult Chinese HS’s enthusiasm about re-learning their HL to their finding “their own place in the English speaking world, where they see themselves as linguistic and social equals to others” (p. 20).

Regarding how a HL in turn influences a HS’s ethnic identity, Luo and Wiseman (2000) argued that “Ethnic language is a vital aspect of an ethnic group’s identity” (p. 308). Phinney, Romero, Nava, and Huang (2001) stated that “Existing research and theory suggest that ethnic language proficiency, cultural maintenance by parents, and in-group peer interaction have a role in ethnic identity” (p. 139). Compared with the Armenian and Mexican Americans in their study, Vietnamese HS reported less interaction with ethnic peers and lower HL proficiency possibly because of the relatively small community size, which resulted in fewer opportunities to meet ethnic peers and communicate with them. Due to the weaker role of peer influence, parents tend to have a stronger influence in their children’s HL proficiency and, “through language, on

ethnic identity” (p. 150). Due to the differences found among the above three ethnic groups, Phinney et al. suggested that “a separate model was required for each ethnic group” (p. 136).

Kim and Chao (2009) compared Chinese and Mexican American adolescents and found that HL fluency—defined as self-reported ability in speaking/understanding and reading/writing, which is justified as “the standard method of assessing language ability in large-scale studies” (p. 30)—is an important component of ethnic identity for U.S.-born Mexican adolescents, but not for U.S.-born Chinese adolescents. Wong and Xiao (2010), in studying the identity issues on Chinese HS with dialect backgrounds, laid the emphasis on ethnic identity, “since ‘heritage’ is the central theme” (p. 154). Though HL proficiency per se was not directly addressed, it pointed out that the “imagined community” (Anderson, 2006) allows the HS to involve oneself as a member of a larger Chinese network, and knowing Mandarin is one way to “foster such a connection” (Wong & Xiao, 2010, p. 161).

Though most (adult) HS cited “cultural/social identity” as the main reason to study the language (He, 2006), Val and Vinogradova (2010) asserted that cultural identity “does not necessarily require proficiency in the heritage language, as some may identify with a heritage community even when they are English monolinguals” (p. 5). This is similar to Lynch’s (2003) assumption that “most HL speakers do not insist that one must speak Spanish to be considered ‘Hispanic’ or ‘Latino’” (p. 36).

Time spent in and experience with community-based Chinese schools in the U.S.

Many Chinese parents' choose to formally educate and socialize their children in the Mandarin-speaking environment of a community-based Chinese school. In 1995, there were 82,675 students enrolled in 634 Chinese schools in the U.S. (X. Wang, as cited in S. Wang, 2007). In early 2005, National Council of Associations of Chinese Language Schools (NCACLS), which is also associated with Taiwan and its heritage communities in the U.S., counted 100,000 students enrolled in Chinese schools. The Chinese School Association in the United States (CSAUS), which is primarily associated with immigrants from mainland China and their heritage communities, also estimated 60,000 students in early 2005 (McGinnis, 2005a). Elsewhere McGinnis (2005b) has noted that HL schools have been the major provider of Chinese language instruction in the U.S., compared to approximately 34,000 students in colleges and universities, and 25,000 in K-12 institutions (p. 593). The NHLRC survey conducted by Carreira and Kagan (2011) revealed that 31.2% of HS of Mandarin and Cantonese "attended school in China and almost half (45.8%) had never attended a community or religious school in the United States." Yet for those who did, 27.9% went for more than four years (p. 52). However, in another study, Xiao (2008) surveyed 127 HL students enrolled in Chinese language classes in three American universities, and found that around 40% never attended Chinese schools. For those who did, they started around three years old, spent two to three hours every week for one or two years, and dropped out after they started kindergarten or grade school (p. 159).

When surveyed regarding their reasons for sending their children to Chinese schools, parents gave the following reasons: (1) the maintenance of heritage language and culture; (2) the

perspectives provided by bilingualism; and (3) the value of Chinese heritage schools to parents who wish to network and exchange ideas (Liao and Larke, 2008, p. 5). Interestingly, most parents in this study did not “expect their children to write Chinese characters” (p. 5), which seems quite counterintuitive since Chinese schools are “literacy-imparting institutions” (Fishman, as cited in Chik, 2010, p. 72).

Considering the efficacy of community-based Chinese schools in helping maintain Chinese language and culture, H. Chow (2001) found that Chinese-Canadian adolescents who attend Chinese schools have raised awareness of Chinese culture, even if they do not significantly improve their reading and writing skills (echoing the study by M. Chow, as cited in H. Chow, 2001, p. 372). Positive experiences in Chinese schools were positively associated to greater ethnic pride, a more significant exposure to Chinese media, a greater frequency of practice of cultural customs, and a higher self-assessment of language proficiency (p. 371). These students’ experiences in Chinese school were measured on a 5-point Likert Scale, and the students ranked the opportunity of making Chinese friends in the school as the most “satisfying” item.

However, despite the promising findings in Canada, not many studies have been conducted to determine how Chinese schooling in fact aids in language transmission in the U.S. In fact, in her longitudinal study of Chinese schools, Wang (as cited in Xiao, 2010, p. 92) discussed that they are not always effective in helping to preserve the language. She observed that “there was no sense of progress or achievement. Students basically stay[ed] at the same level, unable to move forward in their heritage language proficiency or literacy.” Similarly, Li (2005) argued that, because there are few certified Chinese programs and teachers in the U.S., Chinese

schools tend to recruit untrained Chinese parents as teachers since they are “reliable, easily accessible, and...very affordable” (p. 202). This excessive dependence on non-professionals has resulted in “low quality of teaching and inadequately prepared teachers” (p. 197). Li suggested that, rather than relying on Chinese parents as unqualified stand-ins, Chinese schools should explore resources from Chinese international students as well as higher learning institutions.

As to why Chinese schools have failed to significantly aid in HL transmission, Zhou and Kim (2006) noted that “the growth of ethnic language schools in the Chinese and Korean immigrant communities has not led to significant or satisfactory improvements in ethnic language proficiency in the second generation” perhaps because “preserving the parental language is the ideal but not the only goal of language schools” (p. 19). Chik (2010) noted that Chinese schools have in fact focused on helping the “immigrants adaptation to the host society and the general fostering of pride in and knowledge about a shared cultural tradition” (p. 2). In so doing, however, Chinese schools may have downplayed the emphasis on HL transmission.

On a more positive note, Chinen and Tucker (2005) observed that, in a supplementary Japanese school that provided curriculum used in Japan, Japanese-American adolescents became more positive about their ethnic identities as Japanese, and their attitudes toward their supplementary school and their self-assessed Japanese language proficiency improved over the course of six months. Similarly, Oriyama’s Australia-based study (2010) suggested that “community schools foster positive Japanese inclusive identity and heritage language development, especially with home, community, and peer support” (p. 76). Their levels of Japanese proficiency were mainly determined by students’ use of Japanese media (found to

affect literacy by Oriyama, 2000) and oral proficiency (demonstrated in the interviews with the researcher).

Parents' English Proficiency.

There have not been many studies designed to investigate the relationship between parents' English proficiency and their children's HL proficiency. Considering the development of CHL, He (2006) proposed a "By-Choice Hypothesis," stating that the "degree of success in CHL development correlates positively with the frequency with which the learner's family uses CHL by choice. It has been observed anecdotally that when families use CHL by necessity (i.e., parents speak CHL because their English is limited), learners are likely to see CHL as limiting rather than enriching" (p. 19). However, parent's English proficiency potentially influences their children's HL proficiency since it may influence the parents' own attitudes toward the HL, and how much HL input they give their children. For example, Koh (2000) found that Korean immigrant parents in Canada who enrolled their children in English-speaking preschool programs provide more literacy activities in English than parents who enrolled their children in bilingual Korean and English preschool programs. It is possible, as Koh notes, "that the ESP [English-speaking programs] parents' longer duration of residence in Canada and higher English proficiency may have influenced the finding that the ESP group has more exposure to English activities and materials in home than did the BP [bilingual programs] group" (p. 107). Additionally, Jeon (2008) found that Korean immigrant parents' choice to speak Korean to their children may be motivated either by their desire to teach Korean or by their fear of passing on inaccurate English to their children (p. 64).

Mandarin/ Chinese input and use.

Lastly, the input HS receive on their written Chinese and oral Mandarin matters. According to Montrul (2010), the three perspectives widely held in the field of language acquisition are: Universal Grammar, cognitive approaches, and emergentism. Each approach emphasizes “different components of the language learning process: innate linguistic knowledge, general learning processes, and input, respectively” (p. 14). Though all three perspectives are potentially helpful in explaining HL acquisition, emergentism seems the most relevant to the proposed factor of “input” because, as Montrul explains, “The essence of emergentism is that language is an epiphenomenon, emerging from the interaction of general purpose cognitive abilities with each other and with the environment. For the theory of Universal Grammar, *input* underdetermines knowledge of language; however, for emergentism, *it shapes it* [emphasis added]: General learning principles extract inductive generalizations and statistical regularities from the input” (p.13).

With regard to SLA, the younger people are when they begin to learn, the more likely they will achieve native-like proficiency. However, in immigrant or heritage contexts, Montrul asserted that, “the younger the exposure to the majority language and reduction of exposure to the minority language the greater the degree of partial attainment of the minority language by heritage speakers” (as cited in Benmamoun, Montrul, and Polinsky, 2010, p. 24). In other words, when exposure to HL diminishes or ceases the chances of language retention is much lower. Another study by Au and Oh (2005) found that “speaking the majority language before age five seems to put linguistic minority children at a small, but measurable, risk for poorer heritage language skills during adolescence” (as cited in Benmamoun et al., 2010.) Sánchez (2005) also

suggested that parents and caretakers talk to infants and toddlers in their HL as a way to build a strong familial relationship and a cultural identity. However, along the identity dimension, He (2006) proposed “The Enrichment Hypothesis” (previously discussed under the identity factor), stating that the degree of success in the HL correlates with the degree with which one can find his or her own place in the outside world. He stated that, “children who speak CHL only before school age are more likely to develop a negative attitude towards CHL when they start school than early bilinguals (those using two languages from infancy)” (p. 20) This may be because, as HS, children are inclined to see Chinese as “holding them back and... as the cause for not understanding English” (p. 20). The aforementioned linguistic and childhood development studies are therefore at odds with the identity-based hypothesis proposed by He.

Returning to the linguistics-based perspective, not only is early language experience necessary for the complete acquisition of a HL, but the “amount and quality of exposure during the critical period” is also crucial (Benmamoun et al., 2010.) It is significant that authors sometimes mention both terms (i.e., input/exposure and use), and sometimes they don't. For an example of the prior case, Montrul (2010) argued that “Restricted daily access to the language (in terms of frequency of exposure and use) in limited contexts (primarily home and possibly church) during the age of primary linguistic development (from birth to puberty, according to the critical period hypothesis) is one of the main reasons behind the incomplete patterns of acquisition, and perhaps attrition, as observed in many adult heritage language grammars” (p. 11). It is possible that the term “exposure” glosses over the distinction between exposure and active use and interaction in general (see Lee, Mikesell, L., Joaquin, Mates, & Schumann, 2009). For example, Shum's working paper (2001) used “exposure to the heritage language” as an all-

encompassing term, a choice that subsumes all the language input HS are exposed to, including their actual use. In this study, I will attempt to make distinctions between input/exposure and use in order to see if these two play different roles in the participants' HL proficiency. I will also investigate the separate role of written input not only because it influences the reading proficiency, but also because it is possible that it effects "language development and, possibly, language retention" (Benmamoun et al., 2010, p.16).

As can be seen from the above literature review, there are not many studies that examine Chinese as a HL, let alone among U.S.-born Taiwanese. Also, while many studies look at factors contributing to HL maintenance, most have relied upon participants' self-assessment of their own HL proficiency. Using actual assessments and semi-structured interviews, this study attempts to pinpoint the precise factors contributing to HL proficiency.

Methodology

In this methodology section, I begin by describing the participants and the procedures of data collection and analysis. This is followed by reflections on some possible methodological limitations of my approach.

Participants (Sample Selection, Recruitment and Final Participants)

I started to recruit my candidates for this study in the fall of 2012. The recruiting process continued until the end of January 2013, by which time I had collected the data I needed (i.e., assessment and semi-structured interviews). Participants were recruited through two separate Facebook networks of two separate Taiwanese Student Associations, or by referral from personal

friends. The selection criteria were, first, that both of the participants' parents were born and raised in Taiwan, and second, that the participants had been born and raised in the U.S. Therefore some candidates were excluded. One possible candidate's mother was born in Hong Kong and went to Taiwan at a young age, which meant that his mother's linguistic profile might be different from a typical Taiwanese, and another person was born and raised in Chile before he came to the U.S. for undergraduate study.

When the recruitment process was completed, I had ten U.S.-born participants whose parents were both born and raised in Taiwan. In other words, they are all second-generation U.S.-born Taiwanese. There are four males and six females. The participants' age ranges from 19 to 28, with an average age of 23.2. They are all either college/graduate students or recent graduates. Table 1 below summarizes their basic biographical background and their self-assessment of their own Mandarin/ Chinese in four language skills (listening, speaking, reading, and writing). All names are pseudonyms. The order was arranged alphabetically by their names. Their self-assessment levels ranges from native-like, advanced, intermediate, low and none, based on the NHLRC survey (Carreira & Kagan, 2011). The NHLRC survey reported that the “overwhelming majority of Mandarin and Cantonese HL [learners] rated their [Chinese] reading (84.1%) and writing skills (89%) in the range of low to intermediate. In sharp contrast to their literacy skills, they assessed their aural/oral skills mostly in the intermediate to advanced range (75.3% for listening and 65.8% for speaking)” (p. 52). My participants seem to be more confident in that four of them rated themselves as “native-like” in aural ability and one even rated herself as “native-like” in speaking. Their confidence in part reflected their true HL proficiency, as later exhibited in my language assessments.

Table 1: Basic information about participants

	Ann	Beth	Christine	Ed	Fred	Jack	John	Kate	Rhonda	Susan
Age	19	24	24	27	28	24	22	20	20	24
Birth place	San Jose, CA	Monterey Park, CA	Mountain View, CA	St. Louis MO	San Jose, CA	LA, CA	Orange County, CA	New Hampshire;	Monterey Park, CA	Roanoke, Virginia
Place growing up and their self-reported demographics of neighborhood	San Jose, CA (Asian-populated, mostly with Chinese, Taiwanese and Vietnamese)	Monterey Park, Arcadia, El Monte (Mexican-populated) and West Covina, CA (Caucasian-populated and then Chinese-populated)	Cupertino, CA (Caucasian-populated and then Chinese-populated)	St. Louis MO (Caucasian-populated) and San Diego, CA (Some Chinese)	Cupertino, CA (Taiwanese-populated)	LA, CA (Chinese-populated)	Bay area, CA (Chinese-populated)	Michigan (Caucasian-populated) and Thousand Oaks, CA (Chinese-populated)	Rosemead, CA (Vietnamese-populated)	Blacksburg, VA (Caucasian-populated), East Lansing, MI (Caucasian and African American populated), and San Jose, CA (Asian-populated)
Self-assessment on their own Mandarin/ Chinese in listening, speaking, reading and writing	Native-Like	Intermediate	Advanced	Low	Advanced	Native-Like	Native-Like	Intermediate	Native-Like	Advanced
	Intermediate-Advanced	Intermediate	Low - Intermediate	Low	Intermediate	Advanced	Advanced	Intermediate	Native-Like	Advanced
	Intermediate	Low	Low	None	Low	Intermediate	Intermediate	Low	Low	Intermediate
	Intermediate	Low	Low	None	Low	Low	Low	Low	Low	Low

Data Collection

Language assessments.

Technically speaking, my participants can be considered “test-takers” when taking the modified OPI and the reading test, and can be considered “informants” in the semi-structured interviews. For clarity and consistency, however, I will simply use the term “participants” to refer to my subjects. Below I will first introduce the ACTFL Guidelines on speaking, and then discuss my application and adaptation of it. Finally I will introduce the reading test used in this study.

ACTFL Guidelines on speaking (2012).

ACTFL Guidelines are widely used in language assessment. The content of the latest Guidelines (2012 version), including the speaking skills in question in this study, are available on the ACTFL website (<http://actflproficiencyguidelines2012.org/speaking>). I used these guidelines to rank the participants' proficiency on the modified OPI, which provides five major levels of proficiency: Distinguished, Superior, Advanced, Intermediate, and Novice. For Advanced, Intermediate, and Novice level, there are sublevels of High, Mid, and Low.

ACTFL OPI used with Mandarin HS.

One of the concerns raised by Valdés (1989) about the appropriateness of using ACTFL to test HS was that dialectal variations might result in lower ratings or negative treatment. With Mandarin, however, this is not a significant concern because Mandarin was promoted as the only standard language in Taiwan for almost four decades, from 1950 to 1987. Therefore, although the Chinese languages have many “dialect” varieties, Mandarin is the official language in Taiwan. People who have received a formal education in Taiwan know how to speak Mandarin. Since I, the assessor for this study, am also from Taiwan, the effect of under-evaluating regional accents (i.e., Taiwan Mandarin vs. mainland Mandarin) should be minimal (cf: see Wiley 2007 for a case study where a Chinese HS who spoke with a Taiwanese accent was often corrected in class).

“Modified OPI”: Questions asked and format.

The questions or prompts used in this study ([Appendix A](#)) were modified from Kagan and Friedman's paper on testing Russian heritage speakers (2004). I have added some higher

level questions to test for abstract concepts and formal academic registers in order to adapt this study to the presumed speaking abilities of my participants, most of whom attended Chinese community schools for a number of years. Since I, the person who conducted this “speaking test,” am not a certified ACTFL tester, and since the questions were not typical of an OPI in that they involved identity issues, I use the term “modified OPI” to refer to the “speaking test” I gave them. For clarity, I use “modified OPI” and “interview” to refer to the modified oral proficiency interview (simply put, a speaking test in the form of interview) and the in-depth semi-structured interview, respectively. There are 14 pre-written questions. Most of them were designed to elicit opinions. Three of the questions were role-playing tasks. I generally began by asking questions in Mandarin, but if I found that the participants could not understand, I paraphrased or translated the questions into English (these English questions were also pre-written). I asked the participants to take two minutes to answer each question, giving them a timer to keep track of their responses, though they were also free to finish their thoughts when their time was up. This modified OPI can therefore still be considered an untimed speaking test. The average time I spent with each participant was 40 minutes.

Reading section from a Chinese Language Arts Test for Third Graders.

For the Chinese reading ability, a citywide standardized test, *The 2010/2011 New Taipei City Chinese Language Arts Test for Third Graders* from Taiwan was used. It was first administered in a northern city in Taiwan in 2011 and the results and accompanying analyses are available online. Each test item has the passing rate/rate of correct answers, item difficulty, rate

for each distractor (incorrect option), and the rationale of the test design.¹¹ I chose the third-grade-level test for two reasons. First, two of the participants self-identified as reading Chinese at the third and fourth grade level, respectively. Second, the participant in this study with the most Chinese community school education spent roughly four hours at school, five days per week for eight years. This amount of in-class time is roughly equivalent to four years of regular schooling in Taiwan.

To date, there have been no reported studies that used tests that had been previously administered in the parents' home country. But by comparing the results from Taiwan posted online and the results of my participants, I was able to roughly determine whether my participants' reading ability in Chinese traditional characters had reached the third grade level. The original test contains 36 multiple choice questions, the last 16 of which specifically test reading comprehension. The first 20 test items include differentiating homophones or different words with similar sounds, choosing the most fluent sentences (without redundant usage), and using the correct punctuation. For the purposes of this study, however, I only used the last 16 reading comprehension questions. The reading test was untimed, and the time the participants spent ranged from 15 to 45 minutes. The first reading passage (out of four) and the four reading comprehension questions are listed in [Appendix B](#), where I have provided the original Chinese as well as the English translations.

¹¹ The test, the results, and accompanying analyses are available on the website of New Taipei City middle and elementary school subjects' tests (New Taipei City Education Research and Development Center, 2011). As no official English translations were found, I have translated the material myself.

Semi-structured interviews.

To answer Research Question #3, I used a semi-structured interview format, which is the type most often used in educational evaluation (Griffiee, 2005). In this type of interview, the questions “are predetermined, but the interviewer is free to ask for clarification” (p. 36). These semi-structured interviews were designed to investigate the participants’ (a) personal motivation, (b) parental attitude and efforts, (c) ethnic and cultural identity and attitudes, (d) time spent and experience in community-based Chinese schools, (e) parents’ English proficiency, and (f) Mandarin input and use. Participants were also asked to reflect on what other factors might have contributed to their current proficiency in Mandarin/Chinese. The interview questions are in [Appendix C](#). The interviews were conducted in Mandarin, English, or a mix of both, depending both on the questions themselves and the interviewee’s Mandarin speaking ability. The average interview time was also 40 minutes. I also asked some questions in the follow-up emails, which are also included in Appendix C.

Data Analysis

Language assessments.

I listened to the recorded answers of the modified OPI test and transcribed parts of the interviews. I then assigned each recording a holistic rating following the ACTFL Guidelines. I paid special attention to when participants calqued or code-switched (reverting to English), and carefully noted what Mandarin vocabulary the participants lacked. I found that when they talked about abstract concepts or needed to use academic terminology, they often inserted an English word or phrase.

For the Chinese reading comprehension test, I categorized the errors and, using the passing rate posted in the online report, tried to determine if participants made similar mistakes to those items that also prove difficult for native Mandarin speakers in Taiwan.

Semi-structured interviews: Qualitative analysis.

For the semi-structured interviews, I analyzed each participant's response to every question, highlighting the similarities and differences among their answers.

Methodological Limitations

There are three methodological limitations that I would like to acknowledge. The first one is that, due to the limited scope of the study, I used opportunity sampling and only selected ten participants. Secondly, my participant group is probably slightly skewed: these participants are likely unusually advanced in Mandarin/Chinese due to the way that I recruited them (personal networks and through Taiwanese students associations). I speculated that they would be highly connected to Taiwanese communities and have more opportunities to speak Mandarin than the average person of their demographic. Thus, this is not a representative sample and cannot be generalized across all U.S.-born Taiwanese. At the same time, this limitation is potentially beneficial since it has enabled me to gather more information on what factors contribute to these HS's relatively high proficiency in their HL. The third limitation is that I relied on the participants' own assessments of their parents' English proficiency as well as their self-reported language exposure and use which might not accurately reflect reality.

Results and Discussion

To answer my three research questions—how proficient are U.S.-born Taiwanese in speaking Mandarin and reading Chinese, and what factors contribute to such proficiency—I will proceed with three subsections: modified OPI, the reading test, and semi-structured interviews.

Modified OPI

Ratings of the modified OPI.

Table 2 below shows the results of the modified OPI as well as the reading test (which will be discussed in the following section). The order, from top to bottom, is based on the scores they received in the modified OPI.

Table 2: Results of reading and speaking tests

	Mandarin speaking (rated by ACTFL Speaking Guidelines)	Chinese reading (score on the reading test)
Fred	Superior	15/16
Jack	Superior	15/16
Susan	Intermediate-High/Advanced-Low	15/16
Beth	Intermediate-High/Advanced-Low	9/16
John	Intermediate High	13/16
Rhonda	Intermediate-Mid/Intermediate-High	5/16
Kate	Intermediate-Mid/Intermediate-High	5/16
Ann	Intermediate-Low/Intermediate-Mid	15/16
Christine	Novice-High/Intermediate-Low	Did not take

Ed	Novice-High/Intermediate-Low	Did not take
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Discussion of the modified OPI results.

How ACTFL Guidelines were applied and its difficulties.

Considering the ACTFL Guidelines, some abilities of a Distinguished speaker include the “use [of] persuasive and hypothetical discourse for representational purposes, allowing them to advocate a point of view that is not necessarily their own” and the use of “cultural and historical references to allow them to say less and mean more.” I gave Jack and Fred a rating of Superior,¹² but not “Distinguished,” for they are able to discuss, narrate, and explain various topics (including abstract topics such as academic matters, political stances, and identity issues) “all with ease, fluency, and accuracy” but not to the level of representational discourse and they also lacked “cultural and historical references.” The “use of code-switching” by Susan and Beth, which falls in the description of Intermediate High, lowered the ratings of their otherwise well-developed speaking abilities, making their ratings remain between Intermediate High and Advanced Low, but not higher.

Similarly, the frequent “use of code-switching” by John, Rhonda, and Kate also lowered my rating for them, and kept them from the Intermediate High category. John, Rhonda, and Kate have similar speaking styles in that they adopted “a reduction in breadth and appropriateness of vocabulary” when talking about academics, and frequently resorted to “code-switching” when

¹² In a small project, I used very similar prompts in a modified version of OPI to evaluate three people who emigrated from Taiwan to the U.S. at age 12 to 13, and who all now in their mid-twenties. I considered Jack and Fred’s speaking skills very similar to those three immigrants who had been schooled in Taiwan for five to six years with the exception or difference that those three immigrants sound like native speakers of Taiwanese Mandarin while Jack and Fred do not.

they did not know the Mandarin equivalents. Ann, on the other hand, talked with noticeable “pauses” and “hesitancy” but with correct grammar and structure, and without resorting to English. This has led to some question in deciding her rating. It is possible that, characteristically, she is a slow speaker, or she is not a risk-taker in a testing situation. Another possibility is that she had problems retrieving the necessary Mandarin words or phrases she needed to express herself. One common phenomenon I would like to point out is many of the participants’ (excluding Jack and Fred) apparently used Westernized Mandarin, which can also be characterized by the frequent use of calques. Even though the use of literal translations is generally attributed to the Advanced Low and Intermediate High levels (where I placed Susan and Beth), I decided not to lift the rating of the others as such because of other linguistic features they exhibited which are described in lower ACTFL levels.¹³

In addition to the challenges in my assessing Ann’s Mandarin speaking proficiency because of the combination of her hesitancy and correct usage, two other challenges presented themselves. Similar to Ilieva’s (2012) findings regarding Hindi HS, “the combination of fluency with the inability to discuss abstract topics” (p. 24) and the practices of code-mixing (cf: code-switching which she defines as “extensive use of English to construct whole clauses or

¹³ Though I did not consider phonology as one of the rubrics, I want to mention that all of the participants speak Mandarin with an “accent.” By “accent,” I mean native speakers of Mandarin, at least Taiwanese Mandarin, would be able to immediately “judge” that they are not “from Taiwan” or “born and raised in Taiwan.” Jack, Fred, and Ann reported that they have been mistaken by Taiwanese people to be “from China,” while Beth reported herself to be mistakenly thought of as ethnic Chinese from Japan, Korea, Hong Kong or Singapore by people from China and Taiwan. Fred explained that this might due to the fact that he stayed near an airport when he lived in Taiwan, and so Taiwanese people assumed he was a tourist from China. One of my explanations as to why the participants were mistaken as people from China is that they have a “heritage accent,” which means that they speak in a way that is approximate to Taiwanese Mandarin (compared to a language learner who learns Taiwanese Mandarin as a second or foreign language) but not exactly like native speakers of Taiwanese Mandarin. Another possibility is that they actually speak with a foreign accent, but because they look like Chinese and/or Taiwanese, Taiwanese people “guess” that they are from a different location where Mandarin is spoken.

sentences,” p. 25) and resorting to English are in fact common even among educated native speakers living in home countries (p. 26). Thus, in both Ilieva’s and in this study, the lowering of the HS’s rating simply because participants resorted to English, especially when they were asked to talk about academic topics, may be problematic. More detailed descriptions of each participant’s speaking ability are provided in [Appendix D](#).

Discussion of results from modified OPI.

As Kagan and Friedman (2004) have demonstrated, Russian HS who received up to four years of schooling in Russian-speaking countries tend to fall into a range between the Intermediate and Advanced levels on the ACTFL scale. Consistent with this finding, eight of the ten participants were rated as either Intermediate or Advanced (with various sublevels). Two out of eight participants were in fact rated as Novice High to Intermediate Low and another two participants Superior. It seems unlikely that people would be classified at the Distinguished level unless they are educated in the country where the target language is spoken, at least for some years.

Further description on the actual challenges HS faced in modified OPI.

Next I discuss some the difficulties or challenges that the participants encountered during the modified OPI in this study. Their aural skills were decidedly more advanced than their speaking skills because many of them could understand what I asked but had a hard time repeating the phrases themselves when answering. For example, Susan understood what a “public school” (in Mandarin) meant, but could not retrieve this word when she answered my question.

Judging from the participants' performance as well as their comments regarding their own answers, the tasks most difficult to perform were: asking professors for recommendation letters, describing academic concepts, persuading someone with a different political preference, and talking about identity issues. For example, many participants did not understand the Mandarin phrases "recommendation letters" and "identity" in my questions. The latter was the only word Jack did not know throughout the course of the conversations, and he directly asked for the meaning of the word rather than attempt to check the meaning by paraphrasing. Only Fred successfully paraphrased my question by asking if by "identity" I meant "people have to choose to be Taiwanese or Americans?" This is similar to Ilieva's (2012) description of Hindi HS's performance during OPIs: HS often asked "a yes/no question to double check their own comprehension of a remark made or question posed by the interviewer, frequently based on a guess or inference (...ke baare meN puuch rahe haiN? 'you are asking about...?'), which is typical of native speakers' meaning negotiating strategies" (p. 27).

In answering my questions, many participants expressed that asking for recommendation letters is difficult to do even in English, adding that they would have to think beforehand about how to "approach the professors." At the same time, they felt that they would perform better if they could ask this favor in English. Ann and Rhonda, who did not have any experience in asking for recommendation letters, basically did not perform the task. Life experience also influenced Ed's performance: compared to his other responses, he performed relatively well in the task of asking for a return or refund in Mandarin. He explained he could do that because he often heard his mother doing so with Mandarin-speaking clerks in the U.S. This finding is similar to Montrul's (2010) observation that "the acquisition of vocabulary is context specific

and depends largely on experience. Heritage language speakers know many words in their heritage language, but most often these are words related to common objects used in the home and childhood vocabulary” (p. 6).

As the questioning progressed, the participants with lower levels of Mandarin skills started to use English with increasing frequency. For example, Jack and Fred were able to talk about some academic and professional concepts in Mandarin, and they attributed this to their having internships in Taiwan and even in the U.S.¹⁴ Christine and Ed answered the question on academic concepts and identity issues almost exclusively in English. Christine explained that because she majored in literature, which fewer Mandarin-speakers major in (especially when compared to engineering),¹⁵ she never learned how to describe her academic project in Mandarin. Engineering-related majors simply have more opportunities to discuss academics with Mandarin-speaking peers.

Talking about politics also proved difficult for most of the participants. Some participants replied that they are not interested in politics in the first place. Almost everyone code-switched to English in their answers, using words like “policy,” “abortion,” “feminist,” “middle class,” “Republican,” and “Democrat.” Only Jack successfully said “Democrat” in Mandarin.

¹⁴ Fred explained that because there are many Mandarin-speakers in his field (engineering) who work in the U.S., sometimes the entire group in the work setting is composed of Mandarin speakers. Those people sometimes use Mandarin to communicate, and even write official documents in Chinese.

¹⁵ According to Institute of International Education (2012), among the field of study by Taiwanese international students, engineering alone (not including the 6.2 % majoring in math/ computer science) accounts for 17.0 % of majors, while humanities only accounts for 2.4 % of majors. Students from China exhibit similar patterns: 19.6 % of international students from China majors in engineering, another 11.2% in math/ computer science, and only 1.3 % majors in humanities.

The Reading Test

Scores of the reading test.

As for reading, only five out of eight participants who took the reading test—Jack, Fred, Ann, Susan and John—scored higher than 75 % in the reading comprehension section originally designed for third graders in Taiwan. Beth scored 9 out of 16, and both Rhonda and Kate scored 5 out of 16. Neither Christine nor Ed took the reading test due to their lack of literacy; Christine reported that she probably only knows thirty Chinese characters while Ed simply reported that he could not read at all. My participants did not necessarily perform better on the “easier” questions than on the harder ones. (By “easier” I mean those questions with objectively higher passing rates for native third graders in Taiwan). I speculate that this outcome might be due to the fact that only eight of my participants took this reading test. Furthermore, Rhonda and Kate admitted that they were “guessing” most of the time. Note that though Ann, Fred, Jack, Susan all scored 15 out of 16, Ann spent significantly less time completing the test (15 minutes), while Susan took almost 45 minutes. Taking her reading speed into consideration, Ann’s reading ability is potentially higher than other participants who made equivalent scores. More detailed descriptions of their reading results, consisting of all the answers the participants wrote down as well as the passing rates of each question, are documented in [Appendix E](#).

Discussion: An uneven profile.

In this study, the reading and speaking results tend to correspond to one another: participants who performed better on reading tests tended to perform better on speaking tests as well. One notable exception was Ann. In comparison with the other participants, Ann’s

proficiency in reading is higher, though it is lower in speaking. Beth, Rhonda and Kate all have relatively well-developed speaking skills, but relatively low reading skills. The uneven linguistic profile of typical HS (good aural and oral skills but low or no literacy skills) is even more salient for Chinese HS since the Chinese writing system is non-alphabetic and very different from their dominant language, i.e., English. Li's study (as cited in Xiao, 2008) revealed that many HS "were struggling with reading and writing in Chinese, although they were fluent in the oral language" (p. 152). Jia (2008) found that reading and writing skills diminished to a greater extent than speaking skills among both U.S.-born Chinese and recent Chinese immigrants whose age of arrival ranged from 4 to 20. Illustrating this point, Ann wrote: "my writing isn't as good as it used to be."

Considering this problem of attrition in reading skills, I explicitly asked what kind of written input the participants had recently been exposed to. I will address their reading proficiency later during the discussions of personal motivation, time and experience in community-based Chinese school, and Mandarin/ Chinese input and use. I consider parental attitudes and efforts a less relevant factor and will only discuss it briefly.

Semi-structured Interviews

To answer my third research question regarding which factors contributed to the participants' proficiency in Mandarin/Chinese, the information gathered from the semi-structured interviews will be reported, analyzed, and discussed in this section.

Personal motivation.

In terms of their personal motivations to learn their HL, being able to communicate with parents was the most commonly cited. Only Fred and John did not cite this view, emphasizing instead the importance of Mandarin-speaking friends. Both of Fred and John explicitly said that they have more friends from Taiwan (since both of them are still students, they are mostly referring to Taiwanese international students) than U.S.-born Taiwanese, which John thought very atypical. Jack also reported that his best friends were mostly Taiwanese, and that they speak in Mandarin. Christine, on the other hand, explicitly mentioned her lack of such a peer group, and recalled that when she was exposed to (written) Chinese in Chinese school, her lack of Mandarin-speaking peer group meant that she did not have the “context” to use Mandarin and be interested. Susan also mentioned that she wants to communicate in Mandarin so as to make more friends. The influence of a peer group was also evident in the subsequent semi-structured interviews with Ann and Beth. These findings accord with Luo and Wiseman’s study (2000), which suggests that children’s Chinese proficiency, frequency of using Chinese, and children’s attitudes towards HL maintenance are all positively correlated with Chinese-speaking peer influence and negatively correlated with English-speaking peer influence.

Beth cited communication with her parents as her main motivation, adding that her mother in particular has been a big incentive. Ed also mentioned his parents and mother in particular “because my dad’s English is quite good”, and he added “not friends or anything [else]” was important. Kate also mentioned her parents, and particularly her mother. Christine also considers talking with her parents the main motivating factor, though she also noted that she later became more self-motivated. She explained that since she is the “first generation born” in

the U.S. and her parents did not discourage her from learning Chinese, she would like to “try again” to relearn the language after graduation. Note that Beth, Ed, and Kate all mentioned that their mothers had more influence than their fathers regarding their HL. This might be due to the fact that all of them rated their father’s English proficiency (in general) as slightly higher than their mothers, but another explanation could be that, because mothers are usually the main caretakers (whether they work or not), they spend more time with their children, though the topics of conversation may be limited to domestic subjects. This finding is consistent with literature that states that the cohesiveness between mother and child significantly influences children’s proficiency, use of, and attitudes toward the Chinese language (Luo & Wiseman, 2000).

Judging from the above participants, it seems that talking to parents alone does not provide enough incentive for them to acquire high levels of Mandarin proficiency. Christine and Ed do not speak Mandarin very well, where Kate remains an Intermediate speaker and Beth Intermediate High to Advanced Low. In contrast, Ann, Jack, and Susan, who have higher proficiency in their HL, were able to provide multiple reasons, including parents. Each of them reported various reasons, and, importantly, included their appreciation of Chinese/Taiwanese cultures as only one of their motivations.

Like Christine, other participants also reported a change from external motivation to self-motivation. Jack and Ann mentioned parents in combination with the parental efforts of sending them to Chinese school. Jack made explicit that he appreciated his parents’ decision, considered Chinese school as important as American school, and added that his Mandarin/ Chinese ability and his life in general would be very different without Chinese school. He expressed an

attitudinal change in that he has become increasingly interested in Chinese/Taiwanese culture and dating Taiwanese girls after his relatively recent visits to Taiwan. Ann also reported that, after initial reluctance, she enjoyed her experience in Chinese school, and said that she grew up with her classmates as a close-knit group. Ann added that she was hesitant about being signed up (by her teacher in Chinese school) for contests of Chinese cultural knowledge, but later found learning Chinese history and culture interesting, and became self-motivated.

Susan also detailed her changing attitudes. Though her motivation for learning Mandarin initially came from her parents, over time she has become self-motivated. During college, she realized how important Chinese is to her, and has come to appreciate Chinese/Taiwanese culture and literature. She added that she hopes to one day read the literature herself. Rhonda, on the other hand, reported not paying attention in her Chinese school and still thinks going to Chinese school is a waste of time. Though she noted her increased interest in Mandarin pop songs written with Chinese lyrics, and knows that learning Mandarin is important, she is still not that interested in learning.

The fact that the majority of these participants' attitudes have "change[d] over time" means that it is important to "study L2 [second language] motivation longitudinally" (Ortega, 2009, p. 184). In addition, even though many of the participants expressed their desire to improve their HL proficiency, not everyone makes the actual effort. "Motivated behavior" (Ortega, p. 185, when discussing L2 motivation) should also be studied along with motivation in general.

Susan also reflected in English on why she thinks she must be able to speak and read in Mandarin/ Chinese, citing “a sense of duty...I don’t want to be a banana.”¹⁶ Similarly, Fred used the Mandarin word “ashamed” to describe his emotions when, in attempting to send a package in Taiwan, he could not recall how to write the character for “send.” Both Christine and Ed, who have lower Mandarin speaking proficiencies and limited reading skills, used the English word “embarrassing” to describe their Mandarin ability. Ed said it is “embarrassing” because people assume he can read Chinese when he cannot. Even more embarrassing for him is the fact that his Caucasian girlfriend, an archeologist working in China, learned Chinese in college and can, in his opinion, speak better Mandarin than he does. She can also read a menu while he cannot. Christine also used the word “embarrassing” to describe the fact that her Spanish is better than her Mandarin, though she doesn’t have any Hispanic heritage.

Few of the participants, with the exception of Susan, Jack, and Rhonda, brought up instrumental motivation or “envisaged benefits and rewards” (He, 2006, p. 19). As an actress, Susan hopes she can get some acting opportunities in Chinese, and she used the word “asset” to describe linguistic knowledge. Though not in specific response to this question, Jack, as a dermatologist, hoped he might start his career in mainland China or Taiwan. Similarly, as the semi-structured interview proceeded, Rhonda also remarked that the ability to speak Mandarin is a good skill since China’s economy is increasingly important in the world. I speculate that these few responses that take into consideration the possible instrumentality of Mandarin may be due to the fact that most of the research data on HS’s motivations was collected from college students

¹⁶ Two complementary explanations of “Banana” are available from two online sources: Urban Dictionary (Troy) and Wiktionary. Banana connotes “An [A]sian person who acts like they are white. Yellow on the outside, white on the inside.” The other explanation is a “mildly pejorative, slang, ethnic slur,” connoting a “person of Asian descent, especially a Chinese American, who has assimilated into Western culture or married a Caucasian (from the ‘yellow’ outside and ‘white’ inside). Compare coconut (‘assimilated Hispanic or Black’).”

taking HL classes (which are credit-bearing or could be used to fulfill a language requirement). Instrumental motivation might play a less important role for those HS who simply maintain their HL without taking Chinese classes at colleges, like most of the participants in this study.

Gaining literacy skills was not directly cited as a main motivation by any of the participants. I nevertheless discuss below some of their activities involving literacy since I consider some of them to be self-motivated activities. A relevant study by Tse (2001b) reveals that rich literacy experiences and access to printed material at home as well as within the ethnic community and within schools can help develop heritage literacy. Other factors that may influence literacy include: the important roles of more literate people in their lives as guiding models, religious institutions as places providing and using printed material in the HL, “light” reading (e.g. comic books, p. 265) as leisure activities, and HS’s roles as language brokers. In this study, reading comic books was mentioned by John. Singing karaoke was mentioned by Beth, who used to go with her Mandarin-speaking peers, as well as Jack and John, who both explicitly mentioned their love for it. All of them believe that these experiences helped with their Chinese literacy skills. Ann, John, Susan, and Jack also reported reading subtitles while watching drama or movies produced in mainland China or Taiwan (though Jack added that he usually just listened).

In addition, the Internet is considered as a main contributor to HL literacy in many immigrant languages. Lee (2006) studied two Korean American college students who voluntarily maintained Korean weblogs as a way to stay connected to their Korean or Korean-American friends. These students improved their Korean proficiency at the same time. A similar study by Yi (2008) looks at how Korean HS maintain voluntary writing with two Korean Americans and

found that the three main functions of HL writing are “(1) socializing with ethnic peer groups, (2) pursuing personal interests, and (3) maintaining ties to the home country” (p. 85). Yi writes that “previous research on Korean immigrants showed that communicating with family members and members of the heritage community in the U.S. is a major motivating factor in HL learning” (p. 87). Similarly, both Kate and Susan reported that one of their written inputs comes from status updates from Facebook’s friends or relatives. Susan reported that, on Facebook, she typed in Chinese to respond her extended family members in Taiwan (e.g., her cousin) whose English is not very advanced. Ann also reported receiving e-mails from her mother written in Chinese.

To sum up, consistent with the literature that parents and peer group are the main motivating factors for children of immigrants to learn their HL. Yet according to the participants, it also seems that that the desire to talk to parents alone (e.g., Christine, Ed, and Kate) did not suffice for HS to achieve high proficiency, at least not beyond the level of basic, conversational spoken Mandarin in the context of the home. Participants whose motivations were either multiple or having a Mandarin-speaking peer group were more likely to have achieved a higher level of proficiency than those motivated by just the desire to speak with their parents.

Parental attitudes and efforts.

Studies have proven that declared parental attitudes and actual behaviors may not necessarily match. For example, Yu (2010) recorded 60 minutes of conversation each month for one calendar year in eight Chinese immigrant families to New Zealand. The study found that that parents’ stated beliefs regarding language maintenance (revealed by a home language use questionnaire) did not reflect their actual behavior. To investigate this possible discrepancy, I asked the participants about both their parents’ stated attitudes and actual efforts.

All of the participants reported that they believed that their parents hoped they would be able to speak Mandarin, though the degree of emphasis which they placed on this hope and their efforts to make it so varied. Christine and Ed reported a gradual attitude change in their parents. For her part, Christine said that her parents certainly hoped that she would have learned Mandarin better, but since her parents know she does not speak Mandarin well, they have “ma[d]e peace with it.” Christine’s parents are now more worried about her Chinese/Taiwanese cultural maintenance rather than about her linguistic proficiency. Ed also shared that his parents cared more about him and his brother learning Chinese when they were younger and then they “stopped.” Gradual changes in parents’ attitudes were also observed by Park et al. (2012) who wrote, “children’s earlier HL proficiency predicted subsequent parental behavior; parents whose children had limited HL proficiency decreased their use of HL support later” (p. 226). Pan (1995) audiotaped parent-child dyads in Mandarin-speaking families in the U.S. and reports that children’s “codeswitches to English were quite successful in triggering code compliance from their parents” as a result of “the natural tendency of parents to accommodate their speech to their younger, less competent interlocutors” (p. 326). This probably was also the case with both Christine and Ed.

Below I present participants’ parents’ practices in terms of (1) the use of Chinese as the home language, (2) becoming HL teachers, and (3) sending their children to Chinese schools. These practices are derived from Zhang and Slaughter-Defoe’s (2009) list regarding how parents attempt to help their children maintain their HL.

First, the decision of some parents to purposefully speak Mandarin at home is directly related to language practice in the proposed factor “Mandarin input and exposure” (discussed

later). Most of the participants reported that their parents addressed them in Mandarin. Beth reported that her parents were too busy to actively teach her Mandarin/ Chinese, other than speaking to her in Mandarin, “pretending they [didn’t] speak English.” She also mentioned, however, that although her mother spoke to her in Mandarin, they were usually very simple conversations. She added that she felt that her Mandarin speaking could be more “formal” if her mother had talked to her “more,” which I interpreted to mean not simply in terms of quantity but in terms of more varied and sophisticated topics. She mentioned that her best friend, who is also a U.S.-born Taiwanese, developed better proficiency because her parents spent more time with her. This echoes Jeon’s report (2008) that many Korean parents did not spend enough time talking with their children. Jeon cited Min’s 1995 study to support the observation that 64 % of the Korean middle school students in New York City reported that their parents were not at home with them after school.

Ed reported that his father mostly spoke to him in English, so he naturally responds to his father in English. His mother, on the other hand, insists on speaking to him in Mandarin, and so Ed naturally responds to her in Mandarin. His mother’s language choice possibly results from her relatively low English speaking skills, which I will later discuss in the section on “parents’ English proficiency.” Kate reported that her parents would be satisfied if she had functional competency in Mandarin. She shared that her mother once tried a “Chinese only” policy at home (requiring Kate’s father, who was in the habit of speaking mostly English to Kate, to only speak Mandarin) but it only lasted for a couple of weeks. When recalling her early language input, Christine reported that her parents did not insist on speaking Mandarin to her.

The second practice was that some parents became HL teachers themselves. Ann's and Rhonda's mothers, for example, are teachers in Chinese schools. Both participants cited this fact as likely the main reason why they attended Chinese schools where their mothers had taught (this will also be discussed in the factor "time spent and experience in community-based Chinese schools"). Interestingly, in response to my asking what efforts her parents had made to help her learn the language, Beth remarked that "they are not teachers."

Christine recalled that her father used to teach her Chinese calligraphy (with a real "ink brush") so that she might get more interested in "painting" Chinese characters. Ed reported that his father once tried to teach Ed and his brother how to read on weekends, but they gave up because it did not work out well (Ed's father was busy and sometimes forgot what he planned to do, and Ed got bored repeatedly writing the same characters). Both Christine and Ed recalled being reluctant to write the same Chinese characters over a hundred times because, in their perception, it was merely a copying activity and not contextually meaningful.

Kate and Christine reported that, in the hope that they would improve their Chinese, their mothers bought a series of Chinese books with Mandarin Phonetic Symbols (the spelling systems used in Taiwan, as opposed to Pinyin used in mainland China) to help them read. They both recalled being read to from children's books in Mandarin as children. Though Xiao (2008) revealed that the home literacy environment and HL development are substantially correlated, it seems that Christine and Kate's early experiences in being read to were not sufficient to improve their later literacy skills. And both Christine and Ed attributed their lack of motivation to not seeing Chinese characters in authentic, real world contexts. In Christine's case, she only saw them on Friday nights in the classroom where she attended Chinese school, and in Ed's case, he

only saw them at home on weekends, when his father would try to teach him. In line with these findings, Lao (2004) states that “Chinese literacy could be further developed if children found their literacy experiences meaningful and validating” (p. 115).

The third practice of sending children to Chinese schools is related to the factor time spent and experience in community-based Chinese schools. The participants’ parents’ positive attitudes toward HL learning, at least when the participants were young children, were at least in part manifested by their sending their children to Chinese language schools. This is a very common practice: even Ed reported that his parents intended to send him to a Chinese school though the plan was never realized. In this section, I will focus on parents’ attitudes and efforts rather than the simple matter of how long their children attended Chinese schools.

Susan reported that her parents tried to send her to a distant Chinese school. Ann reported that her mother was a teacher back in Taiwan and has been a Chinese teacher in the U.S., so it was natural for Ann to attend those Chinese schools where her mother taught. Fred shared that he was not a very good student in his Chinese school, but that his mom really pushed, even going so far as to volunteering in the school herself. Fred jokingly said that his mother helped him “cheat,” because, when she volunteered in the classroom, she would point out to him when he had made mistakes during in-class quizzes. “She’s afraid of losing face,” Fred explained. His mother also encouraged him to make Taiwanese friends since he was a child. Yet during the subsequent e-mail follow up, he wrote that he didn’t think his parents taught him “that much.” Jack mentioned that his parents were very supportive when he was selected to attend some Chinese speech contests.

Parents' efforts can also be investigated through the lens of "investment" originated by Norton Pierce (1995; Norton 2000) in second language identity. It is parents who initially decide how much effort to devote to helping their children become bilingual or even biliterate, especially when the children are young. Osipova and Bailey (2013) have redefined and broadened the concept of investment "as both an extended metaphor for the emotional and future-oriented commitment to multilingualism by families and literally as a financial cost to implementing and sustaining multilingualism" (p. 9). They have argued that attempts to maintain multilingualism are "multi-year (possibly life-long), often multi-generational commitments that include making financial, psychological, sociological, and educational investments" (p. 5). It is not only children as language learners themselves but also their families who are investing in the children's HL development.

In sum, parental attitudes and efforts did not seem to have a great impact on children's Mandarin/ Chinese proficiency. Or if it had, it ceased to play an important role as participants grew older (e.g., Ed's father stopped teaching him how to read not long after the attempt, and Kate's mother gave up the "Chinese only" policy after only a few weeks). As concluded in the previous factor about motivation, the desire to talk to parents alone probably does not motivate HS to reach a level beyond the basic, conversational Mandarin spoken in the context of the home. Parents themselves might not know (or they forgot) how to discuss some technical or academic topics in Mandarin, let alone how to teach their children to "use persuasive and hypothetical discourse for representational purposes" (description of Distinguished level, ACTFL Proficiency Guidelines 2012—Speaking). In terms of reading, parental support is likely insufficient without the requisite peer and institutional support that Tse (2001a) argued to be necessary for

developing high levels of biliteracy. As Tse concludes, “Access to HL literacy environments and guidance from more literate adults and peers allowed [HS] to observe the use of HL literacy in meaningful and socially important ways” (p. 676).

Ethnic and cultural identity and attitudes.

Table 3 below is a summary of the participants’ declared identities, as well as their subsequent elaboration on their answers. The descending order is, once again, based on the ratings I assigned to the participants’ modified OPI results.

Table 3: Participants’ identities, actual answers and opinions about language and identity

	Mandarin speaking (rated by ACTFL Speaking Guidelines)	First declared Identity	Elaboration on their actual responses	Their opinions about the relationship between language and identity
Fred	Superior	“ABC ^a ” and “ABT”	Chinese to people asking about ethnicity or people unlikely to know the differences between Chinese and Taiwanese	“Yup, gotta speak Mandarin to be Taiwanese”
Jack	Superior	Taiwanese	Did not like the connotation associated with the term “ABC” (e.g., an affluent nightclub-goer seeking a relationship). Since he speaks Mandarin well, he prefers to just act as a regular Taiwanese guy. Later during the semi-structured interview, said he embraces both American and Taiwanese cultures.	“two different things” but says it is difficult to identify with a culture if one cannot speak that language, though also recognizes that speaking a language does not automatically makes one identify with that culture
Susan	Intermediate-High/Advanced Low	Taiwanese American	Became aware that Asian-American is a type; sometimes she says Chinese American to avoid potential conflict.	Yes, considers understanding the language, culture, the history, and the cuisine all part of being Taiwanese

Beth	Intermediate-High/Advanced-Low	American	Chinese American or Asian-American in the US; American in Asia.	Not a must, but thinks “it’s sad and almost disrespectful” that some do not want to embrace their heritage. She considers language a way to communicate and discover more about a culture.
John	Intermediate-High	Taiwanese American	“ABC” in Taiwan, which he considered equivalent to Taiwanese American	No, “they just need to like the culture and partake in it.”
Rhonda	Intermediate-Mid/Intermediate High	Chinese	Said Chinese to avoid potential conflict. Said Taiwanese if asked by Taiwanese people.	No, because people of other races can be Mandarin speakers too, but also thinks “cultural identity is something inherited through birth and you don’t have to speak the language to be part of it.”
Kate	Intermediate-Mid/Intermediate-High	Taiwanese American	No differences in who is asking this question.	Important, but also included culture and food.
Ann	Intermediate-Low/Intermediate Mid	Chinese	American in Asia.	No, “though that would be a plus.”
Christine	Novice-High/Intermediate-Low	American	When getting “a follow-up question,” (she feels that people are asking “where are you <i>really</i> from?” and this question includes her parents or ancestors), she would answer Taiwanese American (used to say Chinese American) or “My parents are from Taiwan.” No differences in who is asking this question.	Thinks “the ability to speak/read/write the language contributes to greater affinity for the culture and subsequent identity. However, it is also heavily influenced by context. “I feel more American/more of an outsider when I am in Taiwan or when I am in a group of Asians (even Asian Americans).”
Ed	Novice-High/Intermediate-Low	(Did not give a direct answer but attached every subsequent answers with a context)	Checked “Chinese,” “Chinese American,” sometimes “Others” and then wrote “Taiwanese” in ethnicity column. Identifies himself more as American than Chinese American. Said “My	“two separate things” and “language is only a way to communicate”

			<p>parents came from Taiwan” or “I have a Taiwanese heritage” to American asking. Said Chinese to Chinese people asking. Taiwanese to Taiwanese people asking (grandparents “proud” of being Taiwanese and he also feels it is more accurate). Said “If I cared more I would give like the same answer to all three people [Americans, Chinese and Taiwanese]”</p>	
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Note. ^aThe term “ABC” is the acronym of “American-born-Chinese”; it is a very common term to describe U.S.-born Chinese/Taiwanese among Chinese speakers.

Now I will discuss the participants’ first declared identities and how they typically respond when other people inquire about their identities.

In the U.S., the majority of immigrants choose to use compounded (or perhaps hyphenated) identities, consisting of ethnicity/parents’ home country and their own national identity, for example “Chinese American” or “Taiwanese American.”¹⁷ This choice was made by Christine, John, Kate and Susan. Ann and Rhonda, on the other hand, said they are simply “Chinese” in the U.S. Rhonda generally introduced herself as Chinese but will say “I am also Taiwanese!” when meeting people from Taiwan.

A racial identity was also expressed by Beth. Though she initially self-identified as “American,” in response to my question regarding how she generally responded when people inquired about her identity, she added that (Caucasian) Americans still see a Asian-looking person as an Asian or Chinese or “some kind of Asian” even if one is born and raised in the U.S.

¹⁷ Note that from a social psychology perspective, Phinney et al. (2001) concluded that “the combination of a strong ethnic identity and a strong national identity promotes the best adaptation” (p. 493).

Thus, she generally identifies herself as “Asian-American” or “Chinese American.” She also wrote “I think that I feel sorry for Asians who can’t speak their own language.” Similarly, before giving her multiple self-identifications, Susan also mentioned that she is aware that “Asian-American” is a “type.” What seems counterintuitive is that she only became aware that she was racially and ethnically different after she moved to San Jose where there is a large Asian population. (She reported just looking around her childhood neighborhood and seeing mainly Caucasian and African-Americans. Back then she did not realize the differences.) Christine also reported that her mother was seen as “an Asian,” at best or more accurately as Chinese in her workplace, and that her mother’s coworkers could not be bothered to learn “why Taiwanese is not Chinese.”

Regarding Tse’s ethnic identity formation model (2001a), since I did not ask the participants to recall how they identified themselves in the past, I can only provide some possible applications from some of their voluntarily recollected memories. Susan’s experience before moving to an Asian-populated area (as reported in the preceding paragraph) can possibly be seen as Tse’s stage one of “ethnic unawareness,” since Susan was “unaware of differential status between the heritage language and the dominant language and the consequences of being a speaker of each” (p. 694). In response to a later interview question about how much they had been exposed to and were actively using Mandarin, Kate’s reports on her “hating” Chinese and barely using any Mandarin from age 6 to 18, though subsequently she estimated the percentages at 25% and 10% respectively. Kate’s attitude reveals that she might have experienced Tse’s stage two, “ethnic ambivalence/ evasion,” during which she felt “ambivalent or negatively about knowing and using the HL” as a teenager (p. 694). The fact that Rhonda took Chinese classes in

high school, and that Susan and Beth both took college-level Chinese while Ann took a Chinese civilization course in college fits well as examples of Tse's stage three "ethnic emergence," during which HS start to "explore minority identity and, for some, developing interest in the heritage language to gain a better understanding of and/or to gain membership into HL groups" (p. 694). Their decisions to take classes might also be confounded with getting credits and/or fulfilling language requirements. (Table 4 also provided a summary of their taking Chinese classes in the U.S.).

Of particular interest to people with Taiwanese heritage is that it remains uncertain whether or not U.S.-born Taiwanese hold strong views regarding the necessity to differentiate themselves from U.S.-born Chinese. It seems that the sheer number of Chinese immigrants makes U.S.-born Taiwanese "sometimes" identify themselves as Chinese or U.S.-born Chinese, either willingly or unwillingly.¹⁸ Christine recalled that, as a child, she used to say "Chinese American." In her perception, more recently people have become more sensitive to the issue of "political identity," and have begun to ask if she is Taiwanese American or Chinese American. Accordingly, she started identify herself as "Taiwanese American." This is markedly different from Fred's experience in that, in his own report, not many people know about the differences between Taiwan and mainland China. Thus he often simply answers "Chinese" as a response. The adoption of fluid identities with the intention of avoiding potential conflicts due to different

¹⁸ It might help to see how contemporary Taiwanese people in the island identify themselves in relation to Chinese at this point. The percentages of Taiwanese residents who consider themselves "Taiwanese," "Chinese," or "Taiwanese and Chinese" vary from survey to survey, but since 2008, generally more than half identify themselves as "Taiwanese," followed by "Taiwanese and Chinese," and lastly, "Chinese" (tracked in surveys conducted from 1992 to 2012, as cited in National Chengchi University, 2012). Li (2003) reported that "the bases of Chinese identification are mainly cultural and have a historical connection with China, while the basis of Taiwanese identification is mainly the sharing of life space in the Taiwanese district from which the people have acquired a kind of primordial attachment, regardless of their ethnic identity" (p. 229).

political stances was explicitly expressed by Susan and Rhonda, who often answered that they are Chinese when people from mainland China pose the questions. Note that though Ed has never been to Taiwan or China, he still identified himself as “Chinese American,” “Chinese,” or occasionally “Taiwanese.” As Anderson (2006) notes, this is probably because “in the minds of each lives the image of their communion” (p. 6).

Many of the participants’ fluid answers appeared to “satisfy” people who raised such questions, echoing the concept that identities are socially constructed rather than self-determined. Their adoptions of fluid identities are consistent with Val & Vinogradova’s argument (2010) that HS “engage in the process of constant becoming and negotiation of their *fluid and multilayered* [emphasis added] heritage language identities” (p. 7). Ann and Beth’s tactic of identifying themselves as “Chinese” in the U.S., but “American” in Asia (Beth reported she would make it explicit that she is “American” when people in China or Taiwan assumed that she “came back home”) is similar to the finding in Wong and Xiao’s study (2010) with Chinese heritage learners with a dialect background. Yet Ed’s own interpretation of his fluid identities (he provided multiple different answers) was that they were a result of his own “not car[ing] enough,” which reflects a more traditional concept of a fixed and static identity. Christine and Kate, who both gave consistent answers to different people, also demonstrated this more static conception of identity.

Closely related to racial and ethnic identities is an interesting finding regarding their preference in marriage partners that might play a role in their intention of passing on their HL to their children. Their stated preference seems to be influenced by how HS identified themselves and even by their own proficiency in the HL. As Jan (2011) writes, “ethnic language retention

increases endogamy and decreases exogamy” (abstract). Among all the predictors, the influence of the HL was most prominent and “almost comprehensive” among Chinese marriage patterns in the U.S. as well as other East Asians in the study. Jack and Fred, who remain highly proficient both in reading Chinese and speaking Mandarin, explicitly said that they would prefer to marry people from Taiwan instead of U.S.-born Taiwanese or ethnic Chinese. Jack half-jokingly said that if his future wife is a U.S.-born Taiwanese, she would probably speak worse Mandarin than he does, and that would make it even more difficult for him to pass on Mandarin to his children. He later remarked that he thinks that he cares more about Chinese language and culture than ethnicity per se.

John and Susan are both dating people from Hong Kong and they use English to communicate with one another. John hopes that his Cantonese-speaking girlfriend can teach their children Cantonese while he would teach them Mandarin. Susan’s boyfriend does not speak much Cantonese (and no Mandarin), so she worries that her children would no longer speak Mandarin. Ann would prefer to marry a Mandarin speaker or an ethnic Chinese, while Beth would prefer to marry a Mandarin speaker or at least someone who would appreciate and respect her home culture.

Kate, Ed, and Christine are currently dating Caucasians. It so happens that Ed and Christine have lower proficiency in Mandarin and, when I inquired about their identities, explicitly said they identified themselves more with “American” than “Taiwanese” [in my interpretation, American culture]. But since Kate’s boyfriend is actually learning some Mandarin and Ed’s girlfriend speaks better Mandarin than Ed, they both expressed the hope that their children might be able to speak Mandarin as well. Christine shared that because both her

boyfriend (whose mother is from France) and she regret not being able to speak their parents' mother tongues, they would want to try really hard to make their children speak these languages (i.e., French and Mandarin in addition to English). Interestingly, both Kate and Christine shared that their mothers initially told them to marry a non-Chinese. The respective reasons are because Chinese guys are "lazy" (do not do chores) and are "sexists."

Rhonda is the only one who said she would prefer to marry an Asian man, and gave the reason that it is because she simply prefers Asian-looking guys, for example, Koreans. She also said that, realistically, she probably would speak English to her future husband; therefore, it is unlikely for her children to simply pick up and acquire Mandarin, like she did. John expressed similar opinions, saying that Asians born and raised in the U.S. share a similar "culture," citing the example of listening to Korean and Japanese music.

To see how the participants' preference of a marriage partner relates to the general patterns of inter- or intra-racial marriage in children of Asian immigrants in the U.S., I compared their responses to statistics for the nation as a whole. The literature states that 56% of U.S.-born Asians marry outside of their own racial group, typically whites, and predicts that this trend will continue (Lee, 2008, p. 29). While the rates of Asian-White marriages are declining, "**the rates for Pan-Asian/Other Asian marriages have increased notably** [*sic*] from 2006 to 2010 (having a spouse of a different Asian ethnicity)." (Le, 2013 in Asian Nation, a website providing resource and exploring historical, demographic, political and cultural issues of Asian Americans). Rhonda's preferences and especially John's ideas about U.S.-born Asians sharing a similar culture might help explain the current finding by Asian Nation. Nesteruk and Gramescu (2012) reported that second generation immigrants tend to seek bicultural partners, just like themselves.

Also related to my participants' cultural and national identities is a general preference to teach their children the traditional written characters used in Taiwan, rather than the simplified ones used in mainland China. This is consistent with Wong and Xiao's finding (2010) that many dialect speakers whose families come from Hong Kong and Taiwan "express strong attachment to the traditional script, which has by and large been replaced by simplified characters in most academic programs.... After all, as one of the students (#41) says, tradition lies at the very heart of heritage." Along the same lines, Wiley et. al (2008) conducted a survey on attitudes toward dialects and different scripts among immigrants and international students from mainland China, Taiwan, and Hong Kong living in the United States. Though the responses present a mixed perspective on first and second generation immigrants and international students, the survey shows that the Chinese population generally respects dialects and wishes to preserve them. Students or immigrants from Taiwan and Hong Kong generally support the continued use of traditional scripts as well as bilingual (or so-called bi-dialectal) education (Mandarin/Taiwanese and Mandarin/Cantonese) over Mandarin-only instruction.

Regarding the relationship between language and identity, according to six of the participants (Ann, Beth, Ed, Jack, John, and Rhonda), the ability to speak Mandarin is not a necessary component of identifying oneself as a Chinese or Taiwanese. This stance is similar to the position Val and Vinogradova (2010) hold about HS in general and to Lynch's (2003) view regarding Spanish HS. However, four out of these six (Ann, Beth, Jack, and John) followed up with some conditions. For example, Ann said that it "would be a plus" to speak Mandarin and John reported that he felt that people "just need to like the culture and partake in it" in order to identify with that culture. Though I did not use the word in my question, the word "culture"

appeared in many of the participants' answers. The interconnected relationship between language, culture, and identity is at play here. Inconsistent with an interview reported in Wong and Xiao (2010) in which a Chinese heritage learner with Taiwanese background defined dialect as "what separates us from them, the mainlanders" (p. 162), presumably the ability to speak Taiwanese is less relevant for the participants.

In sum, while embracing multiple, often hyphenated identities is common for U.S-born Taiwanese, Christine and Ed, who are both less proficient in Mandarin/Chinese, explicitly said they identified themselves more as Americans than as Taiwanese American or Chinese Americans. Their answers as Taiwanese American or Chinese American or even just Chinese are more a result of an ethnic concern rather than cultural affinity. On the other hand, participants who identified themselves not only ethnically but also culturally with Chinese or Taiwanese tended to have a better command of Mandarin/Chinese. In some cases, it is possible that their language ability in Mandarin/Chinese affords them the freedom or option to identify themselves as Taiwanese, Chinese, Taiwanese American, or Chinese American.

Time spent in and experience with community-based Chinese schools in the U.S.

Table 4 below shows the time participants spent in community-based Chinese schools as well as their experiences and opinions. I have included their Mandarin speaking and Chinese reading ability as measured by the ACTFL Guidelines and a third grade reading test administered in Taiwan for comparison. Also included are other types of Chinese classes that four of the participants enrolled in at the high school and college level. Since I consider class experiences obtained in Taiwan are very different from the class experiences in the U.S., I put Fred and

Susan’s experiences as exchange students in Taiwan in brackets. I will address those experiences when I discuss the factor of “time spent in Taiwan and mainland China” (not originally proposed).

Table 4: Participants’ time spent in community-based Chinese school, other formal classes taken in the U.S. and their experiences and opinions on them

	Mandarin speaking (rated by ACTFL Speaking Guidelines)	Chinese reading (score on the reading test)	Years of community-based Chinese school	Other Formal classes taken in the U.S.	Experiences and opinions in previous schooling in Chinese
Fred	Superior	15/16	9 (2 hours each week)	[exchange student in Taiwan]	Not a good student; thought one hour everyday would have worked out better
Jack	Superior	15/16	8 (4 hours from Monday to Friday)		Initially resisted when sent by parents but appreciated parents’ choice in retrospect.
Susan	Intermediate High-Advanced Low	15/16	13 (2 hours each week)	Chinese classes in college; [exchange student in Taiwan]	Chinese schools helped only a little compared to her taking Chinese classes in college and in Taiwan (as an exchange student).
Beth	Intermediate High-Advanced Low	9/16	4-6 (once a week) ^a	Chinese classes in college;	Negative because the teaching method was different from U.S. schooling. Said she was not a good student. Also had negative experience because she was two grades older than most of her classmates in Chinese school
John	Intermediate High	13/16	8 (3 hours each week)		Did not really want to go because it was on Friday or Saturday, but the homework was easy for him
Rhonda	Intermediate Mid-Intermediate High	5/16	7 (3 hours each week)	Chinese classes in high school	Required by mother. Not a good student and described the time spent there as “boring “and “time-wasting,” though she gave examples of her Vietnamese classmate who has better reading and writing skills in Chinese than

					her as a result of being studious in Chinese school. Not sure if she would make her children go to Chinese school, especially if they do not want to.
Kate	Intermediate Mid- Intermediate High	5/16	8 (3 hours each week)		Chinese schools helped but not intense. She didn't spent much time on it. Prefers not to send her children to Chinese school but being taught by her own parents.
Ann	Intermediate Low- Intermediate Mid	15/16	12 (3 1/2 hours each week)	a Chinese civilization class in college (taught in English with occasional Chinese words)	Initially required by mother but became interested after taking Chinese history and culture in preparation for contests
Christine	Novice High- Intermediate Low	Did not take	2-3 (once a week) ^b		Negative. Not a good student. Thought maybe she was "too old" to attend.
Ed	Novice High- Intermediate Low	Did not take	Did not attend		Did not attend

Note. ^aBeth only remembers that she attended a Chinese school for three to four years on Sunday all day, and then she went to another Chinese school on Saturdays for another one to two years. So I put down "4-6" years here. ^bFor Christine, she could only remember she spent a couple of hours on Fridays in a Chinese school.

When compared to the subjects in the NHLRC survey (Carreira & Kagan, 2011) and the subjects in Xiao's study (2008), it seems that my participants spent much more time in community-based Chinese school. The NHLRC survey (Carreira & Kagan, 2011) reported that, on average, children who attended Chinese school did so for more than four years, though their participants (who were mostly made up of undergraduates) did not specify their instructional level in terms of the language classes many of them were taking. In Xiao's study (2008), participants who had gone to Chinese schools only spent one or two years there on average before starting kindergarten or grade schools. Since the majority of the participants were

registered in the first-year, beginning-level classes, it seems that Xiao's participants had relatively limited formal educational experiences in Chinese school compared to my participants.

The majority of my participants went to Chinese schools for many years. Seven out of nine went to Chinese schools and spent between 7 to 13 years there. Only Beth and Christine dropped out in less than four years (Christine went for two or three years and Beth gave a rough estimation of attending for four to six years). Though Rhonda was reluctant to attend, she nevertheless remained enrolled in her Chinese school for seven years. This discrepancy with the above survey results might be due to the fact that previous studies had collected responses from HS who studied their HL in colleges, while my participants either did not take such classes in colleges or were on a specific heritage track (e.g., Beth and Susan specified that they took "Chinese for native speakers.")

As mentioned before, Ann and Rhonda's mothers are both teachers in Chinese schools. Both participants reported this fact as a main reason that their mothers insisted on their attendance. Jack reported that his parents could not take care of him on weekday afternoons, so they sent him to a Chinese school where he was required to finish the homework from his American school first before taking Chinese lessons. Others did not specify the reasons why their parents sent them to Chinese schools and for such long times. According to some sources (e.g., Chow, 2001; Wang 2004, as quoted in Xiao 2010), Chinese schools in Canada and the U.S. are not very efficient in helping HS learn or retain their HL. The fact that Rhonda's mother was not formally trained as a teacher (certainly she might have received at least some training, about which I did not inquire) partially echoed the literature (e.g., Li, 2005) that teachers in Chinese schools are usually untrained, leading to questionable quality of instruction. Ann, whose mother

was a teacher back in Taiwan and also taught in a Chinese school in the U.S., thought students would be more interested in learning if they had good teachers, like her mother. She attributed some students' reluctance to go to Chinese school to the fact that some teachers did not teach well and/or the students did not consider the study of Chinese important. Judging from the participants' responses and their performance on the tests I administered, it is true that prolonged time in community-based Chinese schools did not necessarily result in higher rating/scores in speaking and reading. Kate and Rhonda, for example, attended Chinese school for seven and eight years, yet they only scored 5 out of 16 in the reading test and were only rated as Intermediate Mid speakers.

Though they have much room for improvement, Chinese schools serve as the main, and often the sole, places, where HS formally learn their HL and gain literacy skills. I included the results of the reading test for comparison in this Table 4 since every participant reported learning how to read and write in Chinese schools except Christine and Ed, who were both rated as only between Novice High to Intermediate Low in Mandarin and did not take the reading test because of a lack of literacy. Christine quit Chinese school after attending for 2-3 years, and reported that she knows very few Chinese characters now. Ed is the only participant who did not go to any Chinese school, though Ed remembered that at one point his parents did intend to send him there. (Ed said maybe there was no spot left or maybe his parents just did not care that much).

Comparing the results of their speaking and reading tests, the four participants who scored 15 out of 16 were Ann, Jack, Susan, and Fred. Fred spent many years in Chinese school, though the instructional time was relatively short each week. Ann, Jack, and Susan spent the most time in Chinese schools, followed by John. This is consistent with the ranking of their

scores on the speaking and reading tests. Additionally, Ann, Jack and Susan were all referred by their Chinese school teachers to Chinese competitions held by different regional Taiwanese American associations. Both Jack and Susan attended speech contests (Susan specified the contest as “impromptu”) while Ann participated in contests on Chinese Culture (also in oral form). This is of particular interest for this study since Ann, Jack, and Susan all reported having rewarding experiences in these contests. Though Ann and Jack reported initial reluctance, it is possible that the positive learning experiences played a role in their interest in learning their HL. Note that, according to Chao’s classification on different types of Chinese schools (as cited in Liao & Larke, 2008), Jack’s school is categorized as “after-school programs,” while all the others went to “weekend programs,” though some of the participants went on Friday nights. The intensive and consistent input Jack got might largely explain why he has achieved such a high level of Mandarin proficiency. Most studies to date have been conducted on Saturday or Sunday schools; it might be possible that a Chinese school which provides classes every weekday could be more helpful.

Regarding their learning experiences in college, both Beth and Susan reported very positive experiences in their Chinese classes for native speakers. Beth recalled that it was really difficult for her to read and summarize news articles for her teacher, who required that every student take turns for this one on one practice. She reported that this experience was significant for her language learning while her experience in Chinese schools was negative so she attended the latter for only a few years. However, she only scored 9 out of 16, despite taking college-level Chinese and living in mainland China for two years where she spoke half English and half Mandarin in her working environment. Susan (scored 15 out of 16) also commented that her

class in college was where she really improved her reading and writing, while Chinese school had only helped “a little.”

In sum, those who scored high in both tests were those who spent many years in Chinese school and who *also* reported additional, positive learning experiences *and* reported prolonged or frequent experiences staying in Taiwan, where Mandarin/ Chinese is used natively (to be discussed in another possible factor). Prolonged time in community-based Chinese school without reported positive learning experience does not result in higher rating/scores. But since participants who attended only a few years or who did not attend at all are unlikely to achieve a modest oral proficiency, let alone literacy, it seems that some experience in Chinese school is still necessary, or prerequisite, to achieve a certain level of language proficiency.

Parents’ English proficiency.

I asked the participants to assess their parents’ English proficiency in the four different skills, i.e., listening, speaking, reading and writing. The level ranges from native-like, advanced, intermediate, low, and none. Yet, if parents’ English ability does have an impact on the maintenance of their children’s Mandarin ability, it is presumably due to their parents’ listening and speaking skills rather than reading and writing skills. For this reason, while I refer to parents’ English proficiency, I am only discussing their listening and speaking skills. Table 5 below is a summary of participants’ assessment of their parents’ English proficiency in terms of listening and speaking. The descending order is based just on the participant’s modified OPI results, since I assumed the participants’ reading proficiency would not be much influenced by parents’ English proficiency. Some of the participants independently made distinctions between their fathers and mothers. Thirteen out of 20 of my ten participants’ parents (both parents of Christine,

Fred, John, Kate, and Susan, and the fathers of Ann, Jack and Ed) came to the U.S. for graduate school. Ed’s father completed both undergraduate and graduate school in the U.S. Yet, not all eight of them assessed their parents’ English as advanced or higher. For example, Ann rated her father, who came to the U.S. for graduate school, as only intermediate in English listening and speaking. On the other hand, Beth and Rhonda are the only two participants whose parents did not come to the U.S. for graduate school. Their assessments of their parents’ English proficiency are the lowest overall. Rhonda, for example, rated her mother’s English as intermediate in listening, low in speaking, and rated her father as low in listening and none in speaking.

Table 5: Participants’ estimates of their parents’ English proficiency and language interaction at home

	Participants’ Mandarin ability (rated by ACTFL Speaking Guidelines)	Language used with parents	Participants’ parents’ English ability (estimated by participants; only listening and speaking)	Language used with children
Fred	Superior	Mandarin	Intermediate	Mandarin
Jack	Superior	Mandarin	Listening: Advanced; Speaking: Intermediate	Mandarin
Susan	Intermediate-High/ Advanced-Low	Mandarin	Listening: Advanced; Speaking: Intermediate	Mandarin
Beth	Intermediate-High/ Advanced-Low	Mandarin	Speaking: Advanced (F) & Intermediate (M); Listening: Intermediate	Mandarin (some Taiwanese ^a)
John	Intermediate-High	Mandarin	Native-Like	Mandarin
Rhonda	Intermediate-Mid/ Intermediate-High	Mandarin	Listening: Intermediate (M) & Low (F); Speaking: Low (M) & None (F)	Mandarin
Kate	Intermediate-Mid/ Intermediate-High	Mostly English	Listening: Native-Like; Speaking: Native-Like (F) & Advanced (M)	Father addresses Kate in English or Chinglish ^b ; Mother addresses Kate in Mandarin or Chinglish

Ann	Intermediate-Low/ Intermediate-Mid	Mostly Mandarin with some Chinglish	Listening: Advanced (M) & Intermediate (F); Speaking :Intermediate To Advanced (M) & Intermediate(F)	Mandarin
Christine	Novice-High/ Intermediate-Low	Mostly English	Listening: Advanced; Speaking: Advanced	Parents address Christine in Chinglish
Ed	Novice-High/ Intermediate-Low	In Mandarin only for casual topics	Listening: Advanced (F) & Intermediate (M); Speaking: Intermediate (F) & Mother (L)	Father mostly addressed Ed in English; Mother addressed him in Mandarin

Note. Father and Mother abbreviated as F and M, respectively.

^aBeth is the only one that reported her mother sometimes uses Taiwanese to address her, especially in scolding. See also Footnote 20. ^bThe term “Chinglish” was used by Christine in the semi-structured interview. I have adopted the term for its succinctness, despite its sometimes pejorative connotation as ungrammatical English.

While some did not give a direct answer, some clearly agreed that if their parents’ English ability had been lower, they probably would have better Mandarin-speaking skills in order to communicate with their parents. For example, Christine described her parents’ advanced English proficiency as her “fallback,” so she could always resort to English. Ed said he only spoke Mandarin to his mother because of her relatively low English proficiency. Susan also agreed and followed up with the information that both her parents came to the U.S. for their graduate work. Jack explicitly said he thought the influence of his parents’ English proficiency on his Mandarin ability was insignificant. However, the disjunction between their parents’ educational level in the U.S. and English ability somewhat overshadowed the accuracy of their assessment of their parents. A better way to explain this discrepancy may be that each participant has different standards as to what constitute different levels of language ability.

Even if their assessments were accurate, their responses did not yield a recognizable pattern: the participants have varying degrees of Chinese proficiency, even when they rated their parents’ English at similar levels. For example, Jack and Susan have much higher proficiency in

speaking Mandarin than Christine, but all three rated their parents as having advanced English listening skills. Similarly, some participants have similar degrees of Chinese proficiency, but rated their parents' English proficiency differently. For example, Kate and Rhonda scored the same in speaking and reading, but Kate rated her parents as native-like in English while Rhonda rated them as low. In other words, there does not seem to be any relationship between the parents' English proficiency and their children's Chinese proficiency. This is probably because parents' English proficiency is less important than the language parents and children used at home, thus is more closely related to the parental attitudes and efforts and Mandarin input and active use. Their parents might have advanced English proficiency but chose to use Mandarin at home; children might have used a mixture of English and Mandarin to converse with their parents, even with parents who are not highly proficient in English, as long as both parties comprehend each other, e.g., Ed's interaction with his mother.

Rhonda is a good example for the seemingly counterintuitive "By-Choice Hypothesis" proposed by He (2006). Her rating of her parents' English is the lowest of the group, yet she did not outperform other participants. Her parents most likely spoke to her in Chinese out of necessity rather than choice. Though Ed's father possessed better English knowledge (advanced in listening and intermediate in speaking) than his mother and generally addressed Ed in English, Ed's mother does not speak English well (intermediate in listening and low in speaking). Though Ed said that his mother has been his main motivation for learning Mandarin, and though he attributed his current ability to her, Ed is only able to speak Mandarin between the level of Novice High and Intermediate Low. In terms of educational levels, Alba et al's study (2002) reveals that despite the expectation that highly educated parents are more likely to see the value

of and thus promote bilingualism, the probability of second (but not third) generation Chinese immigrants speaking only English increases with the parents' average educational attainment. If educational level in an English-speaking country is positively correlated with English ability, then it is not surprising that children of highly-educated (in the U.S.) parents do not speak the HL well because children have no need to and can get away with it. This seems to be the case of Christine and Ed.

In short, parents' English proficiency did not yield recognizable patterns regarding its influence on their children's HL proficiency. Participants who rated their parents with similar levels of English proficiency exhibited varying degrees of Mandarin proficiency (e.g., Jack and Susan versus Christine), and participants who had similar degrees of Mandarin proficiency rated their parents differently (e.g., Rhonda and Kate). Admittedly, some patterns might exist if parents' English proficiency were actually measured instead of simply relying on the children's assessment.

Mandarin/ Chinese input and use.

To investigate their Mandarin input and use, I asked the participants to recall (for a lack of a better method to record/track their language input and use) which languages they were exposed to and which they actively spoke during the following different periods in their lives: 0 - 5 years old, 6 - 12 years old, 13 - 18 years old, and 18+ years old.¹⁹ I also asked them to remark

¹⁹ The reason why I parsed the years the way I did is because I want to understand both their earlier and current language use. To make it clear, I drew the line between the years based on the NHLRC survey (2011) for the different school years because I expect that their peer group had an impact on their language use. I also asked if they wanted to add any significant time frame. For example, Ann noted that she was exposed to and used Mandarin much more in her high school years than middle school years as a result of her participation in some Chinese cultural knowledge contests. Note that the percentage given in the chart is their Mandarin input and use, not English.

on the context for these languages, and with whom they converse in Mandarin. When I asked with whom the participants spoke Mandarin, all participants answered “parents” as one of the answers. But Ann, Christine, Kate, and Ed made it clear that it was a mixture of Chinese and English. Ed and Kate reported that their fathers mainly conversed with them in English.

Since most of their Mandarin input and use is oral rather than written, I only listed the ratings they received in the modified OPI in the following Table 6. This table gives a summary of their ACTFL ratings, the percentage of (passive) input/exposure, percentage of (active) use of Mandarin, and the context in which Mandarin was spoken. If the participants did not make distinctions between input and use, I only put one figure in the corresponding boxes. It seems that the more advanced participants (i.e., Beth, Jack, Fred, and John) did not make distinctions between exposure and active use of Mandarin as they were able to use Mandarin exclusively, or at least mainly, with Mandarin speakers. Note that many of the participants did report growing up exposed to another non-Mandarin Chinese language,²⁰ but the percentage of that non-Mandarin Chinese language is not substantial and thus not included here.

Table 6: Self-reported Mandarin exposure (E) and use (U), contexts and ACTFL Ratings

Age	ACTFL Ratings of Speaking	0 -5	6-12	13-18	18+ /Current	Context
Fred	Superior	100%	60%	40%	80%	Parents and friends (most friends are Mandarin speakers)

²⁰ Only Ed, Susan and Rhonda reported that both their parents are fluent in Taiwanese and used it at home. Barbara’s mother sometimes addressed Barbara in Taiwanese. All four of the participants reported understanding basic Taiwanese; Susan reported she could speak a little. Ed’s mother also speaks Hakka with her family and Ed also understands basic Hakka. Christine and Kate only overhear their fathers talk to their respective family in Taiwanese over the phone or when the families visited Taiwan.

Jack	Superior	100%	50%	50%	40%	Parents and friends
Susan	Intermediate High- Advanced Low	100%	70%	E: 60%; U: 50%	E: 40%; U: 30%	Parents and Chinese school (before); most friends are English-speaking.
Beth	Intermediate High- Advanced Low	100% ^a	50%	40 %	50 %	Parents and friends
John	Intermediate High	80%	20%	40%	70%	Parents and friends (most friends are Mandarin speakers)
Rhonda	Intermediate Mid- Intermediate High	E: 80%; U: 65%	E: 60%; U: 40%	E: 60%; U: 40%	E: 40%; U: 30%	Parents and friends
Kate	Intermediate Mid- Intermediate High	E: 75%; U: 50%	E: 75%; E: 25%	E: 50%; U: 10%	E: 20%; U: 1%	Father addresses her in English or Chinglish; mother addresses her in Mandarin or Chinglish
Ann	Intermediate Low- Intermediate Mid	E:70%; U: 60%	E:60%; U: 40%	E:65%; U: 50%	E:50%; U: 30%	Parents (some Chinglish) and occasionally with friends; travel in Taiwan
Christine	Novice High- Intermediate Low	E: 80%; U: 20%	E: 75%; U: 20%	E: 60%; U: 20%	E: 10%; U: 2% ²¹	Parents address her in Chinglish. Her first nanny and piano teacher as well as her maternal grandmother (who once took care of her) only speak Mandarin, but she does not actively use Mandarin to them
Ed	Novice High- Intermediate Low	E: 80%; U: 50%	E: 60%; U: 30%	E: 15%; U:10%	E: 5%; U: 3%	Mother speaks to him in Mandarin and for casual topic, he responds in Mandarin

Note. ^aBeth was taken care of by a Spanish-speaking nanny so she reported speaking Spanish until age three.

²¹ Christine learned Spanish in high school and minored in Spanish in college and frequently use it so her language input and use are not only made up of Mandarin and English in the last two figures. Also, regarding her low percentage of current use of Mandarin, “I can count on one hand the number of days out of the year that I speak Chinese”, wrote Christine in a follow-up email.

It would be reasonable to expect that the more one has been exposed to and used Mandarin; the better one would be able to speak it. This is somewhat true in this study. For example, Fred reported a surprisingly high percentage (80%) of using Mandarin in his current daily life, though he did not think he could give a very accurate estimation. He reported only having to speaking English with his advisor, since many of his lab mates and almost all his friends are Mandarin-speaking. However, as shown in Table 6, sometimes people remain modestly proficient in a language even though their exposure and use is less frequent. For example, Kate did not use Mandarin that often but retained an intermediate level of proficiency.

Exposure to the HL from birth to age five is crucial. All of the participants reported that the first language they learned to speak was Mandarin, but the first language they learned to read was English. Contrary to the linguistic concept that people are likely to be highly bilingual if they are exposed to two languages at young age, the situations in immigrant families are the opposite. According to Montrul , “the younger the exposure to the majority language and reduction of exposure to the minority language the greater the degree of partial attainment of the minority language by heritage speakers” (as cited in Benmamoun et al, 2010). As English is the dominant language in the U.S., HS have “limited exposure to the HL outside the home” (Carreira & Kagan, 2011, p. 40), and the age at which HL exposure sharply declines has a great impact on the maintenance of the HL. In other words, “the extent of incomplete acquisition is greater in heritage speakers who are simultaneous bilinguals than in heritage language speakers who are sequential bilinguals and have had a longer period of sustained exposure to the heritage language before intense exposure to the majority language began” (Montrul, as cited in Montrul, 2010). It is thus not surprising that Christine and Ed (their active use of Mandarin were only 20% and

50% respectively), as simultaneous bilinguals, do not now possess higher levels of Mandarin speaking proficiency. On the contrary, Fred is the only participant that mentioned the word “ESL” to me, reporting that he was put into an ESL track until second grade.²² He remembered not understanding everything when he first started school, which marks him as a sequential bilingual.

Being a sequential bilingual might partially explain why Fred did so well on the speaking test even though his time in Chinese school was not especially long compared to other participants. His experiences as an exchange student in Taiwan possibly contribute to his high achievement in Mandarin, though given his ability to study a technical subject (engineering) in Chinese/Mandarin, it is also reasonable to assume that he already possessed very advanced skills before immersing himself in Taiwan for ten months. His self-reported lack of English proficiency when he first started school did not appear to result in a negative attitude toward Mandarin/ Chinese, as He (2006) predicted. Instead, it seems to have allowed him more time to develop a fuller grasp of his first language.

According to Montrul, “amount and quality of exposure during the critical period matter as well” (as quoted in Benmamoun et al., 2010). While the exposure during the critical period (20% at age 6 to 12, 40% at 13 to 18) was not a significant determinant for John’s Mandarin speaking ability, the statement nevertheless holds somewhat true for the other participants, particularly if “active use” rather than “passive exposure” is used in analysis. It seems that

²² In follow-up emails, Beth responded that she and her sister were pulled out for some additional English classes because English was marked as their second language. They were, however, mainstreamed after a month or two because, according to Beth, they did not need it in the first place. Ed was placed in ESL for one day when he moved from St. Louis to San Diego, but was sent back to the original class after passing a verbal test. The other seven participants replied that they had never been placed in ESL classes.

“active use” played a more determining role in the participants’ current speaking ability; those who did not score high in the modified OPI still reported being frequently exposed to Mandarin during the critical period though their active use of it was significantly reduced. For example, Christine reported a 75 % of exposure to Mandarin while only 20% of active use between age 6 to 12; as Table 6 shows, she did not score very high on the modified OPI.

I now turn to a brief discussion of the participants’ written input. In addition to some of the literacy-involving activities which I considered self-motivated (e.g., Facebook status updates, drama or movies subtitled in Chinese, lyrics written in Chinese) and to many of the participants’ formal schooling in community-based Chinese schools or Chinese classes in high school or colleges, menus in Chinese restaurants were mentioned by Ann and Kate to be another source of Chinese written input. Kate reported this is the only topical area of Chinese reading she wants to improve. Interestingly, both Kate and John reported using Google Translator to find the Chinese characters they want. Kate said she could not really type (with Mandarin Phonetic Symbols) now, so if she wanted to respond to Facebook status in Chinese, she would use Google Translator. John reported using the same online tool when he did not understand certain lyrics.

In sum, consistent with the literature (Montrul, 2008; 2010), sequential bilinguals (e.g., Fred) achieve higher levels of HL proficiency than simultaneous bilinguals (e.g., Christine and Ed). As most of the participants (excluding John) reported remaining highly exposed (more than 50%) to their HL before the so-called critical period though their active use differed, we can conclude that active use, rather than passive exposure, plays a more important role in contributing to HL proficiency later in life. Additionally, participants with higher proficiency

(e.g., Fred and Jack) usually did not differentiate between input and use. This is possibly because they can carry on a conversation exclusively in Mandarin.

Time spent in Taiwan and mainland China in a school or work setting.

The next two sections—time spent in Taiwan and mainland China in a school or work setting and travel frequency to Taiwan—present another two factors that I speculate might contribute to some participants' Mandarin/ Chinese proficiency. These issues came up during the interviews and were not proposed in the third research question. Though it is true that these two factors (as well as time and experience in community-based schools) might be subsumed under the previous factor Mandarin input and use, I discuss them independently here since I consider exposure and use in countries where Mandarin/ Chinese is used natively to be very different than exposure and use in the U.S., where Mandarin is spoken as a foreign language or HL.

According to a New York-based study (Kasinitz, Waters, Mollenkopf, & Anil, 2006), only 8 % of 1.5 and second generation Chinese immigrants spent more than six months living in parents' home countries (p. 107). Both Susan and Fred had been exchange students in Taiwan for six and nine months respectively, including internships. Fred took regular classes in engineering (his major in the U.S.) with other Taiwanese students. In these classes, Mandarin was used as the language of instruction, though the instructors used English textbooks and frequently also used untranslated academic terminologies in English during the lecture. During her time in Taiwan, Susan only took Chinese language classes. Some of Susan's classmates were HS like her, but there were also many classmates who learned Chinese as a foreign language. She also attended the chorus club while she was an exchange student, which she thought greatly helped with her Mandarin ability.

As pointed out in the Taiwan-based study, “little research has been done concerning HL learning in the context of the homeland” (Lee, 2010, p. 68), the subject in this study improved her literacy in Chinese significantly. Lee attributed the improvement to “environmental factors,” meaning that the subject was “learning Chinese where the language was spoken, which allowed rich exposure to explicit Chinese characters as well as implicit culture influences; and she had the same ethnic identity as others - there was no stigma attached to Chinese because she was no longer living in Belize where Chinese was spoken by a minority population and Chinese had been long ignored by the main stream” (p. 67). Of the participants, Susan and Fred both reported positive experiences staying in Taiwan as exchange students, though Susan thought she could probably improve her Mandarin more if she did not spend so much time with her English-speaking classmates.

Jack and John’s intern experiences were not as substantial as Fred’s and Susan’s, but supposedly were still very helpful in improving their Mandarin proficiency. Jack had the positive experience of an internship in Taiwan for six weeks, and in fact will be doing another internship in Taiwan in the near future. In addition to visiting Taiwan often, John had an internship in Taiwan for one month but reported he did not speak very much during that time. Beth actually spent two years in Shanghai working in an international school not long before taking the modified OPI and the semi-structure interview, but she said that her working environment was not entirely Mandarin-speaking.

This native, authentic exposure is also discussed in He’s (2006) “The Diverse-Input Hypothesis,” where the author suggests that “the degree of success in CHL literacy development correlates positively with the extent to which the learner has access to rich and diverse CHL input. Input originates not only from reading and A/V materials at home and

school but also from *interacting* with Chinese speaking family members as well as from frequent visits to places where Chinese is used *natively* [emphasis added]" (p. 20). Similar ideas were also suggested by Lynch (2003), who proposed a "language recontact principle," embodied "through contact with first-generation immigrants or visitors or through travel, work, or study abroad" (p. 39) for Spanish HS.

In short, all of the participants who have had sustained native exposure, either in Taiwan or mainland China, have achieved advanced proficiency in speaking and reading (except Beth, whose reading is not that advanced). Certainly they may have gained such advanced proficiency in the U.S., but the time they spent in Mandarin-speaking countries in school and/or work settings have played an important role as well.

Travel frequency to Taiwan.

Travel frequency to Taiwan has provided the participants with substantial native Chinese exposure. This fact is also relevant to "The Diverse-Input Hypothesis" as well as the "language recontact principle" proposed by He (2006) and Lynch (2003), respectively. Tamaki (2011), in studying Latino and Asian Americans, divides the traditionally unitary concept of assimilation into socioeconomic resources and attachment to host society, finding that the former increases frequent visits to the country of origin while the latter does not discourage return visits (p. 148). Here I would make a tentative argument that the presence of extended family in Taiwan has exerted a great influence on the frequency of the participants visits, followed by parents' intention to return and live in Taiwan.

The participants' travel frequency to Taiwan differed greatly, and they seem to be visiting their parents' home country more often than what was reported in two large-scale studies. The

New York-based study (Kasinitz et al., 2006) revealed that children of Chinese immigrants showed far lower level of transnational activity compared to other ethnic groups: 38% never visited their parents' home countries, 51% visited one to three times, 9% visited three to nine times and only 2 % visited ten or more times (p. 106). In the NHLRC survey, Mandarin and Cantonese HS's "exposure to their HL was considerably more limited than that of Spanish speakers. For example, only 10.5% visited their country of origin once a year, compared to 30.8% of Spanish speakers" (Carreira & Kagan, 2011, p. 52). In this study, fully half of the participants (Ann, Beth, Fred, Jack, and John) reported visiting Taiwan every year or every one to two years. John even reported he visited Taiwan twice a year as young kid to visit his maternal grandparents before they immigrated to the U.S. Many of them went during their summer vacation. Rhonda reported visiting Taiwan every three years and spending about two weeks each time. Her father's siblings immigrated to the U.S. too.

On the other hand, Kate and Susan have made very few visits to Taiwan. Kate has only been to Taiwan three times, though during her third visit she spent a month travelling and cites this experience as having greatly enhanced her speaking ability. She believes another longer-term visit will help her "find back" her Mandarin speaking ability, which in her opinion has diminished because she rarely speaks Mandarin now (self-reported 1%). Susan has been to Taiwan four times, though one of these visits was a significant six-month stay as an exchange student; she considers this experience highly beneficial to her Mandarin ability. Christine went to Taiwan twice as a teenager, each time for two weeks. In response to my inquiry whether it is because her parents' families are not in Taiwan, she reported that her father's family is still in Taiwan, but her maternal grandparents, who were in the U.S., passed away a few years ago. Ed

has never been to Taiwan. Both sides of Ed's parents' families immigrated to Brazil before coming to the U.S., and his grandparents (both paternal and maternal) live in the U.S. presently. He therefore does not have "direct relatives" living in Taiwan now.

The fact that both Christine and Ed's grandparents live or had been living in the U.S. as immigrants, and that Rhonda also has extended family in the U.S., leads me to speculate that the main reason for parents to take children back to Taiwan was to visit grandparents or other extended family members. Note that when children of immigrants were young, it is likely that parents made the majority of the travelling decisions. As children grew older, however, it is reasonable to think that they might make their own choices whether to visit Taiwan or not. For example, it seems that John's frequent visits to Taiwan and Jack's repeated choice to work as an intern in Taiwan are not directly related to their respective families. Fred also added voluntarily that his extended family is in Taiwan. Susan voluntarily expressed her pleasure and excitement over her visit to Taiwan when she saw her extended family for the first time; she also expressed her desire to keep a close relationship with her extended family. Both of them also reported frequently socializing with their extended family members during their stay in Taiwan as exchange students, as previously mentioned.

Travel frequency might also be influenced by whether parents are immigrants (considering U.S. as new "homeland") or sojourners (for example, business people living here for extended stays). Susan voluntarily mentioned that both her parents came to the U.S. as international students, thinking they would stay in the U.S. just for a couple of years before

returning to Taiwan. Both ended up staying in the U.S. for over twenty years and are still here.²³ She thinks her parents' initial plan to return to Taiwan was probably why her parents tried hard to send her to a Chinese school when they were living in an area where very few Chinese were present. Yet, she also mentioned that she "did not have grandparents," which possibly is one of the reasons why her parents, despite wanting to return, did not actually bring Susan as a child to visit Taiwan very often.

For the most part, the research on how immigrant parents or parents-as-sojourners educate their children focuses on Japanese populations. According to Douglas (2005), there are two different kinds of Japanese schools: 50 weekend "Japanese heritage schools" to "maintain Japanese language and culture for the next generation" and 73 "hoshuukoo (supplementary schools)" sponsored by the Japanese government to "educate children whose parents planned to return to Japan after a few years in the U.S." (p. 61). Kang (2012) reported that one of the main reasons Korean immigrant parents want their U.S.-born children to learn their HL is "their possible return to Korea for familial obligations and economic opportunities" (p. 7), yet no research has been systematically reported within the field of HL, especially in Chinese, on how the possibility of returning to their home countries influences parents' language choices and expectations of children's HL proficiency.

Of course the above two "facts"—first, whether grandparents immigrated or stayed in Taiwan, and second, whether parents are immigrants or returnees—are by no means predictive of

²³ Unlike mainland China and Japan, Taiwan acknowledges dual citizenships- it might help to explain why Taiwanese immigrants can be quite flexible as planning to stay in either country. Between 1960 and 1980, more than 90 % of Taiwanese students who came to the U.S. for graduate schools "were employed and later became permanent residents in the U.S." (Kwong, as cited in Pan, 1997, p. 234). In another study, it reported that, in the 1980s, over 40 % of "Taiwanese students went back home each year upon completion of their studies abroad, up from less than 10 percent in the 1950s and 1960s" (Du as cited in Zhou, 2009, p. 206).

travel frequency. For example, parents could be immigrants and have no intention to return to their homeland, but may still take their children to visit their home country frequently. However, in the case of Ed, whose grandparents had immigrated to Brazil before Ed's parents came to US as adults; it is not surprising that Ed has never visited Taiwan. As a counter-example, John's father went to Brazil at age 12 before coming to the U.S. for graduate school, and almost all John's relatives live either in the U.S. (e.g., Johns' paternal and maternal grandparents) or Brazil (e.g., uncle). Despite not having close relatives in Taiwan, John still visits Taiwan very often and even considers Taiwan a better place to live than the U.S. He nevertheless chooses to stay in the U.S. for job prospects. Jack and Susan expressed the similar position that though they would prefer to live in Taiwan, they choose to stay in the U.S. because they believe it improves their job prospects.

The native exposure gained by travelling to Taiwan seems to have greatly helped the participants' HL proficiency. Those who visited Taiwan less than four times are those with more limited proficiency (e.g., Christine went twice, Ed never went, and Kate went three times). Judging from the participants' responses, I speculate that the presence of grandparents and/or extended family in Taiwan is one of the main reasons for immigrant parents to travel back there with their children. Whether parents are immigrants or see themselves as eventual returnees may also influence the frequency with which they bring their children back to Taiwan. These last two speculations remain tentative.

Mutually influential relationship.

Now I would like to discuss the dynamic relationship between the HL proficiency and possible factors that contribute to such proficiency. In identifying the factors that contribute to

participants' acquired language proficiency, I speculate that that their current Mandarin proficiencies in turn reshape the factors contributing to their earlier language achievement, particularly their language input and use, motivations, and identity formations. In other words, their achieved Mandarin abilities are not the results anymore, but are in fact the *reasons* that shape their language input and use, motivations and identity formation.

Judging from the participants' responses, the amount of their Mandarin input and use differs so greatly that it may be concluded that some of their behaviors were out of necessity. For example, some of the participants reported talking to Mandarin-speaking people exclusively in Mandarin and also reading some Chinese occasionally (e.g., John mentioned comic books and both John and Jack mentioned Karaoke), while other participants were not able to either read or speak in this manner because they were not that fluent in their HL.

Gardner and Lambert's (1972) consider attitudes as "motivelike constructs" (p. 134) and state that "attitudes are a more stable personal characteristic which influence and determine one's progress in mastering a foreign language" (p. 143). In contrast, Hermann (1980) proposed a "resultative hypothesis", arguing "a dialectic interrelationship between the acquisition process and permanent as well as short-term values" (p. 250). She states that "the mere satisfaction (a learner) derives from his achievement of the learning task may influence his attitude to the ethnolinguistic group in question and even result in a change of such attitudes" (p. 249). One might deduce that the more successfully HS have learned their HL in the past, the more likely it is that they are going to learn or "pick up" the language in the future. Their early achievement has provided a baseline level that, in turn, has increased their ease, confidence, and perhaps even motivation for future language maintenance and/or acquisition. It seems that, after reaching a

certain level of proficiency, one's ability in a HL may begin to drive motivation and open up more opportunities.

Lynch (2003) proposed an “incidental acquisition principle” for Spanish HS in the U.S., saying that “HL speakers are likely to expand their linguistics repertoires through incidental experiences with the language, occurring naturally in social contexts” (p. 36). (cf: “The purposeful acquisition principle” is utilized when HS “purposefully sought opportunities for acquisition”). I would argue that this principle applies to my participants who already have some proficiency in their HL. Bringing up the term “base level” in response to my question on what factors he considered to have influenced his Chinese ability, John attributed his listening and speaking ability to his Mandarin-speaking parents. And it is such “base level” ability that has made it easier for him later on to learn new words from his Mandarin-speaking peer group, his comic books, and from song lyrics written in Chinese. He also mentioned watching Chinese movies help both his listening and reading in Chinese.

As for identity formation, He's article (2006) “explores the challenges and opportunities that CHL development presents to the construction and negotiation of CHL learner identities and conversely how identity formation and transformation is symbiotic with CHL development.” The “role of identity...is *shaped by and shapes* [emphasis added] language use” (p. 18). In the case of HS, one's “resultative” positive attitudes to the ethnolinguistic group (Hermann, 1980) can easily transfer to the identification with his or her associated minority group and heritage cultures. In short, the participants' language input and use, motivation, and identity may no longer be the factors responsible for their Mandarin proficiencies, but the other way around. The relationship between how and why people learn a language (well) and the language outcome can be a

dynamic and reciprocal one. A linguistic feedback loop is possibly in place. In other words, their achieved Mandarin proficiencies both influence and are influenced by their language exposure and use, motivation, and identity.

Some additional factors.

I will end this discussion by providing some additional explanations on what may have contributed to the participants' Mandarin/Chinese proficiency. One is the influence of Karaoke, mentioned by Beth, Jack, and John. Rhonda said that she liked listening to popular Mandarin songs from Taiwan. John reported he used to watch Taiwanese drama but now watched Mandarin-speaking movies produced in Taiwan or in mainland China. Ann mentioned that her family recently installed a television device that enables them to watch Taiwanese television programs. Above explanations are consistent with Wen's study on the motivation of learning Chinese (2011) with both HS and non-HS college students, where individuals gained "cultural interest" through "films, TV programs, and pop music" (p. 43). Another two factors were mentioned by Beth and John: her experiences in having a part-time job in a Mandarin-speaking Tea Café (the owner unknown, but supposedly a branch store originally from Taiwan since the brand name is the same), and his interest in reading Japanese comic books, in which Chinese versions (especially the version of simplified Chinese characters) usually came out before the American one.

Studies have also looked at how ethnic communities played a role in language maintenance. Alba et al. (2002) revealed that for Chinese, Cubans, and Mexicans, living in or near an ethnic community generally helps with HL maintenance, though the effect is more predictive for Spanish-speaking groups than Chinese groups, especially in the third generation.

Whether this factor played an important role in this study is unclear. Many of the cities my participants have lived are heavily populated by Chinese speakers.²⁴ In fact, five of the participants' in fact grew up around the same time in neighborhoods in north California that are very geographically close to one another, though their reported demographics were not exactly the same. It seems that the demographics of the neighborhoods did not directly influence the makeup of the participants' peer group and their parents' social network. Yet I would argue that a lack of any ethnic community potentially would have some negative influence as when Ed, Kate and Susan used "very few" or "did not know any other Mandarin-speaker" to describe some periods of their childhood.

Conclusions

As pointed out by Montrul (2010), HL acquisition is "incomplete L1 acquisition that takes place in a bilingual environment rather than a monolingual one" and it "exhibits characteristics of adult L2 acquisition, which, due to its variable outcome, is typically described as not uniform, not universal, and unsuccessful" (p. 11) The analogy of L1 and L2 learning may also help to explain why the language attainment of HL²⁵ varies so significantly. We may intuitively know what a typical language autobiography might look like for a child of Mandarin-speaking immigrants: he or she is dominant in English and understands conversational Mandarin to varying degrees, for example, the "quasi-ergodic, composite profile" of a typical Chinese HL

²⁴ The ten U.S. cities with the largest Chinese-speaking population are: San Francisco, Queens, Brooklyn, Manhattan, Los Angeles, San Jose, Chicago, Oakland, Fremont and Alhambra. Cupertino and Monterey Park are also heavily populated by Chinese speakers (Chinese American Data Center, as cited in Xiao, 2010, p. 85).

²⁵ Some studies have compared HL acquisition with first and second language acquisition (SLA) in order to establish theoretical underpinnings and/or applied goals such as teaching methodology. For example, Lynch (2003) argued that the field of HL acquisition (HLA) can benefit fruitfully by building on the research and theory that already exists in SLA. Similarly, Montrul (2008) argued that the research on SLA and HLA are very relevant and can inform each other.

learner called “Jason” (He 2006; 2012). Yet, the nature of language development of HS can be idiosyncratic and perhaps serendipitous. For example, while some of my participants are often immersed in Mandarin-speaking environments, a few of the participants received very little (native) exposure to Mandarin/ Chinese. This is partly due to their not having living grandparents to talk to in the HL, and partly due to few, if any, visits with family back in Taiwan (possibly because their grandparents are in the U.S.). There are many factors that contribute to the starkly different proficiencies of U.S.-born Taiwanese’s Mandarin/ Chinese. These factors could be inter-related, with no single factor guaranteeing the language outcome. Recognizing this, this exploratory study was designed to investigate which factors were the most influential in the participants’ Mandarin/ Chinese proficiency.

The first and second research questions of this study asked how proficient U.S.-born Taiwanese are in terms of speaking Mandarin and reading Chinese. Using the ACTFL Guidelines, eight of the ten participants were rated as either intermediate or advanced (with various sublevels, i.e., high, mid, low). The other two were rated as superior. As for their reading ability, only five out of eight participants who took the reading test scored higher than 75 % in the reading comprehension test originally designed for third graders in Taiwan. The uneven profiles of oral and literacy skills show that becoming literate in Chinese requires a greater “investment” (Norton Peirce, 1995; Norton, 2000; Osipova & Bailey, 2013) not only from the language learners but also from parents, peers, and formal institutions (Tse, 2001a). Being bilingual and biliterate might result from different motivations or goals in mastering the HL. My third research question investigates why the participants possess such a wide range of HL proficiency, and aims to probe what factors are more influential than others in the maintenance

of Chinese as a HL. The results indicate that, among my proposed factors, some attendance in Chinese schools, a strong personal motivation to learn Mandarin/ Chinese, not only ethnic but cultural identifications with Chinese and/or Taiwanese, intensive Mandarin exposure and use before age five and frequent subsequent use of Mandarin/Chinese are the most influential factors that contribute to proficiency in HL. In addition, frequent travel and prolonged exposure to Mandarin-speaking countries are another two factors that contributed to the participants' Mandarin/ Chinese proficiency. On the other hand, parental attitudes and efforts and parents' English proficiency did not seem to have much influence on the participants' Chinese proficiencies. I also propose a dynamic relationship between the factors that contribute to participants' HL proficiencies and their language outcome, in that the contributing factors (namely, language input and use, motivation and identity) both shaped and were reshaped over time by the participants' increasing Mandarin/ Chinese proficiencies.

This conclusion remains tentative due to the limited number of participants in this study. It is still unclear whether all these factors combined or merely one or two factors contributed to most of the participants' advanced Mandarin proficiencies. For example, the fact that Jack went to Chinese school for four hours, Monday through Friday, for a total of 8 years, might have outweighed all other factors combined. Despite this limitation, this exploratory, empirical study helps to uncover the complicated reasons for how U.S.-born Taiwanese maintain Mandarin as their HL. It also sheds light on the field of HL in general, which is still in need of further investigation.

The implications can be discussed in multiple layers in terms of addressing different groups: first-generation immigrant parents, children and grandchildren of immigrants (i.e., 2nd

and 3rd generation), community-based Chinese schools, teachers in mainstream educational institutions (both K-12 and college/university) and lastly, the general public.

Any study on HL like the present one possibly interests immigrant parents, especially if they find that their children are losing their home language and/or a language barrier is forming between them and their children. For them, an ideal “formula” would be desirable as to how they might successfully help their children to maintain the HL. Even though such a prescription does not exist, immigrant parents may still learn some strategies to help maintain their children’s HL. For children and grandchildren of immigrants, this study helps explain what factors shape their current language proficiencies, what they can do if they want to (re)learn their HL, and what they can do to help their children in the future. This study also has the potential to (re)affirm the desirable existence and positive impact of community-based Chinese schools as some of the participants reflected positively on how their school-attending experiences have helped with their HL maintenance. Yet community-based Chinese schools need to improve their teaching quality and curriculum so that children would be more willing to attend.

The implications for K-12 and colleges are also important. Though during childhood or adolescence many HS reject the HL and even lose it, as young adults, they often express desire to maintain or relearn their HL. As pointed out by Tse (2001a), HL literacy can be “best promoted when home, community, and school work in concert” to provide children with “necessary social, cultural, language, and literacy experiences” (p. 702). Unfortunately, Lee and Oxelson (2006) discovered that K-12 teachers’ attitudes towards HL maintenance were not positive and the teachers did not think it was their or the school’s job to help their students in their HL maintenance. Pu’s study (2012) has suggested an integration of linguistic and cultural

resources from Chinese schools to the mainstream K-12 classrooms, claiming that this will not only benefit minority students but also mainstream students in that the latter would be exposed to a more diverse culture in a nation of immigrants. As cited in Zhang and Slaughter-Defoe (2009), “HLs are increasingly seen not only as a personal resource but also as a societal and national resource in the face of globalisation (Brecht & Ingold, 1998)” (p. 77). The current trend, at least in academia, is the endorsement of language-as-a-resource orientation (typology provided by Ruiz, as cited in Zhang & Slaughter-Defoe) which “goes further than language-as-a-right to suggest that immigrant languages are not only a resource for the immigrant students themselves, but also for society as a whole” (p. 79). The language goal is to have bilinguals among both immigrant and mainstream students; the cultural and social goals are to promote biculturality and social integration.

Indeed, more research on Chinese as a HL is needed. A larger sample size of HS than the present study would be ideal. Other limitations of the present study were the reliance on the participants’ self-reporting of Mandarin input and use, and their subjective assessment of their parents’ English proficiency. As pointed out by (Montrul, 2010) “most studies to date rely on estimates of input frequency from self-reports or analyses of corpora. But estimates are not measurements” (p. 19). Longitudinal studies could better capture the real input and use of HL over the course of HS’s lives. Having multiple sources, that is, both parents and children estimating each other’s language proficiency and language exposure and use, might help to make estimations more accurate. For parents’ English proficiency, asking children to report on their language brokering experience (translating for their parents) could be another way to probe parents’ English proficiency. Another line of study could be on whether or not parents are

immigrants or returnees and how this impacts the manner in which they educate their children, as well as whether or not they expect their children to speak the language used in parents' home country.

Another possible line of research is to recruit HS who have had experience attending Chinese schools and who can contribute to the future curriculum design. While many HS were reluctant to attend as young kids, as grown-ups they can report on their experiences and make suggestions to the schoolteachers and curriculum designers. Hopefully, future parents need not “force” their children to go to Chinese schools, as typically seen up to the present. Considering the methodology, more research in HL can be undertaken through the lens of ethnography. While many qualitative studies have been conducted in the field of HL, ethnographic research, particularly outside of community-based language schools and ethnic neighborhoods, is rarely conducted. For example, previous studies have suggested that once minority children have started formal schooling, their HL skills declined in direct proportion to the speed with which they learn English. In this study, some of the participants reported that their use of Mandarin decreased rapidly after age 5. It would be enlightening to see how exactly this process happens. How do young children experience this process at this point in their lives, as it happens, and not what adults recall years later in retrospective data, which most studies up to the present have gathered?

Nowadays the benefits of multilingualism (the understanding of bi- or multilingual as an asset) are clear. Yet there are still many parents unnecessarily worrying that their children will be at disadvantage if they do not learn English early. This needless fear leads to their not actively teaching their young children the HL while it is the easiest time for minority children to pick up

any language and build positive attitudes towards the HL and its associated minority group. For those who regret not learning their HL well, or for parents that are concerned that their children cannot or will not learn their HL, this study demonstrates that it does in fact take much of extra effort, and that there are multiple factors that combine to achieve a high level of proficiency.

Appendices

Appendix A: Modified OPI Questions Modified from Kagan and Friedman's (2004)

These questions are to be answered orally and recorded.

1. Briefly introduce yourself. (Warm-up/personal)
2. Describe your typical day. (Present-tense narrative)
3. Where did you go and what did you do during a memorable vacation (Past tense narrative)
4. In which kind university is it better to study, in a large one or a small one? In a private or public one? Give reasons for your opinions. (Comparison; supported opinion)
5. What steps should a high school student take to get into a good college? (Description of a process)
6. You are in a professor's office. How are you going to ask him or her to write a recommendation letter for you?
7. You are visiting your friend but he or she is not home yet. Introduce yourself to his or her Mandarin-speaking grandparents. . (Introductions)
8. You bought a pair of shoes in Taiwan, but they are the wrong size. Or you brought a cell phone that stopped working in a short time after purchase. You want to return them to the store. What would you say to the customer service representative? (Complaining)
9. Talk about an undergraduate project (or a class project or mini-study) in your field.
10. Talk about an undergraduate project (or a class project or mini-study) that was not in your major field, e.g., a class not offered in your home department.
11. Summarize and comment on a recent news article that you read or event that you saw on the TV or internet.
12. What's your opinion on the recent presidential election between Barack Obama and Mitt Romney? Pretend to persuade a friend when he or she wanted to vote for a different candidate.
13. If you were a Chinese parent, what steps would you take to encourage your American-born children who refuse to learn Chinese?
14. Many immigrants have identity issues. What would you suggest for them to overcome these problems?

Appendix B: Sample Reading Passage and Questions (Both in Original Chinese and English Translation)

※ 閱讀短文後，請回答第 21、22、23、24 題

風娃娃長大了。有一天，風媽媽說：「到田野去吧！在那裡，你可以做許多好事，幫助有需要的人們。」

風娃娃來到田野上，看見一個大風車正在慢慢轉動，風車下邊，一股小水流斷斷續續的流著。風娃娃深深吸了一口氣，鼓起腮，使勁的吹過去。轉眼間，風車快速的轉動起來，風車下的水量變多了，嘩啦嘩啦的向田裡流去。小小的稻苗受到滋潤，個個挺直了腰，迎著風點頭微笑。風娃娃看了高興極了！

河邊，許多船工正同心協力的拉著船前進。船工們低著頭、彎著腰，一邊流著汗，一邊隨著腳步大聲的喊著，可是，船的行進速度卻慢極了！風娃娃看見了，急忙趕過去幫忙，對著船帆使勁的吹。一眨眼，巨大的船身就動了起來，船工們笑了，大家都回過頭來，向風娃娃道謝。

風娃娃心想：只要吹點氣，幫助人們真容易！

他想著想著，不知不覺來到村子裡，只見幾個小孩正在放風箏。風娃娃又想幫忙了，他用力的吹，越吹越高興。結果，風箏斷線了，飛得無影無蹤；村民晒的衣服，散落各地；路邊新種的小樹，東倒西歪……。村子裡到處都是責罵聲，每個人都大罵：風娃娃，實在太可惡！

風娃娃不敢再幫助人們做事了，他在天上轉著、想著，但是想來想去，仍然想不明白：我這麼努力的幫助人們，為什麼有些人滿心感謝，有些人卻這麼生氣呢？(510)

21. (①) 文章中，風媽媽希望風娃娃做什麼事？（提取）

- ① 做好事幫助人們
- ② 到處去走走看看
- ③ 讓河水流得更快
- ④ 用全力吹動風箏

22. (③) 稻苗挺直了腰，點頭微笑的原因是什麼？（推論）

- ① 看到風車轉得快很開心
- ② 感覺風吹在身上很舒服
- ③ 生長需要的水分足夠了
- ④ 風娃娃來到田野陪伴他

23. (②) 文章中，風娃娃曾經真正幫助到誰？（區辨）

- ① 風箏
- ② 稻苗
- ③ 小樹
- ④ 小孩

24. (④) 這篇故事主要想提醒我們什麼？（摘要）

- ① 風力的大小很難控制
- ② 有力氣就可以做好事
- ③ 幫助別人就會受到讚美
- ④ 幫助別人時要用適當的方法

After reading the short essay, please answer questions 21, 22, 23, and 24 below.

The child of wind was growing up. One day, Mother Wind says, “Go to the fields! You can do a lot of good things there and help those who are in need.”

The child of wind goes to the field and sees a big windmill slowly turning. Under the windmill, a stream of water is flowing sporadically²⁶. The child of wind takes a deep breath, puffs his cheeks out, and blows hard. Suddenly, the windmill starts to turn quickly and more water from under the windmill begins to flow to the field with rustling sounds. The seed of the rice moisten, straightening up, and smile at the wind. The child of wind is so happy to see this!

On the riverside many boatmen work in concert to pull a boat forward. Lowering their heads and bending their backs, the boatmen sweat and shout with their feet moving. Yet, the moving speed of the boat is so slow! Seeing this, the child of wind rushes to help and blows air hard toward the sail. In in the twinkling of an eye, the giant body of the boat starts to move. The boatmen smile. Everyone turns back and thanks the child of wind.

The child of wind thinks: it is so easy to help people! I only have to blow some air.

Thinking about it, he unknowingly comes to the village and sees some children are flying kites. The child of wind wants to help again. He blows very hard and the more he blows, the happier he gets. As a result, the strings of the kites break and the kites disappear. The clothes that were hung by the villagers are scattered all around. The newly-planted young trees on the roadside sway and fall over. There is anger everywhere in the village. Everyone is scolding the child of the wind who is now hated!

²⁶ The English phrases or words underlined are presented with Mandarin Phonetic Symbols in the original Chinese version (so at least test-takers know how to pronounce them). Some are Chinese set expressions and some are more advanced words in Chinese.

The child of the wind no longer dares to help people. He rolls around in the sky and thinks. He thinks and thinks, and still cannot understand: why am I working hard to help people and some people have their hearts filled with gratefulness while some are so angry?

21. () In the short essay, what does Mother Wind hope her child will do?

- ① Do good things to help people
- ② Go to many places and look around
- ③ Make the river-water run faster
- ④ Blow kites with all his strength

22. () Why do the seeds of the rice straighten up and smile?

- ① Feel happy at seeing the windmill turning so fast
- ② Feel comfortable that the wind is blowing (on them)
- ③ They are given needed water
- ④ The child of the wind is in the fields to accompany them

23. () In the essay, who/what does the child of the wind actually help?

- ① The kites
- ② The rice seeds
- ③ Young trees
- ④ Children

24. () What is the main theme that this story wants to tell us?

- ① It is hard to control the strength of the wind
- ② One can do good things simply with physical strength
- ③ Helping others will get you praised
- ④ Helping others requires appropriate methods

Appendix C: Questions Used For Semi-structured Interviews

Questions on biographical background.

1. Where were you born? If you were not born in the U.S., how old were you when you arrived in the U.S.?
2. Where did you spent most of your childhood (city, state)? How old are you now?
3. Did you visit or live in any Mandarin-speaking countries (e.g., visiting relatives, travelling, exchange student)? For how long?

Questions on self-assessment.

1. Generally, how would you evaluate your Mandarin/ Chinese proficiency?

	Listening	speaking	Reading	writing
None				
Low				
intermediate				
Advanced				
native-like				

2. What did you base your self-assessment on? For example, do Chinese and Taiwanese people recognize you as being “non-native” or U.S.-born?
3. Can you read and write in Chinese?

Questions on possible factors that might influence Mandarin/Chinese maintenance

(a) Personal motivation

1. What has motivated you to learn Mandarin/Chinese? (Parents, Teacher, Friend, Relative, Self, etc)
2. Are you satisfied with your Mandarin/Chinese ability? If not, what would you do to keep learning and what is your purpose for learning more?

(b) Parental attitude and efforts

1. Does your family want you to maintain your Mandarin?
2. Follow up question. If yes, what did they do to encourage you?
3. Do you think your parents’ attitude had influenced your Mandarin/Chinese maintenance?
4. Would your parents want you to marry a Mandarin-speaker or an ethnic Chinese?

(c) Cultural identity and attitudes

1. How do you self-identify? (e.g. American, Chinese American, Taiwanese American, Chinese, Taiwanese, Asian, Asian American, etc.) Why?

2. Do you consider yourself connected to the Chinese American and/or Taiwanese American communities?

3. Would you consider marrying a non- ethnic Chinese or a non-Mandarin speaker?

5. Would you consider visiting or permanently living in Taiwan or China?

6. Do you intend to teach your children Mandarin/Chinese?

(d) Time spent in and experience with community-based Chinese schools

1. Have you ever attended Chinese schools or taken any formal Chinese classes in the U.S.?

2. Follow up question. If yes, please describe how many years/hours you spent in the school and how you think that helped.

3. Which spelling systems (i.e., Mandarin Phonetic Symbols or Pinyin) and which scripts have you learned and which do you use now?

(e) Parents' English proficiency

1. What do you think your parents' English proficiency was/is?

	Listening	speaking	Reading	writing
None				
Low				
intermediate				
advanced				
native-like				

2. Do you think your parents' English proficiency had influenced your language use?

(f) Mandarin input and use

1. As a young child, did you first learn to speak in English or Mandarin?

2. As a young child, did you first learn to read in English or Chinese?

3. What languages (English, Mandarin or any other languages) did you use most at the following periods in your life? Please create your own meaningful time interval when needed.

Years	0 to5 years old	6 to12 years old	13to18 years old	18+ years old
Language(s)				

4. What language(s) do you speak most of the time now? In what contexts? With whom?

5. Do you access the Internet in Chinese? If yes, what is the ratio of times you go to Chinese vs. English websites?)

(g) Dialectal influences

1. Does your family speak another language(s) or Chinese dialects in addition to Mandarin at home, e.g., Taiwanese (Southern Min) or Hakka?

2. Follow up question. Do you speak the same language(s)? Why or why not?

(h) Others

1. As a recap, what factors do you think that contribute to your language proficiency in Chinese?

2. Besides the above questions, can you think of any other factors that influenced your Mandarin/Chinese maintenance? / Is there anything you wish to elaborate on?

(i) Follow-up questions via e-mail

1. Did your parents come to the US for graduate school? Do they plan to stay in the U.S. after you were born? Do you think it has an impact on how they teach and expect you to speak Mandarin?

2. Can you give me the percentage of passive exposure and active use of Mandarin from (1) 0 -5 (2) 6-12 (3) 13-18 and (4) 18+ /Current?

3. Were you placed in an ESL class as a child?

4. How do you think about language and identity? Do you think one has to be able to speak Mandarin (or even Taiwanese) to be a Chinese or Taiwanese?

Appendix D: Speaking (Modified OPI) Results and Detailed Description

	Fred	Jack	Susan	Beth	John	Rhonda	Kate	Ann	Christine	Ed
ACTFL rating	Superior	Superior	Intermediate High-Advanced Low	Intermediate High-Advanced Low	Intermediate High	Intermediate Mid-Intermediate High	Intermediate Mid-Intermediate High	Intermediate Low-Intermediate Mid	Novice High-Intermediate Low	Novice High-Intermediate Low
Description I applied from the ACTFL Guidelines when giving ratings	discussed, narrated, and explained various topics “all with ease, fluency, and accuracy”	discussed, narrated, and explained various topics “all with ease, fluency, and accuracy”	Some “code-switching”, mostly connectors; two examples of “self-correction” (e.g., say “tree” and then self-correct to say “forest” in Mandarin)	Some “code-switching”; some “rephrasing” (e.g., said “rougher oil” when she meant “crude oil” in Mandarin)	“a reduction in breadth and appropriateness of vocabulary” (e.g., when talking about his project); frequent “code-switching”; “literal translations”	“a reduction in breadth and appropriateness of vocabulary”; frequent “code-switching”; “literal translations”	“a reduction in breadth and appropriateness of vocabulary”; frequent “code-switching”; “literal translations”	Noticeable “pauses” and “hesitancy”; also one noticeable example of “literal translations” ^a (i.e., literally translated the English phrase “the conclusion we came to was” into Mandarin)	heavy “code-switching”; “literal translations”	heavy “code-switching”; “literal translations”
Comments on their characteristics of speaking other than those described in the ACTFL Guidelines	Even used a few exclamations, slang and curse words in Mandarin; barely discernible heritage accent	Speaks faster ^b than even people born and raised in Taiwan, which he considers as a bad habit he also needs to get rid of in English; barely discernible heritage accent	Conjunctions and fillers (e.g., “and” and “like”) very often done in English; some (heritage) accent	Conjunctions and adverbs (e.g., “you know”, “like” and “actually”) very often done in English; some (heritage) accent	Talked slower than native speaker; lack of “polite” register when asking professors to write a recommendation letter; some (heritage) accent	Roughly the same speed as native speaker; Discernible heritage accent; some (heritage) accent	Used somewhat childlike Mandarin (e.g., used reduplication) and repetitive structure (e.g., “eat together or eat alone”); some (heritage) accent	Talked very slowly but accurately; some (heritage) accent	some (heritage) accent	heavy (heritage) accent

Note. ^aIn the body part I explain that although “literal translations” is in the levels of Advanced Low and Intermediate High, I did not to give Ann, Christine, and Ed such high rating because of other more obvious lower-level features they exhibited. ^bThe word “fluency” but not “speed” appeared in the ACTFL Guidelines. Although “fluency” is indicated by “rate of speech” (Kagan & Friedman, 2004, p. 540), I consider fluency also entails “correct usage” and “without unnatural hesitations” while speed just indicates “rate of word ‘production’”, that is, talk fast or slow. With two of the participants, “speed” stood out when I conducted the modified OPI. While Jack speaks accurately and fast, Ann speaks accurately but slow. Her rating is lowered partly because of the unnatural hesitation and pauses though, as mentioned in the body part, it is difficult to judge whether she was just a slow speaker, or she was being too careful in testing, or had difficulty retrieving the necessary words or phrases she needed.

Appendix E: Reading Results and Detailed Description

	Passing rate (%) of Taiwanese students ^b	Passing rates of my participants	Jack	Fred	Ann	Susan	John	Beth	Rhonda	Kate
Test Time (minutes) ^a			30	25	15	45	25	30	30	45
Score Question Number			15/16	15/16	15/16	15/16	13/16	9/16	5/16	5/16
21	94.30	100	V	V	V	V	V	V	V	V
22	67.52	62.5	V	V	V	X	X	X	X	X
23	85.37	25	V	V	V	V	V	V	X	X
24	86.17	25	V	V	V	V	V	V	X	X
25	86.48	12.5	V	V	V	V	V	X	V	V
26	84.26	50	V	V	V	V	X	X	X	X
27	69.20	37.5	V	V	V	V	V	X	X	X
28	81.82	37.5	X	V	X	V	V	X	V	V
29	93.06	25	V	V	V	V	V	V	X	X
30	80.94	12.5	V	V	V	V	V	V	X	V
31	77.43	37.5	V	X	V	V	V	X	V	X
32	56.32	50	V	V	V	V	X	X	X	X
33	49.43	25	V	V	V	V	V	V	X	X
34	63.04	12.5	V	V	V	V	V	V	V	X
35	71.20	12.5	V	V	V	V	V	V	X	V
36	62.83	25	V	V	V	V	V	V	X	X

Note. “V” indicates the participants answered the questions correctly while “X” indicates they gave the wrong answers.

^aThe testing time varied because I did not set a limit time. ^bThe passing rate of Taiwanese students is based on the online report.

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