English in the Chinese discourse of Chinese professionals in London:
Register and social factors

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Abstract

Most sociolinguistic studies on code-switching (hereafter CS) have been situated in face-to-face communication, with a few recent studies extending their interest to CS in online environments (e.g. Androutsopoulos, 2013). Very few studies have considered both spoken and online registers of CS usage by individuals. This study describes variation in the form, frequency and discourse functions of English use (i.e. CS to English) within Chinese discourse across registers (spoken and online written), among a group of bilingual professionals based in London. This study also assesses how the social factors of network (openness and ethnicity of network), attitudes, and proficiency, of which the intersecting importance in influencing CS use has been increasingly recognized, interact in their effect on different types of CS across different registers.

The data are taken from 40 participants aged 25–40, and include recorded semi-structured interviews, questionnaire data on social factor details, and social networking data from the website SinaWeibo.

Quantitative and qualitative analyses are conducted to examine the differences between registers in CS use. The influences of social factors on CS are assessed through multivariate analysis. The results indicate that register strongly affects CS use. Social influences on CS also vary along with register differences. To account for these findings, a model is proposed, in which the frequency and complexity of CS is inversely correlated with cognitive load demanded by register, at least within informal registers used by L2 English speakers. In terms of social factors, as the demand of practicing CS or cognitive demand of register increases, the influence of attitudes gradually gives way to that of ethnicity of network type. Theoretical implications and contributions of the findings for the wider understanding of CS, in particular the importance of register to CS style and the interaction between cognitive and social constraints, are considered and discussed.

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Chapter 1

Introduction

1.1 Purpose of the study

Defined as the use of two or more languages or language varieties in the same conversation or sentence (Gardner-Chloros, 2009a), code-switching (hereafter CS) signals a speaker's ability to function in two or more languages/language varieties. CS is not a marginal phenomenon, but is widespread among bilinguals. In some communities, it is even the normative discursive practice (Meeuwis & Blommaert, 1998). Studies on CS have been growing fast since the works of Gumperz and his colleagues in the 1960s and 1970s (e.g. Blom & Gumperz, 1972/2000; Gumperz, 1964, 1967). The significance of CS can be understood in a variety of ways. The systematic nature of structures of CS (e.g. Clyne, 1987; Myers-Scotton, 1993a; Poplack, 1980) provides a unique window to understand what language is from a user's perspective; alternate use of two or more languages also reflects social constructs (Gumperz, 1982) and cognitive control mechanisms (Myers-Scotton & Jake, 1995; 2000) in the brain of bilinguals. This study assesses the relative contribution of social and cognitive effects in the use of English among Chinese professionals in London.

It has been suggested that sociolinguistic factors primarily account for the variation in CS and that CS should be studied first and foremost from a sociolinguistic perspective (Gardner-Chloros, 2009b). A major reason for this argument might be associated with the fact that the combination of two or more languages in interactions was first noticed to be combined in social contexts and in a socially meaningful way. Not surprisingly, sociolinguistic studies of CS represent a large body in CS literature. Various social factors have been revealed as affecting variation in CS use across different speech communities and amongst individuals within the same community. Gardner-Chloros (2009b: 98-99) classifies these factors into three main types:

- factors independent of particular speakers and particular circumstances in which varieties are used, which affect all the speakers of the relevant

varieties in a particular community

- factors attaching to the speakers, both as individuals and as members of variety of sub-groups, including their competence in each variety, their social networks and relationships, their attitudes and ideology, their self-perception and perception of others

- factors within the conversation where CS takes place

These factors point to reasons why CS, although universal as a phenomenon of language contact, exhibits such great variation across communities and individual speakers. However, in many studies, either only one main factor is taken as the focus or several factors are examined independently from each other. This allows an in-depth examination of the influences of individual factors, but leaves open the question as to how interactions among these factors may contribute to different use of CS. In some cases, the influence of one factor might only be a result of the association of this factor with a more influential variable. This, to some extent, reflects the dispersed nature of the current scholarship in the field of sociolinguistics, which points to the lack of a consistent, systematic and integrative approach to examine language use across different social settings and different communities. Furthermore, many sociolinguistic studies of CS are concerned with the identity-related and discourse functions of CS. Few studies direct their attention towards how CS might be influenced by a speaker's networks and attitudes concurrently (though see Li Wei et al. [2000] and Toribio [2002] for individual examinations of each factor); both networks and attitudes have, however, been core themes in sociolinguistics in relation to language change and variation (e.g. Labov, 1972; Milroy, 1987). These two factors become particularly pertinent in the context of language use by a minority group living in a host country, as it has been shown in the literature that language use among immigrants is affected by their cultural alignment (Barden & Großkopf, 1998, cited in Auer & Hinskens, 2005) and the ethnic make-up of their networks (Chiswick & Miller, 1996). Therefore, it is of interest to show how the participants in this study navigate between two cultures, and how their cultural alignment, language attitudes and networks, including their homeland ties and current ethnic relations, to work either together or counter to each other to affect their linguistic behaviors and their language choice between English and Chinese.

Although this study focuses on networks and attitudes, proficiency is also taken into consideration as it has been shown to be of close relevance in CS (e.g. Muysken, 2000; Singh & Backus; 2000). In certain cases, speakers' relative language proficiency might be the very factor that brings about differences in networks and attitudes, and hence may be the underlying basis of their CS pattern. On the other hand, it is conceivable that CS choices might be made quite independently of proficiency. Thus, examining in what ways networks, attitudes, and language proficiency interact with each other, and their comparative influences on adoption of CS, is a primary goal of this thesis.

CS is not confined to speech; it also appears in online environments. The prevalence of CS use in online environments provides promising data for sociolinguistic study of CS and an increasing body of literature has already revealed some interesting results (e.g. Androutsopoulos, 2007b; Herring, 2007; Hinrichs, 2006). The growing interest in studying CS online is partly inspired by the excitement of finding CS in a new domain and checking whether every finding drawn in the context of oral interactions is applicable in a new register. However, more importantly, the appearance of CS in a new domain highlights a number of theoretically interesting questions. For example, CS use in online environments involves a certain level of consciousness on the part of its authors. A slip of the tongue or other processing effects can be among the reasons for switching in spoken mode, but the same reason is unlikely to hold for CS use in written mode, especially when it comes to two languages whose writing and typing systems are different and switching between them involves a conscious manual act. Therefore, the conscious act of language switching is valuable for research that focuses on stylistic uses of CS, and/or social motivations of CS use.

Furthermore, the presence of CS in a new domain might offer some more robust methodological procedures for collecting CS data. It is generally held that real usages of CS are typically obtained in natural and spontaneous speech. However, the reliability of CS collected either by participant observation or sociolinguistic interviews might be compromised by the presence of the interviewer (known as "observer's paradox", Labov, 1972). However, CS use in online environments, once access to such data is obtained, could be immune from effects of the investigator's observation. The data was often produced before the investigator starts data

collection; even in the case where data collection and online writing are ongoing at the same time, it is difficult to imagine that a writer would start writing in a performance style just for the investigator and ignore his/her wider audience.

These advantages of studying online CS do not imply that CS in spoken language should be relegated to a secondary position. Instead, I propose a more comprehensive approach that incorporates both the spoken and written CS of individuals, which is very rare in the existing literature. A comparative study of CS usage across different registers has several advantages over examining just one register. For example, a wider range of CS use and ability can be revealed. Those speakers who avoid switching or only do a certain type of switching in speech might display a wider range of switching style in writing. In addition, social motivations for CS, such as stylistic use of CS for the purpose of identity construction, can be studied from multiple perspectives, with a better understanding of interactions between social, situational and cognitive factors. In particular, the differences between spoken and written registers in terms of their different affordances provided to speakers/users could play a part in how CS comes to be instantiated in each. Thus, a second goal of this thesis is to compare CS use across different registers and to investigate how speakers exploit their linguistic repertoire variably in these two registers. Figure 1.1 summarizes the two goals of this thesis and presents the scope of the current study.

Use of English in Chinese discourse across registers   Social factors
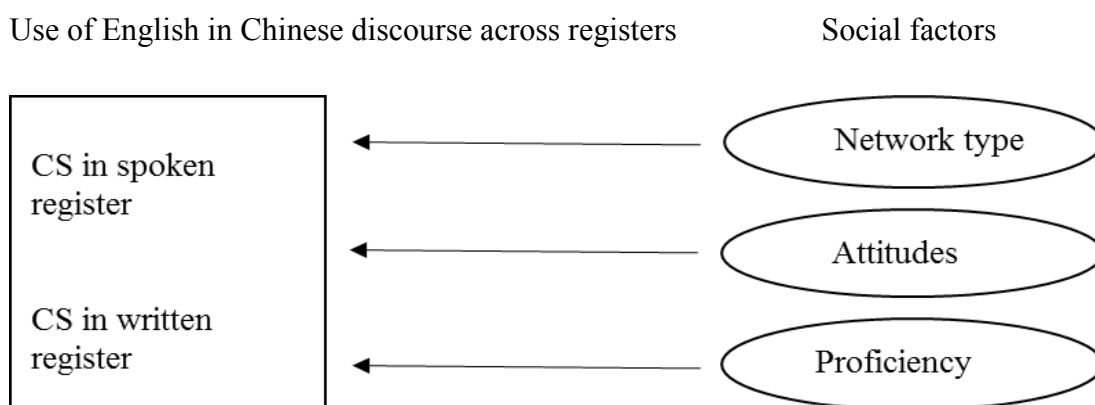
Figure 1.1 The scope of the study

In the remainder of this chapter, I first present a brief introduction to the participants of this study, i.e. Chinese communities in London, from which the current participants were sampled, and then give a general description of English use both in mainland China and among the current participants. An outline of the

chapters that follow is presented at the end.

1.2 Chinese communities in the UK

The community I am investigating is one of the subgroups of Chinese people present in the UK. A notable feature of the Chinese in the UK is that they are highly diverse and decentralized in terms of geographic settlement, socioeconomic status and linguistic background. It is sometimes difficult to refer to the Chinese living in the UK as a "community" when a community refers to "a cohesive and self-conscious social group" (Cohen, 1982, cited in Li Wei, 2007). However, for the sake of convenience, I occasionally refer to them as the Chinese community in this thesis.

Even though the Chinese community is not the biggest ethnic group in the UK, it is the fastest growing with an annual increase of 8.6% between 2001 and 2009 (Office for National Statistics [ONS], 2011). According to ONS (2006), the total Chinese population in the UK is over 400,000, which accounts for about 0.7% of the whole population in the UK. 33% of the Chinese population live in London. Even though they are comparatively more concentrated in London, in 2005, it was reported that there was only one ward where the Chinese population exceeded 5%, which was Millwall in Tower Hamlets at 5.4% ("What the maps don't show", 2005).

The main immigration waves of Chinese to the UK are described in detail in Li Wei (2007). The study reports that the first group of Chinese arrived in the UK as seamen some 150 years ago. However, the observable immigration of Chinese people to the UK dates back to the post-war (WWII) period when many people from Hong Kong left farm work to search for new opportunities for employment in the UK because of fierce competition from American products (Alibhai-Brown, 2001, cited in Li Wei, 2007). Most of these immigrants concentrated in the catering business as the changing habits of British people in food and the popularization of oriental food provided a gap which could be perfectly filled by the exquisite cooking skills brought along by the immigrants. A continued increase in the number of Chinese immigrants was observed between the mid-1960s and the mid-1970s as the growing catering sector required more workforce. Many new immigrants arrived with the help of their contacts who were already established in the UK to reinforce the sector. However, due to the increasingly restrictive immigration laws of Britain in the 1980s, Chinese immigration by traditional means had been greatly reduced.

Newly arrived Chinese at this period were mostly ethnic Chinese Vietnamese coming to the UK under a United Nations' refugee settlement program. At the same time in the 1980s, the number of students and skilled immigrants from mainland China began to increase. This inflow of immigrants usually came to the UK without any previous migratory link. In Li Wei (2007), the term "professional transients" was used to broadly refer to this group of immigrants. Among them, there are students, teachers, doctors, architects and people from other various professions. After their education or short visit is finished, some of them have chosen to stay and even to establish their home in the UK. An important feature of this group is that it is remarkably fluid in the sense that there is a large number of new members joining the community every year and at the same time, a considerable number of existing members choose to go back to China permanently. Therefore, how many Chinese people fall into this category remains unknown.

Early Chinese immigrants are over-represented in self-employment, in particular in the food and catering sector. The concentration in this sector is also one of the reasons for the dispersed settlement pattern as family-based enterprises facilitate competition in business and such competition necessitates geographical dispersal to maintain enough customers. However, the concentration in the catering sector and the self-employment rate have been dropping in recent years. For example, in 2001, the overall self-employment rate of Chinese in the UK was 23% (Scottish Government, 2006); however, by 2004, this rate was under 16% (Clark & Drinkwater, 2007). Nevertheless, the Chinese self-employment rate is still the highest among Britain's main ethnic groups. Other common business sectors for the Chinese in Britain include business services, recreational and cultural services, wholesale distribution and hotel management (McEvoy & Hafeez, 2009).

One of the reasons for the fall in self-employment rates in traditional business industries is that many British-born children of early Chinese immigrants (the emerging British-born generation) chose not to follow the family business but to acquire higher qualifications via education and find employment in other professions. Another reason could be an increasing proportion of "professional transients" whose various professions in other industries vary the make-up of employment pattern of the Chinese in Britain.

The linguistic background of the Chinese in Britain varies to a large extent as

their geographic origin varies and people from different parts of China may speak a different dialect. A pattern of "polyglossia" is reported in Li Wei (2007). English is the High variety in terms of socio-economic status. A need to develop proficiency in English is felt by most Chinese in Britain. At the same time, it is estimated that up to 70% of the Chinese in the UK speak Cantonese as their native language and Cantonese is the community High variety language. Among the remaining, approximately 25% speak Hakka[1] and the rest speak other varieties of Chinese regional dialects. *Putonghua*, otherwise known as Standard Mandarin Chinese, is also reported to be spoken by an increasing number of people owing to its higher sociopolitical status as the official language of the Chinese government. As a result, Standard Mandarin is the politically High variety within the community. Other regional dialects are Low varieties. The actual linguistic situation among the Chinese in the UK might be more complex. Standard Mandarin might not only be the politically High variety, but also the community High variety among non-Cantonese speaking Chinese. With the increasing number of new arrivals from mainland China, the proportion of Cantonese speaking Chinese might be falling and the need to carry out communications among different sub-groups of Chinese is furthering the development of Mandarin Chinese as the lingua franca within the community.

Language use by different generations of Chinese in the UK also varies considerably. Among the first generation immigrants, Chinese is the preferred language and their preference for and preservation of monolingual Chinese might be due to their concentration in family-based catering businesses and their close-knit networks. The British-born generation, on the other hand, use English as their primary language as they go to school where English is the language of instruction and spend most of their time with English speakers. Their fluency in spoken Chinese varies and their Chinese literacy is generally low.

Sociolinguistic studies of Chinese immigrants in the UK have mainly focused on such inter-generational differences in language use and on how language shift has been taking place (e.g. Li Wei, 1994; Li Wei et al., 2000). Earlier studies explored how different linguistic preferences by different generations are negotiated in conversations. By contrast, the professional transients and their linguistic behavior

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[1]Hakka is spoken natively by the Hakka people in southern China, Taiwan and throughout the diaspora areas of East Asia, Southeast Asia and around the world ("Hakka Chinese", 2015).

have received very little attention (however, see Li Wei & Zhu Hua (2013) for a detailed study of Chinese students in the UK). The term "professional transients" is an umbrella term for what is in fact a highly diverse group socially and linguistically and the geographic pattern of settlement of the people within it shows that they have been dispersed. It is somewhat difficult to predict their linguistic behaviors as their social relations are more complicated because they usually do not have family and kin ties in the UK and are distributed among highly diverse ethnic groups. This, among other reasons, determines their instability between settling and returning. How this social instability conditions their language use and how they define themselves in a culturally diversified environment through linguistic means still remains poorly understood.

This study therefore moves attention away from inter-generational differences in language choice to intra-generational differences in language use, in particular use of CS, under the influence of salient social factors such as network types, attitudes and proficiency. The location of this study is London, one of the most ethnically diverse cities in the world. The multi-cultural and multi-ethnic nature of London might give rise to greater variation in speakers' social backgrounds, such as more variable attitudinal orientation and more complex social relations. Such expected variation in social details is also assumed to produce more interesting variation in CS use.

1.3 English use among Chinese
1.3.1 English use in mainland China
One of the challenges in developing a systematic framework to guide and compare studies of CS in different speech communities is presented by the differences in linguistic and cultural backgrounds of CS-using communities. Without reference to such background and to a detailed examination of the role of each language in a speaker's communication repertoire, it is difficult to understand why studies on similar linguistic behaviors yield dramatically different results. This applies equally to the increasing use of English elements in Chinese conversations, even in China (e.g. Bolton & Botha, 2015; Botha, 2014). The role of English in China therefore needs to be taken into consideration as it provides a relevant and pertinent backdrop against which we can better understand the CS practices of Chinese people.

Unlike other countries in Asia such as India, Malaysia, Singapore and the Philippines which are defined as *English-using* societies (Bolton & Graddol, 2012), China has often been referred to as one of the major *English-learning* societies. The number of English learners in China in 2010 was around 400 million, which approximately accounts for one third of China's population (Bolton & Graddol, 2012). English has been enthusiastically promoted at educational level since the 1980s after the "Open Door" policy was implemented. For decades, the age at which English is taught has been continually lowered and it has been an official policy since 2001 that pupils aged 8 or 9 onwards should start learning English (Wang, 2007). In addition, English is also a compulsory tested subject in *gaokao* (the National University Entrance Qualifying Exam), which is taken by millions of students every year.

The importance of English in education might be due to the status of English as the global lingua franca and its wide use in mainstream publications, media, diplomacy, international trade and other important social domains (Crystal, 2003). In fact, English is not only an important school subject in China but is also linked to modernity and prosperity overall. Good proficiency in English puts a speaker in an advantageous position in job market while a lack of proficiency in English could seriously affect a speaker's career development. A personal experience reported by a friend of mine shows such importance of English. His entry into a bigger company failed as a result of his unsatisfactory performance in the test of English abilities, even though the employer was pleased by his overall performance in the interview and showed pity of not being able to recruit him. This example illustrates vividly how a better command of English guarantees more opportunities from a socioeconomic perspective. In this sense, it is argued that the main function of English in China is one of social and economic mobility (Zhao & Campbell, 1995).

However, as an added foreign language in an English-learning society, English is not widely used in day-to-day interaction. In Bolton and Graddol (2012), it is reported that English is restricted to a handful of domains, of which education is a major one. According to some national surveys of languages carried out between September 1999 and March 2001, nearly 70% of Chinese people who have learned English seldom used the language in everyday life (Wei & Su, 2012). Therefore, if we ignore the internal complex linguistic variability in China and only take the

official language, Putonghua or Standard Mandarin Chinese, as the representative language, China is still a monolingual speech community. This might be one of the reasons why another common view upon the function of English in China is that English is reserved for international communication (Cheng, 1992). Such a view implies that English should only be spoken with English-speaking people and is not needed for communications between Chinese people. Those who can speak very good English are expected to speak this language only when other English-only speaking people are present. Without their presence, the default language of interaction is Chinese. This norm of avoiding spoken English and of speaking Chinese among Chinese people is also reported in Gibbons (1987). Avoiding using English in oral conversation between Chinese speakers might be associated with some traditional Chinese cultural norms, such as maintaining harmonious interpersonal relationships by self-effacement (Bond, 1991; Bond et al., 1982).

Nevertheless, English use has transcended the educational domain in recent years. For example, the increasing use of English in Chinese contexts has been attested among Chinese employers in foreign-owned enterprises in mainland China and also among Chinese university students in their personal lives (Bolton & Botha, 2015; Botha, 2014). In particular, the use of English in online environments is gaining popularity, especially in some popular social networking websites, such as SinaWeibo, Douban and Renren. Zhang (2012) observes that "the trend of English 'mixing' in varying degrees in China's homegrown social networking spaces has become the most significant intranational use of English in mainland China today"(p. 41).

1.3.2   English use among the present participants

The participants of the present thesis are a group of bilingual professionals based in London. They are no longer situated in China. Instead, they have chosen to settle down in an English-speaking country where Chinese is preserved for Chinese-only domains and English has become their language of wider use and of daily interaction with people from other linguistic and ethnic backgrounds. This implies a new role assigned to English in addition to the functions mentioned in the previous section 1.3.1. However, these participants are not extremely distinct from L2 English learners in mainland China. They also acquired English mainly in classroom settings (a few were coupled with some naturalistic learning) regardless of their age of arrival

and the time of residence in the UK. Their use of English in daily interaction only became frequent after they came to the UK. In this sense, they are still considered as L2 English users/learners.

Therefore, CS attested among this group of speakers might be different from CS among more balanced bilinguals in stable bilingual communities where both languages are used in daily interaction from early on. Such differences are expected to lead to not only different forms of CS but potentially also to some differences in the social meanings and functions of CS.

1.4 Organization of the thesis

This thesis is divided into eight chapters. The current chapter (Chapter 1) has introduced the motivation of the thesis and broad social background of the participants. Chapter 2 reviews the existing literature and develops appropriate theoretical frameworks to situate the current research. The research questions that are addressed in the thesis are also specified in Chapter 2. In Chapter 3, a detailed account of the methods used for collecting and coding data is given and the rationale for selecting particular methods is also discussed. Chapter 4 describes variation in CS across registers in terms of frequency and pattern. Chapter 5 further extends the discussion of register differences by outlining the different functions and different styles of CS across registers. In brief, both chapters show how the participants use CS differently in different registers from various perspectives and propose possible reasons for the differing use. The remaining two chapters aim to account for the observed variation by examining several social factors. Chapter 6 first describes the participants' networks, language proficiency and language attitudes and investigates interactions among the social variables. In Chapter 7, the influences of these social factors on CS are explored and discussed. Chapter 7 also synthesizes the findings to propose a compact model that can simultaneously account for register and social differences found in the data. Implications and contributions of the thesis are discussed and considered in Chapter 8, where all the findings are summarized.

Chapter 2

Literature Review

In this chapter, I review research on sociolinguistic approaches to CS that is relevant to the present study (see Figure 1.1 for the scope of the study) and I attempt to identify a gap in the literature that will be addressed in the thesis. I also present the theoretical framework that underpins the study.

I first compare different views on how to define CS and how it differs from other common and related terms (e.g. borrowing and language mixing), and then define the use of CS in the present thesis (section 2.1). Following this key definition, I review existing typologies to differentiate various syntactic patterns of CS and present how my typology is situated in the current literature (section 2.2). In section 2.3, I report on previous studies of social functions of CS. Indexical qualities of CS at a more macro level and social meanings of CS in more micro conversations are both reviewed. In section 2.4, I revisit the social factors that have been reported to affect individual variation in CS use, with special attention being paid to possible interactions among the factors. In section 2.5, I review studies on CS in online written contexts and discuss the implications of studying CS in online environments. In the last section (section 2.6), I present a unified framework to model various characteristics of different registers.

2.1 Definitions of the key term: what is code-switching?

In the simplest sense, *code-switching* refers to the alternate use of two codes. "Code" was originally used in the field of communication technology (Alvarez-Caccamo, 1998). Now it has been taken as a term for languages, different varieties of languages, dialects, and registers. Switching between codes can also be observed among monolinguals who can draw on different linguistic registers in their repertoire according to conversational settings, audience and role relations, which is often described as *style shifting* (e.g. Bell, 1997; Wolfram & Schilling-Estes, 1998). When it comes to bilinguals or multilinguals, CS is usually defined as shifting between different languages/varieties they command and such shifting is different from *diglossia* (Ferguson, 1959/2000), where different languages are reserved for different

domains. The presence of two or more languages are observed when the domain of use or conversational setting is unchanged and the alternate use of two or more languages can take place at all linguistic levels, either within a single discourse, a single sentence or even within a single word. Poplack (1980) defines CS as "the alternation of two languages within a single discourse, sentence or constituent" (p. 583). In fact, many definitions widely used share the same core meaning of this one. For example, in Gardner-Chloros (2009a), CS is defined as "the use of two languages or dialects in the same conversation or sentence by bilingual people" (p. 1). Myers-Scotton (2006) also broadly describes CS as "the use of two language varieties in the same conversation" (p. 239).

However, the agreement on the involvement of two languages is not shared by all researchers on CS. For example, Meeuwis and Blommaert (1998) believe that CS can exist as an independent language variety in its own right. This monolectal view of CS treats the alternation between two or more languages not as blending of monolingual characteristics of two languages but as one code. Even among those who consider CS as drawing upon two individual languages, use of this term is somewhat arbitrary. This is because CS is not a simple concept but consists of a range of phenomena resulting from language contact, including complete switching to a different language, recurring back and forth switching between languages, and switching for a single expression or even a single word. The lack of a unanimous definition of CS is commented upon by Milroy and Muysken (1995:12) as such:

> The field of CS research is replete with a confusing range of terms descriptive of various aspects of the phenomenon. Sometimes the referential scope of a set of these terms overlaps and sometimes particular terms are used in different ways by different writers.

What further complicates the terminology in the field of CS is the presence of other closely related terms, such as borrowing and code-mixing, as these terms also describe the use of elements from another language in the current interacting language. Some researchers prefer to use an umbrella term, such as *interference* (Weinreich, 1953), *transference* (Clyne, 2003). Some other researchers emphasize the unique characteristics of each phenomenon, of CS in particular, and thus the need to separate them out (e.g. Poplack & Meechan, 1995). However, in some cases, what

is referred to as CS in one study is considered as borrowing in another study, and what is defined as code-mixing in this study is not termed as such in a different study. Such lack of a unanimous definition of CS sometimes can impede comparison across studies; yet, it is not easy and might not be a good idea to construct a single framework to fit descriptions of data from various contexts as a single framework might shade some unique characteristics of CS taking place in some communities. Regarding this, Gardner-Chloros (2009a:10) points out:

> CS is not an entity which exists out there in the objective world, but a construct which linguists have developed to help them describe their data. It is therefore pointless to argue about what CS is, because, to paraphrase Humpty Dumpty, the word CS can mean whatever we want it to mean.

Nevertheless, clarifying a few terminological distinctions is necessary and helpful. For the purpose of specifying a working but clear definition of CS for this study, I briefly examine the differences between CS and two other common and closely related terms, i.e., borrowing and code-mixing, and then explain how CS is operationalized at theoretical level in the present study.

2.1.1 Code-switching and borrowing

One of the heated debates among CS researchers is how to differentiate borrowing from CS, especially insertional CS, since both involve the use of lexical items from a foreign language. As the present study involves single word switching, a type of insertional CS, this issue becomes relevant. Many works on theories of borrowing and CS tend to distinguish them based on structural integration of foreign words into the recipient language. For example, borrowing normally denotes integrating a single lexeme morphologically and phonologically into the receiving language, and borrowed items are recurrent, widespread and known to monolingual speakers of host language (e.g. Poplack, Sankoff & Miller, 1988). The use of foreign elements in the case of CS, on the other hand, has not been incorporated into the recipient language in any obvious way.

With this distinction laid out, it is by no means a simple task to make a clear-cut distinction between the two. To start with, the borrowing behavior is not always limited to well-established loanwords and this is where *nonce borrowing* (e.g. Poplack, Sankoff & Miller, 1988; Poplack, Wheeler & Westwood, 1989) is

proposed[2]. Second, phonology and morphology criteria might not be reliable to distinguish CS from loanwords when it comes to either typologically similar languages in terms of phonological/morphological system (for example, English and French) or structurally distant languages (for example, Chinese and English) as not all languages can integrate foreign words with equal ease (Romaine, 1995). The difficulty of distinguishing CS from borrowing is further manifested in the possibility for some new code-switches being developed into loanwords after repeated use in discourse (Backus & Dorleijin, 2009) or in a redefinition of borrowing as a form of static CS (Treffers-Daller, 2009).

Therefore, some researchers propose that borrowing and CS should be treated as falling along a continuum instead of being two categorical concepts since it is impossible to completely differentiate the two phenomena either at theoretical or empirical level (Myers-Scotton, 1993a; Treffers-Daller, 1991). Backus (2015) further proposes that the relationship between CS and borrowing should be understood as that borrowing is the diachronic effects of the synchronic phenomenon of CS. When the code-switched words, "through their usage, get entrenched in individual speakers, and spread through the speech community" (p. 28), then they become conventional words in the receiving language.

Another point worth mentioning concerning the relationship between CS and borrowing is their socio-pragmatic indexical meanings. It is believed that when the use of foreign words has become borrowing, less indexical values are associated with such use. However, Backus (2015) points out that this is not necessarily the case, as in certain bilingual contexts, some established loanwords can also take on pragmatic functions and indexical values associated with the language where the loanwords originate. In this case, loanwords can also function as CS. Thus, the treatment of borrowing and CS either from the structural point of view or from the perspective of social meanings needs to take into consideration social contexts.

The difficulty of completely differentiating CS from borrowing is also experienced in this study. Among some individuals, certain English words might get fully entrenched and should be considered as borrowing, even though these words are not morphologically and phonologically integrated into Chinese; however, the same English words might be typical cases of CS for some other individuals as they

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[2] In fact, Poplack, Sankoff and Miller (1990) treated single word switches as nonce borrowing.

might carry specific discourse and social functions (see Chapter 5). In the current thesis, I treat most cases of insertion of single English words as CS (the empirical criteria are further discussed in Chapter 3), and at the same time consider the possibility of their use being in the process of being entrenched among individual speakers and thus becoming borrowing.

2.1.2 Code-switching and code-mixing

For some researchers, code-mixing is just one manifestation of CS along with other forms of switching. For example, McClure (1977) distinguished two types of CS: code-changing where there is a complete shift to another language, and code-mixing where the shifting to another language takes place within constituents. For other researchers, an opposite approach has been taken by putting CS under the umbrella of code-mixing. In Muysken's (2000) typology of code-mixing, three different types were differentiated based on the degree of separation of languages, i.e. *alternation*, *insertion* and *congruent lexicalization* (p. 3). He used code-mixing to refer to "all cases where lexical items and grammatical features from two languages appear in one sentence" (p. 1) and claimed that "switching is only an appropriate term for the alternational type of mixing" (p. 4), thus reserving CS only for successive language use. Despite the differences in deciding which term has a broader coverage, McClure (1977) and Muysken (2000) both agree that using elements from another language within a sentence indicates a degree of mixing and switching involves a shift in language at bigger boundaries, such as clausal or sentential boundaries.

Another perspective in differentiating CS from code-mixing is concerned with the meanings produced by shifting language. Auer (1999) proposed a continuum from *CS* to *fused lects* with *language mixing* in between. CS is used when the juxtaposition of two languages is "perceived and interpreted as a locally meaningful event by participants" while the use of two languages in language mixing "is not locally but globally meaningful" (p. 10).

In the current literature, CS seems to be used in a wider sense to describe the alternate use of two languages. The differences observed between CS and code-mixing are sometimes acknowledged by differentiating different types of CS, which will be discussed in the next section.

In the present thesis, the definition of CS follows those put forward by previous

researchers such as Poplack (1980), Myers-Scotton (2006), and Gardner-Chloros (2009a) in a broad sense, incorporating the use of foreign (English) linguistic elements within a sentence and shifting to English at sentential boundaries. As the present study examines patterns of CS across registers and aims to account for these patterns, models of CS structures and social functions of CS are both investigated. In the next two sections, I review these details.

2.2 Theoretical framework: structural typology of code-switching

The most basic division to contrast structurally different CS is between inter-sentential and intra-sentential switching. By definition, inter-sentential switching takes place between sentences and intra-sentential switching within sentences (Myers-Scotton, 2006; Poplack, 1980). Such dichotomy in terms of syntactic structures of CS relates back to the differences between CS and code-mixing, as discussed in section 2.1.2. Inter-sentential switching is categorized as CS and intra-sentential switching as code-mixing.

Inter-sentential CS has also been described as alternational code-mixing in Muysken (2000) as he pointed out that code-mixing of this type "is akin to the switching of codes between turns or utterances" (p. 4) as it requires a grammatical compatibility of the languages at switching point (similar to Poplack's (1980) equivalence constraint). The other two types of mixing, insertion and congruent lexicalization, typically take place within single sentences. The difference between insertion and congruent lexicalization corresponds to what Myers-Scotton (2006) termed as *classic CS* and *composite CS*, with the former drawing elements of a clause from both languages but only basing the syntactic structure on one language and the latter having both languages "contribute some of the abstract structure underlying surface forms in the clause" (p. 242).

Auer (1999) also contrasted *alternational* CS and *insertional* CS. Alternational CS, in his usage, indicates successive language use, in which "a return to previous language is not predictable" (pp. 313). Insertional CS takes place when a foreign content word is inserted into "a surrounding passage in the other language" (pp. 314). Insertional CS in Auer's (1999) usage also included use of some morphosyntactically fully integrated elements, which in other cases may be termed as borrowing.

Even though insertion/classic CS and congruent lexicalization/composite CS

differ from each other in terms of underlying grammatical structure, they both take place within a clause and elements from two different languages are inserted into a single clause regardless which one contributes the main grammatical structure. As there is little evidence of congruent lexicalization in the present data, the opposition between alternational and insertional switching is adequate to capture the two main types of CS. This terminological contrast has also been widely used by other researchers (e.g. Backus, 2002; Huang & Milroy, 1995; Toribio, 2001) to broadly differentiate switching taking place within and between sentences. This study thus follows the tradition of distinguishing various syntactic types of CS along the dichotomy between insertional and alternational switching. I avoid using the contrastive terms "inter-sentential" and "intra-sentential" for the reason that intra-sentential switching could refer to switching between two clauses in the same sentence. As will be shown in later chapters, various patterns of CS in the present study mainly contrast at clausal level.

Insertional CS (hereafter ICS) is defined here as insertion of exogenous (English) single words or phrases into a Chinese clause. The grammatical structure of the clause is provided by Chinese. Alternational CS (hereafter ACS) indicates that there is a switching to a different language (English) at clausal boundaries and a whole clause is realized in English in contrast to other Chinese clauses. Such switching involves a shift in both lexicon and grammar. There is another type of switching which is considered as "an emblematic part of the speaker's monolingual style" (Poplack, 1980:589) such as swear words and some discourse markers. Switching of this type is referred to as *tag/emblematic switching*. They can be freely moved to anywhere in the clause and sometimes take place outside of the clause. In this thesis, tag/emblematic switching is also defined as ICS for the reason that such switching does not necessarily indicate a complete change in grammar at clausal level.

In the literature, different types of CS have been linked to different social factors. For example, Muysken (2000) characterized the sociolinguistic embedding of the three types of language mixing he identified. Alternational type of mixing is mostly seen in more stable bilingual communities whereas insertional type is more typical in recent migrant communities. Different levels of speakers' proficiency in the two languages were proposed to account for the different sociolinguistic

embedding. Poplack (1980) found that more positive alignment with a speaker's Puerto Rican ethnic identity was related with greater production of intra-sentential CS (or ICS). These findings suggest that the degree and type of switching are influenced by different social factors, a principle that informs the design of this study.

2.3 Theoretical framework: social functions of code-switching

What causes speakers to shift their language in a single conversation or even in a single sentence concerns discourse and social functions of CS. Why are they switching to a different language when referential or expressive needs can be fulfilled by a single complete language? What extra effects, either locally at conversational level or globally at ideological level, are achieved by bringing in a new interactional language? I review discourse functions that CS has been shown to fulfill in the literature in Chapter 5. Here, I briefly review two theoretical approaches exploring social functions of CS, with one accounting for social motivations of CS from a more macro-level and another revealing how social meanings of CS are locally created or brought about in conversations from a more micro-level.

2.3.1 Macro-level approach: we-code/they-code

Gumperz's (1982) distinction between "we-code" and "they-code" emphasizes the social correlates of each variety for speakers from a given social group. "We-code" symbolizes the ethnically specific, minority language and is linked with in-group activities while "they-code" is associated with majority language and is used in formal occasions among out-group members. The discussion of we-code versus they-code evokes a link between language variety and group identity. However, it is not absolute that one code is in exclusive relation with one specific situation. Gumperz warned against directly predicting actual usage in any given instance through the association of "we" and "they" with particular codes. He recognized that "a variety of options occur, and as with conversations in general, interpretation of messages is in large part of a matter of discourse context, social presuppositions and speakers' background knowledge" (1982:66).

The "we-code/they-code" dichotomy has been widely adopted by other researchers (e.g. McClure & McClure, 1988) but also sees variations. Sebba and Wootton (1998) pointed out that "we/they" code is not absolutely meaningful in all

bilingual communities and the distinction between "we" and "they" cannot be taken as a given. They gave evidence of young Caribbean Londoners, for whom both London English and London Jamaican functioned as their "we-code". They concluded that local and sequential explanation of CS is an important step to interpret the respective value of each variety. In addition, the overall interaction as well as the wider context where the interaction takes place also needs to be considered. It is still possible to interpret the meaning of CS in terms of "we-code/they-code" but "such interpretations must take into account the shifting and negotiated nature of social identities within talk as well as the values attached to the different codes by their speakers" (1998:281).

2.3.2   Macro-level approach: the theory of markedness

Another approach addressing social indexicalities of CS is the theory of markedness (Myers-Scotton, 1993b). The central principle on which the markedness model of CS rests is Grice's "co-operative" principle: "choose the form of your conversation contribution such that it indexes the set of rights and obligations which you wish to be in force between speaker and addressee for the current exchange" (Grice, 1975, cited in Myers-Scotton, 1993b:113). The theory of markedness explains why speakers engage in CS by emphasizing how CS is exploited by conversation participants to negotiate rights and obligations (hereafter RO) in relation to other participants in a talk exchange. For each type of interaction, there is an expected set of RO acknowledged by speakers. According to the rational choice model (Myers-Scotton, 1999; Myers-Scotton & Bolonyai, 2001), speakers are rational individuals weighing the costs and rewards of the options of either affirming the unmarked RO set or flouting it to achieve desired effects of conversations. When the cost of the choice leads to no change in the predicted RO set and rewards remain unknown, speakers will play "safely" and make unmarked choice. Marked choices are made when the rewards are great enough.

According to Myers-Scotton (1993b), there are two types of unmarked CS: *sequential unmarked CS* and *CS itself as an unmarked choice*. In the case of sequential unmarked CS, there is always a change in situational factors (i.e. the interlocutor changes or the topic shifts). The assumption underlying is that there is an expected code for each type of interaction and speakers choose to accept the unmarked RO set of the new interaction situation by shifting to the corresponding

unmarked language. CS itself as an unmarked choice, on the other hand, does not happen to cater for a change in situations and individual switches do not necessarily have a special indexicality. Instead, it is the overall pattern of switching that carries social meanings and communication intentions. Bilinguals of communities where CS has become an unmarked way of speaking are claimed to index their dual identities which are both positively evaluated. One point worth mentioning about CS used as an unmarked choice is that such use can still vary across communities and individuals in the same community. Unmarked CS can still be affected by individual factors, such as speakers' relative proficiency (Myers-Scotton, 1993b:120).

When CS is used as a marked choice, the general effect achieved by switching languages is to negotiate expected social distance between speakers either by increasing or decreasing it. For example, using a marked code marks shared ethnic identity but at the same time excludes other participants; or using a marked code demonstrates superiority or anger.

In short, the markedness theory advocated by Myers-Scotton has put forward the notion that conversation participants are indexing their perceived sets of RO either by choosing anticipated language variety(ies) appropriate to the on-going conversation according to the socially agreed conventions within the community (which is regarded as unmarked choice) or by deviating from the norms and expectations and flagging the language choice made (marked) to draw other participants' attention to a different RO set indexed by such choice. The underlying assumption of this theory is that speakers share the knowledge of the expected RO associated with using a particular code in a particular interactional type. Their following or violating the expected usage of code(s) in different interactions is either indexing their identities or negotiating social relations.

2.3.3   Micro level approach: conversational analysis of code-switching

Auer (1998) raised a few issues that markedness theory does not address straightforwardly. The first and foremost is that markedness theory does not treat conversational participants as dynamic interactional entities that are able to create, respond and re-create interactional episodes. Instead, they are seen as carrying along pre-determined social values and social relations relating to the languages of the conversation. Social meanings of the conversation are statically indexed by choosing one language variety over another. He pointed out that participants' focus of attention

is on how to respond to the new and changing interaction currently taking place instead of on how to index social meanings of the language chosen. CS itself should be considered as a conversational activity as part of the interactively built situation and the meaning of CS is emerging out of the conversation and should be analyzed locally within the interaction.

Therefore, Auer proposed that CS should be looked at as a contextualization cue (Gumperz, 1982) peculiar to bilingual conversations. The functions of CS as a contextualization cue are similar to those performed by other contextualization cues such as prosodic, phonological or gestural cues, which are used in monolingual settings to signal how participants orient to the on-going interaction and to each other. This conversation-oriented analytic approach has been accepted by other researchers such as Li Wei, who investigated different language preferences and language choices by different generations in a Chinese community located in Newcastle-upon-Tyne (1998, 2002, 2005). By applying conversational analysis to the interpretation of CS practices of different generation members in the community, Li Wei demonstrated how CS was manipulated as a contextualization cue, along with other discourse strategies, to realize a range of conversational tasks, such as re-starting a conversational episode or changing the direction of the conversation. Based on such evidence, Li Wei argued that before exploring the "why" question of CS, it is important to first reveal the "how" question. How speakers use CS and how they intend other co-participants of the conversation to interpret the use of CS against larger interactional and social contexts build the path to unveil the ultimate "why" question.

Nevertheless, conversational analysts of CS have never ruled out the significance of macro-level social meanings of CS. Myers-Scotton was not mistaken when she argued that interactional types are to a large extent conventionalized in terms of social norms and appropriate social/ linguistic behaviors. Indexical values of language varieties, which are essential in understanding the markedness theory, are relevant in interpreting a specific language choice at a specific point in interactions. Conversation participants' social backgrounds, including their language attitudes and social relations with other co-participants, are also brought about, if not brought along in a single piece of interaction (Li Wei, 1998). Thus, what is needed is a combination of conversational analytic approach at micro-level and a macro-level

approach to examine social indexical qualities of different language varieties. The interpretation of CS is carried out against a bigger cultural and social context where the conversation is embedded, and social meanings are not imposed upon conversational participants but interpreted in actual interactions by turn-by-turn examination of participants' moves.

2.4 Variation in individual code-switching use

Even though CS has been widely reported across language pairs and communities and is nearly universal in language contact situations, there is great variation across communities in relation to the extent and pattern of its use. Within a single social group in the same geographical area, individuals might practice CS to different degrees. The reasons for individual variation in CS use can vary. Relative proficiency among speakers, the extent to which speakers are exposed to a language, and the degree to which speakers positively align with a language can all contribute to varying individual production of CS. In this section, I summarize the factors reported to be of close relevance to affect variation in individual use of CS. These factors are also the social variables of particular interest to my thesis. They are proficiency, network and attitudes.

2.4.1   Proficiency

Proficiency, or an individual's level of abilities in a language, is one of the many factors that researchers take into consideration when examining how individuals vary in CS. Given that the occurrence of CS takes place between two or more languages, it is natural to assume that the extent of CS and even the pattern of CS might vary along with individuals' varying ability to speak those languages. However, the relationship between bilinguals' proficiency and CS behavior is more complex than assumed.

In some studies, CS, especially intra-sentential CS, can be taken as a measure of high bilingual proficiency. For example, Poplack (1980) found that those speakers from the Puerto Rican community in East Herlem, who were dominant in one language was likely to do emblematic switching only whereas more balanced bilinguals with equally high proficiency in Spanish and English demonstrated both intra-sentential and emblematic switching. This relation between high degree of proficiency and intra-sentential CS has also been documented in Nortier (1990). The

reason for this relationship is proposed as that only high proficient bilinguals in both languages can combine two languages in rapid oral productions without breaking the rules of either language.

However, some complicating and contradictory findings have been reported in other studies. Singh and Backus (2000) showed that more proficient speakers are prone to practice inter-sentential switching and they further proposed a scale of different patterns of CS varying along with differing proficiency. At the lowest level of the scale, where the proficiency of speakers is lowest, single word switches are mostly seen; when moving along the scale to higher level with increasing proficiency, more variable switching types appear, from intra-sentential switching, parenthetical switching, to speech acts switching and discourse switching.

There are also other studies that leave open the question on the extent to which proficiency level is related to CS patterns. For example, Berk-Seligson (1986) found no obvious relation between bilingual proficiency and language mixing structures among Spanish-Hebrew bilinguals in Jerusalem.

These inconsistencies in the relationship between proficiency and patterns of CS might be explained by how intra-sentential CS is defined by each study. For example, in Poplack (1980), intra-sentential switching involves more complex and diverse grammatical constructions than simple insertions of single words or phrases. This explains why intra-sentential switching requires higher language proficiency in her study. By contrast, much of intra-sentential switching in other studies consists of insertions of single words (Backus, 1996; Singh & Backus, 2000). This might explain the close relationship between such type of intra-sentential switching and less proficient speakers. In this sense, it appears that what is related to higher proficiency is higher degree of syntactic integration of two languages. Even though the switches in these studies share a generic heading of "intra-sentential switching", they imply different levels of syntactic integration. Thus, the findings from these studies do not really contradict each other.

The complexity of the relationship between proficiency and CS is also complicated by the fact that proficiency interacts with other social factors, for example, network and generational membership, community norms. In Poplack, Sankoff and Miller (1988), single word switches, which were treated by them as

nonce borrowings, were reported to be affected by individual bilingual proficiency. However, this effect was mediated by the norms of the speech communities and the influence of the latter was paramount (p. 98). The dynamic relationships between proficiency and other social factors are well summarized in Jacobson (1990), as he pointed out that the correlation between CS and some social factors like socioeconomic status, age and generation might result from speakers' differences in proficiency; on the other hand, their proficiency may also be conditioned by how much they could use that language, which can be determined by their particular group membership.

Another point that needs to be taken into consideration when approaching the complex relationship between bilingual proficiency and CS patterns is that proficiency is not a unidimensional concept. Proficiency is not only about how well speakers know linguistic rules of the language but also, more importantly for CS, about how well they know the rules of how to use the language in interactions. The term "communicative competence" (Hymes, 1972), is of particular relevance here. Communicative competence was first proposed in contrast to "linguistic competence" (Chomsky, 1965), which focuses on the appropriacy of the underlying knowledge of a language. Communicative competence in language is manifested in "when to speak, when not, and as to what to talk about with whom, when, where, in what manner" (Hymes, 1972:277). Gumperz further defined it as "the knowledge of linguistic and related communicative conventions that speakers must have to initiate and sustain conversational involvement" (1981:326) and emphasized that "the knowledge is of a kind which cannot easily be acquired through reading or formal classroom instruction. Personal contact in situations which allow for maximum feedback is necessary" (p. 331).

This is a relevant and useful notion when it comes to switching between a native language and a second language acquired later in life, as it is possible that a second language learner has asymmetric linguistic and communicative competence. Therefore, when examining the relationship between proficiency and CS, particular attention should also be paid to what kind of proficiency is related to CS. I address this in Chapters 3 and 7.

2.4.2 Network
Network is widely acknowledged to be an important social variable influencing

speakers' language behavior. The density of communication (Trudgill, 2008), also known as the *Principle of Density* (Labov, 2001), attributes the major motivating force behind the diffusion of linguistic change to speakers' adaption to speech habits of those they talk to most often in their networks. Two dimensions of the nature of networks are of particular interest in sociolinguistic research. One dimension concerns the openness and diversity of network and the other relates to the ethnicity of social contacts. I start with openness of network.

Openness of network

The model of "strong vs. weak" network ties proposed in Milroy and Milroy (1985) and Milroy (1987) discusses broadly the types of network structures associated with linguistic change. The difference between "weak" ties and "strong" ties corresponds in approximate terms to the difference between an "acquaintance" and a "friend". Social groups who contract many weak ties among different groups are likely to be closely involved in the diffusion of linguistic innovation. The strong ties, on the other hand, concentrate on the cohesive in-group relationships and can therefore lead to overall fragmentation. Weak and strong ties focus on the physical approximation of the places where different networks are contracted and describe how linguistic innovations spread across neighborhoods in a community. Dubois and Hovarth (1998) also discussed interactions between network types and linguistic variation. They distinguished two network types: "open", which involves working, traveling, socializing or even living for a period of time outside of the community, and "closed", which implies a speaker' time is spent mostly within the community. In their discussion of effects of networks, they also considered the role of gender and found that it interacted with network type, e.g. women in more open networks had lower use of distinctively Cajun forms.

Another example to demonstrate the relevance of networks is Sharma (2011), which described how differences in social networks could account for differences in dialect repertoire. Instead of contrasting participants on the two categories of "open" or "closed", she calculated their networks on a scale of diversity. Diversity of networks measures the number of sub-groups in a speaker's networks, which in essence reflects the size and density of the network. It was found out that individuals with more diverse networks had more differentiated dialect repertoires. Again, an interplay between networks, gender and generational membership was found, e.g.

older men and younger women were found to have more diverse networks.

In these three studies, even though different measurements of networks were used, these measurements are not entirely unrelated. Weak ties, open network type, or more diverse networks all indicate that speakers have more access to the outsider community and broader life-worlds. This broad range of social contacts exposes them to distinct linguistic styles and provides opportunities for them to develop their linguistic sensitivity. In addition, more access to the outsider community might also give rise to differences in many other social factors, such as attitudes. The differences in these social factors could further lead to more linguistic variation.

In my thesis, I include this dimension of network variation and draw a distinction between more open and more closed network types, corresponding to different proportions of "weak" and "strong" ties (Milroy, 1987), and resembling Dubois and Horvath's (1998) distinction between "open" and "close-knit" network ties. Speakers with more open network types have more weak ties in their networks. They are not confined to in-group circles and have wider social contacts while those with more closed networks restrict most of their daily activities with family, kin or close friends. The proportions of strong ties are much bigger in the more closed type of networks. More open network type implies the dominance of loose ties with various groups of people. It does not exclude the close and strong ties with certain members of a community. What is emphasized is that more open network type is more diversified and speaker with such type of networks split their interpersonal interactions among more social contacts. The same is true for speakers with more closed network type. They are not completely confined in a small group consisting of only family, kin and close friends. They have interactions with people who are more or less qualified as acquaintances; but the time they spend in their close circle is overwhelmingly dominant. The precise measurement of this construct is detailed in Chapter 3.

Ethnicity of network

Another central dimension of networks is ethnic composite. This dimension has been studied specifically in relation to CS, as in the well-known research on language choice and network-specific patterns in Li Wei (1994) and Li Wei et al. (2000).

In these studies, the notion of social networks was applied to explain different

language choices of different generations and different sub-groups within the same generation. The authors proposed social networks as an alternative means of relating language choice and CS to the broader social, economic and political context. In these studies, they used Milardo's (1988, cited in Li Wei et al., 2000) distinction between "exchange" and "interactive" network notions. In addition, they identified a "passive" type of network tie. Exchange network refers to the relationship between kin and close friends. Interactive network, on the other hand, constitutes people who interact frequently but do not rely on each for personal favors and other material or symbolic resources. Passive ties entail the absence of regular contact, yet are valued as resources of influence and moral support.

The Chinese community they studied was divided into three sub-groups, first generation, sponsored generation (i.e., speakers who are either family or friends of the first-generation migrants) and the British born. Each group was analyzed in terms of their language behavior and network types. They calculated for each generation an ethnic index of each network type, which reflected how Chinese/non-Chinese oriented the network type was. It turned out that the Chinese orientation of network type decreased from first generation to the British born and language preferences for Chinese by different generations have shown the same pattern. Within the same generation, those who did not conform to the main language choice of other group members were revealed to have contracted different network types as well. Therefore, these different language choices, which seemed to be generation-specific, were hinted to be network-specific. In addition, CS, which was argued to be a socially symbolic discourse strategy, and its specific patterns, were also shown to vary along with varying network types.

Different ethnic backgrounds of a speaker's social contacts can expose the speaker to particular language variety(ies) and increase the opportunities to speak and use those language varieties. As a result, ethnicity of network can relate to the range of a speaker's linguistic repertoire, especially in the situation of language contact. Different ethnicity of social contacts and their different linguistic backgrounds can enlarge the linguistic pool from which a speaker can draw forms; they can also encourage the use of some specific linguistic varieties and features that otherwise could have been less developed. Ethnicity of network is also relevant in its linkage with linguistic innovation, especially in situations where multiple ethnicity

and cultures are present. For example, in Cheshire et al. (2008), it was shown that ethnicity works closely with a speaker's membership in a dense friendship network to determine the choice and the extent of use of some linguistic features by young speakers from London. This dimension of networks is of particular relevance in the case of CS, as the exposure to a certain language could affect the degree of switching to that language.

I include this additional network measure between more Chinese and more non-Chinese networks, based on both ethnic and linguistic backgrounds of the participants' social contacts. In most cases, ethnic and linguistic boundaries overlap, but there are ethnic Chinese who are dominantly English-speaking, such as most speakers of the British-born generation. In such case, the ties contracted with them are considered to contribute to the non-Chineseness of network type. Again, details of this measurement are given in Chapter 3.
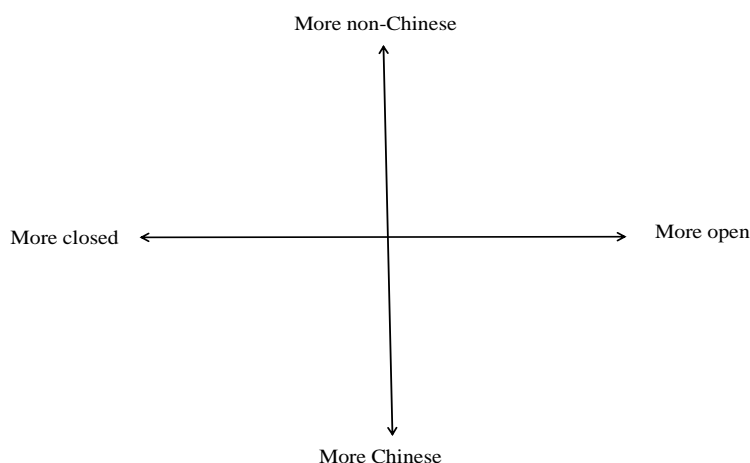
Figure 2.1 Overlapping of the two dimensional distinctions of network types

Figure 2.1 shows how the two network dimensions discussed here overlap. The network types specified in Figure 2.1 are only schematic and should not be treated as categorical in the analysis. It is expected that the speakers fall along a continuum of openness and Chineseness in terms of network ties.

2.4.3   Attitudes

How speakers' attitudes influence their way of speaking has been a core theme in sociolinguistics. Linguistic forms have been evaluated in terms of status and some

are favored by speakers as they are perceived as more socially prestigious and some are stigmatized and thus rejected. However, it is not simply the case that all speakers orient towards socially prestigious forms and avoid stigmatized linguistic features associated with people who are low on the socioeconomic hierarchy. The actual relationships between social evaluation and linguistic production are more complex. Social evaluation of language forms is not only based on social status, but also on solidarity sometimes. Some socially stigmatized forms are still being used by members of certain groups as they represent solidarity with other group members. This is how the distinction between *overt* and *covert* prestige came into being. In Trudgill's (1974) study of language change in Norwich, the non-standard form of the vowel in "top" which did not enjoy overt social prestige, was nevertheless taken on by middle class men as a symbol of roughness and toughness. Additionally, they over-reported their use of the nonstandard form further indicated their inclination not to assimilate to the standard but to what they believed represented manhood. It was suggested that such speech features enjoyed instead a covert prestige among these middle class men. At the same time, the under-report of use of some standard or socially prestigious forms could be related to avoidance of excessive prestige.

Therefore, Labov (1972) comments that to some extent, social stratification of speech is a product of social evaluation. In certain cases, the influence of attitudes on how individuals speak can be so strong that it can exceed the influence of networks, which is often held to take precedence over other social factors. Barden and Großkopf's (1998, cited in Auer & Hinskens, 2005) study of the migrants from East Germany into west and south Germany illustrates this points. It shows how speakers picked up the speech habits of those they oriented towards even when they lacked substantial social contacts to do so. Of the two groups who had similar networks, it was the attitudinal orientation towards the speech community they wished to identify with or dissociate from that predicted better their linguistic patterns.

Studies on the relationships between attitudes and CS have appeared more recently. The current scholarship is mainly manifested through five main themes:

Types of attitudes examined
The attitudes investigated include both how speakers explicitly evaluate the practice of CS and how they align with a specific group/culture indexed by the language/variety involved. For example, Dewaele and Li Wei (2014) investigated

people's general perception of CS by administering a large scale online questionnaire to collect evaluation of CS in terms of its pleasantness, solidarity and language proficiency. Poplack (1980) showed that differences between negative and positive feelings towards a speaker's Puerto Rican ethnic identity were correlated with different CS practices. The more positive alignment predicted more intra-sentential CS pattern.

Whose attitudes?

Mainly speaker's own attitudes towards CS (Poplack, 1980), general societal attitudes (Anderson & Toribio, 2007) and institutional attitudes, such as attitudes held by policy-makers (Ferguson, 2003), are examined. Either personal attitudes or general societal attitudes can influence the practice of CS and general societal attitudes can further shape personal attitudes or condition the influence of personal attitudes on CS. In Toribio (2002) where Spanish-English CS in Saint Barbara, a US Latino speech community, was reported, it was shown that some Latinos refused CS out of their refusal of stigma attached to this behavior.

Types of attitudes formed

Both positive and negative attitudes towards CS have been revealed. Negative attitudes towards CS usually evaluate CS against monolingual ideologies and linguistic purism, and perceive such practice indicative of linguistic deficiency and loss (Toribio, 2002). Such negative evaluations of CS are commonly seen in experimental studies of attitudes towards CS. For example, in Lawson and Sachdev's (2000) study of CS in Tunisia, where the matched guise technique was used, the participants rated guises with CS lowest among all. On the other hand, positive attitudes often link CS to affiliation with one's ethnic identity (Toribio, 2002) and CS is usually considered as a way of identity construction (Finnis, 2013).

It is worth pointing out a debate and perhaps a change in attitudes towards CS in educational contexts, where numerous studies in this field have devoted their attention. CS used to be viewed as a negative practice in the classroom as it was believed that CS indicates a lack of proficiency, poor cognitive control and insensitiveness to appropriate language use, especially among young children (De Houwer, 2009). More recent research has argued that switching between languages is a not a sign of language deficiency but suggests high linguistic knowledge in order to negotiate between two language systems (Gardner-Chloros, 2009a).

Factors influencing the formation of attitudes towards CS

A variety of factors are reported to contribute to linguistic assessment of CS, including linguistic competence (Anderson & Toribio, 2007), some factors relating to personality traits, such as Tolerance of Ambiguity (Dewaele & Li Wei, 2014), and some socioeconomic factors, such as occupation and age (Gardner-Chloros, McEntee-Atalianis & Finnis, 2005).

The predictive power of attitudes on CS behavior

Compared to the above four themes, there are fewer studies focusing on the relationship between perception and production of CS. Many studies mention this by pointing out the discrepancy between overt attitudes towards CS and actual CS usage (e.g. Gibbons, 1987; Lawson & Sachdev, 2000). In such cases, CS is often associated with covert prestige. Other studies are able to establish a link between differing attitudes and various CS patterns. For example, in Poplack (1980), more positive alignment with a speaker's Puerto Rican ethnic identity could predict more intra-sentential CS.

In this thesis, I focus on the link between perception and production of CS and attempt to reveal how attitudes held by CS users themselves affect their adoption of CS. I treat attitudes as a multi-dimensional concept and target at speakers' different types of attitudes, including their explicit evaluation of CS and of the two languages involved. The participant's cultural alignment and identification with particular ethnicities are also included as a dimension of attitudes as it is found that linguistic variation in a multicultural and multilingual community is closely related to how speakers construct their ethnic identities (Hoffman & Walker, 2010).

In this section, I have reviewed three main factors that have been reported to be of close relevance in affecting individual variation in CS—network, attitudes, and proficiency—and I have outlined my framework to approach these factors. Previous studies have shown that these social factors can interact in complex ways. For example, Muysken (2000) pointed out that the relative independence between bilingual proficiency and CS patterns in Berk-Seligson (1986) could be due to complex social and historical background of the population. Poplack, Sankoff and Miller (1988) also showed that community norms overrode individual abilities when it comes to single word switches. Therefore, an approach combining these factors with a focus on their interactions is called for as such an approach might provide a

deeper insight and a more holistic view on how different social factors jointly influence the use of CS. This is what the present thesis takes as its starting point. In my thesis, I not only examine the influence of these three factors, more importantly, I also examine their interactions, their effect on CS, and their varying influence depending on register.

2.5 Online code-switching

Most theoretical frameworks that deal with regularity and variation in CS have been based on face-to-face interaction. In a few cases, additional examples are drawn from written scripts; for example, Myers-Scotton (1993b:116) used an example from a letter she received from a friend to illustrate how English was used as an unmarked choice for emotional distance. However, an overwhelming majority of CS data are drawn from spoken language. One reason may be that written language is often regarded as more formal. In Labov (1972), the elicitation of formal style was designed by asking the participants to read written passages. Another possible reason is that CS use documented in written language is mostly seen in works of fiction (e.g. Montes-Alcalá, 2012; Muysken, 2005; Timm 1978). Such use may not represent natural speech and may exaggerate natural usage for literary effects (Gullberg, Indefrey & Muysken, 2009).

However, in recent years, as communications carried out through network-linked computers, referred to as computer mediated communication (CMC) (Danet & Herring, 2007; Herring, 1996, 2007), have grown rapidly, it is noted that language use online bears resemblance to naturalistic speech in face-to-face interaction and is featured by a great use of colloquial and other features that are typically associated with spoken language. CS use, which is similar to spoken conversational CS, is observed across a range of modes of CMC, such as emails, bulletin board systems (BBSs), instant messaging, and social networking sites.

Even though online language use is similar to spoken language, it is different from oral communications in at least two respects: the availability of planning time and the absence of audio-visual cues (Georgakopoulou, 2003). Such differences might enable and encourage creative language use that might have not occurred in speech. New social meanings might also be assigned to conventional language use. This is one of the reasons why online CS should not be assumed to be only a carry-

over of oral conversational CS either in terms of pattern or social meanings.

A comprehensive overview of how CS has been studied in different CMC modes and in different languages is offered in Androutsopoulos (2013). In this overview, Androutsopoulos summarized a range of studies according to synchronicity of modes , participation structure (private versus public), languages (for example, CS between a majority language and an immigrant language), social setting, and methods used (quantitative vs. qualitative). This summary reflects the current scholarship on CS in CMC. Here, I review one of the themes which is of particular relevance to the present thesis, synchronicity of mode.

When examining and comparing the use of CS across different CMC modes, synchronicity of mode is among of the top concerns. Synchronous CMC modes are featured by rapid transitions while in asynchronous modes, the transitions between each contributor are often longer. Paolillo (2001) studied CS between English and Punjabi on IRC (more synchronous) and Usenet (more asynchronous) and found that more creative and conversation-like CS was identified on IRC whereas CS use on Usenet was limited to formulaic switching. He concluded that more synchronous modes of CMC will give rise to more conversational CS. On the other hand, asynchronous modes are found to give rise to more creative and playful use of CS for stylization, as in Hinrichs (2006). Hinrichs argued that such use of CS can be attributed to the planned character of more asynchronous modes compared to more synchronous modes or spoken language. Therefore, it seems that synchronicity of interaction mode does not decide the use of CS in a unanimous way. The different characteristics of CMC modes provide different opportunities for bilingual production. These opportunities can be utilized according to specific contexts. In addition, the relationship between synchronicity of interaction modes and CS should also be analyzed in combination with different types of bilinguals. For example, creative use of CS might be found more in asynchronous modes among unbalanced bilinguals as they might be in more need of the planning time afforded by asynchronous modes due to their asymmetric language proficiency.

In short, unlike the traditional views that only CS in informal oral conversations is authentic and written mode discourages the use of CS, findings from studies on CS in CMC modes confirm the robust use of CS in written digital modes. These findings also provide new insights to understand the role of situational factors in the use of

CS. If the relationships between oral CS and CS in digital written modes can be further examined, especially based on the same individual speakers, we will have a better understanding of how social, situational factors and different affordances of interaction modes interact to shape the use of CS.

2.6 Register variation

The notion of register in the present thesis follows Biber's (1988) and Biber and Conrad's (2009) tradition of register analysis and concerns with language use associated with different text varieties (both spoken and written). Different forms of texts of CMC fall roughly into the category of written register based on the criterion that messages delivered are typed if not written. Even though I consider online texts as written register in this thesis to highlight their contrast to spoken language, it should be noted that they differ in some ways from traditional written register. They incorporate frequently the characteristics of spoken registers (e.g. use of colloquial forms and dialogic nature of communications), combining these with those of written registers (e.g. written representation of linguistic symbols and the planned character). In some cases, it might be more accurate to consider CMC as hybrid forms between spoken and written register (Collot & Belmore, 1996; Dorleijn & Nortier, 2009). For the sake of convenience, the two registers under comparison in this study, face-to-face conversations in interviews and online posting on social media are referred to as the spoken register and the written register, but it should be noted that they just represent one form of the two broadly differentiated registers.

2.6.1 Synchronicity across registers

Different modes of CMC are characterized by different degrees of synchronicity, as discussed above. At a more general level, different registers also differ in terms of synchronicity. It is often assumed that spoken registers are more synchronous than written registers. Certainly, registers which typically require immediate and online process of incoming information, such as speaking, are more synchronous than those allowing a "time-out", such as writing. However, there are many different subtypes of each of these two broad registers and it cannot be assumed that all spoken forms are synchronous and all written forms are asynchronous.

I therefore treat synchronicity of register as forming a continuum. For example, face-to-face   interactions   are   more   synchronous   than   prepared   speeches;

communications on the internet such as posting on bulletin boards are more synchronous than traditional written texts such as a published article. Different types of online texts also vary in the extent of synchronicity. In Crystal (2001), four types of internet texts are distinguished: the Web, e-mail, chatgroups (real-time chatgroups, forums), and virtual worlds. Websites are less synchronous than the other three and are closest to traditional written texts. Real-time chatgroups are more synchronous than forums ("asynchronous chatgroups" in his terms). The spectrum of synchronicity of different text varieties is shown in Figure 2.2.

In this figure, the most asynchronous text varieties are placed on the left of the continuum and the most synchronous on the right. Uninterrupted and non-interactional writings are assumed to be the most asynchronous text varieties as writers are entitled to plenty of time to produce texts and careful planning is possible. Article writing, letter writing, web-page writing, blog writing and other types of writing in which people other than writers are not involved in the process of writing all belong to this type. On the other hand, spontaneous talking is considered to be the most synchronous interactional mode as speakers are demanded to think on their feet and very little planning is available. Face-to-face conversations, spontaneous speech, and other forms of talking that need improvising on the spot belong to the most synchronous texts.

There is also an overlapping area in Figure 2.2 where some forms of texts, such as prepared speech or interactional writing, stride over the characteristics of synchronous and asynchronous interactions. For example, prepared speech is asynchronous for the reason that the contents of the speech is prepared in advance, thus requiring little "thinking on feet" from speakers; but at the same time it is synchronous because the speech is given in real time. The same applies for interactional writing. On the one hand, it requires writers to respond to other interactants promptly and thus is synchronous; on the other hand, the responding time expected to reply is longer than in face-to-face interactions as writers need time to write or type. In this respect, slightly more preparation time becomes possible. However, it is difficult to decide whether prepared speech or interactional writing is more synchronous as this might vary across individuals.
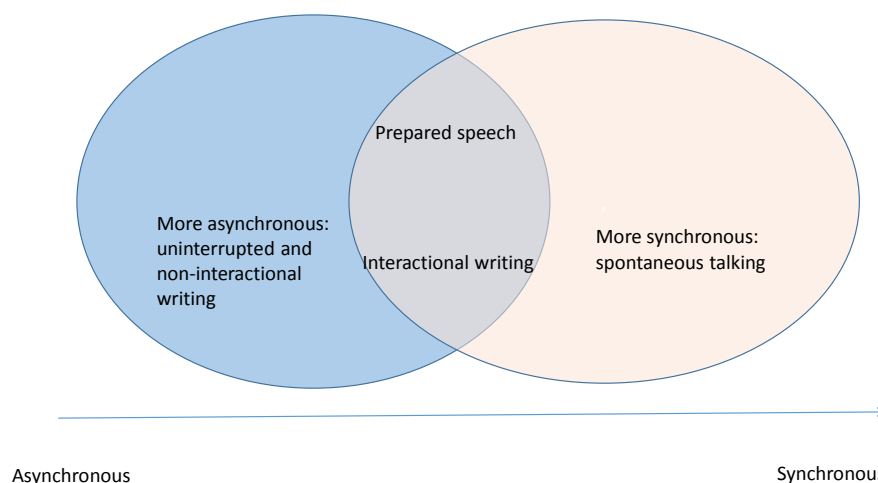
Figure 2.2 A continuum of synchronicity across registers

The two registers under comparison in the present thesis, face-to-face conversations in interviews and online posting on social networking website, are placed fairly far apart in the more synchronous and more asynchronous regions of Figure 2.2 respectively. The more asynchronous nature of social networking websites has also been mentioned in other studies on online language use (e.g. Herring, 2007; Paolillo, 2011). Therefore, it is safer to affirm that conversations in interviews are more synchronous than posting on social media.

2.6.2 Cognitive load associated with register

In interactions, individuals are usually processing multifold workload. On the one hand, they pay attention to information, social and situation cues; on the other hand, they need to process such information and cues and respond to them by retrieving information from a pool of stored resources. In less synchronous registers where the audience is not expecting immediate response from speakers/writers, it is possible for speakers/writers to prioritize reception of information and postpone their response until later. Therefore, the processing time is prolonged and the prolonged processing time might increase the accuracy and thoroughness of the later response. In more synchronous registers, however, individuals are required to think on their feet and their planning time is very little, as a result, they need to process multifold workload concurrently. Thus, it is more cognitively demanding for them to retrieve the same

piece of information in more synchronous registers as accurately and efficiently as in more asynchronous registers. Here, I borrow the notion of "cognitive load" from cognitive psychology, which refers to the amount of mental demand imposed by a particular task on the performer (Paas, Renkl & Sweller, 2003), to define the processing demand that different registers put on speakers. It should be noted that there are other types of cognitive load involved in performing certain kinds of tasks, such as cognitive load associated with composing complex articles in terms of structuring of contents and arguing a point. Here, cognitive load of register emphasizes the real-time processing demand placed by different registers on speakers when they are implementing similar tasks.

When it comes to cognitive demand of register, an intuitive postulation would be that the spoken register, which is more synchronous, is higher cognitively demanding than the more asynchronous online written register. In fact, such assumption has been borne out by previous studies. Different levels of synchronicity of registers place different cognitive processing demand on speakers.

It has been pointed out that tasks carried out in synchronous/asynchronous mode can impact efficiency and performance errors in completion of tasks (Parker & Coiera, 2000). Parker and Coiera claimed that synchronous communication methods, such as face-to-face interaction and telephone conversation, might result in failures in working memory, defined as the activated state of information held in memory (p. 455). For example, retrieving of prospective plans can be partly or completely forgotten. This is due to constant interruptions from other communication participants and consequent less ability to recall existing knowledge. However, when participants are left to finish independent communication tasks, the tasks are completed to a greater extent and with fewer errors as a result of reduced workload on working memory. Therefore, it is implied that more synchronous registers require a higher cognitive load from task undertakers than more asynchronous ones.

Such characteristics of different interaction modes in terms of cognitive load have also been utilized to explain how CMC modes can facilitate communications. For example, Wellman (1999) highlighted that emails give users time to think before sending out the message and allow them to focus their cognitive capacities on the contents of the message. Chan (2011) reported that the lower workload required by more asynchronous CMC communication methods reduces the pressure from social-

cued environment on shy people and increases their communication abilities.

Synchronous registers thus appear to increase the workload placed on speakers' working memory and split speakers' attention among more aspects, such as processing incoming messages immediately, paying attention to social cues, and responding to such cues efficiently. The higher workload can decrease the accuracy and ability for speakers to retrieve elements from a stored information pool. On the other hand, asynchronous registers release speakers from such high pressure and allow them to concentrate on the task at hand. The possibility of retrieving information efficiently and correctly which might have been inhibited in synchronous registers can increase in asynchronous registers.

Cognitive load of different registers is crucial in relation to CS, which itself is known to involve an elevated processing load, especially relative to language ability/proficiency. More advanced types of CS place a higher processing load on speakers; as a result, CS involving more complex and diverse grammatical constructions is more often practiced by higher proficient speakers (Nortier, 1990; Poplack, 1980; Singh & Backus, 2000). Thus, it is of interest to show whether different cognitive load of different registers also affects the adoption of CS and whether social factors, including language proficiency, influence CS to different extent in different registers which place different cognitive load on speakers. I discuss these points in Chapters 4 and 7.

2.7 Research questions

The present thesis builds upon previous studies to move forward a more integrated understanding of language switching behavior by examining the use of CS across different registers and comparing the relative strength of several social factors in accounting for CS.

The overarching research questions of this thesis are:

1) How does the adoption of CS in the spoken and written register vary and why?

2) What factors affect a speaker's varying use of CS and to what extent do they interact with each other?

3)   Are social influences on CS constrained by different affordances of registers?

In specific, I aim to:

- Investigate how my participants use CS in different registers in terms of the frequency, pattern and discourse functions;

- Identify the differences in CS use between registers and find out the reason(s) why CS is used differently across registers;

- Describe the social background of the participants in relation to their social networks, language proficiency and language attitudes;

- Investigate interactional relations among the social factors;

- Investigate which social factor(s) drive the adoption of CS and how the dynamic influences of social factors interact with different syntactic structures of CS as well as with cognitive constraints afforded by different registers.

Chapter 3

Methodology

3.1 Introduction

In this chapter, I present the methodology of the present study, discuss specific challenges I encountered during the fieldwork and data coding, and describe different approaches taken to tackle these problems.

Many sociolinguistic research projects are carried out in the field, ranging from qualitative analysis which focuses on a few speakers on various social occasions to quantitative analysis which may involve collecting information from dozens of speakers from different parts of a larger area to represent the whole range. To project a more comprehensive picture of the target population, I broadly followed the latter. Qualitative details are added where relevant, as an ethnographic sensitivity is nevertheless important throughout fieldwork.

The community I aim to investigate is a group of Chinese-English bilingual professionals, also termed as "professional transients" (Li Wei, 2007), based in London. As pointed out in Chapter 1, one of the remarkable features of this group, or of the general Chinese community in the UK, is that they are highly diverse in terms of geographic settlement, socioeconomic status, and linguistic background. For this reason, it would be difficult to duplicate the methods employed in other studies which define the scope of study to a cohort of people who are recognized as a cohesive social group in social forms, such as residential communities (e.g. Dodsworth, 2005; Sharma, 2011) or high schools (e.g. Eckert, 1989). The community of interest in the present study is too heterogeneous to assume such a level of cohesiveness. Therefore, a number of challenges and obstacles arise: many controls of social factors of the subject population are lost because of loose networks constructed among these speakers. Given various walks of life that individual speakers are from, it might be possible that a comparison across all speakers is less achievable. From the point view of the fieldworker, the challenge of "getting to know" speakers and ethnographic analysis of them is much greater. In addition, the speaker sample taken from such a scattered population is inherently less representative than a sample taken from a neighborhood or

from a school, because the proportion of the sample to the population will be much smaller.

For these reasons, the execution of a reliable study on a loosely connected population as the current one relies on a careful consideration of several factors, among them, the choice of social sectors from which the speakers are from, the method of contacting speakers, the choice in delimiting the speaker sample, and the angle from which the information collected is to be analyzed. At the same time, the benefits and potential of informing current understanding of social meanings of CS among the current participants may be greatest in such a context where speakers are from different social sectors, and are with different network types and diverse attitudes.

The data for this study are taken from 40 participants aged 25–40, and include recorded semi-structured interviews, questionnaire data on attitudes and social factor details, and social networking data from SinaWeibo. Self-recordings conducted by some participants were also used to check the consistency of CS usage in different settings and the reliability of CS collected in the interviews. Table 3.1 summarizes the methods used. In this chapter, I start by explaining the design of the speaker sample, the criteria in selecting participants, and then lay out the fieldwork implementation in detail, with reference to relevant studies and their methodological techniques and choices. In the end, a detailed data coding scheme is described.

Table 3.1 Methods used to collect data

Data type	Collection method	Purpose
Interviews	Recorded semi-structured interviews	To collect CS data in conversations (spoken register)
SinaWeibo	Internet	To collect CS data in written register
Questionnaire	Email	1.To collect socio-biographical information (network, cultural practice, biography, English proficiency)
		2. To elicit attitudes

Note: Self-recorded group meetings in natural settings were also conducted; however, they were not used as data for spoken register but were used to test consistency in CS usage. I discuss this in more detail in section 3.3.2.

3.2 In the field

3.2.1 Selection criteria for participant sample

The sample selection for the present study restricts three parameters, namely, age, length of residence in the U.K., and the dialect area from which they originate. In Sharma and Sankaran (2011), it was found that speakers who have been in the UK for 3-12 years are those who show most effect of contact. This is also confirmed among first generation Polish migrants to the UK (Drummond, 2011). Thus, in this study, speakers whose length of residence ranges between 3-12 years were chosen for the investigation in order to target at the potentially most frequent code-switchers. However, age could affect such influences of contact significantly. In order to eliminate the unnecessary impact from the factor of age, the present study selects subjects aged 25-40. Speakers falling into this age range are assumed to be potentially most active in employment and social activities and have more exposure to diversified social networks.

The official language of China is *Putonghua* (also known as Standard Mandarin), and it is the institutional standard code used in formal domains, such as school, government, television, film, and radio broadcasting. Nevertheless, not all Chinese speak Standard Mandarin as their first language. It is well-known that the Chinese language consists of many different dialects which may be mutually unintelligible. In many places in China, people are bilingual in Standard Mandarin and their local dialect. It is often the case that many people have their local dialect as their first language and acquired Standard Mandarin later at school. However, it is now becoming more prevalent that parents prefer their children to speak Standard Mandarin at home as their first language due to its association with good education, intelligence, social sophistication, and formality (Chen, 2004).

Following the framework of Norman (1988, cited in Chen, 2004) and that of Xu and Zhan (1988, cited in Chen, 2004), the Chinese dialects can be classified into seven major groups, and they are *Beifanghua* (Northern Mandarin), *Wu*, *Yue* (Cantonese), *Min*, *Kejia* (Hakka), *Xiang* and *Gan*, "of which Beifanghua is by far the largest group, with its native speakers accounting for the majority of the Chinese population" (Chen, 2004:3). In fact, Standard Mandarin is based on *Beifanghua* (Northern Mandarin) with Beijing phonological system as its norm of pronunciation, and Northern dialect as its base dialect (Wang, 1995, cited in Chen, 2004). Beijing also belongs to the northern dialect area (See Appendix A for a geographical distribution of the Chinese dialects).

Given the complicated linguistic backgrounds of Chinese immigrants, there might be speakers who are trilingual in their own dialect, Standard Mandarin and English. As mentioned above, northern dialect is the base dialect of Standard Mandarin, and therefore northern dialect speakers are not treated as bilingual in their own dialect and Standard Mandarin. For this reason, these potential trilingual speakers are expected to mainly come from the non-northern dialect area. For them, CS between Chinese (interchangeable with Standard Mandarin in the present study) and English might be different from that practiced by speakers from northern dialect area. In order to reduce complications of having effectively trilingual people who might be doing different combinations of CS, the present study has chosen speakers from northern dialect area to avoid unnecessary variables. On top of this, it is more feasible to carry out the study if the speakers are from the northern dialect area as I am also from this area and cannot speak any of the other dialects.

To sum up, the selection of the speaker sample is restricted by three criteria: whether a speaker falls into the age range from 25 to 40; whether s/he has been living in the UK for 3-12 years; whether s/he is from northern dialect area.

In addition to controlling these three external variables, social factors (i.e. network type, attitudes, proficiency in English) are also taken into consideration when recruiting participants. The measurement of these social variables are discussed in more detail in section 3 and their discussion here is restricted only in relation to how to maximize potential variation in these factors when recruiting participants.

It is difficult to predict what kinds of attitudes participants have before collecting data, and it is equally difficult to categorize participants on any criteria to capture elusive attitudes. Therefore, attitudes are expected to vary across participants and measured after data collection. Regularity of network and proficiency, on the other hand, are more likely to be captured either based on self-description or some other yardstick. For example, people who are more confined to local employment are less likely to contract more diversified networks than people who cross the boundaries of communities (Dubois & Horvath, 1998; Sharma, 2011). Similarly, people who are actively involved in English-based professions have bigger chances of working with English-speaking colleagues and thus perfecting their English skills. During sample collection, I therefore paid attention to the participants' occupation and aimed for a more heterogeneous group in terms of networks.

3.2.2 Contacting speakers

My main route to contact interviewees was through the "*friend-of-a-friend*" method (see Milroy, 1987; Milroy & Gordon, 2003). When I started the study, I asked several of my friends who had been in the UK longer than I was to recommend some of their friends who fit the criteria. Through the friends they recommended, I was able to reach more eligible participants. This method proved to be the most successful as more than half of my participants were recruited via this method.

I also posted on my page on SinaWeibo to recruit participants. My post was forwarded by some of my friends in the UK, among whose followers many turned out to be potential participants for my study. Some of them either contacted me after seeing the post or were recommended by those who saw the post. I recruited eight participants via this method.

I also attended some of Chinese professional drinks in London organized by *Silu*, a London-based Chinese organization. The purpose of these professional drinks is to facilitate socializing among Chinese people who work in different social sectors in London or surrounding areas. People expect to get to know new people at such events and are happy to maintain the contacts thereafter. Three participants were recruited in this way. In addition, they also became the sources from which I was able to know more people of the same kind. In total, 43 participants were recruited, among whom 21 were women and 22 men. A detailed description of the participants' age, length of residence in the UK and their professions is given in Appendix B.

3.2.3 The role of the interviewer

It has been shown that age, gender, and ethnicity of the interviewer can all influence the speech behavior of the people being interviewed (e.g. Rickford & McNair-Knox, 1994). Sociolinguists who are carrying out fieldwork are expected to minimize "observer's paradox" (Labov, 1972) by reducing the influence of the researcher as an outsider of the speech community.

I am similar to most of my participants in many ways. For example, I belong to the age range from 25-40. I am a Chinese-English bilingual. Although my stay in the UK is much shorter than many of them, I have been experiencing the same feeling of straddling two cultures. The population of the Chinese in the UK or in London is not very small, but many people feel very little sense of belonging. I believe that the highly dispersed nature of the population in terms of geographical distribution, socioeconomic

status, and the place of origin partially accounts for the loneliness many people experience. They are happy to make more friends and to be listened to, and my entry into their life did not seem intrusive. Every time I interviewed a participant, I carried my backpack with some notebooks and pens in it in the hope that they would feel more comfortable thinking they were helping out a student, which might also reduce the intimidation of the recorder. One participant texted me once after the interview that she hoped we could be real friends in life.

In addition, in the interviews I conducted, I made every effort to be consistent in terms of my way of talking when CS is involved. I only switched when I could not find the Chinese equivalent words. My total number of switches did not exceed 10 in any single interview. Naturally, the interviewer will always have an effect on interviews, but I aimed to keep those effects constant across participants by these means.

3.2.4 Field equipment

The primary equipment I used for my interviews is the ZOOM Handy Recorder H2, an SD card based recorder with built-in mics. In nearly all instances, a back-up recording was made simultaneously on the built-in recorder of my iPhone. Once the recordings were done, they were moved to my computer and backed-up at the same time. The name of each recording is the pseudonym the participant and I agreed on and the file in which all the recording are stored is password protected.

3.3 Collecting code-switching data

3.3.1 Collecting spoken code-switching data

In the literature, diverse methods are used to elicit and collect CS data in spoken language. Some researchers employ experimental methods to target CS speech data by asking speakers to participate in tasks such as reading and writing code-switched passages to measure their CS competence and performance (Toribio, 2002). However, most researchers collect data in natural settings so as to capture the actual usage of CS in daily life. Participant observation and natural setting recordings are therefore frequently employed (e.g. Gardner-Chloros et al., 2000; Li Wei, 2002, 2005; Li Wei & Milroy, 1995). Zentella's (1997) study of a U.S. Spanish-speaking community in El Barrio, East Harlem, exemplifies the anthropological linguistic approach of studying CS by presenting the stories of five working-class Puerto Rican girls from childhood to young adulthood and witnessing their acquisition and utilization of the multiple language varieties within their speech community. The author's deep immersion in the

community enabled her to carry out extensive participant observation and to audio/video record 20 families and their 37 children, beginning in 1979 and ending more than a dozen years later.

In the present study, the unique distribution pattern of the target population makes it very difficult to carry out participant observation with more than 40 participants who are loosely connected to each other. Therefore, I chose to conduct sociolinguistic interviews (Labov, 1966) with the participants[3] and these semi- structured interviews were recorded as the basis for observing CS use in spoken register. Among the many advantages of sociolinguistic interviews, gathering relatively natural linguistic data in a relatively short amount of time and retaining control over different interviews to ensure comparability (Schilling, 2014) might be the most relevant. Even though interviews are not the best way to elicit CS data, e.g. participants might perceive interviews as formal social settings and thus conceal their real usage of CS, it is believed that these shortcomings can be compensated by the familiarity between the interviewer and the interviewee built up before the interview, the light atmosphere of the interview place, the semi-structured organization of the interview which allowed for a certain degree of freedom in choosing topic on the part of interviewees, and the inclusion of naturalistic written language use on social media. In addition, self-recordings, though not many, were collected to compare the usage of CS in interviews and that in group meetings where more familiar friends were present to ensure a consistency in the frequency and pattern of CS. For these reasons, the method of conducting semi-structured interviews with the participants is taken as a valid method to collect spoken CS data for the purpose of the present study.

Four general topics were prepared for the interview, i.e. family and friends, work and education, life in the UK, and hobbies. A complete question list is given in Appendix C. However, these questions were not strictly followed and portions of the interview dedicated to each topic varied according to individual speakers. All interviews lasted from 50 to 90 minutes and took place either at local cafés or at restaurants. All conversations were digitally recorded with the interviewees' consent, and all participants were given a pseudonym agreed between the participant and the researcher. The participants were informed that the study is a survey of life and work of Chinese professionals in the UK and the contents of the conversation would be kept confidential

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[3] Among the 43 recruited participants, only 40 of them participated in the interviews for various reasons and filled out the questionnaire (discussed in section 3.4). Therefore, the data analyzed come from 40 participants.

and anonymous. The light and casual atmosphere of the café or restaurant to some extent eased the formality brought by the presence of the recorder. The interview with each participant was not carried out until at least two months after the initial introduction to the interviewee so that there was a considerable length of time for the investigator to get familiar with the participants.

3.3.2 Self-recordings

One of the concerns of collecting spoken CS data by doing recorded interviews with participants is the uncertainty of how consistent the amount and pattern of CS attested in the interview are with the general use of CS in daily conversations with more familiar friends. The possible style change in recorded interviews resulting from changes in the setting and in the familiarity with the interlocutor can be reflected in many ways, such as choice of words, voice pitch, and even body gestures. In addition, it can also be manifested by possible changes in the use of CS from frequent occurrence and complex pattern in daily conversations to constrained and occasional insertion of English words or vice versa. As explained in the above section, the interview was designed to avoid any resemblance to a formal meeting by allowing the participant to lead the topics under discussion within a roughly defined range in a light and casual atmosphere. Furthermore, all the participants were contacted before to build up some familiarity. Despite such efforts to minimize the potential style change from intended informal and casual way of speaking as in their natural and comfortable setting to formal and rigid response to prepared questions, the possibility of participants moving along the style continuum to various degrees cannot be avoided. However, to what extent the change in style would be reflected in the use of CS is not certain. Has the use of CS become an overall feature of their speech or is it just an impromptu strategy catering for certain contexts? To test this, it would be ideal to collect data across a range of registers within a speaker's repertoire by asking the speaker to self-record a variety of conversations in different social contexts without the presence of the investigator (Sharma, 2011).

By the end of each interview, each participant was asked whether they could conduct self-recordings of their informal conversations with close friends, work colleagues and family members. The length of each recording was advised to be between 20 to 40 minutes. The original intention was to collect a substantial dataset of self-recordings. However, this method proved difficult to execute. The proposal of conducting self-recordings was directly or indirectly turned down by some participants. Among those who promised to do their best, only five recordings were returned, which

varied from 20 minutes to one hour long, mostly involving two or three conversation participants. Four of them were recorded during meal time and the other one was recorded when they were having a casual chat in a café. The setting of the group conversation and that of the interview are therefore alike. Some self-recordings involved more than one participant of this study as some of them had been friends before. In total, 12 participants were included in the five self-recordings.

The five self-recordings were ultimately not included as a data resource for spoken CS analysis because self-recordings were not available for most participants (28 out of 40) and thus any findings and conclusions would be limited. Instead, they were used as references to test how consistent the use of CS by these 12 participants was across different situations in spoken register. In other words, how reliable is the data collected from the recorded interviews to represent the general use of CS in their daily life? This is addressed briefly in Chapter 4.

3.3.3 Collecting written code-switching data

SinaWeibo, the aforementioned Chinese social networking website, has been chosen as the resource to extract written CS use. The reason for choosing SinaWeibo, instead of other popular social media such as Douban and Weixin, to study their use of CS online is because most participants have reported SinaWeibo as their most actively used social networking website. In fact, Sinaweibo is also one of the most popular social media in China. Since its operation in 2009, the number of registered accounts amounted to 556 million by the end of March of 2013 in less than 5 years (Weibo Open Platform, 2014). In essence, SinaWeibo's working mechanism is similar to that of Twitter. Users blog about social or personal events within the word limit of 140; their posts are open to the view and comments of their "friends" on SinaWeibo and also to unknown other users even though comments from unwanted users can be restricted. Other functions such as instant messaging have also been developed on SinaWeibo site, but its main service is still micro-blogging; as least users mainly use SinaWeibo for micro-blogging.

The popularity of SinaWeibo is not confined among Chinese users. International users such as the Mayor of London, Boris Johnson, and the German national football team exemplify its global influence [4]. Among members of overseas Chinese communities, SinaWeibo is also widely used, alongside *Weixin, Facebook, Instagram* and other popular social media sites. Even though SinaWeibo has gone beyond national

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[4]However, it should be noted that the main or exclusive audience of such international users are still Chinese and their purpose of opening the account is to facilitate communications with Chinese partners or fans.

borders, the majority users are still Chinese. This may be partly due to the fact that the default language used to access this social media is Chinese.

Consent and access to the participants' SinaWeibo were obtained during the interviews and the participants were also asked questions about the degree of involvement on SinaWeibo. All the participants are active users except three who reported very little self-initiated micro-blogging and comments but still frequent visits to the website to read news feed from other users. As a result, these three participants were excluded and the data collected from SinaWeibo come from 37 participants.

3.4 Data transcription and coding

3.4.1 Data transcription

The recorded interviews were not transcribed on a word by word and sentence by sentence basis. The present study looks at the production and pattern of CS across registers instead of Chinese use. For this reason, only sentences where the switching takes place and several sentences preceding and following were transcribed to provide the context. In addition, the full recordings were used to calculate the normalized rate of CS in the total number of clauses.

3.4.2 What counts as code-switching in coding?

In Chapter 2, CS was defined in a broad sense as the alternate use of two languages or language varieties within a single discourse, conversation, sentence or constituent by bilingual people. However, in the process of coding, CS needs to be defined with greater caution to make sure that voluntary language choice at all sites can be captured, and at the same time to exclude other cases of language switching by the participants when it is believed that there is no alternative in their repertoire.

In this study, the interviews with all participants and the participants' posts on SinaWeibo are embedded in Chinese-speaking contexts. In the interviews, the investigator is a native Chinese and all the participants are native Chinese from northern Chinese dialect area. On Sinaweibo, the default language of the site is Chinese and almost all users are Chinese. CS in the present study thus refers to the switching to English by a Chinese speaker in Chinese discourse with Chinese audience at an empirical level. Whenever a participant switched to English to express a concept or to explain his/her thoughts on something, the part of speech realized in English was counted as a case of CS. However, if the switch belongs to any of the following situations, it was excluded from CS data.

a. There is no equivalent Chinese available, for example, some proper nouns, like *Tesco*, *Covent Garden*.

b. The participant was reading English from a script, such as a booklet or a menu.

c. The participant spoke to a different person outside the main ongoing conversation and if s/he spoke in English.

Nevertheless, if a proper noun has a widely used Chinese equivalent, its realization in English was still counted as one case of CS. For example, Chinese people, even those who have been living in the UK for a long time, normally refer to this country in Chinese (*Yingguo*). Consequently, if a participant referred to the country as "the UK" or "UK", both would be coded as a switch. However, if a participant kept using English counterparts despite the widely used Chinese equivalents, I would consider the possibility that these words might get more fully entrenched and have become borrowing for this participant after repeated use, even though I still coded them as CS. Simply speaking, if there is an alternative way in Chinese to express what the participant expressed in English, the English realization would be considered as an instance of CS.

3.4.3 Data selection

The middle 30 minutes of the recorded interview were chosen for CS analysis for each participant. The reason for choosing the middle 30 minutes out of each approximate one hour recording is because the participants more or less shook off the initial rigidness of meeting after 10 minutes warm-up. In addition, the first and last 10 minutes were more introductory talk about what is expected of the participants to do afterwards, for example, how to fill in the questionnaire and whether it is possible for them to self-record. In the interviews with most participants, topics on their life and work in the UK and some funny stories participants shared with the investigator started 10 minutes into the conversation.

The data collected for the written register come from the participants' posts on SinaWeibo, as discussed above. In order to maintain comparability of data from the spoken and written register, the posts chosen for analysis for each participant were selected out of those from the period of time during which the interview was carried out. As a result, 50 posts in total were isolated, 25 from before the date of the interview and 25 from after. No further specific selection criteria (e.g. length, content) were

applied.

3.4.4 Coding units of code-switching

Normalization for quantitative analysis: grammatical clauses as the coding unit

As the amount of talking and the number of words written by different participants differ, it is hard to compare across the participants the frequency of CS either in the chosen 30 minutes interviews or in the chosen 50 posts. If the number of switches was to be counted, the participants with larger number of CS possibly just talked more or wrote more words than the participants with smaller number. In addition, for the same participant, it is hard to measure whether s/he switched more in speech or in writing only based on the number of switches because the numbers give measurement on different scales. Following this line of reasoning, the amount of CS needs to be measured by adjusting and normalizing values to a common scale so that it is possible to compare how much CS was used not only across participants but also across registers.

One feasible way of doing this is normalizing the amount of CS by calculating the percentage of units realized with/in English out of the total number of units in the chosen discourse. The question arising out of this solution is how to measure units. Su (2009) counted the number of Taiwanese syllables/morphemes in the total number of syllables/morphemes in her study of interactional function of CS between Taiwanese and Mandarin. This nuanced approach is able to capture CS at a more micro level when the purpose of study is to analyse how CS is used along with other conversational strategies to negotiate interpersonal relationships. When examining the general pattern of CS among participants, a bigger unit of measurement is possible and indeed more suitable.

Between two possible measurements to quantify utterances, i.e. intonational phrase (interchangeable with intonational group, see Pierrehumbert & Hirschberg, 1990) or finite clauses, I have chosen the latter for two main reasons. First, clausal boundaries do not always map with markers for intonational boundaries even though syntactic structure plays an important role to determine the placement of intonational phrase boundaries (Cruttenden, 1997). For example, a change of pitch level of an unaccented syllable may mark the beginning of a new intonational group and this can happen within a clause (Cruttenden, 1997). Secondly, I am looking at two types of CS in this thesis, i.e. insertional CS (or ICS) and alternational CS (or ACS). ACS pertains to the

switching at clausal boundaries, thus a method which not only can measure the amount of CS in general but also enables the calculation of the percentage of ACS is favoured. Thus, the number of finite clauses was counted to calculate discourse units. In fact, counting clauses to quantify CS is not rare. For example, the pilot study by Stell and Parafita Couto (2012) within a Luxembourg's Portuguese-speaking minority group on characteristics of CS behaviour was operationalized on matrix clauses in terms of the unit of measurement.

One important feature of language use in the current spoken register is that it never only consists of complete clauses. Many incomplete and unfinished utterances appeared in the data when the participants were trying to repair or rephrase their own speech before they finished the previous clause. Single word or single phrase comments were not uncommon either. The same is true with posts on SinaWeibo as language use online can be similar to spoken language in term of colloquial style (Dorleijn & Nortier, 2009). To distinguish these single words/phrases and unfinished utterances from complete clauses, they were labelled as "clausal stops". The reason why clausal stops were included in the coding process is because quite a few cases of CS were seen in these utterances. To exclude them from coding would leave out abundant interesting data and fail to reflect a speaker's whole range of CS use. In order to refer to both clauses and clausal stops at the same time, another term "clausal chunk"[5] was given to capture these two concepts. Examples 1 and 2 show what clausal stops are in this data set. Chinese sentences in all examples in this thesis are given in Chinese characters and followed by free English translation. Code-switches to English are underlined and those under discussion in specific examples are also in bold form.

(1) Participant F2: 到现在我也不知道自己的屋子什么样.

                Until now, I still don't know what my room looks like.

Interviewer: 我觉得应该会挺好的，肯定不会太小的。

                I think it should be quite nice. It definitely won't be too small.

Participant F2：**<u>Hopefully</u>**.

(2) Participant F20: 因为 **<u>you</u>**, 就是 <u>you have to be in that way</u>, 整个环境塑造的。

                Because **<u>you</u>**, it's just <u>you have to be in that way</u>. The whole

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[5] The definition of clausal chunks in this study is different from Backus's (2003) where clausal chunk was considered as one type of insertional CS to be inserted into the matrix language. In this paper, the term 'clausal chunk' was used to unify different clausal units.

environment decides that.

In example 1, the underlined single word utterance "hopefully" was counted as a clausal stop. The first half of example 2 exemplifies an unfinished utterance. If a clausal stop was realized in English, it was still coded as ICS for the same reason that a complete shift to English grammar is not reflected in the English use in clausal stops.

The total number of clausal chunks uttered and written by each participant in the chosen range was counted to calculate the percentage of clausal chunks realized in/with English. For each participant, their number of clausal chunks realized in/with English was divided by their total number of clausal chunks. This percentage represents the frequency of total CS. Furthermore, the pattern of CS was quantified by calculating the percentage of ACS in the total number of complete clauses and also the percentage of ICS in the total number of clausal chunks (excluding English clauses). The same procedure was applied to calculate the frequency of CS in writing and speech respectively. In this way, it is possible to compare the frequency and pattern of CS among the participants and across registers. See Appendix D for an overview of quantified frequency and pattern of CS in both registers.

Coding of CS for qualitative analysis

Aside from examining the general frequency of CS and different types of CS, I also analyze discourse functions of CS by presenting how each case of CS is realized in discourse and what function is performed. Quantified CS in percentage only reports the frequency of CS in the total number of utterances. It does not reveal the comparative frequency of each function in the total number of functional CS. To do this, a different coding procedure was adopted by counting the individual cases of CS in the chosen 30 minutes interviews and in the selected 50 posts for each participant.

In the process of this coding procedure, ICS and ACS were further coded in terms of their grammatical constructions (see Table 3.2). For example, ICS was categorized according to its specific word class and the decision of how to classify the switches into different word classes is based on dictionary-defined properties of the words (see example 3). ACS was broken down by the type of clauses, for example, whether it is independent clause or subordinate clause (see example 4). In Chapter 4 where I describe CS use in different registers, different types of ICS and ACS are explained in more detail and more examples are given.

(3) adjective switching

Participant F7: 他现在离开高盛了，他觉得高盛的工作不够 **<u>challenging</u>**.

He has left Goldman. He thinks his old job at Goldman was not **<u>challenging</u>** enough.

(4) ACS: independent clause

以后每个礼拜发现一个住在伦敦的优点，让自己开心起来，**<u>life is moving forward</u>**.

(One of participant F7's posts)

I am going to discover one nice thing about living in London every week. Try to make myself happier. **<u>Life is moving forward.</u>**

In addition, ICS was also initially categorized in terms of its primary discourse function. This is to facilitate analysis of discourse functions of CS in Chapter 5. Instances of ICS initially identified with discourse functions were further split according to the relationship they signal, i.e., whether it is the relationship between conversation participants, or between monologic utterances. The former was categorized as "interactional" and the latter "monologic". Examples 5 and 6 illustrate these two functions.

(5) Interviewer: 我觉得你们学法律的人记忆力都超好。

I think you law students all have photographic memory.

Participant F4: **<u>Oh, dear</u>**, 千万不要这么想。

<u>Oh, dear</u>, never think in this way.

(6) Participant M7: (context: talking about providing for parents when they get old)

以前从没想过这个问题，觉得自己还小, **<u>anyway</u>**, 终究还是要面对的啊。

I have never thought about this before; I always felt that I am still very young, **<u>anyway</u>**, I have to face it at some point.

It should be noted that some instances of ICS can also have referential or cultural functions. However, it is hard to code these functions without involving too much subjectivity from the researcher. Therefore, only primary discourse functions of ICS that can be clearly identified were coded. Referential and cultural functions of ICS are discussed in more general terms (see Chapter 5). Here, ICS that were not assigned initial discourse functions were put under a generic heading "other".

Clarification of and discussion on functions of ACS, on the other hand, are reserved when coding was finished. As every sentence has potential discourse meaning, it is difficult to pin down the precise function of individual cases of ACS without a more comprehensive knowledge of the whole dataset. In Chapter 5, I will explore functions of ACS and more functions of ICS.

Table 3.2 Coding scheme of insertional and alternational code-switching

Primary split	ACS	ICS	
Secondary split	Clausal construction type (independent clauses, subordinate clauses, etc.)	Word class (noun, verb, adjective, etc.)	
Initial functional split of ICS	/	Primary discourse structuring function	Interactional
			Monologic
		Other	

3.5 Measurement of social factors

Proficiency

In this study, the proficiency being measured is the participants' ability in English. As they are all native speakers of Chinese, their competence in Chinese is expected to vary to a very small extent. Whether there is any trace of language attrition in their L1 and how this might affect their switching behavior is beyond the scope of this study. Therefore, their Chinese proficiency is considered irrelevant here.

In many studies, measurement of language proficiency is based on self-report (e.g. Poplack, 1980). There are also studies which assess participants' language abilities from a more objective perspective with the help of extensive participant observation (Li Wei, 1994). The latter seems to be a more reliable way to measure participants' proficiency as it is the ability to actually use the language for communicative tasks that are assessed. However, it is not always practical to observe participants' language use in various contexts and settings, as in the case of the present study. Other alternative measurements, such as asking participants to sit an exam or asking for their language test scores, are equally impractical. In such a situation, participants' self-report becomes

useful. Such reports are assumed to be more reliable when the situation is less face-threatening and they are left alone to judge how well they can use a language based on their daily language experience. Therefore, proficiency in English of the current participants is measured based on their self-report in the form of a questionnaire.

As mentioned in Chapter 2, when considering language proficiency, communicative competence should also be taken into consideration together with linguistic knowledge. Even though questionnaires are less likely to fully reveal speakers' language competence in actual communications, their report on the proportion of their English-speaking ties and the closeness with such ties could imply the level of communicative competence to certain extent. Having more English-speaking ties does not necessarily equal higher communicative competence, but they are related in that more English-speaking social contacts provide opportunities for communicative competence to improve. Thus, I suggest that knowledge about the ethnicity of their social contacts, i.e. the nature of their networks, could at least help reveal contexts for developing communicative competence.

Attitudes

In this study, attitudes are treated as a multi-dimensional concept, incorporating the participants' evaluation of CS, of the individual languages involved, and also their attitudinal orientation towards different cultures. Explicit attitudes towards CS are examined by eliciting the participants' evaluation of CS as showing off in stigmatizing terms or as a natural result of living between two cultures (Toribio, 2002). The alignment with English/Chinese culture of the participants is approached by examining their degree of ethnic orientation, cultural heritage and their perceived importance of ethnic culture (Hoffman & Walker, 2010). The evaluation of English and Chinese are examined in term of status and solidarity represented by each language. Status and solidarity have long been acknowledged to be two main evaluative dimensions of language attitudes. Empirical research has shown that different language varieties are mainly evaluated on these two dimensions (for example, Edwards, 1982; Giles & Powesland, 1975; Preston, 2002). Status measures socio economic status, education level, and other wealth-related properties of a language or speakers of that language whereas solidarity rates a certain language or speakers of that language in terms of kindness, likability, dependability, trustworthiness and other personality traits (e.g. Anisfeld & Lambert, 1964; Bourhis, Giles & Lambert, 1975).

As a psychological construct, attitudes cannot be directly observed but can only be inferred from people's statements, their emotional behavior and reactions (Garrett, 2010). By saying that attitudes cannot be observed in a direct way, it does not imply that attitudes cannot be captured and are too elusive to make sense of. There are some stable qualities of attitudes that can be measured in various ways and it is such stable qualities of attitudes that help define a speech community (Preston, 2010). The various ways of measuring these stable qualities of attitudes are mainly manifested in two main approaches:

- *Direct approach*, i.e. asking explicitly what participants' attitudes are towards certain language phenomena;

- *Indirect approach*, including indirect questions, i.e. eliciting participants' response by situationally-based questions (Greenfield & Fishman, 1968), and indirect testing, i.e. designing experiments so that participants are not aware of what they are exactly rating to avoid any bias, which is also known as matched guise experiments (Lambert et al. 1965).

Each of these approaches has their own strengths and weaknesses. In the present thesis, the direct approach has been adopted to elicit the participants' language attitudes for the following reasons:

- A broad coverage of evaluation on different aspects of language use and cultural alignment can be obtained in a single questionnaire (Garrett et al, 2003).

- It is effective to collect information efficiently, consistently and systematically across the participants (Romaine, 1995).

In addition, the questionnaire was designed with as sufficient as possible details based on open-end discussions in the interviews and in multiple question-format (Likert scale, multiple-choice questions, yes/no questions, open-end questions). An electronic version of the questionnaire was also used to facilitate the filling-out process. These methods were adopted with the aim to mitigate some disadvantages that might be associated with using questionnaire to elicit attitudes. The next section and Chapter 6 provide fuller details of attitudes measures.

Network

As outlined in Chapter 2, network types are measured along two dimensions, ethnicity

(non-Chineseness) and openness. The detailed information on these two dimensions of networks was also obtained in the form of a questionnaire. In the questionnaire, I aimed to collect information on the nature of employment, marriage status, family and kin connections, acquaintances and close friends. The frequency of interaction and the language spoken by and with each contact (cf. Li Wei et al., 2000; Sharma, 2011) were also elicited in the questionnaire. The next section and chapter 6 provide fuller details of network measures.

3.6 Questionnaire: design and coding

A detailed questionnaire to elicit the participants' above social details was sent via email after the interview to each participant. The full questionnaire is given in Appendix E. The questionnaire is available in both Chinese and English (See Appendix F for the Chinese version of the questionnaire). In the email, both versions of the questionnaire were available for them to choose.

The questionnaire consists of six parts: autobiographical information, English proficiency, family and friends, home and work, interests, and language attitudinal perception. In total, there are 61 questions, including two tables, which mainly contribute to 11 dimensions:

1. *English proficiency* (question 3 in the section of *English use*)

   The participants were asked to rate themselves on a 7-point scale on their abilities to speak, understand, read and write English. In addition, their choice of English version of the questionnaire gave them one extra point, but their choice of the Chinese one did not lose them points. Their final points were added, averaged and then normalized into a percentage to represent their overall English proficiency. The higher the percentage is, the more proficient the participant considered his/her English is.

2. *Openness of network* (questions 1 and 5 in *Family and friends* section; questions 1, 4, 6~10 in *Home and work* section; question 2 in *Interests* section)

   This dimension suggests the diversity of networks and the range of social contacts. Questions on this and on the following dimensions of *non-Chineseness of network* and of *Chinese solidarity* were designed in the format of multiple-choice questions and yes/no questions. A specific value was assigned to each option in every such question. For each participant, his/her final scores were normalized into a

percentage. The higher the percentage is, the more open the network type is.

3. *Non-Chineseness of network* (questions 4 and 5 in *English use* section; questions 2~4 and 6~9 in *Family and friends* section; question 2-A, 3 and 5 in *Interest*s section; question 9 in *Home and work* section)

Non-Chineseness of network marks the proportion of English-speaking ties. More non-Chinese network is indicated by a higher percentage.

4. *Attitudes to CS* (questions 20~26 in *Language use* section)

The questions on the participants' specific attitudes towards CS also asked them to rate the degree of their agreement on a 7 point scale, with 1 being strongly disagree and 7 strongly agree. These questions mainly focus on the participant's evaluation of CS on naturalness and pleasantness. Cronbach's Alpha test suggested that all questions can be grouped together to provide a better understanding of participant's attitudes towards CS ($\alpha=0.852$). Thus, for each participant, his/her scores on this dimension were added and normalized into a percentage. A higher percentage indicates more positive attitudes towards CS. The following dimensions (except for *Chinese solidarity*) all consist of questions of the same type. The scores on these dimensions were all similarly normalized into a percentage.

5. *Status of English* (questions 1~4 in *Language use* section)

Socioeconomic status, education level, prosperity in occupation and global influence represented by English language or speakers of English are indexed by this dimension. A higher percentage indicates a higher status of English.

6. *Status of Chinese* (questions 6~8 in *Language use* section)

Socioeconomic status, education level, prosperity in occupation and global influence represented by Chinese language or speakers of Chinese are indexed. A higher percentage indicates a higher status of Chinese.

7. *Chinese solidarity* (questions 5, 9 and 10 in *Language use* section)

This dimension indexes dependability, trustworthiness, sincerity, likability and how "down-to-earth" a speaker appears by speaking Chinese or English. The questions on this dimension were designed to provide the participants with options to choose either one language or both as the solidarity language. When they chose Chinese,

they scored 1; when they chose English, no score was assigned. When both languages were chosen, each was assigned 0.5 score. The final scores were added and normalized into a percentage. The higher percentage indicates higher solidarity of Chinese. Thus, this dimension was named "Chinese solidarity".

8. *English cultural alignment* (questions 16, 18, 19 in *Language use* section)

This dimension shows how the participants position themselves in relation to English/Western cultural and social values, how important they perceive English/Western culture and how much their self-construction of identity is Western orientated. A higher percentage entails a closer alignment with English/western culture.

9. *Chinese cultural alignment* (questions 13, 14, 15, 17 in *Language use* section)

This dimension shows how the participants position themselves in relation to Chinese cultural and social values, how important they perceive Chinese culture and how much their self-construction of identity is Chinese orientated. A higher percentage entails a closer alignment with Chinese culture.

10. *English for instrumental purposes* (questions 11 in *Language use* section)

The role of English is mainly confined to institutional and professional contexts. Higher percentages show more agreement with such role played English from the participants.

11. *English for integrative purposes* (questions 12 in *Language use* section)

The use of English spreads to more private domains. By utilizing English in more social domains, the participants have more or less desire to access local communities. The higher the percentage is, the more speaking and using English is endowed with this purpose.

In the following chapters, I present the results of data analysis. Chapters 4 and 5 present register differences in CS use in terms of the frequency, pattern and function. Chapters 6 and 7 present interactions of social variables and their influence on CS.

Chapter 4

Description of code-switching across registers

This chapter presents the results of the first stage of quantitative analysis of CS use across registers. In this chapter, I show how the participants adopt CS in general and how they vary in the use of CS across registers in terms of the frequency, pattern (alternational CS or ACS vs. insertional CS or ICS) and the make-up of CS (i.e. what elements are typically switched to English in Chinese discourse). I also propose the first part of a model (which is discussed in full in Chapter 7) to explain differing degree of CS use across registers in the end of this chapter.

In the first section (4.1), self-recordings of group meetings and the recordings of the interviews are first compared simply to check whether CS in the interviews represent their daily use of CS to a reliable degree. The following section (4.2) looks at the total use of CS from spoken and written registers together to reveal a general pattern in terms of the type and frequency as well as the make-up of CS. This general pattern is then broken down by register to illustrate different use of CS in different registers (sections 4.3 and 4.4). Section 4.5 then compares CS use in the two registers and highlights the differences. Section 4.6 explains why the participants might vary their use of CS across registers and presents the first part of a proposed model to summarize CS use by this group of bilingual professionals. The findings of this chapter are summarized in section 4.7.

4.1 Consistency of code-switching data from self-recorded group meetings and from recorded interviews

As explained in Chapter 3, the five returned self-recordings which involve 12 participants are used to test how reliable it is to use CS data from recorded interviews as representative of their daily CS use. To test this, the frequency and pattern of CS used by these 12 participants in group meetings are compared to their CS usage in the interviews. As explained in Chapter 3, for each participant, the frequency of CS was quantified by dividing the number of clausal chunks realized in/with English by the total number of clausal chunks. The pattern of CS was quantified by calculating the percentage of ACS in the total number of complete clauses and also by calculating the percentage of ICS in the total number of clausal chunks (excluding English clauses).

Figure 4.1 below illustrates the results of the comparison on the frequency of CS. The individual points on the horizontal axis represent the 12 participants. The participants are ordered by increasing frequency in CS use in the interviews.

The line chart in Figure 4.1 is not showing a very clear pattern in the use of CS in these two settings. It seems that some participants used more CS in the interviews and others in the self-recordings. Yet the difference for most participants seems not to be drastic. However, there is one participant, M2, whose use of CS underwent a big change from no use at all in the recorded interview to second highest use in the self-recording. It is clearly shown that the interview might have restrained the employment of CS by this speaker. In his interactions with more familiar friends, his use of CS was much more frequent. Nevertheless, not only is the speaker observed to change his use of CS, he himself has shifted from a silent and reserved person in the interview to a humorous and articulate speaker when chatting with his friends. Plus the fact that he is the only participant showing this much variation, it is possible that his personality is more introverted or he considers the interview a formal meeting regardless of the setting and the topics under discussion. In fact, this participant was mostly answering questions during the interview and seldom initiated any new topic.
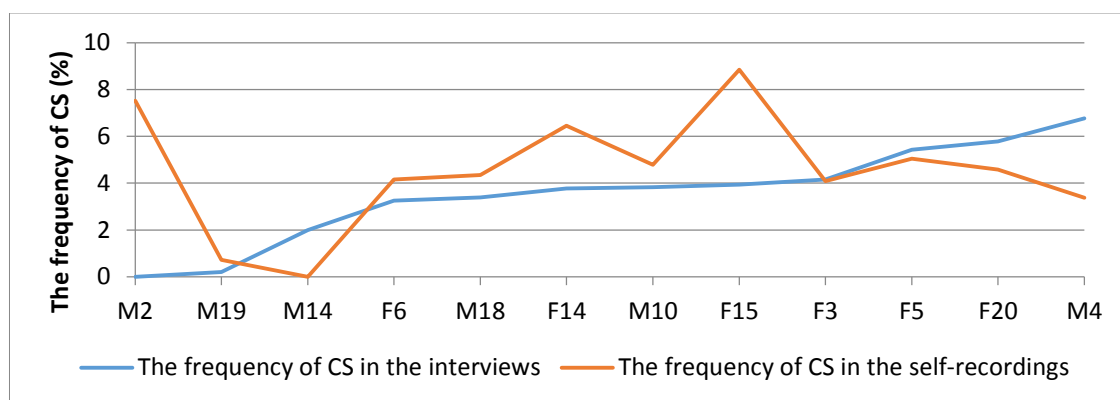
Figure 4.1 Comparison of the frequency of code-switching between the interviews and the self-recordings

A paired t-test was carried out to check whether the average frequency of CS was significantly different between the interviews and the self-recordings. The results of the test confirm the lack of a significant difference (t=-1.108, p=0.292). As a result, it is suggested that the use of CS by these participants in the interviews is not significantly different from that in their natural conversations. In terms of the frequency of CS, the results indicate that CS data from the interviews is a relatively reliable indicator of the 12 participants' use of CS in natural settings.

Two other comparisons were made between the interviews and the self-recordings in the use of ACS and ICS, as illustrated in Figures 4.2 and 4.3. The participants are again ranked on the horizontal axis by increasing frequency in ACS/ICS in the interviews in the two figures. As in Figure 4.1, neither of these two figures shows great differences between the two settings in the participants' use of the two types of CS. In particular, the rarity of ACS observed in the interviews is echoed in the self-recordings, as shown in Figure 4.2. Only two participants used ACS and they are the same participants across the settings. In natural settings, the use of ACS by these two participants does not consistently exceed or fall below that in the interviews, while one participant used it more frequently and the other less in the self-recordings. The difference is also very subtle and this variation is more likely due to random causes than to systematic change along with situational factors.
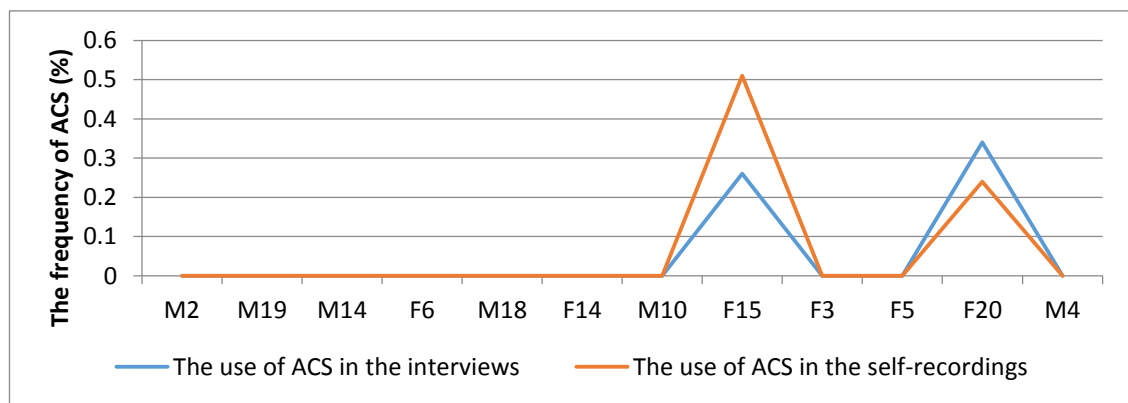
Figure 4.2 Use of alternational code-switching in the interviews and the self-recordings

Similarly, Figure 4.3 shows that roughly half the number of participants increased their use of ICS in the self-recordings when talking to closer friends, while the use of ICS by the other half decreased. In fact, the frequency of ICS use by individual participants mirrors that of total CS in both settings, for the reason that CS use in these two speech settings mainly consists of ICS. This is discussed in section 4.3.1. Overall, the differences between the recorded interviews and the self-recordings on the use of two types are confirmed by paired t-tests to be non-significant (test results on ACS: t=-0.540, p=0.600; test results on ICS: t=-1.107, p=0.292). Such results suggest that the interviews do not greatly distort the participants' use of either ACS or ICS.

To summarize, the 12 participants who self-recorded used similar amount of CS and congruent patterns in both interviews and natural settings. Only one participant displayed a clear change in CS use in the interview. It is suggested that this participant

may have been more reserved in the interview, as not only his CS but also his general style of interaction differed. He is observed to be more silent and withdrawn in the interview, which stands in sharp contrast with his lively manners when interacting with more familiar friends.
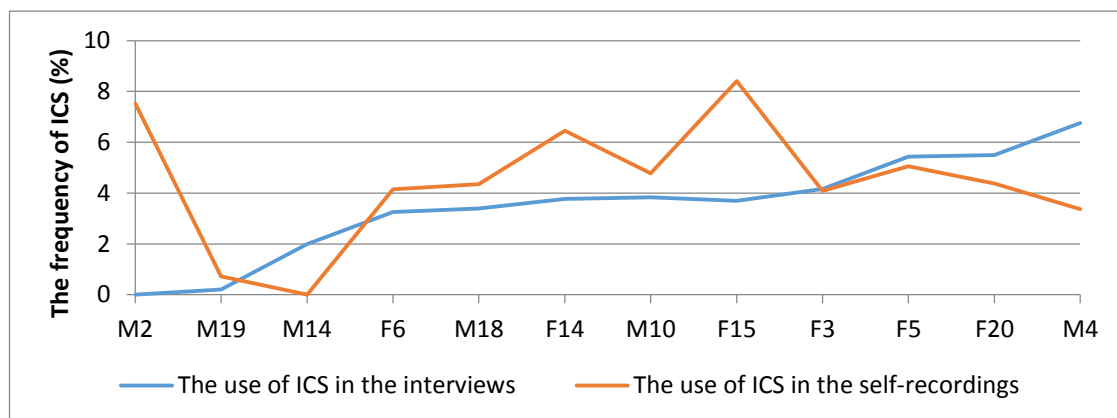
Figure 4.3 Use of insertional code-switching in the interviews and the self-recordings

The results of the comparisons between the two speech settings based on these participants indicate that the interviews, in the form of casual and light conversation, are comparable to natural settings. The inclusion of naturalistic written CS use on social media further fills out the picture of the participants' use of CS in daily life. In the following sections, I start to examine and compare the use of CS in speech and writing.

4.2 Data description of total code-switching usage

In this section, I present an overview of how much the participants switch to English in their Chinese discourse by analyzing together their use of CS in both spoken and written registers. I also examine the frequency of ACS and ICS used and the detailed make-up of switched elements in this overview. A brief discussion of the findings is presented in the end of this section.

4.2.1 Frequency of total code-switching, alternational code-switching and insertional code-switching

Figure 4.4 below presents the variation in total CS use among the participants. As there are three participants whose data in the written register is missing, Figure 4.4 only shows the attested variation among 37 participants. As shown in the figure, except for one participant (F2) whose frequency of CS use reaches as high as 36% in all the utterances of hers that I have chosen to analyze, all other participants use CS no more than 20%, among whom more than half use CS no more frequently than 5%. Nevertheless, this initial result shows fairly regular use of English in Chinese

conversations.
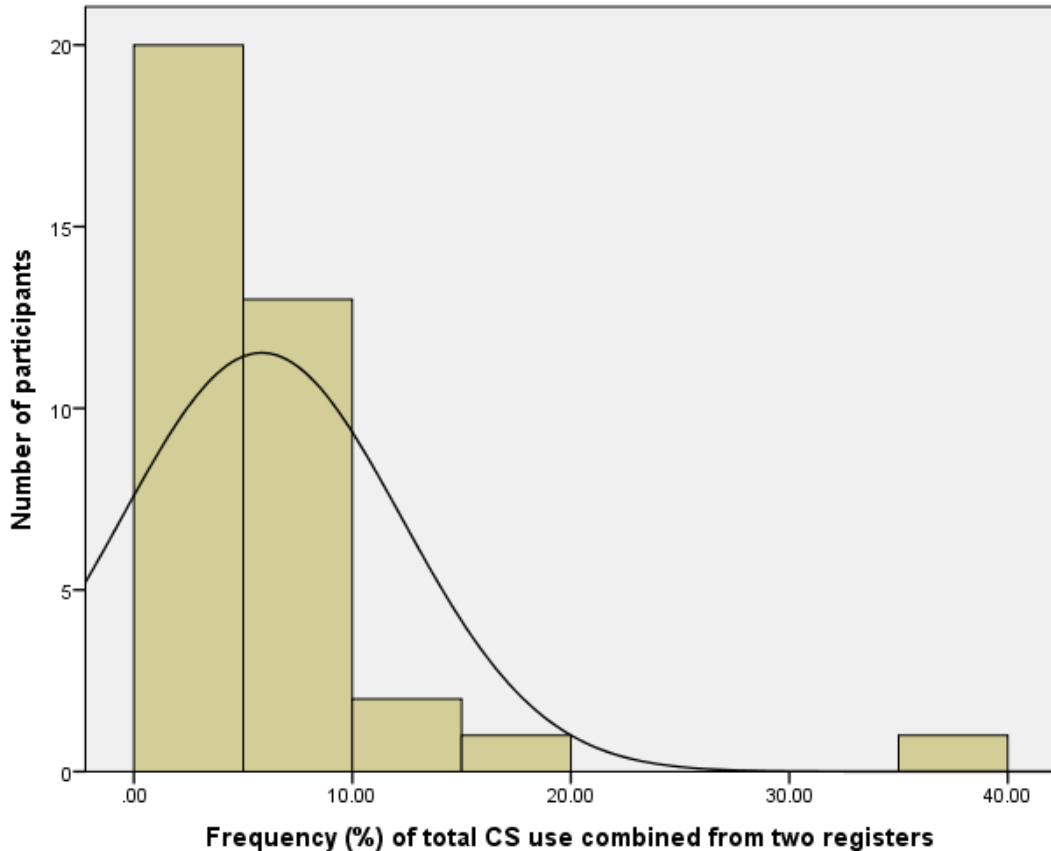
Figure 4.4 Variation in frequency of total code-switching use (n=37; mean=5.85; median=4.08; std. dev. =6.402; range=35.43; maximum=36.00; minimum=0.57)

A comparison of the two subtypes—ICS and ACS—is presented in Figure 4.5. The individual points on the horizontal axis again represent the participants, ranked by increasing frequency of ICS use. The blue line and the yellow line represent the frequency of ACS and ICS per participant. A visual inspection of Figure 4.5 reveals that the use of ICS is overall more frequent than ACS for all participants except one (participant M6). This participant's use of ACS and ICS are roughly the same. The mean value of ICS use (4.76%) is more than 3 times of that of ACS (1.48%) and the difference between them is significant (Z=-5.197[6], p<0.01). In addition, the participants vary to a greater extent from each other in terms of using ICS than ACS, which can be seen by comparing their variation range and standard deviation shown in Table 4.1.

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[6] The distribution of either ACS or ICS is skewed, therefore a non-parametric test Wilcoxon signed ranks test was run instead of a paired t-test. In the remainder of this chapter, when the distribution of data is skewed, the results of Wilcoxon signed ranks tests are given. Otherwise, the results of paired t-tests are presented.
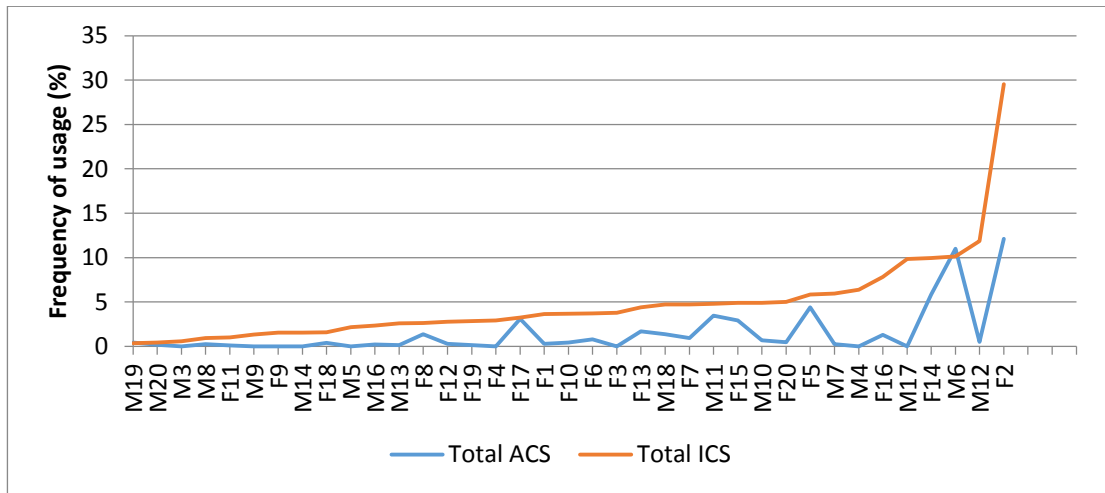
Figure 4.5 Line chart of total frequency of insertional code-switching and alternational code-switching

Table 4.1 Descriptive statistics for total insertional code-switching and alternational code-switching

	Total ACS use	Total ICS use
N	37	37
Mean	1.48%	4.76%
Median	.37%	3.68%
Std. Dev.	2.80	5.08
Range	12.12	29.19
Minimum	.00%	.36%
Maximum	12.12%	29.55%

Another point observed in Figure 4.5 is that higher frequencies of ICS tend to appear with higher frequencies of ACS. For example, those participants whose ICS usage is higher are also more frequent users of ACS. To test whether such pattern of usage is due to chance, a Pearson correlation test was performed and the results suggest that the association is quite strong and statistically significant ($r=0.756$, $p<0.01$). Not surprisingly, the overall use of CS and the use of each type of CS are also closely and positively correlated (ACS and overall CS: $r=0.869$, $p<0.01$; ICS and overall CS: $r=0.979$, $p<0.01$).

Even though gender is not a central focus of this thesis, it has consistently been shown to be an important predictor of linguistic variation (for example, Eckert, 1990;

Labov, 1966, 1972). Therefore, gender differences in relation to CS usage were also checked. The results show that women exceed men in the use of total CS and both types of CS, in particular, their use of ACS surpasses men's with almost statistical significance. However, overall, the differences observed are not significant[7].

We can therefore conclude with some confidence that when the participants' overall use of CS is more frequent, the occurrence of both switching for isolated elements and switching at clausal boundaries are likely to be more frequent as well. This finding does not support Cheshire and Gardner-Chloros' (1998) claim that the more CS there is overall, the smaller the proportion of single word switching. In the present study, the proportion of single words switching becomes higher as the use of more complex structured CS pattern become more frequent.

4.2.2 Details of insertional code-switching and alternational code-switching

So far, CS has been roughly divided into two patterns, ICS and ACS. However, within each pattern, there is further variability. For example, ICS includes various types of switching within clausal boundaries such as noun switching and verb switching; while ACS encompasses independent clauses and dependent clauses. To reveal a fuller picture of what elements are most often switched, each participant is further examined in terms of the makeup of insertional switched elements (ICS) and the construction of switched clauses (ACS). This close examination of the details of ICS and ACS prepares the way for the analysis of discourse functions of CS discussed in Chapter 5.

The second coding procedure was applied here by counting individual cases of CS and classifying them into different categories according to their word properties (ICS) or clausal structures (ACS) (see Chapter 3). In total, there are 2511 instances of CS from both speech and writing, consisting of 2181 cases of ICS and 330 ACS. I first examine the make-up of ICS.

Types of ICS

Among all the switches of ICS type in both registers, 11 different types of switching in terms of the nature of grammatical units are distinguished. They are: nouns (41.17%), discourse markers (18.98%), noun phrases (14.58%), adjectives (11.10%), verbs (7.47%), phrasal verbs (3.48%), adverbs (1.70%), adjectival phrases (0.96%), complex

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[7] Results of Mann Whitney test show:
  Total CS use: women's mean value (%): 6.63; men's men value (%): 4.93 (Z=-0.914, p=0.361)
  Total ACS use: women's mean value (%): 1.82; men's men value (%): 1.08 (Z=-1.796, p=0.074)
  Total ICS use: women's mean value (%): 6.63; men's men value (%): 4.93 (Z=-0.792, p=0.442)

prepositions (0.32%), pronouns (0.18%) and prepositions (0.05%). The percentages in the brackets show the proportion of each type in the total number of ICS (2181). Examples of each type from both registers are given below (examples 7~26), mainly to give a sense of ICS present in the data and to compare the distribution to previous work. When a type has appeared in only one register, only examples from that register are given. As explained in Chapter 3, the decision of how to classify the switches into different word classes is based on the dictionary-defined properties of the words. Discourse markers are defined on the basis whether it contributes to discourse cohesion and coherence (Schiffrin, 1987), and the judgment is based on two criteria: first, removal of it does not affect the grammaticality of the utterance (Fuller, 2003); second, semantic or propositional context of the utterance stay intact without it.

(7) noun (spoken register)

Participant F2: 我喜欢在我的句子里放很多的 **emphasis**.

I like putting a lot of **emphasis** in my sentences.

(8) noun (written register)

太阳挺高，风挺大，居然还挺冷，去动物园遛遛，顺道给哥把 **membership** 办了。

(One of participant F1's posts)

The sun is shiny, but it is windy and quite cold. We are going to the zoo and will get **membership** for my son.

(9) discourse marker (spoken register)

Participant M1: 他们都说中国进入了一个 slow era, **you know,** 就说已经发展比较慢了，我还想说这边他妈都在衰退呢，好吧？

They say that China has entered a slow era, **you know**, meaning we are developing slowly. I want to say you are in economic recession, okay?

(10) discourse marker (written register)

Monster Supplies，这种天气从伦敦西南冲到东北，只为了一家店的精神，主要是人家牛，平常只开下午 1 点到 5 点，没办法，售卖的东西千奇百怪，有的还超恶心，**anyway**，主要客户群是有钱的吸血鬼啦怪物啦。

(One of participant F16's posts)

Monster Suppliers, this is my spirit of going all the way from southwest to

northeast London just for one shop. It is mainly because it is an awesome shop and it opens only from 1pm to 5pm. Nothing you can do about it. They sell all kinds of things, some are gross, **anyway**, their main customers are all rich vampires and monsters.

(11) noun phrase (spoken register)

Participant F3: 计算机辅助翻译它是，它其实相当于是人，嗯，怎么说呢，**human translator** 作为一个主体，它计算机，它那些翻译记忆只是一个辅助。

Computer-assisted translation is, in fact, it is still human beings, hmm, how to say this, **human translator** is still doing the main work; computer and its memory in translation are just assisting.

(12) noun phrase (written register)

今天竟然收到来自 Omega 的 **review invitation**，它可是 IF>3，稍稍有些受宠若惊了, 要不咱这次审严一点儿?

(One of participant M11's posts)

I received a **review invitation** from Omega today. Its IF is above 3. I feel a bit flattered. Shall I be a bit stricter this time?

(13) adjective (spoken register)

Participant F7: 其实我不觉得自己真正很 **gentle** 的类型.

Actually I don't think that I am really **gentle** type.

(14) adjective (written register)

在家门口做了一次游客,不过天气 **nice**,真是怎么都开心。

(One of participant F13's posts)

Been a tourist today at my own city. The weather was **nice**, so I am happy no matter what.

(15) verb (spoken register)

Participant M15: 其实我也不是这个公司的，现在等于是我在这里做实验，在这个办公室，但是 **pay** 我的还是我们系。

Actually I am not working for this company. It is like I am doing experiments in this office, but it is still our department who **pay**s me.

(16) verb (written register)

突然觉得，自己在公司是有多么能干啊，来 **cover** 我产假的，新人来了，提前俩月！而且是两个人！！！让涨个工资每次都艰难，怎么给我涨，也便宜过给俩人工资吧。

(One of participant F12's posts)

I suddenly realized how able I have always been. The new guys who are **cover**ing for my maternity leave started work today. There are two of them and they started two months in advance! It is so difficult to ask them for a pay rise. However high the pay rise is, it will be cheaper than paying two people's wages.

(17) phrasal verb (spoken register)

Participant F2: 所以有很多我得到的经验我还要 **hand over** 给下一个人。

So I have lots of experience that I need to **hand over** to the next person.

(18) phrasal verb (written register)

这种错误都犯了多少次了，咱能不能 **make sure** 每次发之前都看一遍啊？！

(One of participant M18's posts)

How many times has this mistake been made? Can you **make sure** that you go over everything before you send it to me every time?!

(19) adverb (spoken register)

Participant M12: 我直接跟人家说一个小时，觉得这么长啊，我直接说半个小时，一个小时**roughly**都可以。

If I say it needs one hour, they will think it is too long. So I will just say half an hour, but it should be fine if you go up to **roughly** an hour.

(20) adverb (written register)

Ben & Jerry's 新出的口味还不错，**actually**我已经吃了快两盒了。

(One of participant M13's posts)

The new flavor of Ben and Jerry's is quite nice, **actually** I have already had almost two tubs.

(21) pronoun (spoken register)

Participant M6: 他当时不停地说不停地说，我都烦了，谁知道他说的是**what**啊。

He just kept talking and talking, and I was so bored. Who knows

what he was talking about?

(22) pronoun (written register)

这种**everyone**都懂的道理其实是最难做到的。

What **everyone** understands is the most difficult to put into practice.

(23) adjectival phrase (spoken register)

Participant F2: 学校永远是你的过去，就算你的学校是 **absolutely fantastic**，但是如果没有工作经验，这都是没有意义的。

Which university you attended is always your past. Even if you university is **absolutely fantastic**, without work experience, you still cannot go far.

(24) adjectival phrase (written register)

心情不好，天气不好，睡觉觉去，塑料瓶裙子，街道涂鸦，**so cool**。

Not in a good. The weather is bad and I am going to sleep. Dress made from a plastic bottle, graffiti, **so cool**.

(25) preposition (spoken register)

Participant F2: 那你这个是**under**心理学吗，还是行为学？

So yours (subject) is **under** psychology, or is it sociology?

(26) complex preposition (spoken register)

Participant F2: 因为大家在做这件事情的时候，都是在**on top of**一个<u>full pay</u>的<u>job</u>, 所以大家只能尽量地挤自己的业余时间。

When we were doing this, most people are doing it **on top of** a <u>full pay</u> <u>job</u>. So we had to do it in our spare time.

All the types of switching (ICS) observed in this study have been reported elsewhere (e.g. Berk-Seligson, 1986; Treffers-Daller, 1991). Furthermore, the most frequently switched types found here also agree with the findings of previous studies. Noun switching alone accounts for 41.17 percent of total ICS. In addition, noun phrases are also among the most frequently switched types (14.58%). This is in line with the results of earlier research on various other language pairs, for example Pfaff (1982) on Spanish and English, Meisel (1994) on French and German. The reasons suggested are

more related with language internal rules, such as that nouns are less restricted by syntactic rules and nouns are more accessible to retrieval and thus require a more minimal degree of language competence (Gardner-Chloros, 2009a). The higher accessibility of noun switching is also supported by a closer look at individual participants' switching pattern. Noun switching is the only switching category which is practiced by all participants in both registers except one, participant M2, who did not switch at all in the interview as pointed out in section 4.1 and who does not actively post on SinaWeibo.

The second most frequently switched element in spoken register is discourse markers (18.98%). This high percentage is mainly accounted for by the prevalence of discourse markers in spoken register, which will be further shown in section 4.3.3. Discourse markers do not form a homogeneous category. A further split within this category is presented in Chapter 5, where discourse functions of CS are discussed. The frequent switching to English for discourse markers might be also due to the fact that they are structurally freer (Myers-Scotton, 1993a). In this sense, they behave like nouns. Their movement would not jeopardize the grammaticality of utterances (Fuller, 2003). In fact, the easier accessibility of discourse markers for CS has been amply documented across languages (e.g. Brody, 1995; Pfaff, 1982; Salmons, 1990; Torres, 2002).

Between the two sub-groups, the total number of ICS is 1321 for women and 860 for men. Even though the difference in the number of ICS between men and women seems to be large, it should be pointed out that the difference in their mean values of the frequency of CS use is small and non-significant, as shown in the above section 4.2.1. The big difference is the larger number of total utterances in women's discourse. In relation to the proportion of each type of ICS in their total use of ICS, Table 4.2 shows the comparison. The general pattern identified out of the whole population is also seen in each sub-group, i.e., nouns and noun phrases account for more than a half number of ICS, followed by discourse markers. In addition, the top six most frequently switched elements remain the same across men and women. Once again, no major difference is identifiable.

Table 4.2 The comparison between men and women on the make-up of insertional code-switching: the frequency of different part of speech

The make-up of ICS: part of speech	The proportion of different part of speech in men's total number of ICS (N=860)	The proportion of different part of speech in women's total number of ICS (N=1321)
noun	46.28%	37.85%
discourse marker	18.37%	19.38%
noun phrase	14.53%	14.61%
adjective	10.81%	11.28%
verb	8.37%	6.89%
phrasal verb	3.95%	3.18%
adverb	1.74%	1.67%
adjectival phrase	0.48%	1.14%
complex preposition	0.00%	0.53%
preposition	0.00%	0.07%
pronoun	0.23%	0.15 %

Types of ACS

Now, I move on to examine the make-up of ACS. There are in total 330 instances of ACS from both registers and four types are distinguished. Again, the percentage of each type in the total number of ACS is given.

- simple independent clauses[8] (a single clause):57.88%

- complex independent clauses (with one or more dependent clauses):23.64%

- compound independent clauses (coordinated independent clauses) :12.12%

- dependent clauses (embedded clauses):4.55%

No further split within each type is made. Among the four types, simple independent clauses are the least complex construction, compared to the other three types; they are also the most common type of ACS used, accounting for more than half of all cases of ACS in both registers. The next most commonly observed ACS category is complex independent clauses. Following are some examples to illustrate.

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[8] The definitions of these clauses are based on Biber, Johansson, Leech, Conrad and Finegan (1999).

(27) dependent clause (spoken register)

Participant F2: 他们会说你好强啊，好能干啊，**which I don't like at all**，而且我根本不觉得自己是女强人。

> They always say I am very tough and very able, **which I don't like at all**, and I don't think I am any closer to being tough.

(28) dependent clause (written register)

Life of Pi 告诉我一个道理，千万别去坐什么游轮，我绝对活不下来 **if anything happened**。

<div align="right">(One of participant F15's posts)</div>

What I learnt from Life of Pi is that I will never ever go on a cruise trip. I would never survive **if anything happened.**

(29) single independent clause (spoken register)

Participant F12: 他们会觉得这很正常，会说这是女人的职责，**you are designed for it**。

> They will think this (the pain in birth giving) is normal, and they will say this is women's responsibility. **You are designed for it**.

(30) single independent clause (written register)

我盯着这照片看了 10 分钟了，真是用 IPhone 拍的啊？**How on earth did he do it**?

<div align="right">(One of participant M8's posts)</div>

I have been staring at this picture for 10 minutes. Is this really taken by Iphone? **How on earth did he do it**?

(31) complex independent clause (spoken register)

Participant F2: 也没有人监督你啊，**you do it because you want to do it well**，而且你自己知道你有没有 <u>do well</u> 的，对吧？

> There is no one to supervise you. **You do it because you want to do it well**, and you know whether you <u>do well</u> or not, right?

(32) complex independent clause (written register)

啊啊啊，我心爱的帽子被风吹到地铁轨道里去了。**I am not allowed to pick it up even it was only 2 meters away from me**. <u>Sob sob</u>.

<div align="right">(One of participant F10's posts)</div>

Ahhhh, my favorite hat was blown to the underground tracks. **I am not allowed to**

pick it up even it was only 2 meters away from me. <u>Sob sob</u>.

 (33) compound clause (written register)

Jordan Spieth gave a brilliant performance in The Masters this week and he broke many records~~ 年轻人前途无量啊~~

(One of participant M11's posts)

Jordan Spieth gave a brilliant performance in The Masters this week and he broke many records~~ A fantastic future is waiting for the young man.

Between the two sub-groups, the total number of ACS for men is 84 and for women it is 208. Such a big difference reminds us again of the almost-significant difference between men and women in the frequency of ACS. Even though the total number of utterances of women is larger, which might contribute to the more instances of ACS, as explained above in the case of ICS, the difference that women use more than two times more ACS than men do indicates that such difference merits attention. I will return to this point in Chapter 7 again.

The proportion of each type in the total occurrence of ACS in each group is listed in Table 4.3. Similar to the general pattern, simple independent clauses are the most frequently seen category, followed by complex independent clauses. Dependent clauses are the least common.

Table 4.3 The comparison between men and women on the make-up of alternational code-switching (N=208 for women; N=84 for men)

	simple independent clause	complex independent clause	compound clause	dependent clause
Men	52.38%	25%	19.05%	3.57%
Women	56.73%	26.44%	12.02%	4.81%

4.2.3   A brief discussion: code-switching or borrowing?

This section has given an overall description of CS use among the current participants in both spoken and written registers. It has been shown that the participants use more ICS in general. Among all the tokens of ICS, noun switching and switching for discourse markers account for the majority. As reviewed in Chapter 2, the debate on whether to classify the use of foreign words as CS or borrowing in most cases rests on the use of single words, especially nouns (e.g. Romaine, 1995; Poplack, Sankoff &

Miller, 1988). In addition, there is also another debate on whether discourse markers in another language should be classified as CS or borrowing from that language (e.g. Hlavac, 2006; Salmons, 1990). Therefore, a question arising in the present study is how we should distinguish borrowing from CS in the present ICS data.

In fact, not only is the distinction between CS and borrowing in the form of nouns difficult to make, such a distinction in the case of discourse markers is equally difficult to draw. Some studies (e.g. Goss & Salmons, 2000) suggest that foreign discourse markers may be introduced into the native language in the beginning as CS through emblematic switching (Poplack, 1980). When these discourse markers completely replace the native ones as in the case of Salmons (1990), they should be considered as borrowing.

However, complete replacement is quite rare; instead, the foreign words are used as additional elements to the recipient language (e.g. Hlavac, 2006). In the present case, many English words have been observed to co-exist with the native correspondents. The participants use both languages to refer to the same concepts and to express similar emotions, as shown in the examples 34 and 35.

(34) Participant F3: 我觉得伦敦最爽的一点就是有很多博物馆……你只要办了那个会员卡，然后所有这些**museum**，包括哪些收费的展览都是免费的。

I think one of the greatest things about London is there are many museums….as long as you have the membership card, all of these **museum**s, including those fee-charging exhibitions, are free.

(35) Interviewer: 要是真不想融入，生活的时间再久可能也没什么用。

If he really does not want to integrate, it does not make any difference how long he has been living in the country.

Participant M3: 对，没错，**exactly**。

Yes，right, **exactly**.

In addition, some of these switches can be assigned socio-pragmatic functions (see Chapter 5). Even though it is not necessarily the case that borrowing has no particular socio-pragmatic meaning (Backus, 2015), the purposeful use of English words with the awareness of Chinese equivalents indicates these switches might have not become

established loanwords yet. Therefore, Backus' (2015) proposal to treat borrowing as the diachronic effects of the synchronic phenomenon of CS becomes useful here. The use of these English words is in the process of being "entrenched" in individual speakers. At the current stage, these English words might have been added to speakers' repertoire in co-existence with Chinese correspondents to help them refer to concepts and express emotions in a satisfactory manner in different contexts. The speakers are still aware of their use of English words. At the next stage, such use will probably escape their conscious attention, as reported in Dewaele (2013), where an example was given of the expression of strong emotions by a Canadian writer who had been living in France for a long time. When asked why she switched to French for swearwords, she was surprised as she did not notice herself doing so. This is used as evidence to show that this speaker has integrated French swearwords into her own repertoire and such integration indicates a shifting language preference and the escape of switching from a bilingual speaker's conscious attention. This example shows that the use of foreign words might be fully entrenched in usage in this speaker and therefore might be better classified as borrowing.

We can conclude that it is more reasonable to treat the use of English words at the current stage still as the synchronic use of CS; however, such use has already shown traces of the diachronic effects of becoming borrowing as their use is being entrenched in individual speakers.

4.3 Comparisons of the two registers

In addition to showing the variation in the total use of CS, CS use is further broken down to compare and reveal the differences between registers. I will first compare the two registers in terms of frequency and then compare the make-up of CS across registers. Before the comparison, I describe the variation in CS in each register as a start.

4.3.1 Description of code-switching in the spoken register

The variation in spoken CS is plotted in Figure 4.6. The frequency in overall CS, ACS and ICS is graphically represented in this figure. The participants on the horizontal axis are ordered by increasing frequency of overall CS use in speech. Descriptive data is given in Table 4.4.

The most striking feature of Figure 4.6 is that there is very little difference in the frequency between CS and ICS as the grey line which represents ICS use and the blue

line standing for overall CS overlap onto each other to a great extent. On the other hand, most participants do not use ACS at all in their speech, which is also shown by the zero median in ACS.
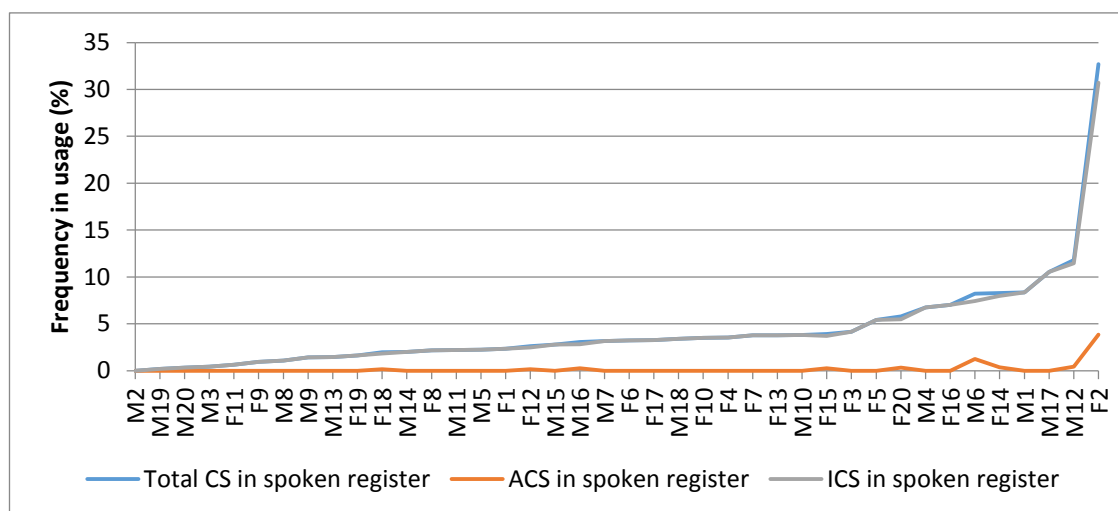
Figure 4.6 Variation in the frequency of code-switching, alternational code-switching and insertional code-switching in the spoken register

Not surprisingly, the difference between ACS and ICS use is significant ($Z=-5.443$, $p<0.01$). This raises questions such as why ACS use is so rare, and whether its use in the spoken register is considered inappropriate. I will come back to this point in section 4.6 and Chapter 7. At the same time, ACS and ICS use correlate to each other ($r=0.869$, $p<0.01$) and also to overall CS use in speech closely and significantly (ACS and CS: $r=0.884$, $p<0.001$; ICS and CS: $r=0.999$, $p<0.01$). In addition, women use CS and both types of CS more frequently in speech than men do but the differences are not significant[9] again.

Overall, what has emerged in the spoken register is a pattern that CS is characterized by the almost exclusive use of ICS and the extremely rarity of ACS. The tendency identified when examining the total use of CS, i.e., as the overall use of CS becomes more frequent, the use of both type is also more frequent, is seen in the spoken register as well.

The details of ICS and ACS in the spoken register are discussed together with those in the written register in section 4.3.3.

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[9] Results of Mann Whitney test show:
CS in speech: women's mean value: 5.04%; men's mean value: 3.67% ($Z=-1.217$, $p=0.223$);
ACS in speech: women's mean value: 0.26%; men's mean value: 0.10% ($Z=-0.999$, $p=0.318$);
ICS in speech: women's mean value: 4.88%; men's mean value: 3.60% ($Z=-1.190$, $p=0.242$).

Table 4.4 Descriptive data of overall code-switching, alternational code-switching and insertional code-switching in the spoken register

	CS use	ACS use	ICS use
N	40	40	40
Mean	4.35%	.18%	4.24%
Median	3.21%	.00%	3.21%
Std. Deviation	5.38	.64	5.09
Range	32.68	3.86	30.71
Minimum	.00%	.00%	.00%
Maximum	32.68%	3.86%	30.71%

4.3.2   Description of code-switching in the written register

A snapshot of CS in writing is shown in Figure 4.7. Once again, the frequency of ACS and ICS use is presented alongside overall CS use. The ordering of the participants on the horizontal axis is by increasing frequency of overall CS in writing. Table 4.5 lists further descriptive data for the comparison in Figure 4.7.
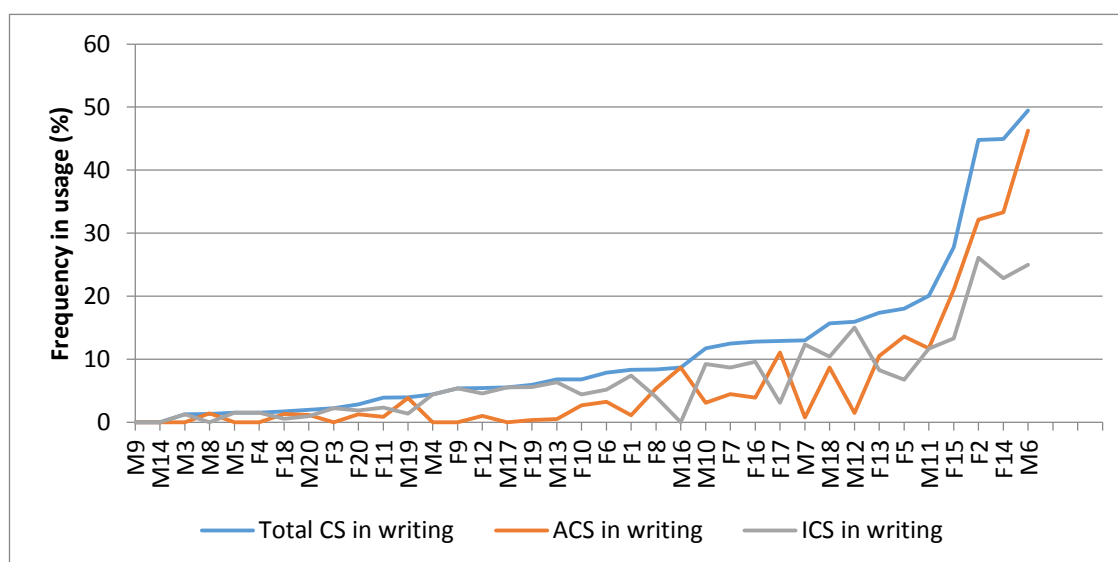
Figure 4.7   Variation in the frequency of code-switching, alternational code-switching and insertional code-switching in the written register

The three lines which represent the frequency in the use of overall CS, ACS and ICS show a pattern which is more difficult to decipher compared to Figure 4.6, where CS in the spoken register is shown. CS in writing is not dominated by any subtype of CS but consists of a more mixed use of both types, as indicated by the similar mean

values of ACS (6.35%) and ICS (6.73%) and the non-significant difference between them (Z=-0.884, p=0.376).

Compared to CS use in speech, the total use of CS in writing is higher, with an average use of 11.16%. There are three participants (F2, F14 and M6) who exhibit exceptionally high frequency, above 40%. The most prominent feature of CS use in the written register is the relatively high use of ACS, with a mean of 6.35%. However, it should be noted that the median use of ACS among the participants is only 1.43%, indicating that half of the participants use ACS no more frequently than 1.43%. The big difference between mean and median values shows that the remaining half of participants use ACS to a much greater extent to pull the mean up. As a result, not only is overall ACS use more frequent in the written register, the variation in its use is also wider. ICS use also becomes more frequent, with an average use increasing from 4.24% in speech to 6.73% in writing. Compared to ACS, variation in ICS use is more evenly distributed among the participants, as shown by the smaller difference between median (5.20%) and mean (6.73%) values.

Table 4.5 Descriptive data of overall code-switching, alternational code-switching and insertional code-switching in the written register

	CS use (%)	ACS use (%)	ICS use (%)
N	37	37	37
Mean	11.16%	6.35%	6.73%
Median	6.83%	1.43%	5.20%
Std. Deviation	12.40	10.62	6.75
Range	49.47	46.27	26.11
Minimum	.00%	.00%	.00%
Maximum	49.47%	46.27%	26.11%

A closer examination of the three lines in Figure 4.7 suggests that they seem to follow each other quite closely. This close relationship is confirmed to be significant (ACS and overall CS: r=0.954, p<0.01; ICS and overall CS: r=0.944, p<0.01; ACS and ICS: 0.818, p<0.01). Thus, the internal interactions among different types of CS use observed in the spoken register are also carried over to the written register, i.e. when the participants use more CS overall in writing, they tend to use more frequently both types of CS. When the frequency of one type of CS is higher, that of the other type is also likely to be higher. Women and men are shown again to be adopting CS in writing in a

similar manner in terms of the amount and type[10].

4.3.3   Description of the details of code-switching in spoken and written registers

Tables 4.6 and 4.7 compare the types of ICS and ACS in spoken and written registers. In both tables, the types of ICS and ACS identified in the date are listed in the left column. The middle column lists the types of ICS/ACS that are found in the spoken register and the right one lists those found in the written register. The checkmark "✓" indicates the presence of each part of speech in each register. The percentage of each type in the total number of ICS/ACS in each register is also presented.

As shown in Table 4.6, spoken and written registers do not differ from each other to a great extent. They share all the types of ICS except two, prepositions and complex prepositions. In fact, these two types of ICS are only used by one participant (F2) in the spoken register. It appears that this participant not only uses CS with exceptionally high frequency, her range of CS types is also wider. One difference between the two registers is that discourse markers, which are the second most frequently switched elements in the spoken register (21.99%), have become less frequent in the written register (3.40%). This might be due to the fact that discourse markers are more typical in more spontaneous discourse (Fox Tree, 2015; Schiffrin, 1987) and the posts in the written register of the study are more monologic in nature. This might explain why the proportion of discourse markers has fallen considerably in the written register.

However, if we take participant F2 as a special case to compare her use of ACS across registers, it is shown that her main type of ACS used in the spoken register is restricted to simple independent clauses; in the written register, her ACS type is more varied and more complex types have appeared. Even though over half of ACS is still simple independent clauses, the proportion of other three types has become bigger. This is also reflected in the overall distribution of ACS types in the written register. Therefore, not only is ACS in the written register more frequent, it is also more varied and more complex in structure.

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[10]Results of Mann Whitney test show:
  CS in writing: women's mean value: 12.58%; men's mean value: 9.50% (Z=-1.113, p=0.266);
  ACS in writing: women's mean value: 7.37%; men's mean value: 5.16% (Z=-1.320, p=0.187);
  ICS in writing: women's mean value: 7.19%; men's mean value: 6.19% (Z=-0.976, p=0.329).

Table 4.6 A comparison of spoken and written registers on the make-up of code-switching: the frequency of different part of speech

The make-up of ICS: part of speech	Spoken register (total ICS: N=1828)	Written register (total ICS:N=353)
nouns	✓ (41.58%)	✓ (35.69%)
discourse markers	✓ (21.99%)	✓ (3.40%)
noun phrases	✓ (11.28%)	✓ (30.88%)
adjectives	✓ (10.28%)	✓ (11.48%)
verbs	✓ (7.71%)	✓ (6.67%)
phrasal verbs	✓ (3.28%)	✓ (5.53%)
adjectival phrases	✓ (2.19%)	✓ (3.80%)
adverbs	✓ (1.26%)	✓ (1.70%)
complex prepositions	✓ (0.22%)	
prepositions	✓ (0.11%)	
pronouns	✓ (0.11%)	✓ (0.85%)

Table 4.7 A comparison of spoken and written registers on the makeup of alternational code-switching

The make-up of ACS	Spoken register (total ACS: N=38)	Written register (total ACS:N=292)
simple independent clauses	√ (89.47%)	√ (55.14%)
complex independent clauses	√ (5.26%)	√ (26.03%)
compound independent clauses		√ (14.04%)
dependent clauses	√ (5.26%)	√ (4.45%)

4.3.4　Summary

So far, I have examined the use of CS, ICS and ACS in terms of the frequency and the detailed make-up in spoken and written registers. An initial comparison between

registers suggests that the written register receives more occurrence of CS and both types of CS. The results of a series of Wilcoxon signed rank tests confirm such differences between registers are significant (see Table 4.8). Therefore, the participants use more CS, and both patterns of CS, in their written register. The use of ACS, in particular, seems to be reserved only in writing. In addition, ACS used in the written register is also more complex in structure.

On the other hand, spoken and written registers are not independent from each other in the use of CS. The participants whose CS use is more frequent in one type of register tend to be higher users of CS in the other type. The same holds for ACS and ICS use. Table 4.8 gives the strength and significance of the associations.

Table 4.8   Results of statistical tests on the differences and associations between the two registers on code-switching use

	Median in the spoken register	Median in the written register	Significance of the differences between the registers	Strength and significance of the correlations between the registers
Overall CS	3.21%	6.83%	Z=-4.156, p<0.01	r=0.624, p<0.01
ACS	0.00%	1.43%	Z=-4.623, p<0.01	r=0.625, p<0.01
ICS	3.21%	5.20%	Z=-2.482, p=0.013	r=0.674, p<0.01

4.4 Discussion

The findings of this chapter might turn out as a surprise as many people would think spoken registers are the more likely locus for frequent CS, especially in informal conversations. Written registers require more formal language use and could produce less CS as people are paying more attention to their language use which is noted down more permanently. However, not all written modes require formal language use. As reviewed in Chapter 2, communications in CMC modes resemble oral communications to a very large extent (Dorleijn & Nortier, 2009), especially informal communications such as online chats, discussions in some bulletin boards which take on the dialogic characteristics of conversations (Androutsopoulos, 2013). Furthermore, some creative use of language, such as the extensive use of emoticons (Katsuno & Yano, 2006), has been developed in CMC interaction modes to make up for the absence of traditional communication cues. In addition, the online environment as a register has also been

reported to provide a broader and freer space for identity construction through creative use of linguistic means (Lee, 2013; Tsiplakou, 2009).

It is in this online space where my participants use more CS. They are not under the constraints of appropriate language use as in traditional written registers. Their social networking webpage is the declaration of who they are and how they want to be perceived. It is through language use, and sometimes language use only (in some self-initiated posts where there is no picture or video attached) that such declarations are given voice. CS, either as a language choice or as a discourse strategy, is not restricted by the written mode of the register.

The question that follows is why these participants use less CS in the spoken register but more in the written register. For the same individual speakers, when CS use has become frequent in their online language use, why do they use less CS when it comes to oral conversations, especially when the conversations have placed no demand on formal language use? In Chapter 1, I introduced these participants as using English as their second language. A majority of them started learning English after the age of 12. From the point of view of the critical period hypothesis (Bialystok & Miller, 1999; Patkowski, 1980), it is very rare for these speakers to acquire the language as fully as their first language. For most participants, their contact with the language was through classroom instruction once or twice a week with Chinese as the instruction language. In this sense, these participants are not balanced bilinguals even though two participants rated themselves with native-like proficiency. In the interviews, many participants admitted that it is not possible for them to speak English as well as their Chinese and some even said that they are still learning or perfecting their English language skills. Therefore, as I suggested in Chapter 1, CS use by these bilinguals is by nature CS use by L2 English speakers.

When it comes to L2 speakers, a likely influence on language choice, especially of the L2, is the demand placed on using the language in a certain circumstance. Such a demand is twofold in the current context: general linguistic demand, which refers to the required grammatical knowledge and communicative competence to perform certain linguistic tasks, and the further cognitive demand of register, a term borrowed from cognitive psychology (Paas, Renkl & Sweller, 2003), which is defined as the real time processing demand required to perform a linguistic task in a certain register, as discussed in Chapter 2.

Regarding different types of CS, general linguistic demand to practice ACS and ICS differs. Insertion of a single word or a single phrase in the case of ICS requires minimal linguistic competence in English as they are freer of syntactic restrictions, especially nouns which were shown as the most frequently switched elements in the above section 4.2. The inserted English elements follow Chinese grammatical rules. Engaging in ACS, however, requires familiarity with syntactic constraints in English because within the inserted English clause, a respect for correct English grammatical rules is expected. This is particularly true in the case of more complex types of ACS, such as complex independent clauses. Additionally, practicing ACS in real-life conversations requires a different degree of communicative competence (Gumperz, 1981; Hymes, 1972). Compared to inserting single English elements, communicating in full English sentences requires not only grammatical knowledge of English; more importantly, it requires a higher communicative competence to appropriately use the language according to register, style, interlocutor and other social situation variation. Therefore, I argue that linguistic demand required from these L2 English speakers is higher when practicing ACS than ICS. The same applies to practicing differing amount of CS. When the frequency of inserting English elements and switching at clausal boundaries increases, a higher demand on the linguistic knowledge (e.g. a greater variety of words, more complicated sentence structures) and on communicative competence is required.

As reviewed in Chapter 2, more synchronous registers, such as spoken registers, are more cognitively demanding than more asynchronous registers, such as written registers. In more synchronous registers, there is an increased workload on speakers' working memory as their attention is split among more tasks, such as processing incoming messages immediately, paying attention to social cues and responding to such cues efficiently (Parker & Coiera, 2000). As a consequence, the accuracy and ability for speakers to retrieve elements from a stored information pool would decrease. On the other hand, asynchronous registers release speakers from such high pressure and allow their attention to concentrate on the fewer tasks at hand (Wellman, 1999). Therefore, the possibility of retrieving information which might have been inhibited in synchronous registers would increase in asynchronous registers.

Coming back to the two registers under comparison in this study, in the spoken register, the participants were conversing with the investigator, with whom they had limited contact before. Even though the conversations mostly took place at cafes where

the atmosphere was light and informal and there were only two people involved in each conversation, the more spontaneous nature of speaking mode still put a higher demand on these participants in terms of retrieving information, especially elements from a foreign language, as they needed to respond to the interviewer's questions immediately and to pay attention to appropriate and expected social norms in oral interactions. On the other hand, in the online written register, their audience is absent until their post is updated on the page, before which they have plenty of time to edit the contents of the post and have more resources at their disposal when there is a need to check language appropriateness. Therefore, I suggest that the cognitive load demanded by the spoken register is higher than that by the online written register. Combining this with linguistic demand discussed above, I propose that when the cognitive load is high in the spoken register, practicing higher frequency of overall CS and higher linguistically demanding ACS put more burden on a speaker and might have been avoided. Whereas in the written register where the burden of immediate and online processing is removed to some extent, the overall frequency of CS and ACS, in particular more complex ACS, start to become more frequent. To better account for the differences observed in the use of CS across registers, I present the following Figure 4.8 to relate CS use and cognitive load, which incorporates the cognitive load imposed by the register and the linguistic demand placed by practicing different types of CS. The figure is the first part of a more comprehensive model which is proposed in Chapter 7 that includes the social influences on CS.

In Figure 4.8, the horizontal axis represents the cognitive demand of register. Cognitive demand increases from left to right. The vertical axis indicates increasing amount of CS. The yellow bar represents the amount of ACS and the blue bar ICS. For ACS, increase in amount also involves increase in complexity. When the demand of register goes higher, the less linguistically demanding task will be opted for, i.e., practicing less frequent CS (either ICS or ACS) and simpler form of ACS.

This model proposes that the frequency, pattern and complexity of CS are inversely correlated with cognitive load of register. In more cognitively demanding registers (as in spoken registers), the frequency of CS is lower and higher linguistically demanding ACS is very rare; in lower demanding registers (as in written registers), both the frequency and complexity of CS increase. This tendency of CS use in different registers only suggests an overall pattern and it is not implying that all the participants would be willing to use CS when the demand of register decreases. This is apparently not the

case, as it is shown that some participants' use of CS either remains the same or even has decreased in the written register (see Appendix D). Therefore, there are other restrictions or rules affecting the use of CS, for example, to what extent the participants prefer to use CS and how much CS they are able to use. More asynchronous registers and the associated lower cognitive load only provide a freer space to exhibit such use. I will discuss this point further in Chapter 7.
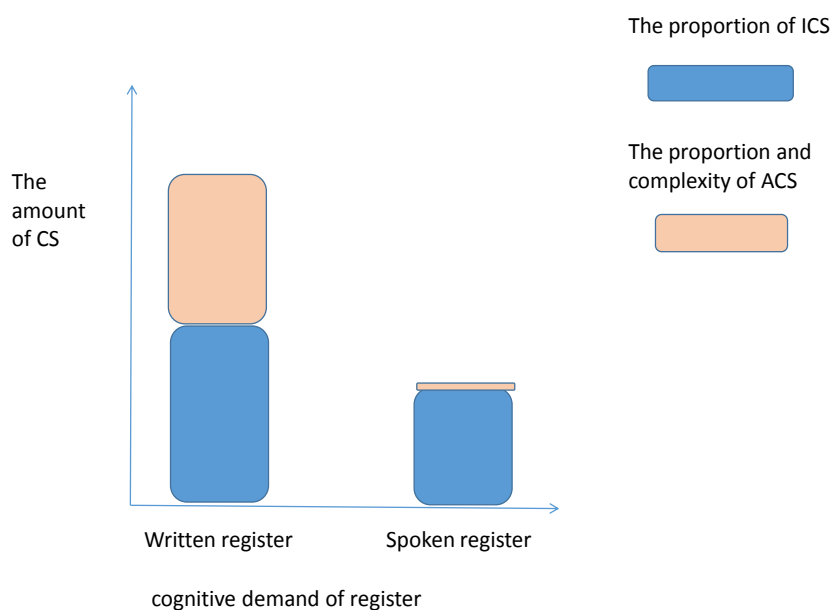
Figure 4.8   Inverse relations between cognitive demand of register and production of code-switching

4.5 Summary

In this chapter, I examined the variation of CS use in terms of the frequency, pattern and the make-up, and compared the differences between spoken and written registers in these respects. I showed that the participants used significantly more CS overall, and of both types, in their online written register. ACS used in the written register was also more complex in structure than ACS in the spoken register. To account for the patterns found in the data, I proposed a model which suggests that CS use is inversely correlated with the cognitive load demanded by register, at least within informal registers used by L2 English speakers. For instance, synchronous or otherwise cognitively demanding registers are likely to lead to less complex and less frequently alternating CS which requires a lower linguistic demand. In the next chapter, I continue describing the differences across registers in another aspect: discourse functions of CS from a more qualitative perspective.

Chapter 5

Discourse functions of code-switching

5.1 Introduction

In Chapter 4, I described the differences in CS use between spoken and written register in terms of the frequency, pattern (ACS vs. ICS), and the detailed structure of switched elements. In addition, I related such differences in use to cognitive demand associated with register. In this chapter, I expand the discussion to discourse functions of CS across registers to investigate how the participants use CS to achieve communication goals and whether the differences between registers are also reflected in discourse functions of CS.

Following Auer (1998) and Li Wei (1998; 2002; 2005), I consider it important not to impose interpretations of CS from macro-level social perspectives before examining local productions and discourse functions of CS in conversational contexts. Previous findings, such as use of CS to signal "we" vs. "they" alignment (Gumperz, 1982) or to index a degree of markedness in language use (Myers-Scotton, 1993b), are not taken as a given as the complex linguistic background of the current participants makes it difficult to apply any previous finding in a simple and direct way. For example, it is difficult to assert that English is the "they" code just because it is an acquired second language; a clear-cut boundary between unmarked and marked situation (Myers-Scotton, 1993b) is equally difficult to make. Even though the current Chinese community is still considered to be monolingual, the increasing integration of its members into the local community might start to change speakers' linguistic trajectories. Therefore, in order to assign any social meaning to CS use, an examination of how CS is locally realized in conversations and discourses is necessary. Nevertheless, social indexical values of languages are not treated as irrelevant. Interactional episodes take place against a certain social background and creative meanings in interactions are derived from and based on social meanings of language varieties. The important point thus is not to abandon the macro-level social significance of language varieties when considering what speakers are doing with CS, but to examine how much of such significance is "brought along" into local interactions (Auer, 1992).

The examination of local functions of CS in this chapter takes on a more global

approach of illustrating functions (Pichler, 2006) and their frequencies. The sequential analysis performed by conversational analysts usually examines the language choice at turn taking positions, where the sequence of language choice along with other contextualization cues gives rise to the emergent meaning of CS. However, in the present study, most switches in speech happen within conversational turns and in the form of ICS; in the written register, the use of CS is no longer situated in conversational contexts in the standard sense. As a result, the application of a strict conversation analytical approach is less likely to produce the most insightful results.

The contents of this chapter are organized into three sections. To begin with, functions of CS in previous studies are reviewed to provide a starting point to investigate the functions of CS in the present study (section 5.2). Following this review, all the functions observed from both spoken and written registers are first summarized to offer an overview of how CS is used; each of these functions is then illustrated in detail with specific examples (section 5.3). In section 5.4, spoken and written register are compared in relation to the functions observed in each register and a discussion of different styles of CS use is given in the end.

5.2 Prior research on functions of code-switching

Discourse functions of CS in spoken conversation have been explored by many researchers. Gumperz (1982: 75-84) distinguishes six conversational functions of CS: quotation, addressee specification, interjections, reiteration, message qualification, and personalization versus objectification. Other researchers have expanded this list to incorporate more functions such as marking emphasized group identity (solidarity), filling a linguistic need and conveying confidentiality, anger or annoyance (Grosjean, 1982:152). Along the same lines, Zentella (1997) proposes a detailed list of rhetorical functions of CS in speech. These functions of CS are referred to as "in the head" factors that determine an individual's language choice of one over another. She distinguishes three main categories of functions: adopting CS to signify a change in footing (Goffman, 1979), using CS to clarify and/or emphasize, and crutch-like CS[11] (p.93-97). Under each category, she outlines numerous sub-categories to further pinpoint the more nuanced functions of CS.

Compared to ascribing functions to CS in oral discourse, there are not many

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[11]Crutch-like switches are defined by Zentella as those "precipitated by the need for a word or expression in the other language, by a momentary loss for words, by a previous speaker's switch, by the desire to repair a poor syntactic break, by taboo words, and by the cross linguistic homophones" (1997: 97).

studies devoted to the description of discourse functions that are performed by written forms of CS, either in traditional written mode or in digital written mode. Among the handful of studies which report on how written CS operates on a functional level, there are two main points which emerge. One is that these studies often explore the applicability of functions of oral CS in written registers. For example, Montes-Alcalá (2012) investigated whether those instances of CS in some US-Latino novels share similar socio-pragmatic functions with the use of CS in natural bilingual everyday speech. She summarized seven functional categories of CS in the genre of novels: switching out of lexical need, switching for clarification and elaboration, stylistic switches, switching for idioms and linguistic routines, switching for emphasis, switching for quotations, and triggered switches (p. 74-75). By comparing these functions against those revealed in oral discourse, she was able to make the conclusion that the approach in analyzing spoken CS can also reveal a cohesive analysis of CS in literature writing. Androutsopoulos (2013) also suggested that there is a general comparability between CS in CMC modes and conversational CS in relation to discourse functions and he listed eight main functions performed by written form of CS online, i.e., for formulaic discourse purposes, to perform culturally specific genres, for reported speech, repetition for emphatic purposes, to index particular addressee(s), to contextualize a shift in topic or perspective, to mitigate potential face-threatening acts, and to index alignment with or distancing from the interlocutor (p. 681).

Another common feature in analyzing functions of written CS departs from a more macro-level perspective and describes how the construction of identity is negotiated through the use of CS. Mahootian (2012) argued that intentional CS in mainstream publications is "a discourse practice through which a bilingual identity is branded, defined and consequently valorized" (p. 205). She suggested that the mixed code texts serve functions such as signaling the shift in power relations and indicating the emergence of a hybrid culture. In Hinrichs (2006), three types of identity-related CS have been identified in the private emails of a group of Jamaican students: message framing (such as greetings and farewell); self-cultural identification (as in "we" and "they" contrast) and double voicing to perform stereotypical social identities. Hinrichs (2006) particularly pointed out that these identity-related functions of CS are performed "especially at home with written medium" as they involve "the highest degree of planned and rhetorical use" of Creole (p. 134).

The findings from previous studies suggest that discourse functions of CS are not

inherently different across different registers. The set of functions of CS identified in Montes-Alcalá (2012) is frequently observed in spoken language. In fact, she categorized her tokens of CS according to those functions that are traditionally assigned to oral CS. The identity-related functions of code-mixing in Mahootian (2012) and of CS in Hinrichs (2006) are also reported to be one of the major social functions of CS in spoken language (Grosjean, 1982). Therefore, when examining functions of CS in discourse, I will pay attention to whether similar functions are performed across registers. In addition, I will also attempt to reveal whether different registers encourage any particular functions, for example, identity-related functions which are observed to be more related with written medium in Hinrichs (2006). Before answering these questions, I first offer an overview of all the functions observed in both registers, using those identified in previous studies as a starting point.

5.3 Functions of code-switching in the present study

In total, there are 2511 switches combined from the two registers, including 2181 ICS and 330 ACS. Among the 2511 switches, 1866 (1828 ICS and 38 ACS) are seen in the spoken register and 645 (353 ICS and 292 ACS) in the written register. These quantitative data are summarized in Table 5.1.

Table 5.1   A summary of individual instances of code-switching in the two registers

	ACS (N)	ICS (N)	Total (N)
Spoken register	38	1828	1866
Written register	292	353	645[12]
	Total: 330	Total: 2181	Total: 2511

The data is categorized according to the main functions of both oral and written CS identified in the literature reviewed above. However, the categorization is not simply done by looking for examples to fulfill each function. Instead, I first classified the tokens of CS which fit the description of existing functions under similar categories and arranged the rest according to their unique functions in the present study. It should be noted that not all existing functions are observed in the present data, for example, "addressee specification" identified by Gumperz (1982) and Androutsopoulos (2013)

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[12]The smaller number of CS in the written register does not imply the participants switch less in writing. It results from the comparatively less number of utterances from the chosen posts. This is the reason why such coding of counting the number of CS makes the comparison across registers on CS use problematic and why normalization of CS use into percentages was adopted.

has not been identified among the current CS use maybe because there is no need to specify the addressee in a conversation involving only two participants. In addition, the naming of the functional categories does not strictly follow the existing terms but combine the features of their realization in the present study. For instance, some cases of CS are observed to be identity related and such function is termed by Grosjean (1982) as "marking and emphasizing group identity". However, I name this function "construction of bicultural experiences" instead of "marking identity" for the reason that some instances of CS used for identity purposes are more clearly marked and some others are implied based on their description of bilingual and bicultural experiences. A broad term to link all the cases of such CS use to marking identity could be misleading and over-generalizing.

Overall, a main distinction is made between "switching for discourse structuring functions" and "switching for other use", as mentioned in Chapter 3. Switching for pragmatic reasons refers to those switches which mainly contribute to the coherence of the discourse (Schiffrin, 1987), marking pragmatic instead of semantic meanings of utterances and signaling relationships between utterances in monologic discourse or relationships between conversation participants in interactional discourse. Under each heading, more functional categories are identified. Table 5.2 outlines all the functions identified in this study. The second and third columns of Table 5.2 also list the functions observed in the spoken and written register respectively, together with the frequency of each function out of the total occurrence of CS in each register. The checkmark "✓" indicates the presence of each function in each register.

In total, there are 17 functions identified, most of which are observed in both registers. Some of these functions are overlapping to a certain extent, for example, "repetition" and "foregrounding", as the repetition of an expression is sometimes used to emphasize it. However, not every case of repetition is to emphasize; likewise, "foregrounding" is not necessarily realized by repeating. Therefore, I separate them to bring out their unique features.

It should be pointed out that not every switch could be assigned a particular function as the function of some switches was hard to identify. Such difficulty is also acknowledged by Zentella (1997) when she noted that "pinpointing the purpose of each code switch is a task as fraught with difficulty as imputing the reasons for a monolingual's choice of one synonym over another, and no complete accounting may ever be possible" (p. 99). Therefore, only 531 switches in the spoken register (including

24 ACS) and 305 (including 221 ACS) in the written register are assigned functions. The number of the switches that are not identified with any functions and the percentage of them in the total number of CS in each register are also included in Table 5.2. In the remainder of this section, I will discuss each function in detail with specific examples from both registers to illustrate.

Table 5.2 An overview of discourse functions of code-switching in the present study

Functions			CS in the spoken register (Total N=1866)	CS in the written register (Total N =645)
No function identified			N=1335,71.54%	N=340, 52.71%
Discourse structuring function	Interactional discourse structuring	Back-channeling	✓ (N=227, 12.17%)	
		Emotional positioning	✓ (N=111, 5.95%)	
		Signaling dispreferred response	✓ (N=23, 1.23%)	
	Monologic discourse structuring	Pause filling	✓ (N=14, 0.75%)	
		Marking a shift in footing	✓ (N=12, 0.64%)	✓ (N=5, 0.78%)
		Marking repair	✓ (N=7, 0.38%)	
		Marking contrast	✓ (N=3, 0.16%)	
Other use	Switching for culturally specific items		✓ (N=54, 2.89%)	✓ (N=43, 6.67%)
	Repetition		✓ (N=37, 1.98%)	
	Foregrounding		✓ (N=19, 1.02%)	✓ (N=35, 5.43%)

	Avoidance	✓ (N=9, 0.48%)	✓ (N=24, 3.72%)
	Quotation	✓ (N=6, 0.32%)	✓ (N=48, 7.44%)
	Clarification	✓ (N=5, 0.27%)	
	Continuing switches	✓ (N=3, 0.16%)	✓ (N=15, 2.33%)
	Reconstruction of bi-cultural experiences	✓ (N=1, 0.001%)	✓ (N=87, 13.49%)
	Stylization		✓ (N=43, 6.67%)
	Shifting in footing		✓ (N=5, 0.78%)

5.3.1   Code-switching used for discourse pragmatics

In the present study, quite a few participants switched to English for discourse pragmatic functions. However, this general classification conceals some more refined functions of CS for this purpose. For example, two instances of switching to the same English word "well" were both coded initially as discourse marker switching. However, when examined in the context, they serve for different pragmatic purposes. Consider the following examples 36 and 37.

(36) (Context: talking about the legalization of homosexual marriage)

   Interviewer: 如果是你自己的孩子，你会赞成吗？

   If it was your own child, would you approve?

   Participant M10: **well**, ummmm, (2.0[13]), 只要他开心吧。

   Well, ummmm, (2.0), as long as he is happy.

(37) (Context: the participant was talking about an event she organized)

   Participant F2: 他们很多人说我太苛刻了，**well**, 也不是很多，就有一些吧，但这是没办法的事啊。

---

[13](2.0) indicates two seconds silence. As the analysis of functions of CS in speech did not follow conversational analysis (CA) convention, only some CA transcription methods were borrowed to indicate conversational features when it is useful to highlight these features.

Many people said that I was being too harsh, **well**, not many people, some of them, but there was nothing you can do about it.

In both examples, the English discourse marker "well" was inserted. In example 36, preceding the extract the participant commented that if homosexual people want to get married, they should be allowed to do so. However, when asked whether he would give the same blessing to his own child, the participant did not immediately answer, as this question obviously was not expected. He hesitated before giving a positive reply. Such hesitation is marked by an English discourse marker "well", a mumbling sound, and two seconds of silence. All of this indicates a dispreferred adjacent second half pair (Sidnell, 2009). Even though he eventually gave a positive reply, his hesitation showed "signs of trouble" in the terms of conversation analysis. He did not want to contradict his opinion before; however, it was obvious that applying the same standard to oneself was not easy for him. "Well" was inserted at turn-taking position and signaled a dispreferred response.

On the other hand, in example 37, the discourse marker "well" was inserted within the turn in a monologic description of an event. The participant was describing how other people perceive her as a tough career woman. She gave an example about an event she organized. Her high standards of organizing the event and her higher expectations for other colleagues gave the impression that she was being harsh on them. When she was narrating this, she stopped after she said that many people had this impression and navigated her way back to repair the number of people. In the whole interview, the participant was emphasizing that she was not a career type woman and that she would also like to be perceived as a girl who needs to be taken care of. Her repair within the turn reflects her unwillingness to present it as a fact that most people think she is a tough woman. The insertion of "well" marks a self-repair to replace one item by another (Sidnell, 2009).

These two examples demonstrate functional complexity under the broad heading of "discourse structuring function" and two distinctive further split functions: "interactional discourse function", where the participants switch at turn-taking positions to respond to a previous turn or to take the floor, and "monologic discourse structuring", where the switch takes place within a participant's conversational turn to structure the internal discourse organization. I will now illustrate these two split functions and their different realizations.

Interactional discourse function

CS used for interactional discourse function is only seen in the spoken register in the present study. This might be because texts in the written register are the participants' self-initiated posts and the composing of such posts does not usually involve the negotiation of meaning with others. There are three sub-functions identified under this category, i.e. back-channeling, emotional positioning, and signaling dispreferred response.

1. Back-channeling

Back-channeling has been defined as functioning as a continuer cue whereby the hearer encourages the speaker to continue to hold the floor (Schegloff, 1981). When the use of CS introduces a minimal response to a previous turn to affirm comprehension and to signify the hearers' attention without any intention to take the floor, it is classified as back-channeling, as shown by the following examples 38 and 39.

(38) Interviewer: 其实我对伦敦不是很熟悉，我才来两年。

Actually I am not very familiar with London. I have only been here for two years.

Participant F16: **Oh, I see**.

(39) Interviewer: 如果可能的话，我下次也想参加一些他们组织的活动。

If it is possible, I would also like to take part in some of their organized events.

Participant M6: **Yeah, yeah**.

2. Emotional positioning

The speaker shows emotional alignment with or distancing from the previous turn by manifesting surprise, interest, disbelief and other feelings that s/he does or does not shares with the interlocutor.

(40) Interviewer: 我的朋友圈里全是他们小孩的照片，每天都被刷屏了。

The news feed in my Moment[14] is all about their children's photos. Every refresh of my page is about that.

Participant F2: **Oh, my god**. 他们太夸张了吧。

Oh, my god. They are so over the top.

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[14]Moment is the social networking function of a Chinese chatting app Weixin.

(41) Interviewer: 不用那么尖酸刻薄，给别人留点余地，对自己也好。

There is no need to be bitter and sarcastic. It also does you good to leave some leeway to others.

Participant F12: 对，对，exactly.

Yes, yes, **exactly**.

3. Signaling dispreferred response

The speaker indicates his/her hesitation to agree, to approve or to accept an offer. It is worth noting that all the switches serving this function are realized by the same English discourse marker "well".

(42) Interviewer: 那你可以把你的那个朋友也介绍我认识吗？我觉得他可能也是个好的人选。

Can you also introduce to me that friend of yours? He might also be a good candidate of participants.

Participant M18: **well**, 他很忙一般，不过我试试吧，不保证啊。

Well, he is usually busy, but I will try, but there is no guarantee of that.

(43) Interviewer: 这边的中餐味道还是不正宗。

The Chinese food here is not authentic.

Participant F16: **well**, 也不见得吧，有些粤菜这边做的比广东那边还要好。

Well, not necessarily, some Cantonese food here is more authentic than that in Guangdong.

Monologic discourse function

Four sub-functions of CS for pragmatic reasons in monologic discourse have been identified, i.e. pause filling, marking a shift in stance or footing, marking repair, and marking contrast. These functions are more frequent in but not completely confined to the spoken register. For example, marking a shift in stance or footing has also been observed in the written register.

1. Pause filling

The speaker fills pauses between sentences in a narrative with an English discourse marker.

(44) Participant M4: 我不是不想回去, **you know**, 只是有的时候感觉回去反而会选择更少。

I am not saying that I don't want to go back, **you know**, I just feel that I would have less choice if I go back.

(45) Participant F15: 就比如说你们之前关系很好吧，然后搬到一起变成室友了，但生活习惯不一样，然后关系慢慢就僵了，所以呢，还是别和好朋友住一起啊，反正挺难的，**yeah**, 挺难的。

For example, you used to be good friends and moved into the same flat. But you had different life habits and then your relationships got worse. So don't move in with your good friends. It is quite difficult anyway, **yeah**, quite difficult.

2. Marking a shift in footing

The speaker breaks momentarily from the current narrative frame to make a comment (a shift in role) or shifts the ground of narration. The English words used suggest a shift in footing (Goffman, 1979).

(46) Participant F10: 因为我觉得花了这么多钱都已经来了，就好好学，**anyway,** 我希望在外面的中国人越来越好。

Because I think you should work hard since you have already spent so much money to study abroad, **anyway**, I hope all the overseas Chinese students could do better off.

(47) 下个礼拜休年假的计划又泡汤了，老板的那张臭脸摆明了谁休假谁滚蛋，倒霉啊，**anyway**，我也呆不了多久了，爱咋咋的吧。

(One of participant M10's posts)

My plan to take the annual leave next week is aborted. That long donkey face of my boss says it all: whoever takes leave now might as well leave forever, bad luck, **anyway**, I am not staying for long, whatever.

3. Marking repair

The speaker inserts a discourse marker to break from the preceding sentence and to rephrase the original thought or re-start a new point. Examples 48 and 49 illustrate this.

(48) Participant F2: 因为很多时候你如果不讲话，你很难 actually 让，**alright**, 因

为你在讲话的时候，其实就会把你这个人的性格会 <u>bring out</u> 出来。

Because on many occasions if you don't speak, it's hard for you to <u>actually</u> let, **<u>alright</u>**, because when you are speaking, you are actually bring*ing* <u>out</u> your personality.

(49) Participant M12：我用这个录音可以，**<u>of course</u>**，这个录音我当然不用做其他用途了，但是我要让他知道，我有证据，我有 <u>proof</u>。

I can use this recording to, **<u>of course</u>**, I am not using it for other purposes, but I need to let him know that I have proof. I have <u>proof</u>.

4. Marking contrast

The speaker makes a contrastive opinion in the following sentence and the inserted English indicate and preface the contrast.

(50) Participant F2: 他们总觉得这是一件很简单的事, **<u>but</u>**, *(1.0)*, <u>it's not that easy</u>, 你知道吗？

They always think this is a very simple thing, **<u>but</u>**, <u>it's not that easy</u>, you know.

The inserted "but" was followed by an alternational switching "it's not that easy". The reason why "but" was isolated from the following ACS is because there was a short pause after "but", indicating "but" was not a part of the following sentence but only introduced it. The following ACS might be triggered by the English connective. Another point worth noting is that CS used to mark contrast is exclusively seen in participant F2, who is the most frequent user of CS and ACS in the spoken register, as pointed out in Chapter 4.

5.3.2 Code-switching for other use

Switching for purposes other than discourse pragmatic reasons is put under a generic heading "other form" or "other use". The switches under this category have semantic meanings and denote conceptual relations. Under this category, a further split reveals nine different sub-functions. Unlike CS for discourse pragmatics which is exclusively realized by ICS, some of these functions are shared by both ICS and ACS and some are even limited to ACS. I will further explain this with examples when it comes to specific

functions.

1. Switching for culturally specific items

Switching of this type is related to concepts or items idiosyncratic to Western or British local culture. Usually, Chinese equivalent expressions are available. However, such concepts are either culturally absent or semantically inaccurate in Chinese. Thus, the speaker switches to English to express what s/he regards as more accurately expressed in English. Such switching sometimes could be accompanied by a conscious act to call attention to the switching. As switching to refer to culturally specific items is usually concerned with concepts or objects, no ACS is linked with this function.

(51) Participant F11:我就是觉得他们很，怎么说呢，很 **mean**, 对，哎呀，用中文找不出来一个准确的词，感觉对应的词意思太重了。

I feel that they are very, how to say, very **mean**, yes, I cannot find an accurate word in Chinese. I feel that the equivalent Chinese translation carries too much weight.

In this example, the participant was describing her ratings of a French airline. She was not satisfied with their service, yet she did not want to be too critical. The Chinese words available to her would over-express her dissatisfaction. She considered the match between the service of the French airline and the English word "mean" was more accurate.

(52) 3 磅在 charity shop 买的，感觉他们在给我做慈善啊，哈哈。

(One of participant M5's posts)

Bought these for 3 pounds in a charity shop. Feel like I am receiving charity. Haha.

In example 52, even though both individual words in the phrase "charity shop" have widely used Chinese equivalent expressions, the concept of "charity shop" is absent in Chinese culture. This might explain the switch to English.

2. Quotation

The switched text is quoting either what someone else has said before, or quoting idioms, or even lyrics of songs. Quotation is an important function of ACS in speech (6 out of 38). In fact, all the switches that are identified as quotation are ACS, either in the spoken or written register. There are cases when the speaker was quoting what someone

had said and there were inserted English words in the quotation, however, it is hard to distinguish whether the switch happened because the speaker was quoting or for some other reasons, as in example 53. Therefore, switches in this dubious situation are categorized according to their primary and clear functions in the context (Pichler, 2006).

(53) Participant: 我妈就说她不 **<u>care</u>** 啊，她整天忙自己的事都忙不过来呢。

My mom said she doesn't **<u>care</u>**; she can barely take care of her own business.

(54) Participant F2: 有好有坏吧，**<u>the grass is green on the other side</u>**, 我还很喜欢你这种姑娘哦。

There is a good as well as a bad side. **<u>The grass is green on the other side</u>**. I like the type of girl like you instead.

(55) 周一确实招霉运。**<u>Boss: Gary, show me what you did</u>**. 转头他已经拿出手机，开始玩儿了, 这就叫 <u>multitasking</u> 吧。

(One of participant M18's posts)

Monday is indeed full of bad luck. **<u>Boss: Gary, show me what you did</u>**. He started to play with his phone before I started. I guess this is what they call <u>multitasking</u>.

3. Re-construction of bicultural experiences

In this type of switching, the speaker usually switches to English (a). to index his/her social background, or (b). to describe events/activities that took place in the recent past or that are about to happen in an English-speaking setting. Re-constructing an original event/activity in the language in which it happened or is about to happen indicates a different world and a different culture that the writer has been living in and thus is related to the biculturalism of the speaker. In the spoken register, use of ICS to describe past events has also been identified, as shown in the following example 56. However, switches of this type are not categorized as re-construction of bicultural experiences as it is difficult to ascertain whether such insertion is related to the writer's biculturalism, similarly in the case where an insertion of English words in quotes cannot be simply assigned the function of quoting. Therefore, ICS used in such descriptions is only assigned functions when a clear primary function is identified. In the written register, on the other hand, it is easier to distinguish the use of ACS to re-construct bilingual

experiences as the whole event itself is described in English as opposed to other non-bicultural experiences and other parts of the texts described in Chinese, such as the following example 57. In fact, all the instances of CS assigned this function in the written register are in the form of ACS (n=87).

(56) Participant F13: 我今天中午午饭没吃，因为我们早上有一个 **<u>support issue</u>** 要 **<u>fix</u>**，一直在等纽约那边 **<u>approve</u>**。

I did not have lunch because we had a **<u>support issue</u>** to **<u>fix</u>** and we had been waiting for the headquarter in New York to **<u>approve</u>**.

(57) **<u>Took the Myers-Briggs Type Indicator MBTI personality assessment at the law society training today. I am an ENTJ among the 16 personality types: Extraverted, Intuitive, Thinking, Judging</u>**. 有意思，一下觉得自我认识多一点了。

(One of participant F2's posts)

<u>Took the Myers-Briggs Type Indicator MBTI personality assessment at the law society training today. I am an ENTJ among the 16 personality types: Extraverted, Intuitive, Thinking, Judging</u>. Interesting and suddenly feel I understand myself a bit more.

However, in the spoken register, there is one token of ICS assigned the function of re-constructing bicultural experiences, as shown by example 58. The respective use of the English and Chinese words for "family" indexes the bicultural social reality the participant is in. I will discuss this example in more detail in the discussion section.

(58) Participant F12: 我老公他们的 **<u>family</u>** 就是那种很松的，你明白吧，但我们家就很紧密，我觉得咱们中国大部分的家庭都是很紧密的。

My husband's **<u>family</u>** is like quite loosely connected, you know, but my family is quite close. I think most of us Chinese people's families are all very close.

4. Foregrounding

The speaker switches to English to lend emphasis to the concept being expressed or to highlight the most important information. The function of foregrounding is not achieved by repetition. The use of CS to highlight or foreground the most important information through the otherness of a different language (variety) is also observed in Sebba and

Wootton (1998). They suggested that a switch to London Jamaican from London English is generally associated with an "upgrading" of the material expressed in London Jamaican (p. 275).

In both registers, this function is achieved by both ICS and ACS. In fact, in the spoken register, switching to foreground the information is the most common function of ACS as 15 out 38 are assigned this function.

(59) Participant M8: 他们说这种规则 **in the paper** 可以, **in practice** 就不行了。

They said that this kind of rule is fine **in the paper**, but **in practice** it would not work.

(60) Participant F20: 因为你已经，**you had your own portion**, 你不能把别人的吃了。

Because you have already, **you had your own portion**, then you cannot have other people's.

(61) **Sunday afternoon**, **raining**, 在窗边看书喝茶，还有比这更惬意的吗？

(One of participant M11's posts)

Sunday afternoon, **raining**, is there a better thing to do than reading with a cup of tea by the window?

(62) 每次看到这个都难受，为什么我在国外？**I want to go home**!

(One of participant F12's posts)

I get upset every time after watching this. Why am I in a different country? **I want to go home**!

5. Stylization

The speaker switches to English to produce a special textual effect, such as to make the text more vivid or to mimic some idioms or classic expressions in English. This function is only related to CS in the written register in the form of ACS.

(63) 啊啊啊，做不了决定啊，看上 Gucci 的一个包，但是太太太费了，**To buy or not to buy, this is really an annoying question**! 哎，谁来帮我出个主意啊。。。

(One of participant F9's posts)

Ahhhh, I have difficulties in making any decision. Spotted a really nice bag of Gucci, but it's so expansive. **To buy or not to buy, this is really an annoying**

question! Sigh, someone, help me!

(64) 原来我从未走进过你的世界，你也从未存在过我的世界。**You are someone, I never know; I am someone, you never want to know**.

(One of participant F5's posts)

It appears that I never existed in your world and you were never real in my world. **You are someone, I never know; I am someone, you never want to know**.

6. Avoidance

When the participants give comments (either positive or negative), praise, or ask for help, express doubt, or reveal some personal feelings, some of them tend to switch to English. Some taboo words or concepts related to sex are also expressed in English. In some cases, switching of this type is to downplay emotions or to mitigate any potential face threatening act either to the speaker or to the addressee. In the spoken register, only ICS is related to this function. In the written register, some participants also switch to whole English sentences for this function.

(65) Participant M18: 很多人都会觉得孤独吧，觉得孤独就会想谈恋爱，有的时候我甚至觉得有的人恋爱纯粹就是为了找个 **sex partner**.

You will feel lonely very often, and when you are lonely, you want to start a relationship. Sometimes I even think some people start a relationship just to get a **sex partner**.

(66) Participant M13: 我当时面试其实已经晚了，结果坐地铁，地铁还 <u>delay</u> 了，我当时就想，**fuck**, 这次完蛋了。

I was already late for the interview. When I was on the train, the train was <u>delay</u>ed. I was thinking then, "**fuck**, I am doomed this time".

(67) 大家帮我转一下这条让更多人的看到吧，这次真心需要大家伙帮个忙了，**PLEASE**! !!

(One of participant F1's posts)

Can you all help me forward this post so that more people can see it? Really need your help this time. **PLEASE**!!!

(68) 我就要个 <u>access</u> 而已，我就只是想做我的工作而已！怎么还就往一辈子耗上

了！30 天时间按个钮你都按不了？！**Are you fucking kidding me**?!

All I asked for was <u>access</u>, so I can do my work! Why is it taking forever for you to do that! 30 days to click just one button?! **Are you fucking kidding me**?!

7. Shift in footing

The speaker uses English when s/he switches from a narrator to an evaluator to comment upon the narration. In other words, the speaker breaks from the current narrative frame and the use of English implies a change in the frame of event (Goffman, 1979). This function of CS only appears in the written register in the form of ACS; in the spoken register, the use of English is to mark a change in footing.

(69) 在 <u>tea room</u> 里不小心听到 Tony 和那个法国男的聊天，所以 Tony 还是和他女朋友分手了，两个月前还信誓旦旦宣布就她了呢，这才俩月，都变了。不过谁知道呢，**people are people, so changeable**.

Overheard what Tony and that French guy said in the <u>tea room</u>. So it appears that Tony broke up with his girlfriend anyway. I still remember how he declared she was the one two months ago. Only two months, everything changed. But who knows, **people are people, so changeable**.

(70) 做了件很后悔的事，把地铁里几个大男生硬塞给我的狗狗，扔在了街上.同行的朋友怕我不方便，让扔在那儿，不好意思，就照他的话做了，也怕麻烦人家，和我同行尴尬。看着照片，我很难过。**It's always too cruel to dump something someone especially on the street**. 我会得到惩罚的。

I did something I regret very much. I dumped the dog that someone on the train shoved into my hands. My friends who were there with me thought it was inconvenient and asked me to dump it. I felt obliged so I did it. In addition, I did not want to cause trouble and embarrass everyone. Now I feel very sad, looking at the pictures. **It's always too cruel to dump something someone especially on the street**. I will be punished.

8. Clarification

Such switching to English usually takes place at turn-taking positions to ask for

clarification. Therefore, it only appears in the spoken register.

(71) Interviewer: 你来伦敦之前在那个城市呢？

Which city were you in before you came to London?

Participant M6: **What**?

(72) Interviewer: 这样我有独立的机会，不会太依赖父母

In this way I get to be independent, so I do not rely on my parents too much.

Participant M17: **Say that again**?

9. Repetition

The switched text repeats what has been expressed in Chinese before, either for emphasis or for clarification. Again, this function only appears in the spoken register.

(73) Participant M13: 这个餐馆哪里都有啊, **everywhere**, 到处都是。

This restaurant can be seen everywhere, **everywhere**, they are everywhere.

(74) Participant F10: 这个慈善的工作，**charity** 的工作，我已经做了 7 年了。

This charity job, **charity** job, I have been doing for seven years.

10. Continuing switches

In the literature, some switches are believed to be triggered by structural constraints and lexically motivated switches can trigger longer stretch of switching (Pfaff, 1982). In some other cases, switching might be triggered by items of ambiguous affiliation (Clyne, 1987), or similar surface structures in both languages (Zentella, 1997). In the present study, it appears that some switches are continued switches triggered by a previous English word, either a proper noun, or an intentional switching. This could be due to the reason that the continued switching shares similar surface structure in English and Chinese. It could also be because the previous English word invokes collocated language use.

(75) 昨天在 Tesco 买的，叫什么 Mr. Brains Faggots, **a weird name**.

(One of participant M2's posts)

I found this in Tesco yesterday. It's called something like Mr. Brains Faggots, **a weird name**.

(76) Participant F2: 下个礼拜来参加我的 <u>leaving drinks</u> 吧，对你来讲，你还可以再 *collect* 一些 *sample*, (1.0) **<u>if you wis</u>h**。

Come to my <u>leaving drinks</u> next week. For you, you can also *collect* some *sample*s, (1.0) **<u>if you wish</u>**.

The above ten functions summarized the strategic uses of CS other than discourse pragmatics. It should be noted that among these functional switches, some could be identified with more than one function. For instance, in example 59, the participant emphasized the contradiction between the application of a rule "in the paper" and "in practice". How he set up the contrast was by quoting what his colleagues had said about the application of this rule. In another example 60, the participant switched to English to present the most important information, and she did this by initiating a self-repair, interrupting herself in the middle of a Chinese sentence and re-making the point in English. In this sense, this switch also acted as a self-repair. However, the reason for not coding them under the category of "quotation" or "self-repair" is to avoid ambiguity and to highlight the primary function. In these two examples, the speakers switched not only to quote or to self-repair; more importantly, they highlighted the contrast as in example 59 and foregrounded the most important information as in example 60 through the otherness of bringing in another language. Therefore, such double-duty switches were only coded according to their primary functions in the context.

On the other hand, as noted in the beginning of section 5.3, not all switches are assigned a function. In some cases, it is very difficult to assign any function to individual switches, especially when the switch only involves a single word or phrase. This is particularly true in the spoken register. Zentella's (1997) term "crutch-like" defines those switches that are hard to extract any interactional meaning from. She acknowledged that the use of "crutch" makes it sound like there is no alternative but to use the switched word as if using a crutch to assist walking (p. 98). In some cases, this is true as the occurrence of crutch-like switching might be due to a momentary loss of words, as commented by some participants: "有的时候就想不起来那个词了，因为用英语习惯了" (sometimes I just cannot think of that word, because I got used to the English one); but in some other cases, the use of alternative words can be observed and these switched words cannot be simply treated as "crutches". This is shown by the use of "summer" in example 77 and the use of Chinese alternative in example 78.

(77) Participant M17: 我准备这个 **summer** 的时候去读一个 <u>master</u>.

　　　　　　　　　　I plan to do a <u>master</u> this **summer**.

(78) Participant M17: 英国的夏天基本热不起来，有两周温度能在 25 度以上就
　　　　　　　　　　不错了。

　　　　　　　　　　The summer in the UK never gets too hot. We are lucky to have
　　　　　　　　　　two weeks when the temperature is above 25 degree.

In the case of switching for "summer", even though it is hard to extract any interactional meaning from it, it cannot be simply treated as a "crutch"; the speaker has no difficulty in carrying out the conversation without referring to the English word. Instead, it should be treated as a choice. Therefore, I refrain from using "crutch-like" switching to refer to all those switches which are difficult to extract meaning from. I will simply refer to them as switches whose functions are less identifiable.

5.4 A comparison of functions of code-switching across registers

A few interesting points emerged after a careful comparison between registers. First, as shown in Table 5.3, nearly half the number of individual switches in the written register are assigned functions (305 out of 645) while only a small number of switches in the spoken register can be identified with functions (531 out of 1866). This is not surprising as CS in the spoken register mainly consists of ICS (1828 out of 1866) and CS in the written register includes approximately equivalent amounts of ICS (353 out of 645) and ACS (292 out of 645). Functions of ICS focus on "discourse structuring" and many cases of ICS were thus excluded as their primary function is not related to discourse structuring and their referential/cultural functions could not be easily identified.

Second, spoken and written registers are not completely different in terms of discourse functions of CS (cf. Androutsopoulos, 2013; Montes-Alcalá, 2012). Most functions observed are shared by both registers, especially strategic uses of CS for other reasons. Among the ten identified functions in this category, six of them appear in both registers, such as "quotation", "switching to refer to culturally specific items" and "switching to foreground the information". At the same time, it is shown that adopting CS for discourse strategies in one register is not a complete reproduction of those functions in the other. Some functions are typically seen in speech but are very rare or even absent in writing. For example, CS used for interactional discourse strategies is only seen in the spoken register while CS for stylization only appears in the written

register. Another example is adopting CS to re-construct bicultural experiences, which is rarely observed in the spoken register but commonly used in the written register.

Table 5.3 A summary of code-switching and code-switching identified with functions in the two registers

	Spoken register	Written register	Total
CS (N)	1866	645	2511
CS identified with functions	531	305	836
ACS (N)	38	292	330
ACS identified with functions	24	221	243
ICS (N)	1828	353	2181
ICS identified with functions	507	84	591

Third, some functions typically performed by ICS in the spoken register are realized by both ICS and ACS in the written register. For example, avoidance in the spoken register is typically related to ICS, when it comes to the written register, more ACS has this function. It appears that the participants have expanded the use of English to bigger constituents to perform similar functions in the written register. I will now discuss the implications of these points in the next section.

5.5 Discussion

5.5.1 Functional expansion of CS and structural expansion of functions in the written register

On the surface, it seems that the differences in functions of CS arise because of register differences. However, when taking into consideration the associations between types of CS and functions, the unbalanced use of CS types in the two registers is shown to lead to the differences in functions across registers. However, register differences highlight the different functions of CS and also allow a certain degree of functional expansion of ACS and structural expansion of some functions of ICS in the written register.

In the spoken register, ACS is used mainly for two purposes: to foreground a piece of important information and to quote. In the written register, more functions appear. The participants incorporate the use of ACS into personal stylization to index their bicultural background, emphasizing individual involvement and experiences. Reminding ourselves of the findings from Chapter 4 that the use of ACS became more

prevalent and the structure of ACS also became more complex in the written register, it is possible that the more frequent occurrence and the more complex structures of ACS enable the participants to utilize ACS to perform more functions in the written register. At the same time, the multiple functions of ACS to some extent necessitate the use of more varieties of clausal structures. For instance, only simple independent clauses might not help the participants describe a past or an incoming bicultural event to a satisfactory degree.

One of the reasons proposed in Chapter 4 to account for the frequent use and more complex structure of ACS in writing is lower cognitive load associated with written registers (Chan, 2011; Parker & Coiera, 2000; Wellman, 1999). The multiple functions of ACS in writing are not necessarily directly associated with lower cognitive load; however, lower cognitive load facilitates freer use of ACS and offers time and space to prepare more complex forms of ACS, which in turn promote the exploration of more functions of ACS.

The role of lower cognitive load of the written register is further shown in the structural expansion of CS in the written register to perform similar functions by ICS in the spoken register. For example, in example 68, the participant expressed his annoyance in the form of a complete English clause. In the spoken register, the same function of avoidance (not necessarily expressing the same emotion) is typically performed by ICS, as in example 66. For another instance, in some cases, the participants insert English words to describe past bicultural experiences even though the use of English is not categorized explicitly as performing this function; in the written register, such re-construction is more often effected in whole English sentences. The structural expansion to perform similar functions seems to be assisted by off-line production in the written register which releases cognitive load and allows the participants to focus on the contents of the production. As a result, it seems that not only are the cognitive load differences associated with register related to the frequency and type of CS used, they also highlight functional differences of different types of CS and enable functional expansion of CS.

5.5.2   Insertional code-switching: an unmarked use of code-switching
Even though I have not used Zentella's (1997) term of "crutch-like" switches to define ICS for which referential/cultural functions could not be identified, I agree with her when she attributes part of the reason for those bilinguals' preference for crutch-like switches to effortless speaking enabled by alternating between languages. Such an

account is also shared by the present participants. Switching to English for some words "saves energy" in conversations, as commented by one of the participants (F3):

…我知道我刚才说不要中英文夹杂着说，但你可能也注意到我自己偶尔也夹杂，因为有的时候你避免不了啊，而且我觉得像我这种挺 normal 的，因为有的英文词你老用老用，然后你就习惯了，想不起中文对应的词是啥了，与其使劲想中文，还不如直接说英文，反正对方也听得懂，省劲…

Although I said just now that it is better not to mix Chinese and English, you might have noticed I myself occasionally mix too; because you cannot avoid it and I think it is normal to mix like I do, because you use some English words frequently and get used to them. You just don't remember the Chinese equivalent sometimes. Instead of trying hard to think of the Chinese words, I might as well use the English words. The hearer knows what I mean and it saves energy.

She commented that her way of mixing the two languages is normal. In the interview, her switching only consisted of ICS. From her point of view, the insertion of English words is a natural result of living in an English-speaking country, due to less active use of some Chinese linguistic elements and the need to refer to some culturally specific items. It is interesting to note that she also switched once in this piece of meta-linguistic comment. Participant F3 is not the only one to comment on the naturalness of inserting English words into Chinese occasionally. However, this naturalness of ICS use has strings attached. When asked how they think of people who practice ICS, their positive evaluation is based on the background of the speaker. Consider the following comments by participant M16:

…如果一个我不熟悉的人这么说，我首先会想你的背景是什么，有可能你在这也呆了好些年了。但是我特烦国内那些人这么说，用不着嘛，那就是拽了…

If someone whom I don't know speaks in this way, I would first wonder about his background. He might have been here for a quite a few years as well. But I am annoyed by those people who speak like this back in China. It is unnecessary. It is just showing off.

"This way" referred to by this participant is the occasional use of English elements in Chinese sentences, or ICS. His attitudes towards practice of ICS cannot be simply labeled as positive or negative. He has a clear boundary about who is entitled to this way of speaking, i.e. only speakers with a similar bicultural background. It appears that this occasional use of English is not simply natural among the bilinguals in a bicultural and bilingual environment; it is *only* natural among them.

Overall, the ease of conducting conversations without the extra effort required to retrieve a word not frequently used or to translate is embraced by the participants. In this sense, the participants seem to have somewhat positive attitudes towards the use of ICS. In addition, they embrace their overseas experiences and appreciate the cultural diversity in their environment. ICS has become a way of indexing and understanding such overseas experiences. This might be the reason why they refer to such use as natural, but only natural for people who are living or have lived in an English-speaking country.

Based on such evidence, I therefore suggest that the use of ICS might have become unmarked (Myers-Scotton, 1993b) or at least that it is on the way to becoming an unmarked use of CS among this group of bilingual professionals. The main conditions listed by Myers-Scotton (1993b:119) for unmarked use of CS are met in the current study, such as speakers' positive evaluation of their bicultural identities, speakers being bilingual peers sharing similar social background, and the interactions being informal. By proposing that the use of ICS is unmarked, I suggest that individual cases of ICS have less significant discourse functions at local conversational episodes. Their use by speakers with similar bicultural background would not flag any additional discourse or meta-discourse effects. By using ICS, the speaker is not signaling information aside from the acknowledged association between ICS and social meanings. This acknowledged association is indexing membership of Chinese professionals living in an English-speaking country. Such indexing is reflected in the overall mode of speaking instead of individual switches.

When unmarked use of ICS has become a way to index the participants' bicultural identities, it can be treated as a "we-code" (Gumperz, 1982) among them. However, the notion of "we" is not a static concept. Take the above example 58 for example. For the sake of convenience, I repeat this example here.

(58) Participant F12: 我老公他们的 family 就是那种很松的，你明白吧，但我们家就

很紧密，我觉得咱们中国大部分的家庭都是很紧密的。

My husband's <u>family</u> is like quite loosely connected, you know, but my family is quite close. I think most of us Chinese people's families are all very close.

The husband of participant F12 is British. There is no doubt that she knows perfectly well how to say "family" in both languages, as demonstrated by her smooth transition from one to the other. However, when she talked about her husband's family, she used the English version, as if the use of an English word not only brought out her topic object but also the fact that her husband's family is English. When she continued to talk about her Chinese family, she switched back to Chinese. In addition, when she talked about Chinese families, she also used a Chinese first person plural pronoun "咱 们" (us) before the Chinese word "家庭" (family) to include the hearer, another Chinese person. In this example, "we" has shifted to refer to all Chinese people as opposed to western people. The speaker and her interlocutor in this context therefore share double "we" identities: "we" as bilingual and bicultural Chinese living in London, and "we" as Chinese people in general. When the context and topic change, for example to discussing overseas experiences, the identity might shift to emphasize "we" as bilingual and bicultural Chinese people living in London. Therefore, the opposition between "we" and "they" shifts in specific contexts and is not simply carried into the conversation as predetermined, as commented by Sebba and Wootton (1998: 282): "the 'we' and the 'they' are thus not fixed in a particular bilingual situation, but are also flexible, and can be seen as indices of shifting social identities which are themselves negotiated, manipulated and constructed in the course of talk".

It should be noted that the application of "we vs. they" and proposing ICS as an unmarked form of CS use are not assumed a priori based on the wider cultural associations with these languages. They become possible only after a detailed examination of how CS is realized in conversations. Without such examination, it would be difficult to make assumptions about the associations between languages and ethnic identities and to argue how ICS has become unmarked when the current Chinese community still stays monolingual.

In proposing that ICS use has become unmarked, I do not imply that those switches are unconscious, as they are noticed by the participants and commented upon. My use of "unmarked" focuses on the expectedness of use. When two speakers whose social

background is known to each other converse, occasional use of English words by one speaker is not unexpected to the interlocutor as their shared bicultural background bridges their mutual-understanding. At the same time, I would like also to emphasize that unmarked use of ICS does not mean that all participants have the same degree of use of ICS. In fact, Myers-Scotton acknowledged the variability in the unmarked use of CS when she proposed this theory, as she pointed out that "it is important to acknowledge that not all groups need to show exactly the same performance patterns in unmarked CS" (1993b:119). She also suggested that some factors, such as speakers' relative proficiency and the degree of use of the two languages, can influence the ultimate performance in unmarked CS. The varying degree of use of ICS is seen among the participants. In addition, as shown by the findings of Chapter 4 that participants used more ICS in their written register, it seems that they also show intra-speaker variation. As I pointed out earlier in discussing crutch-like switches, the alternatives of these switches are also observed. Therefore, although being unmarked, the use of ICS among these bilingual professionals is still a choice. As a choice, it *can* be influenced by individual factors. I will continue the discussion on the variation in unmarked ICS in Chapter 7, where I present the results of multivariate analysis of social influence on CS use.

5.6 Summary

In this chapter, I expanded the investigation of register differences in CS use to discourse functions of CS. Among all the functions observed, some functions are more typically observed in the spoken register and some others in the written register. When taking into consideration the relations between functions and different CS types, it was revealed that the unbalanced use of CS types in the two registers lead to differences in functions across registers. ACS was able to be assigned more identity-related functions, ICS was less functional, and most ICS that have been identified with functions were used for discourse pragmatic reasons. Based on such results and the participants' own perspectives on the use of English in Chinese discourse, I propose that ICS might have become an unmarked form of CS use among this group of Chinese bilingual professionals.

Even though the differences in functions do not arise because of register, register differences help bring out the type-related functional differences. More functions of ACS are explored in the written register and functions typically performed by ICS in the

spoken register are realized by both ICS and ACS in the written register. I suggest that the lower cognitive load associated with the written register allows for freer use and more complex structures of ACS, which in turn facilitate functional expansion of CS.

Chapter 4 and this chapter summarized the use of CS by these bilingual professionals in two different registers. The two types of CS (ICS and ACS) were found to be unevenly distributed across registers and to perform different functions. These two chapters also proposed possible reasons for the variation of CS use across registers. The reason why different registers give rise to different amounts, different patterns and different styles of CS was suggested to be related to the different cognitive load associated with different registers.

In the next two chapters, I move the focus on to explaining the variation in CS use among the participants by first presenting interactions among social variables and then the results of multivariate analysis on what factors are influencing the participants' use of CS in different registers.

Chapter 6

Description of the Social Variables

The ways in which the participants varied in their use of CS across registers in terms of type (alternational CS or ACS vs. insertional CS or ICS), frequency and discourse functions was fully described in Chapters 4 and 5. The remaining two chapters aim to account for this variation in terms of a number of potential social influences. Before looking at their influences on CS, a detailed examination of the social variables themselves is helpful. What does the general picture of the participants' networks look like? What kind of general language attitudes are held by the current participants? How do they differ from each other in terms of English proficiency? This chapter gives a detailed account of the distribution of the participants' social factors.

Social factors cannot be assumed to be independent. As social beings, not only are speakers placed in complicated social networks with other social beings, different dimensions of their own social activities and experiences also constitute complicated networks. When one dimension changes, many other dimensions closely or remotely related to it also shift. For example, a speaker's negative attitudes towards CS, even towards English language and culture, might be a result of their unsuccessful attempt to integrate into local English-speaking communities. Alternatively, when the contact with English-speaking communities increases, such negative attitudes might change or even be abandoned. The change in attitudes can be triggered by some random pleasant experiences in relation to members from local English-speaking communities and such a change could consequently result in a change in the proportion of English-speaking ties in networks. This chapter therefore examines not only the overall distribution of the participants' social factors but also how the different social variables interact with each other and how their relationships are shaped in the course of their social activities.

This chapter is divided into four sections. The three main sections are similarly structured, each examining one social factor closely by showing how the participants are generally distributed for this factor, whether there is any gendered pattern and how the factor is related to other social variables. The results of the examination in each section are presented along with a discussion. The last section summarizes the findings and interactions among the variables.

6.1 Attitudes

As noted in Chapter 3, attitudes are treated as a multi-dimensional concept in this study. When the participants are evaluating the practice of CS, they associate CS with different groups of speakers who practice it, with their perception of the individual languages involved in CS, and also with their self-identification with certain social groups. The degree and form of CS may not only be conditioned by how speakers evaluate CS itself but also by other attitudinal dimensions.

Therefore, aside from explicit attitudes towards CS, the participants' attitudinal orientation is analyzed in terms of the values they attach to English and Chinese, and to the two cultures in contact. Overall, these diverse considerations lead to eight measures of the participants' language and cultural attitudes. Each measure was normalized to a percentage by dividing individuals' scores with the full score on each dimension in the questionnaire (see Chapter 3). For the sake of convenience and clarity, I briefly repeat these dimensions below:

Attitudes to CS: refer to the participants' explicit assessment of CS practices. A higher percentage indicates a more positive evaluation of CS in terms of pleasantness and naturalness.

Status of English: indexes socioeconomic status, education level, prosperity in occupation and global influence represented by English language or speakers of English. A higher percentage indicates a higher status of English.

Status of Chinese: indexes socioeconomic status, education level, prosperity in occupation and global influence represented by Chinese language or speakers of Chinese. A higher percentage indicates a higher status of Chinese.

Chinese solidarity: indicates dependability, trustworthiness, sincerity, likability, and how "down-to-earth" a speaker appears by speaking Chinese or English. The higher the percentage is, the more solidarity the participants rate Chinese with. Otherwise, English is rated with higher solidarity.

English cultural alignment: shows how the participants position themselves in relation to English/Western cultural and social values, how important they perceive English/Western culture, and how much their self-construction of identity is Western-orientated. A higher percentage entails a closer alignment with English/Western culture.

Chinese cultural alignment: shows how the participants position themselves in

relation to Chinese cultural and social values, how important they regard Chinese culture, and how much their self-construction of identity is Chinese-orientated. A higher percentage suggests a closer alignment with Chinese culture.

English for instrumental purposes: indicates that the role of English is mainly confined to institutional and professional contexts. Higher percentages show more agreement from the participants that English plays such a role.

English for integrative purposes: indicates that the use of English has spread to more private domains. By utilizing English in more social domains, the participants have more or less desire to access local communities. The higher the percentage is, the more speaking and using English is endowed with this purpose.

6.1.1 Participants' general language attitudes

First I describe the overall distribution of the participants on the eight dimensions of attitudes, which is shown in Figure 6.1. The eight box-plots in Figure 6.1 represent the variation found in the eight attitudinal variables. Table 6.1 describes the variation range in more detail. As highlighted in Chapter 3, the participants' ratings on the eight variables have all been normalized to a percentage to assist comparison across variables. Therefore, the degree of their orientation with respect to these eight dimensions can be measured by the single y-axis in Figure 6.1.

As can be seen from Figure 6.1 and Table 6.1, most participants rated Chinese quite high on solidarity with a mean of 82.5%, which means their affiliation with English is relatively low. On the other hand, the ratings of status given to both English and Chinese are both quite high (Chinese with a mean of 80.95% and English 81.13%). The slightly higher status of English than Chinese is not significant (t=0.104, p=0.918). In addition, there are no outliers for these three variables, suggesting all the participants consider English and Chinese quite similarly in terms of status and solidarity.

When it comes to cultural alignment, the ratings on both cultures are still quite high. Again, the marginal difference between Chinese and English in this respect is not significant (t=-0.409, p=0.685), though Chinese culture is viewed slightly more positively. Two female participants (F14 and F15) align themselves exceptionally closely with English culture. One male participant (M3) detaches himself particularly far away from English culture and another one (M6) away from Chinese culture instead. In terms of the attitudes towards CS, a relatively favorable and tolerant view is shared in general as the average rating is 64.52% and almost half of the participants gave a rating

of 70% or higher, indicated by the median of 69.05% of this variable. Additionally, the participants agree more upon integrative than instrumental purposes of English. Overall, most participants use English for integrative purposes more than for instrumental purposes to a significant level (t=4.16, p<0.01).
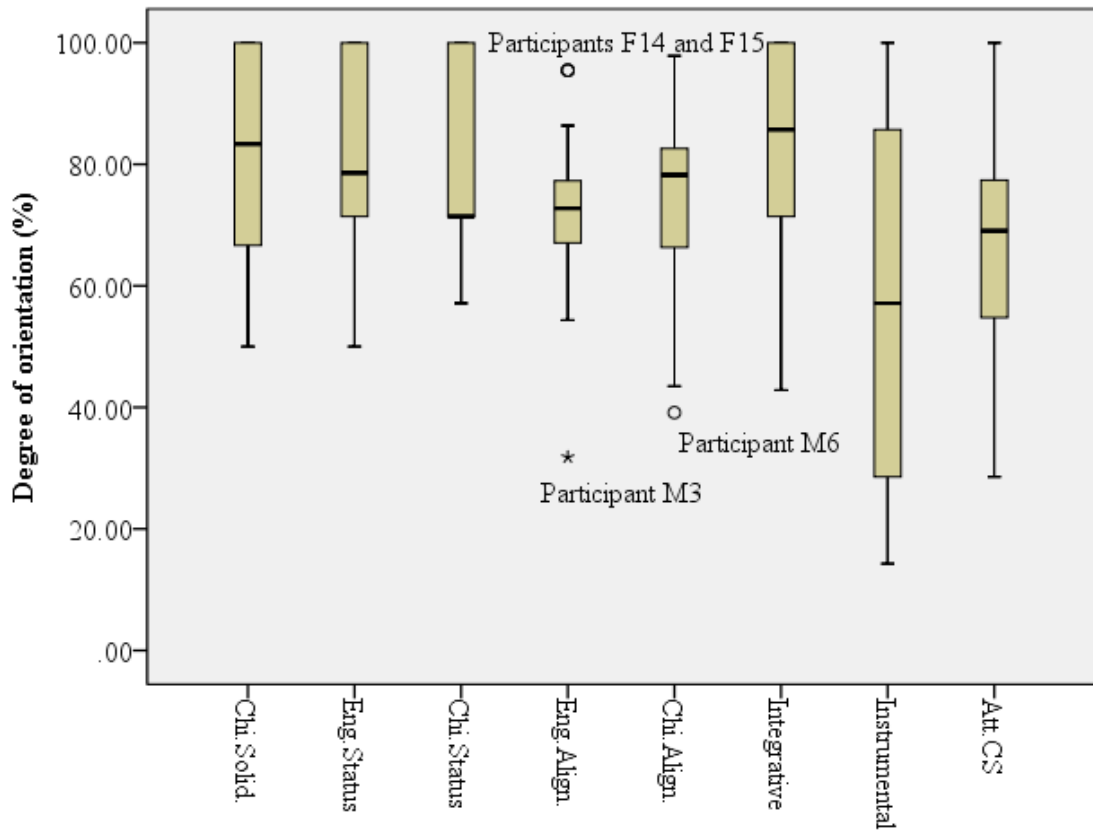
Figure 6.1   Variation in the eight variables of attitudes among the participants

Note: Eng.Status=Language status of English; Chi.Status=Language status of Chinese; Instrumental=English for instrumental purposes; Integrative=English for integrative purposes; Eng.Align.=English cultural alignment; Chi.Align.=Chinese cultural alignment; Chi.Solid.=Chinese solidarity; Att.CS=Attitudes towards CS

In sum, the above description shows that the participants are positive about both languages and cultures overall and they do not show a strong preference for either Chinese or English. Aside from prescribing high status and high solidarity to their native language, they are also positive about the future of the Chinese language worldwide, exemplified by their positive answers to questions like *Do you think proficiency in Chinese might become a big advantage in the international job market?*" Such positive evaluations of Chinese indicate a high vitality (Allard & Landry, 1992) of this language, even in a host country where Chinese is a minority language. The positive attitudes towards Chinese relate not only to the fact that these participants are first generation Chinese immigrants with family ties and emotional connectedness to the

place where they were born and grew up, but also to the overall increasing economic power of China and growing interest in learning and promoting Chinese (for example, the founding of Confucius Institutes worldwide).

Table 6.1 Descriptive statistics of variation in the eight attitude variables (all numbers represent normalized degree of orientation in percentage)

	Chi. Solid.	Eng. Status	Chi. Status	Eng. Align.	Chi. Align.	Integra-tive	Instru-mental	Att.CS
N Valid	39	39	39	39	39	39	39	39
Missing	1	1	1	1	1	1	1	1
Mean	84.61	81.13	80.95	72.17	73.60	84.61	57.51	66.18
Median	83.33	78.57	71.43	72.73	78.26	85.71	57.14	69.05
Std. Deviation	15.00	15.15	15.14	12.16	13.79	17.77	31.52	17.79
Range	50.00	50.00	42.86	63.63	58.70	57.14	85.71	71.43
Minimum	50.00	50.00	57.14	31.82	39.13	42.86	14.29	28.57
Maximum	100.00	100.00	100.00	95.45	97.83	100.00	100.00	100.00

It is not surprising either that equally or slightly higher status is also attributed to English, which is not only the mainstream language used in the host country but is also considered a global language (Crystal, 2003) widely used in various contexts such as publishing, international trade, and diplomacy. In addition, as I mentioned in Chapter 1, English has been linked to modernity and prosperity among many Chinese speakers. The current participants have acquired English as a second language in China. It is thus reasonable to suggest that they have also acquired the social significance of English along with the language itself. Equally important is that these participants also consider speaking English a means to integrate into local communities in addition to its role in professional and institutional contexts. This may or may not be related to the higher status they have prescribed to English; as they are residing in an English-speaking country, English does not only constitute the social meaning of higher socioeconomic status. Speaking English is not necessarily related to upward social mobility but with the desire to integrate into the local communities, regardless of higher or lower socioeconomic status of speakers from the communities.

When it comes to the explicit attitudes towards CS, the participants are generally tolerant towards it and are more likely to evaluate CS as a natural linguistic practice of

bilingual speakers who are experiencing two cultural worlds. Such ratings seem to tie in well with the participants' meta-linguistic comments on the use of ICS in the interviews, which were discussed in Chapter 5. Even though the questionnaire asked them to rate CS in a general sense, it appears that the participants might have rated CS based on their perception and daily experience of spoken ICS. When the participants came across a question like "*Do you think people who mix some English in their Chinese conversations are showing off*", it is likely that they might have reflected on their own practice of spoken CS, which is characterized by ICS, and then gave the negative answer. Such use might be integrated into their daily repertoire and engagement with it thus would not invite any extra evaluative comments. The attitudes elicited here, which reveal the participants' overall perception on the natural and pleasant characteristics of CS, seem to lend support to the proposal in Chapter 5 that the use of ICS might have become unmarked.

When looking more closely at the population and comparing language attitudes by gender, some differences emerged. Table 6.2 provides the results of a comparison between men's and women's ratings on the eight attitudes variables. Given the normal distribution of the ratings by gender on these variables, the mean values are presented to assist comparison. The arrows between them compares the mean values between the sub-groups. T values and the significance levels are also provided when the differences between men and women are significant.

From Table 6.2, we can see that compared to men, women tend to be more likely to give higher ratings to both languages in terms of status. However, when it comes to cultural alignment, they are significantly more aligned with English culture. Their lower affiliation with Chinese culture is also reflected in their lower ratings of Chinese solidarity. At the same time, the purpose of using English also differs between women and men. Women use English more for integrative than instrumental purposes and it is the opposite for men. In addition, women appear to be slightly more tolerant towards practicing CS.

With all the differences between men and women in their language attitudes, some dimensions display a larger difference than others. For example, for language solidarity and purpose of English use, the gaps between men and women are all around 8%. It should be pointed out that the significant differences in cultural alignment between men and women also fall between 8% and 10%. This means that even though the differences in language solidarity and purpose of using English come out as non-significant, they

merit equal attention. On the other hand, the ratings of men and women on language status and attitudes towards CS are quite similar, with only about 2% gap between their ratings. This suggests that although men did not give equally high ratings to the two languages regarding status and CS, they still regard them positively. Maybe the differences between men and women on these dimensions should not be treated as displaying different attitudinal orientation. They might only indicate some slight differences in the degree of orientation, which could be due to some gendered differences in emotional expressions (Brody & Hall, 2008). For example, women tend to be more affective and tend to show their feelings more openly.

Table 6.2   Comparison of men and women on the eight attitudes variables

	Mean value of male participants		Mean value of female participants	
Chi.Solid.	88.60%	>	80.83%	
Eng.Status	80.08%	<	82.14%	
Chi.Status	79.70%	<	82.14%	
Eng.Align.	67.76%	<	76.36%	$t=-2.334, p<0.05$
Chi.Align.	78.76%	>	68.70%	$t=2.420, p<0.05$
Integrative	88.72%	>	80.71%	
Instrumental	61.65%	>	53.57%	
Att.CS	65.04%	<	67.26%	

However, the differences between men and women on other attitudinal dimensions explicitly show that they are orientating in different directions. Women are more English-oriented than Chinese-orientated. In addition, they have a stronger desire to become integrated into local communities. By contrast, men are more Chinese- and less English-oriented and their intention to integrate locally is less strong. How do we account for these differences? In the literature reporting the interaction between gender and language use, it is argued that women, compared to men, are more likely to seek a higher social status through symbolic means (Eckert, 1998) and that women's social status relies more on their group membership and social interactions (Eckert, 1990; Woolard, 1996). The pattern that emerges here in relation to women's attitudinal orientation seems to support such an argument. As members of a minority group, these first generation Chinese immigrants are still in danger of being marginalized into peripheral social positions if they cannot reconcile the cultural differences and as a result remain distant from local communities. Given that women are more sensitive to

social status and social power as public power is traditionally less accessible to them, it is natural for women to seek a more stable social position by symbolically orientating towards the host country's culture and language for greater opportunities for social advancement. At the same time, they are less committed to traditional Chinese culture as it has been noted to be male-dominated, with a history of female oppression under the Chinese patriarchal system (Jaschok & Miers, 1994; Tao & Jiang, 1993; Li, 2007). In this sense, women have less to lose if they break away from this system and embrace new cultures where they have more opportunities (Gal, 1978; Sharma, 2011). However, it is important to note that they do not reject Chinese culture; in fact, their ratings of Chinese culture and language are generally high, and their alignment with Chinese is only highlighted as low when compared to men.

Contrastingly, as the male-dominated traditional cultural system works for men, it is natural for them to orientate towards the cultural values by which their social positions have long been secured. At the same time, their evaluation of English culture and language is also generally high. The lower affiliation when compared with women might be due to men relying less on symbolic alignment for social power and upward social mobility. Their status is less dependent on group membership but more on material capital and occupation (Bourdieu, 1991; Eckert, 1998).

6.1.2 Reduction of attitudes dimensions

The eight dimensions of attitudes defined in the above section cannot be assumed to be independent from each other. Attitudes towards a language are often tied to the perception of speakers of that language and the culture in which the language is embedded in. Therefore, it is possible that some of the eight dimensions are correlated. To reduce the number of analytical variables and find out the underlying main factors of language attitudes, a principal component analysis was performed. Table 6.3 and Figure 6.2 below show the results (See Appendix G for the matrix of internal correlations among the attitudinal dimensions).

There are two main underlying factors extracted by the analysis, and the plot in Figure 6.2 shows how each attitudinal dimension loads onto these factors. Table 6.3 gives the loadings of each dimension on each factor. The highlighted factors are those which are more closely related to each other. For the extracted component 1 there are three variables loaded, *Chinese solidarity*, *English for instrumental purposes* and *Chinese cultural alignment*, indicating that they are positively correlated with each

other in that a higher rating of Chinese solidarity, a closer alignment with Chinese culture, and allocating English use to professional and institutional contexts are internally related in the present case. These three variables are all closely associated with an affiliation with Chinese culture and language and a detachment from English. Thus, component 1 is renamed as "Chinese orientation".
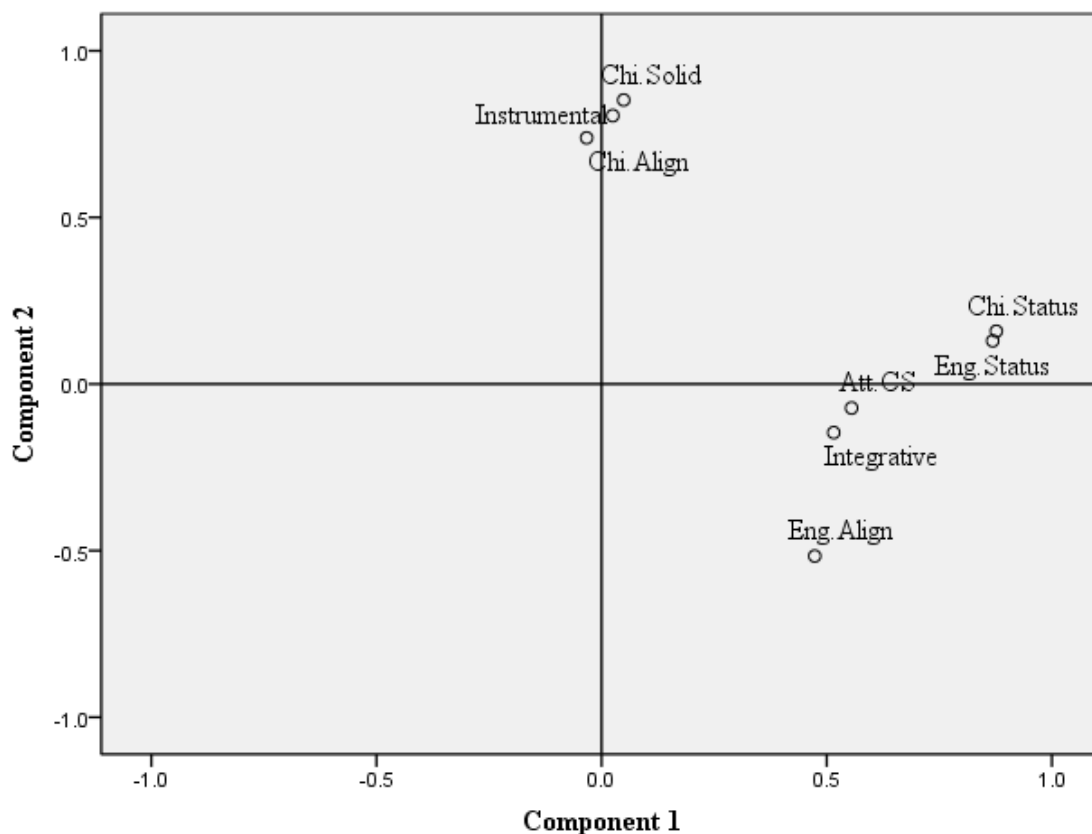
Figure 6.2   Plot of the extracted principle components in rotated space

The remaining five factors load most strongly on component 2. It is noted that *Chinese status* is also among the contributing factors. Despite this, the other three variables loading onto component 2, *English for integrative purposes*, *English cultural alignment*, and *attitudes towards CS* point to a pro-English standing together with *English language status*. A closer alignment with English culture is accompanied by more positive attitudes towards switching to English in Chinese discourse, a stronger motivation to use English for integration purposes and a higher rating of English on socioeconomic status. Therefore, component 2 is renamed "English orientation" and Chinese status was removed as a contributing factor. It should be noted that the variables loaded on component 2 are inversely related to the pro-Chinese variables. Thus, the new generated attitudinal variables "Chinese orientation" and "English

orientation" are complementary. These two factors will be added to the multivariate analysis of CS in Chapter 7.

Table 6.3 Structure matrix of the extracted principle components

	Component	
	1	2
Language solidarity	.006	.849
Language status of English	.861	.090
Language status of Chinese	.867	.119
English for instrumental purposes	-.016	.803
English for integrative purposes	.522	-.169
Chinese cultural alignment	-.071	.740
English cultural alignment	.499	-.537
Attitudes towards CS	.558	-.097

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

6.2 Networks

6.2.1 Participants' general network types

As outlined in Chapter 2, there are two dimensions of networks specified in this study, openness and ethnicity (non-Chineseness) of network type. Openness describes how closely or loosely structured a speaker's relationships are with other people within their networks and whether they are confined to a local and densely connected small circle of interactants or whether they have ties with people from various other communities and such ties are not strongly maintained. Ethnicity of network type focuses on the proportion of English-speaking ties within a speaker's networks. Those English-speaking ties are not necessarily ethnically and locally British; they can be ethnically Chinese or of other ethnic background but speak English as a primary language.

Openness and ethnicity of network type are measured by normalizing individual participants' scores on these two dimensions in the questionnaire to a percentage each (see Chapter 3). The higher the percentage is, the more open and the more non-Chinese the network type is. Figures 6.3 and 6.4 below plot the variation in the openness and ethnicity of the participants' networks and Tables 6.3 and 6.4 that follow give descriptive information of all participants, women and men respectively.

Openness of network

In terms of openness of network types, there is no clustering of the participants at a certain level of openness. The most closed networks only reach 16.67% on the scale of openness and the most open networks reach as high as 95%. The participants are distributed evenly across this range, with a mean of 52.90%. Among the two subgroups, the average level of openness in men's networks is higher than that in women's networks, which is shown in the difference of their mean values (56.70% vs. 49.30%), but the difference is not statistically significant. It is worth noting that in Table 6.3, women's maximum (95%) and minimum (16.67%) equal the overall maximum and minimum.
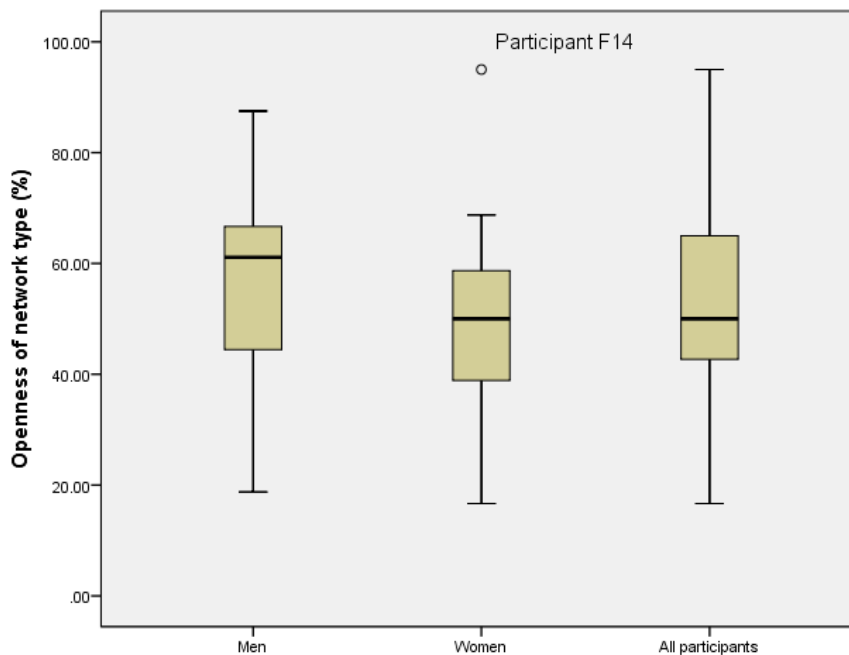
Figure 6.3   Attested variation in openness of network type

Table 6.4   Descriptive data on openness of network

	N	Mean	Medium	Maximum	Minimum	Range
Men	19	56.70%	61.11%	87.50%	18.75%	68.75
Women	20	49.30%	50%	95%	16.67%	78.33
All participants	39	52.90%	50.00%	95%	16.67%	78.33

t=1.254 (men>women), p=0.218

Thus, it suggests that those participants who have either most open or most closed networks are all women and that the full range of women's openness of network (78.33) is broader than men's (68.75) (cf. Eckert, 1989; Escure, 1991). However, the female

participant F14 who has the most open networks is shown to be an extreme case compared to other women.

Ethnicity (non-Chineseness) of network

The mean non-Chineseness of network is 30.58%. Most participants (38 out of 40) fall between the range 4.35% and 65%, thus creating a main range of 60.65. There are two participants, one male (M6) and one female (F15) who have exceptionally high proportion of English speaking ties and pull the full range of non-Chineseness broader (77.32). These two participants were also shown to be higher users of CS in Chapter 4. It seems that there is a relationship between non-Chineseness of network and CS use. I will discuss this in detail in Chapter 7.

Different from the dimension of openness, female participants exceed men on non-Chineseness as shown in Table 6.5 with a mean of 36.61% and such difference is significant ($p<0.05$). However, a wider range of non-Chinese networks is evident for male participants (77.32). In addition, those participants who have either most non-Chinese (81.67%) or most Chinese (4.35%) networks are all men.

Table 6.5 Descriptive data on non-Chineseness of network

	N	Mean	Medium	Maximum	Minimum	Range
Men	20	24.55%	23.14%	81.67%	4.35%	77.32
Women	20	36.61%	36.81%	75%	7.69%	67.31
All participants	40	30.58%	30.33%	81.67%	4.35%	77.32

t=-2.283 (women>men), $p<0.05$

The more English-speaking ties in women's networks seem to suggest that they are better integrated into local communities. This has also been reported by a few male participants in the interviews when they commented on women's better flexibility in fitting in surrounding environments. One participant (M15) gave the following comments:

> 她们更有灵活性，本来也就柔软吧，感觉她们更能适应。这就是为什么大家都说女人是水：容器是方的，她们就是方的；容器是圆的，她们就是圆的。我们不一样啊，我们本身就是容器。
>
> They are more flexible and softer. They can better fit in. That's why they say women are like water: when the container is square, they are square; when

the container is round, they are round. We (men) are different. We ourselves are containers.
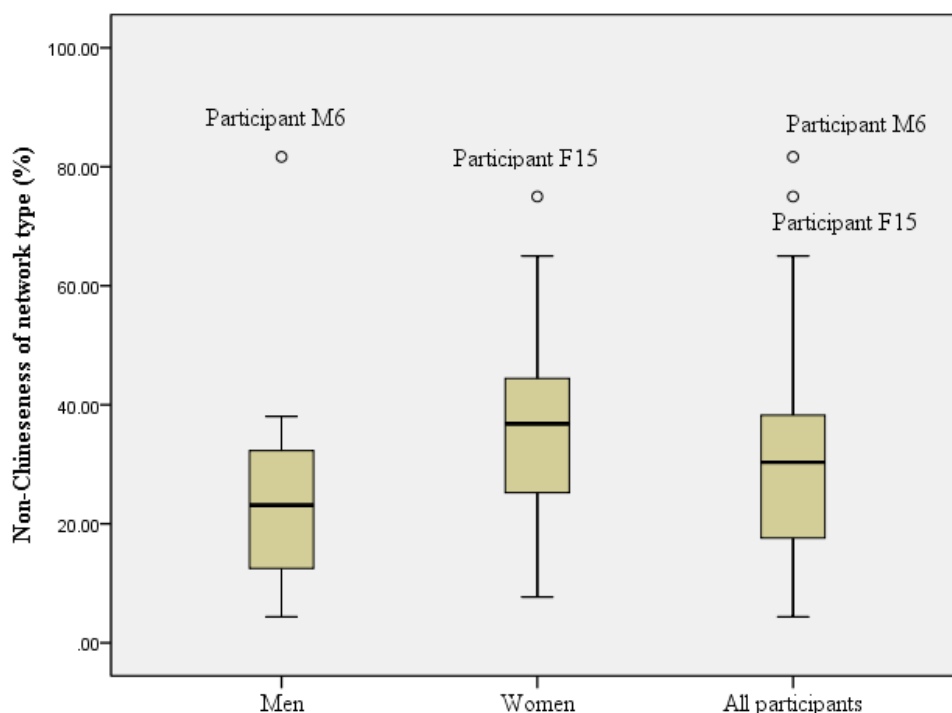
Figure 6.4   Attested variation in non-Chineseness of network type

The presence of such a view in the community further supports the importance of symbolic membership among women. The more English-oriented network type of women relates back to the point in section 6.1 that women have a stronger alignment with English/Western culture and a stronger desire to get integrated into local communities. However, English-oriented attitudes cannot directly give rise to more non-Chinese networks even though a certain degree of interaction between them might be present (this will be examined in the following section 6.2.3). What needs to be considered first is whether the gendered pattern in networks is related to employment patterns, as some previous studies document that the nature of employment and the locality of work sometimes can give rise to different types of networks (Dubois & Horvath, 1998; Gal, 1979; Sharma, 2011). The nature of employment might also be relevant when examining the overall variation in networks and the extreme network types, as shown in Figures 6.3 and 6.4. Before examining in what way a certain type of employment might influence a speaker's network type, it is helpful to show how different dimensions of networks are correlated so that the effects of employment pattern on network types are better understood.

6.2.2 Correlations between different dimensions of network

Figure 6.5 plots the relationship between the two dimensions of network types. In addition to presenting a line of best fit to illustrate the correlation between the two dimensions, individual participants are also located on this cross-plotted network matrix. The red circles represent women and black circles men. The extreme cases of exceptionally open and non-Chinese networks are also marked in the figure. Two reference lines (the two lines parallel to the x- and y-axes) were drawn in the plot, which divide the participants into two groups on each dimension based on the mean value. Therefore, four different types of networks are distinguished: *more closed and Chinese networks*, *more closed and non-Chinese networks*, *more open and Chinese networks* and *more open and non-Chinese network types*. These four types are distinguished for the purpose of locating possible reasons for the different network types. It should be noted that they are not homogenous groups. Differing degrees of variation are observed in these types. For example, participants who are labelled as having more Chinese-speaking ties should not be interpreted as having the same extent of Chineseness in their networks.
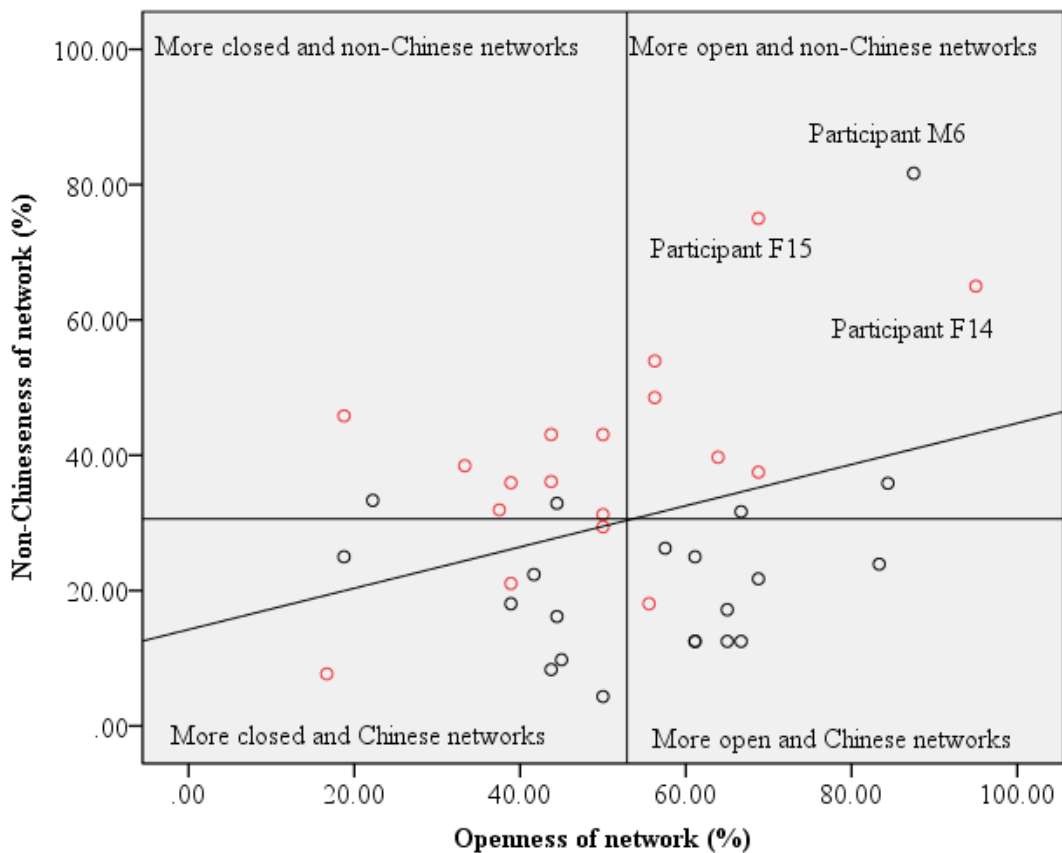
Figure 6.5   Scatter plot of the relationship between openness and non-Chineseness of network: red circles = women; black circles=men.

r=0.319, p<0.05 (all participants); r=0.511, p<0.05 (women); r=0.349, p=0.143 (men)

The strength of the correlation between openness and non-Chineseness is fairly weak but the association is significant. As the participants' networks become more open, it is likely that the proportion of their English-speaking ties would increase. This fits our expectation but is not necessarily a fact that can be taken for granted. When a speaker attempts to broaden their networks, they could commence socializing and making more contacts with speakers from other linguistically and ethnically different communities. However, the expanding of networks does not necessarily involve going beyond linguistic and ethnic boundaries. For example, several Chinese people from the same company might start to reach out for other Chinese people in other companies to organize some events to promote Chinese culture or to increase a sense of belonging. Such informal events might attract more Chinese people from more remote networks to join in. In this way, the members taking part in these events are expanding openness of their networks within a larger Chinese ethnic group. Thus, the fairly weak but significant relationship between openness and non-Chineseness only confirms that being open partly involves being more non-Chinese and vice versa. When the results are broken down by gender, it is shown that the relationship between these two dimensions is closer for women. For them, when networks become more open, it is more likely that non-Chineseness of networks would increase accordingly. Such results suggest that the expanding of a female speaker's networks is more likely accompanied by integration into either local British communities or other ethnic groups whereas such a tendency is absent in male speakers.

The location of the participants on the matrix of Figure 6.5 also confirms the patterns revealed by Figures 6.3 and 6.4 that women have more non-Chinese network ties and men have more open network type, as most red circles are placed higher up than black circles with respect to the y-axis (non-Chineseness) and black circles are more clustered towards the higher end of the x-axis (openness). In addition, Figure 6.5 further reveals that those participants who have more open and non-Chinese network ties are mainly females (six out of nine), which fit the general pattern that men tend to participate in more open but less English networks. However, there is one male participant (M6) who does not conform to this general pattern. His network type is both more open and more non-Chinese. Among the participants who have very closed but very non-Chinese networks, the majority of them are again women (eight out ten). Three of them (participants F6, F12 and F13) are married to British citizens and this might explain why the networks of these three participants are more English but at the

same time less open.

6.2.3 Relationships between network types and occupations

So far, I have described the participants' networks on two dimensions, openness and non-Chineseness and I have also identified a general gendered pattern in networks. Women's networks are less open but more non-Chinese than men's. At the same time, there are some exceptional cases, for example, there is one female participant (F14) whose networks are exceptionally open and one male participant (M6) who has very non-Chinese networks. How do we account for these findings and differences found in networks? The kind of networks speakers participate in is related to many individual factors, such as personality traits (introverted vs. extroverted), life stage (single vs. married), and occupation as mentioned above. Here, I focus on the relationship between occupation and various network types. Table 6.6 lists the main occupations by the participants from each network type distinguished in Figure 6.5.

Table 6.6   Main occupations by the participants from different network types

Network types	Main occupations
More closed and Chinese networks	research (mainly Chinese), private-owned business (mainly Chinese), sales (mixed), catering business (mainly Chinese),
More closed and non-Chinese networks	bank and financial services (mixed), car industry (mixed), IT services (mixed)
More open and Chinese networks	bank and financial services (mixed), tourism (mainly Chinese), catering business (mainly Chinese), private owned business (mainly Chinese)
More open and non-Chinese networks	bank and financial services (mixed), designing (mixed), hospitals (mixed)

In Table 6.6 above, the typical occupations by the participants of different networks are listed. In the brackets following each occupation, the main ethnic environment of the participants in their professions is given. As can be seen from the table, some professions are typically occupied by Chinese people; for example, catering businesses and privately-owned businesses providing services mainly to Chinese people such as importing local Chinese food or other utilities to the UK. Participants in such professions usually use more Chinese than English either with their colleagues or

customers. Some professions are more British-based and are characterized by a mixture of ethnic backgrounds, such as bank and financial services. These participants are working in an environment with English as the main language. Chinese is rarely used – only in cases when there are other Chinese colleagues in the same company and in informal conversations. There are also some other professions which are by nature English-based but are turned into a mainly Chinese working environment because of a high proportion of Chinese workers in a particular department. For example, two of the participants are research fellows in academic institutions. However, the laboratories they are based in host mainly Chinese researchers. Indeed, it is sometimes the case that a Chinese researcher will attract more Chinese students to come and study with him/her and later invite them to stay as co-researchers, especially in science subjects.

A mapping between the participants' network types and their professions shows that the participants with more open and more non-Chinese networks are mainly working in British-based professions with mixed ethnic backgrounds, including the three participants (M6, F15 and F14) who have exceptionally open and/or non-Chinese networks as marked out in Figure 6.5. Professions where more Chinese-speaking colleagues are present are more linked with more Chinese network types. For example, the participants who run privately-owned businesses and whose customers are mainly Chinese report their networks as more Chinese, regardless of being more open or more closed. On the other hand, there is not an obvious correlation between occupation and openness of network type. The participants who are in the same profession, for example, catering or self-employed, are split between more open and more closed network types.

The link between non-Chineseness of network and profession suggests that profession plays a very important role in affecting the nature of networks as it provides opportunities for the participants to meet English-speaking people. Such importance of profession in influencing the nature of networks among Chinese immigrants in the UK has also been reported by Li Wei (1994; 2000; 2007). As mentioned in Chapter 1, among the older generations of immigrants, their concentration in the catering profession and the nature of the catering business make it necessary for a scattered distribution in terms of geographical settlement to make sure there are enough customers. This scattered and locally confined business type helps maintain close-knit network types and Chinese ethnic make-up of networks. In this study, the link between non-Chineseness and profession is confirmed but the relationship between openness and profession cannot be established. Aside from profession, other factors could also

contribute to the openness of network, such as closeness with family ties and marriage status. This is evident in works by Li Wei (1994; 2000; 2007), who found that the denseness/closeness of network could be due to family-based business styles. Among the present participants, however, most do not have family connections in the UK, which might give rise to the need for a greater variety of social contacts. Nevertheless, the relevance of family ties influencing the openness/closeness of networks is suggested by the network types (more non-Chineseness but more closed) of the three female participants who are married to local British citizens.

Even though there is a pattern that more English-based employment implies more non-Chinese network ties, it is not always the case that a participant's network is more non-Chinese because they are in a more British-based profession. For example, Table 6.6 shows that some participants of the same profession such as banking and finance have developed different degrees of non-Chinese network types. There are many other reasons leading to differences in non-Chineseness of networks, for example, a participant's attitudinal orientation or personality. When a participant has the desire to socialize more with people of same ethnic and linguistic background, even though they are working in a mixed ethnic environment, it is still possible for them to ensure regular interactions with other Chinese people out of work. Likewise, a higher degree of attitudinal orientation to socialize with English-speaking people can further encourage a speaker to strengthen their English-speaking work ties. Thus, in the following sub-section, I will look at interactions between networks and attitudinal orientation and try to show how likely it is for them to affect each other.

6.2.4   Interactions between social networks and attitudes

The strength and significance of the associations between the two dimensions of networks and attitudes are shown in Table 6.7. The results show that openness of network type is independent of how a participant is oriented towards English or Chinese culture/language. What *is* related to attitudes is non-Chineseness of network. When a participant is more Chinese-orientated, non-Chineseness in networks is likely to be lower; when they are more English orientated, non-Chineseness would be higher.

It should be highlighted that the causal direction of the relationships between networks and attitudes is not known. The effect could be either way. It is possible that more Chinese and less English-oriented attitudes promote or inhibit the more or less English-oriented networks; it is also possible that the more or less English-oriented networks in turn further consolidate original attitudes or change and give rise to new

perceptions regarding English and Chinese culture/language. Before considering all social factors in combination, I now turn to one final social factor: proficiency.

Table 6.7 Correlations between networks and attitudes

	r	p
Chinese orientation and openness	-0.245	0.132
English orientation and openness	0.096	0.562
Chinese orientation and non-Chineseness	-0.447	<0.01
English orientation and non-Chineseness	0.358	<0.05

6.3 Proficiency

6.3.1 Participants' general proficiency level

The measurement of the participants' proficiency in English is based on self-reports. They rated their English ability in speaking, writing, understanding, and reading on a 7-point scale. Ratings were then added and normalized into a percentage to represent their overall English proficiency (see Chapter 3). Figure 6.6 below shows the variation in their English proficiency and how this varies by gender.

Most participants rated themselves fairly highly – the main range of proficiency is between 63% and 82% with a mean of 71.70%. There are three participants who rated themselves very low, especially participant M14 who has very little confidence in his English and rated himself only 14.29%. These three participants all work in Chinese-based professions, with two in the catering business and one opening a barber shop mainly serving Chinese customers. Overall, the variation attested among the participants is not great enough to put them into several distinct levels. Except for a few participants whose ratings are exceptionally low, most of them cluster around at the higher end of the proficiency continuum. Women rated their English slightly higher than men did and the most native-like self-reported proficiency is by a female speaker whereas the lowest proficiency is reported by a male participant (M14). However, the difference between the means of the two sub-groups is not significant (see Table 6.8).
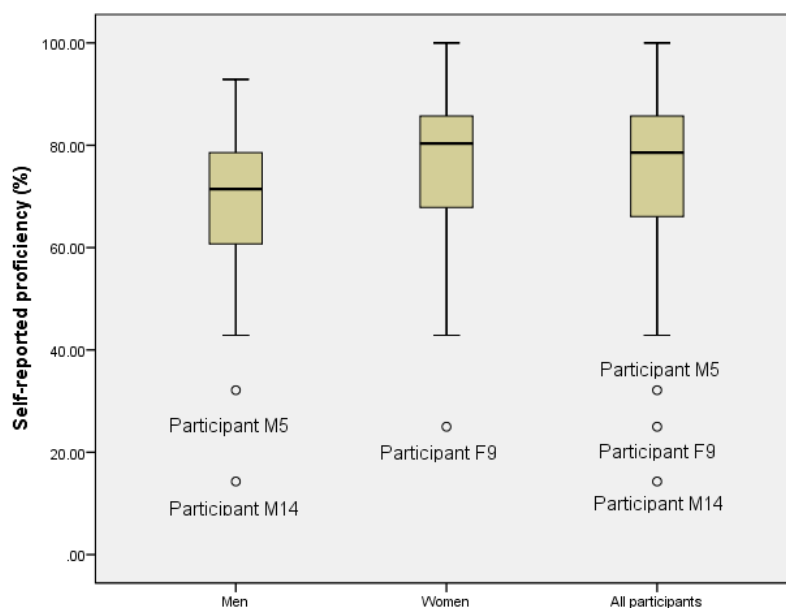
Figure 6.6   Variation in participants' English proficiency

Table 6.8   Participant's self-reported proficiency (%)

	N	Mean	Medium	Maximum	Minimum	Range
Men	20	68.21%	71.43%	92.86%	14.29%	78.57
Women	20	75.18%	80.36%	100.00%	25.00%	75.00
All participants	40	71.70%	78.57%	100.00%	14.29%	85.71

t=-1.108 (women>men), p=0.275

Relationships between different aspects of proficiency

It could be the case that some participants might be more proficient in their writing skills than in speaking skills or vice versa. If this is the case, the varying proficiency in speech and writing might result in varying use of CS in these two registers. To test whether the participants rated themselves differently on their proficiency in speaking and writing in English, paired t-tests were run.

The results of the t-tests show that the difference between proficiency in speaking and writing is very small and non-significant (t=1.388, p=0.173). At the same time, a series of correlation tests were performed to check internal correlations among different aspects of proficiency. Table 6.9 gives the results. We can see that the associations between speaking, writing, and overall proficiency are all very significant and strong.

Overall, the results of t-tests and correlation tests indicate that the participants do

not consider themselves particularly proficient or less proficient in any single aspect. When they rated themselves higher or lower in proficiency, it is very likely that they considered themselves equally high or low in writing and speaking.

Table 6.9 Correlations between different aspects of self-reported proficiency

	All participants		Men		Women	
	r	p	r	p	r	p
Writing and speaking	0.869	<0.01	0.804	<0.01	0.927	<0.01
Speaking and overall ability	0.955	<0.01	0.927	<0.01	0.978	<0.01
Writing and overall ability	0.948	<0.01	0.922	<0.01	0.972	<0.01

6.3.2   Interactions between proficiency and the other two factors

In the above section, three participants rated themselves exceptionally low in English proficiency and these three participants all work in professions densely populated with Chinese workers. Given the relationship between occupations and the degree of non-Chineseness in networks, these three participants could also have low proportion of English speaking ties and indeed they do. Non-Chineseness of their networks is 9.78%, 18.06% and 4.35% respectively. Against of a mean of 30.58%, their networks are very Chinese-oriented and participant M15's networks are in fact the most Chinese-oriented among all other participants. Thus, it appears that a participants' proficiency can be related to their networks. Networks, in turn, have been shown to be associated with attitudes. Networks with a lower proportion of English members could predict more Chinese and less English-oriented attitudes. As a result, it seems that proficiency is linked to attitudes. To better understand how proficiency and the other two social factors interact, Table 6.10 is given to list the correlations between proficiency and the other two factors.

In Table 6.10, it is again shown that only non-Chineseness of network correlates significantly with proficiency. A higher proficiency in English is accompanied by a higher degree of non-Chineseness in networks. At the same time, proficiency is shown to be somewhat independent of the influence of openness of network type and attitudinal orientation.

Table 6.10 Correlations between self-reported proficiency and other social factors

	Openness		Non-Chineseness		English-orientation		Chinese-orientation	
	r	p	r	p	r	p	r	p
Self-reported proficiency	0.105	0.524	0.493	<0.001	0.203	0.214	-0.078	0.636

The possible link between proficiency and attitudes is only bridged by an intermediate factor: non-Chineseness of network type. They have no direct influence on each other. Attitudes, especially English-oriented attitudes, need the medium of networks in order to influence proficiency, as a strong attitudinal orientation towards English only provides a strong motivation to better acquire this language, it does not directly give rise to an improvement in proficiency.

In addition, the relationship between proficiency and non-Chineseness of networks could be bidirectional. Having more English-speaking ties might help a speaker develop a more proficient set of language skills, which could in turn facilitate further integration into English-speaking communities. This bidirectional relationship between social networks and language ability was also put forward by Li Wei (1994). Ethnic indices (the proportion of non-Chinese contacts) of the three network types specified (exchange, interactive and passive) all correlate positively with English language ability and negatively with Chinese language ability.

6.4 Summary of correlations among factors

So far, I have examined the three variables of close relevance to CS usage in detail. The analysis has investigated the participants' general language attitudes, their English proficiency level, the nature of their networks, and some gendered patterns regarding these social factors. The results of the analysis show that there is a certain degree of interaction among these social variables. For example, more English-oriented attitudes are likely to be accompanied by more English speaking-ties in networks and more English-speaking network ties could predict a higher level of English proficiency to a certain extent. It appears that none of these variables are independent from each other and they are either directly related to each other or are linked by an intermediate variable. The correlations among the social factors are given in Appendix H.

It should be noted that the associations between the factors are fairly weak as they

all exhibit r-values below 0.5. As an r-value of 0.7 is considered a threshold to consider removing one of the correlated factors (Agresti & Finlay, 2009), these correlations are not strong enough to be treated as representing one single underlying factor and thus putting them in multivariate analysis to examine their relative strength to influence the dependent variable will not cause a problem.

The following figure (6.7) highlights which correlations are significant through a dynamic interactive matrix of the social variables. The blue arrows indicate a positive correlation and the red one a negative correlation. These arrows are marked as bidirectional to suggest that the influence might be mutual. For example, a change in attitudes might lead to a change in networks and a change in networks could equally result in a shift in attitudes.
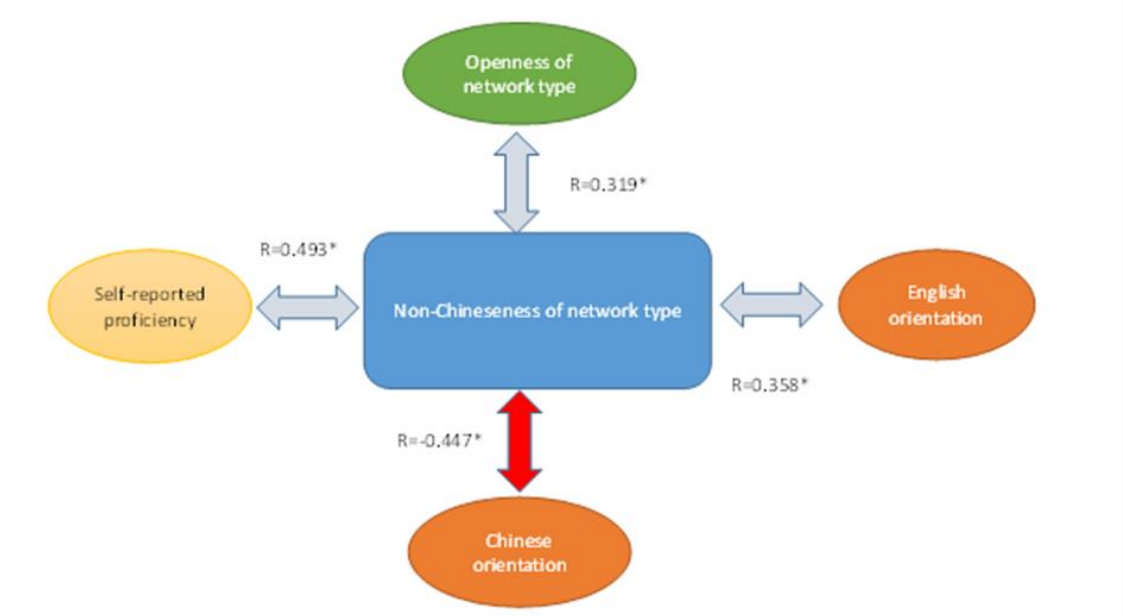
Figure 6.7   Summary of all significant correlations

Figure 6.7 demonstrates that all the other variables correlate significantly with ethnicity of network and none of them show a direct significant correlation to each other. This means when there is a change in a speaker's ethnic makeup of networks, openness of their network, their language and cultural attitudes and their English proficiency may all experience a shift. This places non-Chineseness of network at the center of the interactive matrix. Even though openness of network has not been shown as occupying a central position in this matrix, the close relevance of ethnicity of networks in the present case confirms and highlights the significance of social networks in accounting for dynamic changes in social relations (Gal, 1979; Li Wei, 1994; Milroy, 1987).

The importance of networks is reflected in the opportunities they provide for changes in other variables to happen. In the present case, social networks provide opportunities for the participants to meet English-speaking people and allow language and cultural attitudes and English proficiency to change with networks in a variety of ways. In other words, changes in networks might be the concrete steps that better bridge changes in other variables. For example, a speaker might have low proficiency in English whilst at the same time holding negative attitudes towards English language and culture. It could be argued that negative attitudes undermine the motivation of leaning English and thus lead to a low proficiency in English or vice versa. Thus, a change in attitudes or in proficiency could be attributed to a change in the other factor. The positive correlation found between them in this chapter indeed shows this is the case. However, this mutual effect tells us nothing about how this change and even why this change takes place. By considering the factor of network, a source of input is added and provides at least a clue to find out what might instigate the change.

It is important to note that I am not suggesting that all changes in social variables are due to changes in social networks or that the direction of such changes is necessarily predicted by the nature of networks. What I am highlighting is that social networks (in this instance, non-Chineseness of networks) offers a more holistic perspective to interpret relationships between other variables. As Li Wei et al. (2000) states:

> …it (network) can form an important component in an integrated initial theory of language choice: it links with the interactional level in focusing on the everyday behaviour of social factors, and with the economic and socio-political level in that networks may be seen as forming in response to social and economic pressures (p. 208).

In the following chapter, I examine how these factors, given their internal correlations, influence speakers' adoption of CS. Multivariate analysis is carried out to show which factor(s) is (are) most closely related to the use of CS and whether the central position of non-Chineseness of networks will again be brought out when it comes to the use of CS.

Chapter 7

Multivariate analysis

In Chapter 6, interactions among the social factors under investigation in this study were discussed at length. Non-Chinese network orientation correlated with almost all other factors, suggesting that ethnicity of network type is at the center of a matrix of social relations. Nevertheless, correlations were weak enough to justify inclusion of these social factors in a multivariate model. This chapter is a close analysis of how these factors (i.e. attitudes, network type and proficiency) condition the frequency of CS in different registers. Furthermore, in this chapter, I bring in the earlier register differences which related to cognitive load.

This chapter is structured as follows. First, I present and briefly discuss the results of multivariate analysis on the total use of CS combined from two registers (section 7.1). The results are then broken down by types of CS in different registers to highlight how different types of CS are related to different social factors and how register differences bring out the differences in social influence (section 7.2). In section 7.3, a unified model is proposed to simultaneously account for register and social differences found in the data. Section 7.4 summaries the findings of this chapter.

7.1 Multivariate analysis of total use of code-switching

One of the research questions addressed in this study is how a speaker's attitudinal orientation, the nature of their networks, and their language proficiency in English might affect their use of CS. More importantly, it is of interest to see which one best predicts how much CS is used. Individual correlation tests can show how each variable is related to CS use; however, it would be unreliable to compare across the factors only based on the results of bivariate correlation tests as a particular variable might lose its significance when the effects of other variables are controlled. Therefore, instead of doing a series of individual correlation tests, multiple regression analyses were conducted to explore how these factors as a set influence a speaker's use of CS and how each factor separately contributes to the global pattern when the effects of other variables are controlled. Aside from the three factors of interest, gender was also included. In previous chapters, gendered patterns in terms of CS use and social details

were found even though the differences between men and women were not significant. Thus, gender was included in the set of predictor variables to inspect how it might work with other social variables to influence the adoption of CS.

In Chapter 4, where individual variation of CS use in the two registers was inspected, I showed that there were participants whose use of CS was particularly frequent, for example, participant F2. These exceptionally frequent users of CS might be considered as outliers. In regression analysis, data set with outliers may distort the outcome and accuracy of results (Rousseeuw & Leroy, 2003), so running the analysis without outliers improves the validity of results. The decision to exclude outliers from a regression analysis is based on whether the suspected data points exhibit a large degree of influence on the parameters instead of just being outliers alone. A traditional way of doing this is running Cook's Distance or DfFit (Hodge & Austin, 2004). For each of these two statistical analysis tools, a specific value is produced for each case. The usual "cut-off" point is 1.0, meaning cases with values larger than 1.0 are suspected of being outliers (Hodge & Austin, 2004). Among all the participants, the value produced for participant F2 was 5.58844 and the one for participant M6 was 1.34422 while all others were below 0.5. Therefore, I decided to exclude data points for these two participants and ran the regression analysis for the remaining participants. Now let us start with the total use of CS combining instances from both spoken and written registers.

Stepwise multiple regression method was used to produce good fit models. There were two models produced, with model 1 having only one predictor variable "English orientation" and model 2 having two predictors "English orientation" and "non-Chineseness of network". The statistics indicating the predictive power of the two models are presented in Table 7.1.

Table 7.1 Summary of the two fit models produced by stepwise multiple regression analysis

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	F	Sig.
1	.666[a]	.443	.426	2.60323	25.459	0.000
2	.778[b]	.605	.580	2.22650	23.774	0.000

a. Predictors: (Constant), English orientation

b. Predictors: (Constant), English orientation, Non-Chineseness of network

Both Model 1 and Model 2 excluded "English proficiency", "openness of network", "gender" and "Chinese orientation" as adding them does not improve the predictive power of the models. Between the two models, model 2 explains more variation attested in the data (adjusted R^2=0.580) compared to model 1 (adjusted R^2=0.426) by including non-Chineseness of network. Therefore, I chose model 2 as the best fit model. The following Table 7.2 presents individual contributions of the two predictive variables. As shown in the table, both English orientation and non-Chineseness of network are very significant predictive factors. Furthermore, the slightly higher standardized coefficients of English orientation show that English orientation has a slightly stronger correlation with the total use of CS. In short, when participants' attitudes are more English-oriented and/or their network type is more non-Chinese proportioned, it is more likely that they would adopt CS in either speech or writing.

Table 7.2 Predictive model[a] for the total use of code-switching

Model[c]	Standardized Coefficients	t	Sig.	Adjusted R^2	F	Model Sig.
	Beta					
(Constant)		2.649	0.013			
English orientation	0.516	4.286	0.001	0.58	23.774	0.000[b]
Non-Chineseness of network	0.43	3.57	0.001			

a. Dependent Variable: Total use of CS (%)

b. Predictors: (Constant), English orientation, Non-Chineseness of network,

c. Excluded variables: Chinese orientation, Self-reported English proficiency, Openness of network, Gender

These initial findings support the positive roles of ethnicity of network (e.g. Gal, 1979; Li Wei at el., 2000) and attitudes (e.g. Poplack, 1980; Toribio, 2002) that have been individually reported in the literature to affect language choice and the adoption of CS. More importantly, the inclusion of these two factors simultaneously with other relevant variables reveals some additional facts. Among all other factors, attitudes (English-orientated) and ethnicity of network type (non-Chineseness) are the two most important predictors of CS frequency. Between the two factors, attitudes offer slightly

more explanation for why the participants vary their amount of CS. This said, non-Chineseness is still a very important factor affecting how much CS is used.

Such findings seem to tie in well with some previous studies on the overriding effects of attitudes compared to networks on linguistic practice. For example, Barden and Barden and Großkopf's (1998, cited in Auer & Hinskens, 2005) studied long term dialect accommodation of Saxon (east German) speakers to speakers from two other different dialect areas in west and south of Germany they migrated into. Their study shows how speakers picked up speech habits of those they oriented towards even when they did not have enough social contacts to do so. Another example is seen in Dubois and Horvath (1998), which shows that the dental stop realization in the speech of bilingual Cajuns in St. Landry Parish has become an important marker of Cajun identity. Equally in open networks, women did not participate in the Cajun revival, whereas men strongly participated. The explanation they gave is that the dental stop realization is not only an identity marker but also a male marker. The increasing use of this linguistic feature despite network type among middle-aged and young men provides evidence of the overriding influence of attitudes.

Both studies point to a greater effect of attitudes than networks. Even though the findings presented in this section support a strong effect of attitudes, they acknowledge the importance of networks at the same time. Instead of being outweighed by attitudes, network types assist and support the role of attitudes to a certain extent. As demonstrated in Chapter 6, ethnicity of the participants' networks and their language attitudes were not independent of each other. The more English-oriented attitudes were accompanied by higher proportion of non-Chinese ties. Such an association was not specified in either of these two reviewed studies. In addition, non-Chineseness of network provides proper access to English-speaking communities when a speaker desires to modify their linguistic behaviour in order to adopt linguistic features of the group they wish to identify with (Le Page & Tabouret-Keller, 1985). This is particularly relevant in the present case of CS, which involves two languages that belong to different language families[15]. The efforts demanded to acquire the desired speech patterns are supported by non-Chineseness of network type.

Recall that the participants showed patterns of unbalanced use of different CS

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[15] Chinese belongs to Sino-Tibetan language family (e.g. from earliest Li (1937/1973) to most recent Blench and Post (2013); whereas English belongs to Germanic language family (König & van der Auwera, 1994).

types in different registers, i.e. more ICS and very little ACS in the spoken register and approximately equal amount of both types in the written register. We therefore need to investigate whether the use of different types of CS might be associated with different social factors. To answer this question, in the following section 7.2, I break down the results of multivariate analysis by register and type to reveal how different types of CS are correlated with the social variables of interest.

7.2　Results of multivariate analysis of code-switching use broken down by register and type

Stepwise method sometimes produces only one predictive variable and tosses away all other factors that are considered not contributing any significant explaining power. As there are two factors shown to be of close relevance in affecting total CS use in section 7.1, regression method *enter* was used in this section to present the strength and significance of the associations between CS and both factors. First I present the results in the spoken register.

7.2.1　Results of the spoken register

The following Table 7.3 and Table 7.4 give the results of multiple regression analyses of CS in the spoken register broken down by type (i.e. alternational CS or ACS vs. insertional CS or ICS). The significant predictors are highlighted in grey, along with their significance level and standardized coefficients, which show the comparative strength of the association with the dependent variable. In Table 7.3, the only significant predictor of ICS is English orientation, which is also the strongest predictor of all other variables (Beta=0.438), followed by non-Chineseness of network (Beta=0.282). However, non-Chineseness only approaches significance (p=0.70). The overall model is significant (p=0.006) and can explain 32.4% variation attested in the data (adjusted R^2=0.324). By contrast, there is no significant predictor variable in Table 7.4 which shows the results for ACS. In addition, the explaining power of the set of predictor variables is extremely low (adjusted R^2=0.057). Nevertheless, compared to other factors, non-Chineseness of network correlates most strongly with ACS in speech despite being non-significant.

Table 7.3 Predictive model[a] for insertional code-switching in the spoken register

Model	Standardized Coefficients		t	Sig.	Adjusted R^2	F	Model Sig.
	Beta						
(Constant)			-.024	.981			
Self-reported English proficiency	.061		.362	.720			
Non-Chineseness of network	.282		1.882	.070			
Openness of network	.212		.991	.329	0.324	3.872	0.006[b]
Chinese orientation	.129		.805	.427			
English orientation	.438		2.980	.006			
Gender	-.042		-.231	.819			

a. Dependent Variable: ICS use (%) in the spoken register

b. Predictors: (Constant), Chinese orientation, English orientation, Self-reported English proficiency, Openness of network, Non-Chineseness of network, Gender

If we compare the two types of CS in terms of the results of analyses, two interesting points emerge. First, ACS and ICS appear to be related to different social factors. Greater use of ICS is better predicted by more English-oriented attitudes. Even though ACS is less well predicted by any factors, a weak association between non-Chineseness of network type and ACS is identified. Second, non-Chineseness of network is relevant across CS types. Aside from being associated with ACS, it is also the second strongest predictor of ICS although it does not reach significance.

Table 7.4   Predictive model[a] for alternational code-switching in the spoken register

Model	Standardized Coefficients	t	Sig.	Adjusted R^2	F	Model Sig.
	Beta					
(Constant)		-.853	.400			
Self-reported English proficiency	-.071	-.355	.725			
Non-Chineseness of network	.319	1.261	.217			
Openness of network	.257	1.452	.157	0.057	1.364	0.261[b]
Chinese orientation	-.018	-.095	.925			
English orientation	.042	.240	.812			
Gender	.068	.319	.752			

a. Dependent Variable: ACS use (%) in the spoken register

b. Predictors: (Constant), Chinese orientation, English orientation, Self-reported English proficiency, Openness of network, Non-Chineseness of network, Gender

7.2.2   Results of the written register

In this section, I move on to the results of multivariate analyses of CS in the written register. Again, these results are broken down by type (ACS and ICS). Table 7.5 and Table 7.6 present the results below. In Table 7.5, the strongest predictor of ICS, which is also the only significant one, is attitudes (English orientation); in Table 7.6, it is non-Chineseness of network that is most strongly and significantly correlated with ACS. The associations between different social factors and different CS types that emerged in the above section 7.2.1 are confirmed here. In addition, the relationship between non-Chineseness of network and ACS is further shown to be significant. Thus, the results can be summarized as: across registers, ICS is better predicted by the participants' English-oriented attitudes and ACS by the proportion of their non-Chinese speaking ties. This relates back to the finding in Chapter 4 that women used more ACS than men did and this was the only difference between the two sub-groups that approached significance. At the same time, the results of analysis on non-Chineseness of their network types showed that women have significantly more non-Chinese speaking ties among their social contacts (see Chapter 6). Such findings from previous chapters

further support the close relationship between non-Chineseness of network and ACS use.

Additionally, the relevance of non-Chineseness of network type is also confirmed by the results presented in this section. As shown in Table 7.5, it is again the second strongest predictor of ICS in writing. However, the significance level of this factor has dropped in the written register.

When comparing the results from the two tables in this section to those in section 7.2.1, one noticeable difference is that the explaining power of the whole variable set has increased from 32.4% to 45.8% (ICS) and from 0.57% to 38.9% (ACS). It seems that the same social variables explain the use of CS in the written register better.

Table 7.5   Predictive model[a] for insertional code-switching in the written register

Model	Standardized Coefficients	t	Sig.	Adjusted R^2	F	Model Sig.
	Beta					
(Constant)		.389	.700			
Self-reported English proficiency	-.015	-.095	.925			
Non-Chineseness of network	.325	1.604	.120			
Openness of network	.181	1.264	.217	0.458	5.657	0.001[b]
Chinese orientation	-.016	-.103	.919			
English orientation	.523	3.747	.001			
Gender	-.079	-.442	.662			

a.   Dependent Variable: ICS use (%) in the written register

b.   Predictors: (Constant), Chinese orientation, English orientation, Self-reported English proficiency, Openness of network, Non-Chineseness of network, Gender

Table 7.6   Predictive model[a] for alternational code-switching in the written register

Model	Standardized Coefficients Beta	t	Sig.	Adjusted R^2	F	Model Sig.
(Constant)		-.402	.691			
Self-reported English proficiency	-.084	-.496	.624			
Non-Chineseness of network	.695	3.229	.003			
Openness of network	.121	.790	.436	0.389	4.496	0.003[b]
Chinese orientation	-.096	-.597	.556			
English orientation	.065	.439	.664			
Gender	-.100	-.527	.602			

a. Dependent Variable: ACS use (%) in the written register

b. Predictors: (Constant), Chinese orientation, English orientation, Self-reported English proficiency, Openness of network, Non-Chineseness of network, Gender

7.3   Discussion

I now turn to my interpretations of these patterns related to different registers, CS types and social factors. In particular, I seek to explain why ACS is better correlated with non-Chineseness of network type and ICS with attitudes and what the underlying pattern is. Additionally, I relate the results of this chapter to the findings from previous chapters, for example, the proposal that the use of ICS has become unmarked, and synthesize a compact model to account for these patterns found in the data.

7.3.1   A dynamic socio-cognitive model for code-switching

To understand why different social factors influence different types of CS, we need to review again the inherent differences between the two types. By definition, ICS refers to the insertion of a single word (for example, a noun or a verb) or a phrase (noun phrase or verb phrase) in English into Chinese discourse; and ACS indicates a switch to English at clausal boundaries.

As discussed in Chapter 4, there are two main differences between ACS and ICS. First, the level of linguistic knowledge required in English to practice ACS and ICS

differs and engaging in ACS requires familiarity with syntactic constraints in English in addition to conceptual words. Additionally, practicing ACS in real-life conversation requires a higher degree of communicative competence (Gumperz, 1981; Hymes, 1972). Compared to inserting single English elements, communicating in full English sentences requires not only grammatical knowledge of English; more importantly, it requires a higher communicative competence to appropriately use the language according to register, style, interlocutor and other social situation variation. Therefore, in Chapter 4, I argued that linguistic demand and the demand on communicative competence required from speakers are higher when practising ACS than ICS.

Due to these differences between ACS and ICS, the conditions required to acquire them also differ. Even though both individual English words and how to compose full English sentences can be acquired through formal classroom instruction, the conventions of how to communicate in full English sentences appropriate to social situation variation are more fully acquired through interactive experience in networks that use English (Gumperz, 1981).

In addition, according to Le Page and Tabouret-Keller (1985), the extent to which we can modify our behaviour depends on how much access is obtained to the group we desire to identify with. In other words, when a person desires to identify with a group and tries to modify their behaviour accordingly, how much modification can be achieved depends on how much personal contact they have with this group and how much they participate in the networks. The role of subjective desire to modify behaviours is limited when the behaviour being modified demands more in-group knowledge (especially when in-group knowledge can only be cultivated in in-group contexts), in which case more contact with speakers from this group and more participation in the networks are required. This can also be applied to using speech patterns of the group a speaker desires to identify with. When a speech feature requires more knowledge of its use in communication, as in the case of ACS, positive alignment with the group cannot directly give rise to this knowledge; instead, a higher degree of access to the group who uses this speech feature and a more active participation in group interactions are required. Therefore, we see in the results that ACS is better predicted by non-Chineseness of network, which shows how much a speaker is exposed to and participates in an English-speaking environment.

When we look at other relevant studies which also take a network-oriented perspective, for example Li Wei et al. (2000), we can see a similar pattern emerge. Even

though they did not specify that the exploration of the relationship between network type and CS was focused on a particular type of CS, it is not hard to discern an overwhelming proportion of switching at clausal or sentential boundaries from their examples. Departing from a different research interest, this present study nevertheless comes to the conclusion that establishes a link between ethnicity of network type and the more complex type of CS, ACS.

On the other hand, the role of attitudes seems to be limited to practices which demand low level in-group knowledge, in other words, low linguistic and communicative competence. Such a view on the influential range of attitudes is also shared by Garrett (2010). Even though he did not explicitly highlight that the relationship between the demand of a linguistic/non-linguistic task and the extent to which attitudes can influence the implementation of the task, he mentioned the relevance of "complexity of domains in which language is used", according to which, "links between people's attitudes towards language varieties and their own behaviors are likely to differ" (p. 28). When the domain is more complex, and other variables might also be constraining the power of attitudes on behavior, attitudes may predict behavior less well. Likewise, when the situation of language use becomes more complex and requires more advanced knowledge of language use in communications, positive attitudes might not be able to predict the extent of such language use. This might explain why attitudes can predict ICS better than ACS. The practice of ICS, which requires both lower linguistic and communicative competence, might increase alongside a speaker's increasing positive attitudes towards such practice itself, and towards the language from which the inserted words are from, without being inhibited by their lower linguistic competence or lack of enough access to the English-speaking community.

To a certain extent, ICS and ACS can be compared to some "off the shelf" (Eckert, 2003; Milroy, 2007) and "under the counter" (Milroy, 2007) sociolinguistic variables. Similar to those "off the shelf" variables, ICS is accessible to a larger number of speakers and involves less face-to-face interactions in order for the variable to diffuse; ACS, resembling "under the counter" variables, requires repeated exposure to relevant social interactions.

So far, it seems that what is related to different social factors is the differing demand on linguistic knowledge and communicative competence of practicing different types of CS. Attitudes can intervene more freely in low demand contexts and the use of

ACS requires sufficient acquisition of communicative competence through appropriate network exposure. When we look at the explaining power of attitudes across registers, this point is further illustrated. The strength and significance level of the association between attitudes and ICS have both increased in the written register. As discussed in Chapters 2 and 4, the more asynchronous written register differs from the more synchronous spoken register in its lower cognitive load demanded from the participants, which releases the burden on working memory and allows the participants to focus on the desired linguistic production (Chan, 2011; Parker & Coiera, 2000; Wellman, 1999). In this sense, the written register, compared to the spoken register, provides a lower demanding context for a fuller play of attitudes.

At the same time, one might expect that the influence of non-Chineseness of network type on ACS should be even greater in higher demanding spoken context as practicing higher linguistic demanding CS in cognitively demanding register requires more access to and participation in interactive networks. However, instead of witnessing an increase of such an influence in the spoken register, we observe a decrease in both significance level and strength. As shown in Chapter 4, ACS in the spoken register is very rare (n=38) and it was only observed among eight participants. In addition, the occurrence of ACS was not evenly distributed among these eight participants and most cases of ACS (22 out of 38) were driven by one female speaker (F2). In the regression analysis, this speaker was identified as an outlier and excluded from the data points. Consequently, the number of tokens of ACS was even fewer in the actual analytical process (n=16). The rarity of ACS in speech might reduce the possibility to establish any strong correlations. Nevertheless, non-Chineseness of network is still shown to be the factor most strongly correlated with ACS in the spoken register, compared to other factors.

Between attitudes and non-Chineseness of network type, though attitudes are shown to be the most important factor affecting total CS use in section 7.1, non-Chineseness of network is more relevant across CS types even though it is not a significant factor to predict ICS. The paramount role of attitudes in affecting total CS might be due to the bigger proportion of ICS in the total occurrence of CS. More importantly, the role of attitudes is at play on the condition that there are resources in the repertoire to be retrieved when desired, be it ICS or ACS. Such stored resources, especially of practicing ACS, are more typically accumulated through interactive experiences in English-speaking networks.

Now I summarize the findings discussed above as follows: attitudes can intervene more freely in lower demand contexts (either lower cognitive demand or lower demand on linguistic and communicative competence); whereas in higher demand contexts (either higher cognitive demand or higher demand on linguistic or communicative competence), many such personal preference factors are inhibited and a need for sufficient acquisition of communicative competence through appropriate network exposure becomes necessary.

The proposed model which summarizes the findings is illustrated in Figure 7.1 below. In this figure, the horizontal axis represents the constraints on the influence of attitudes and encouragement of the influence of network type when practicing different types of CS in different registers. ICS (written) indicates the least demanding context in this study and ACS (spoken) the most demanding context. In Figure 7.1, it shows that ACS (written) is more demanding than ICS (spoken). However, this is not assuming that the mental demand of ACS (written) is necessarily higher than ICS (spoken). It only implies that the contexts where ACS (written) appears further inhibit the role of attitudes and call for a more English-oriented network type than the contexts where ICS (spoken) appears. The vertical axis on the left indicates the influence of attitudes and the one on the right the influence of ethnicity of network. Again, the direction of the arrows indicate the change from low to high.

When the demand on linguistic and communicative competence of practicing CS and cognitive demand of register increase, the influence of attitudes gradually gives way to that of the ethnicity of network type. The higher the demand is, the less influence there is from attitudes and the bigger the role played by network type is.

The model should not be interpreted as such that in lower demanding contexts, the use of CS is only influenced by attitudes and in higher demanding contexts, it is only network type that is at work to affect CS use. They are both relevant across a continuum where the demand to practice CS in different registers change from low to high. The relevance of ethnicity of network is confirmed by the results of analysis, even in less demanding contexts. Even though attitudes are shown to be a negligible factor to affect CS use in higher demanding contexts, this does not mean that it should be ruled out. Attitudes and ethnicity of network type interact in that when the network type becomes more non-Chinese oriented, the attitudes towards CS, English language/culture are likely to be more favorable (see Chapter 6). Therefore, it is shown that those participants who are frequent CS and ACS users are also those whose network type is

more English-oriented, and it is likely that these participants also have positive and more English-oriented attitudes. However, positive attitudes cannot directly predict ACS, of which the higher demand on linguistic and communicative competence is typically acquired through appropriate networks.
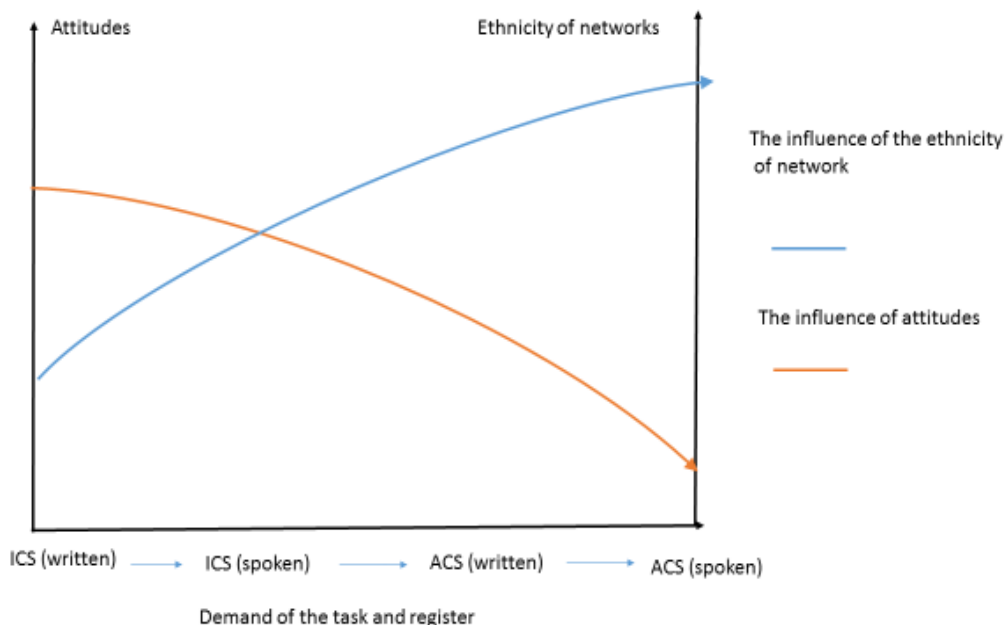
Figure7.1 The relationships between code-switching use and social variables

7.3.2 Insertional code-switching: Reconciling unmarked use and individual effects

In Chapter 5, I proposed that the use of ICS might have become unmarked among the participants. In this chapter, I show that ICS is under the influence of attitudes in that when the participants are more English-oriented, they display tendency to use more ICS across registers. On the surface, it seems that such findings are contradictory. If ICS use has become unmarked, why can it still be influenced by the participants' attitudinal orientation? I seek to answer this question in this subsection.

Recall the conditions based on which I made this proposal: the unmarked use of ICS is considered as an overall meaningful interaction mode to mark the membership of bilingual Chinese professionals living in the UK (or to extend it further, overseas bilingual Chinese). Since unmarked use of CS is simultaneously making salient the positively evaluated identities (Myers-Scotton, 1993b), claiming ICS has become an unmarked use is to a certain extent claiming that the participants overall evaluate their bilingual and bicultural identities positively, especially the English side of their identities as the use of CS in this study takes place among Chinese speakers. At the

same time, claiming ICS has become unmarked is claiming that the participants have overall positive attitudes towards use of ICS. Their positive evaluation of ICS is confirmed in their meta-linguistic comments when they described its use as natural and "energy-saving", and also in their general higher ratings of ICS in the questionnaire (see Chapter 6). In addition, ICS is a way of announcing the participants' group membership of bilingual/bicultural overseas Chinese as they explicitly refrain from giving positive feedback on the use of ICS by non-members.

With all these said, I am not implying that ICS use has become unconscious or it is the only way of speaking. I showed in Chapter 5 that the alternatives were observed and the participants were aware of their use of ICS and commented on such use. Therefore, although being unmarked, use of ICS is still a choice. In fact, Myers-Scotton (1993b) also used the word "choice" when describing how unmarked CS has come into being:

"The young men …are not satisfied with either the identity associated with speaking English alone or that associated with speaking Shona or Swahili alone…..Rather, they see the rewards in indexing both identities for themselves. They solve the problem of *making a choice* by evolving a pattern of switching between the two languages (p. 122) (the emphasis is mine).

Being a choice, CS is under the influence of many factors, both societal and individual. Among all the factors, individual attitudes can still play a role in affecting the differing degree of ICS use between speakers even though general positive attitudes towards ICS is a condition. Within the range of general positive attitudes, there is still variation of being neutrally positive and very positive. In addition, what is shown to predict ICS use is their English orientation. Positive attitudes towards CS and their English alignment are related but not the same. In fact, as shown in Chapter 6, positive attitudes are only one of four dimensions that constitute English orientation. The variation in other dimensions, such as English cultural alignment, could still affect the use of ICS. Therefore, it makes sense to witness the degree of this unmarked use increase when the participants' English orientation is higher.

In short, as I argued in Chapter 5, unmarked use of ICS is not the only option afforded to the participants in interactions but a choice made by the participants as a recognized way/style of speaking to embrace their bilingual identities.

7.3.3 Alternational code-switching: preferred style and covert positive evaluation

In Chapter 4, I showed that the participants used CS, either ICS or ACS, more frequently in the written register due to the lower cognitive load associated with the written register. However, this is based on an assumption that the participants have the desire to use ICS and ACS in order for the lower cognitive load of the written register to play a role. This desire can be reflected in their positive attitudes towards ICS and ACS. The results in section 7.1 confirm that their positive attitudes can indeed predict their use of CS. However, the results broken down by CS types in section 7.2 show that the predictive power of attitudes is limited to ICS. Therefore, this assumption is partly borne out when it comes to ICS. How do we explain the higher use of ACS in the written register when there is no overt link between attitudes and ACS? It might not be the case that the participants used more ACS in the written register simply because it is easier. What is the social meaning of ACS for these participants? I discuss this in this section from a more speculative perspective and explore the possibilities of reinforcement from some identity-related effects.

Let us first go back to how the participants commented on the use of ACS in the interviews. In Chapter 5, I quoted participant F3's comments on the use of ICS, however, her meta-linguistic comments on CS use did not stop there; she continued the topic and expanded it as follows:

> …但你要一直说一直说（英语），而且都是整句整句的，那就太奇怪了，显得你好像不会说好好说中国话了，肯定不可能是吧，那其实就是装。
>
> But if you just keep talking in English and insert whole English sentences, that would be then too weird, as if you cannot speak Chinese properly anymore. But we know that's not true. That is just showing off.

It seems that she has a clear distinction of what type of CS is acceptable and what is not. Prior to this piece of comment, she gave positive evaluation of ICS, emphasizing that it is natural and energy-saving. However, when it comes to insertion of whole English sentences, as in the case of ACS, her attitudes changed as she said it is an over-the-top act to the extent of showing off. Some other participants also made similar comments. One participant (M16) even described the use of ACS as not being "down-to-earth". He gave the following comments:

我会觉得特别不舒服，会感觉他是不是要跟我证明什么啊，显得他英语特别好？还是让我觉得他牛逼啊？反正我觉得不舒服，咱就不能踏踏实实的，好好说中文吗？

I would feel very uncomfortable and I would feel like he has something else to say. Is he trying to tell me that his English is good? Or is he trying to say he is awesome? I don't feel comfortable anyway. Would it not be nice to stick to Chinese and be down-to-earth?

"Something else" referred to by this participant implies a flagged piece of information by the use of ACS and can be understood as a marked way of speaking as in Myers-Scotton's (1993b) terms. This marked use of language not only brings about a change in the expected role relations among the conversation participants but also induces negative response from the interlocutor. Nevertheless, despite the negative response, the link between "something else" and good proficiency in English and "awesomeness" was hinted at.

From the above comments and the description from the participants, we can see that they generally prefer to speak Chinese as the main interactional language and feel comfortable with occasional use of English elements; but when the use of English becomes frequent and appears in full sentences, a negative evaluation is induced. What is interesting is that such negative evaluation does not hamper their use of ACS in the written register.

In the literature, covert prestige, as opposed to overt prestige, is often related to non-standard language varieties and indicates a mismatch between overt language evaluation and actual language usage. This is also reviewed in Chapter 2. The mismatch between usage and socially overt opinions are often found in linguistic features that are not evaluated positively by general and main society but are valued as marking membership of a particular group. The usage of such overtly and negatively assessed features is signaling bondage and solidarity with other members of the group. In Trudgill (1972), non-standard working class vernacular was valued by men as representing the qualities of being tough and rough. Therefore, despite the overt low socioeconomic values attached to it, its use was still embraced by working class men and they even over-reported their use of non-standard forms. Linguistic features as such have been reported to enjoy a "covert prestige". At the same time, overtly and positively evaluated language forms along socioeconomic status sometimes are avoided so as not

to take on excessive overt prestige, as usage of such forms is often described as "showing-off" and might be related to motivations to advance socioeconomically. This seems to signal a lack of covert prestige.

In the present study, there is also a mismatch between language attitudes and language use. ACS is overtly frowned upon by the participants because they consider it a showing off practice. The use of ACS undermines the solidarity between speakers and the expected "down-to-earth" qualities, as maintaining harmonious interpersonal relationships by self-effacement has long been a virtue in Chinese traditional culture (Bond, 1991; Bond, Leung & Wan, 1982). However, ACS is still widely used among the participants in their written register. Such mismatch was also reported in Gibbons (1987). CS was overtly disliked as "showing off" in the student speech community in Hong Kong, and speakers who practiced CS were considered as "ill-mannered", "proud", and "aggressive" (p. 120). However, despite the hostility towards CS, it was widely used among the students. The reason proposed is that CS covertly attracted status of English while avoiding breaking social rules of not speaking English among Chinese. Gibbons thus suggested that CS might enjoy a covert prestige in this community. At the same time, Gibbons also pointed out that CS functioned as a strategy of neutrality as well, by which the students put themselves in an intermediate position between totally westernized and totally Chinese.

It should be noted that covert prestige reported in Gibbons (1987) is slightly different from covert prestige in traditional sense. Covert prestige in his study seems to focus on the mismatch between usage and overt social opinion regardless of the contents of the social opinion. In a similar vein, the mismatch in the present study cannot fully fit into the traditional framework of covert prestige either. ACS, though still being non-standard form of language use, is evaluated low on solidarity for its showing-off quality. At the same time, the link between ACS and high socioeconomic status is only hinted at, but has not been overtly established. Thus, I refrain from using covert prestige to describe the evaluative response to ACS as covert prestige is traditionally related to non-standard language variety which is rated higher in terms of solidarity. I only suggest here that participants have somewhat positive evaluation towards ACS but this evaluation is covertly inferred. Nevertheless, the possibility to extend the coverage of covert prestige to include any case where there is a mismatch between overt language evaluation and language usage is demonstrated.

The attitudes factor in the multivariate analysis is a combined variable, generated

from four dimensions, "evaluation of CS", "English cultural alignment", "English for integrative purposes" and "English status". This generated factor is an overt evaluation of English language and English culture. Even though the overt evaluation of English in terms of status is related to covert positive evaluation of ACS as ACS borrows status from English, they are not exactly the same. At the same time, when the participants rated CS in the questionnaire, it is likely that they have rated it against their own practice of spoken ICS as the results show a general positive evaluation, which ties in well with their meta-linguistic comments of ICS in the interviews. As a result, this generated factor of attitudes might not be able to reflect the participants' covert evaluation of ACS and thus might not be able to predict ACS.

Despite the results which show that ACS cannot be predicted by attitudes measured in the questionnaire, it might still be influenced by the participants' covert evaluation of ACS, which relates ACS to higher English proficiency and higher socioeconomic status. Therefore, their increased use of ACS in the written register might also be a combination of both lower cognitive load and positive but covert evaluation of ACS.

To summarize, it seems that the two types of CS have different social meanings among the participants, i.e. ICS might have become an unmarked use of CS and indexes membership of a broadly defined Chinese-English bilingual/bicultural community in London whereas ACS enjoys a covert positive evaluation which links it to higher proficiency in English and higher socioeconomic status. ACS also emphasizes more personal bicultural experience and involvement. Therefore, both CS types across registers are influenced by attitudes; the difference is that ICS is affected by overt positive evaluation and ACS might be influenced by a covert positive evaluation.

In Chapter 1, I mentioned the instability in life of these participants between permanent settlement and returning back to China and raised the question of how such instability would be reflected in their language use. The division between the two types of CS in terms of social meanings to some extent reflects how they manoeuvre between the two cultures. On the one hand, they embrace their overseas experience and the culture diversity they are experiencing; on the other hand, they still hold on to some traditional Chinese cultural values. They do not see themselves as completely westernized; at the same time, they are different from traditional Chinese in the resources they command, culturally and linguistically. They are neutral in between (Gibbons, 1987) and also comprise both. Linguistically, they have been "carving out a space" (Qing Zhang, 2005) where they fit themselves in. To a large extent, they are

similar to the Beijing yuppies in Qing Zhang (2005) who have been carving out a new space which "is IN and OF Beijing but not limited to Beijing" by using a new language variety. For the current participants, they are also carving out a space where they ARE Chinese, but not limited to Chinese; which is IN London, but crosses the boundaries of London. Their use of CS, and the meanings they attribute to the degree and types of CS use, along with other practices of life, are constructing an identity of overseas Chinese professionals.

7.3.4   Non-significant factors

Except for English orientation and non-Chineseness of network type, all other factors are shown to be non-significant. In this subsection, I seek to explain why these factors (i.e. proficiency, openness of network type and gender) do not predict CS use in the present study.

As reviewed in Chapter 2, proficiency has been considered as a very relevant role affecting patterns of CS use in the literature (e.g. Muysken, 2000; Singh & Backus, 2000). However, such close relevance of proficiency is not supported by the findings presented in this chapter. This is not to imply that the findings contradict previous studies. As shown in Chapter 6, variation in the participants' proficiency is not as great as in other factors and many participants cluster at the higher end of proficiency level. This lack of enough variation among the participants in their English proficiency might account for why no significant relations were established between proficiency and CS. Nevertheless, the role of proficiency is still indirectly hinted at through the importance of non-Chineseness of network type. In Chapter 6, I showed how proficiency and non-Chineseness of network interacted with each other. When a participant's networks became more non-Chinese proportioned, their proficiency in English tended to be higher. This is understandable as interactive experiences in English-speaking networks increase the chances of using English in more non-textbook contexts and of perfecting competence, especially communicative competence in English. Therefore, even though the results of statistical analysis did not link proficiency to CS to any significant level, its relevance, especially the relevance of proficiency in communication is acknowledged through non-Chineseness of network. At the same time, the close relationship between proficiency and non-Chineseness of network type indicates the definition of proficiency should be extended beyond the knowledge of how to speak a language. The ability of using a language in various social contexts, or a usage-based definition of proficiency (Backus, 2015) needs to be considered.

The distinction made between open and closed network ties in this study in essence reflects the differences between proportions of weak and strong ties (Milroy and Milroy, 1985). A bigger proportion of weak ties in a speaker's networks indicates a more open type of network. Weak ties in networks have been proposed to be an important indicator of linguistic change and variation, and also the main means to spread and exchange innovative linguistic features (Milroy & Milroy, 1985; Milroy, 1987). Thus, it is reasonable to expect that openness of networks might also be closely related to the frequency of CS use as speakers who are traveling across boundaries are exposed to more various types of speaking, including use of CS. At the same time, the presence of many weak ties in their networks might loosen the following of community speech norms. As a result, the chance of using CS might be bigger for these speakers with more open networks.

In this study, however, openness of network has no significant and strong correlation with CS use at all, either in speech or in writing. This means that speakers who are confined in a very small circle of interactants have an equal chance of taking on CS compared to speakers who are more aware of linguistic varieties among different speech communities. One possible explanation for such results is that CS could be generated within the community. It is not a linguistic feature which is initiated by a certain group of people and then spreads out through weak ties as suggested by Milroy and Milroy (1985). It is possible that two speech communities which differ in every aspect and have very little contact with each other both witness CS use among their community members even though the type and the extent of its use might vary. This is more likely when the two (or more) languages involved in the practice of CS are present in the speech repertoire of the community and are available to daily use among speakers. Thus, rather than focusing on how open a speaker's network type is, what is more relevant is whether a speaker has enough contacts with the two languages. In this sense, the dimension of ethnicity of network type plays a more important role in a community like the Chinese community under investigation. Indeed, however open a speaker's network type is, lack of English-speaking ties and less exposure to English-speaking environment decrease the likelihood of adopting English in Chinese discourse.

As for gender, its non-significance in influencing CS as shown in the results of multivariate analysis in this chapter, is not unexpected. CS did not show a significant gendered pattern, even though women used slightly more CS than men did (see Chapter 4). This foreshadows the findings here that the differences in CS among the participants

are less likely to be predicted by whether a participant is a man or a woman. Different language use displayed by different people of different genders is not simply generated by the virtue of being men or women. More importantly, it is the different social roles of men and women and their different social activities that give rise to the differences in language use. When more social factors are examined, gender might only appear to be relevant. For example, in Sharma (2011), the differences in standardness in speech was not a consequence of being men or women; instead, women happened to be participating more in "multiple community membership" (p. 486) and it is the differences in the diversity of their networks which were more linked to the variation in their repertoire. What seemed to be gender-based was in fact gender-linked. This present study supports this claim by showing that women use slightly more CS not simply because they are women. Compared to men, they have more English-speaking social contacts and the results in this chapter indeed support that it is non-Chineseness of network, coupled with positive attitudes, that is closely related to the more frequent occurrence of CS.

7.4   Summary

In this chapter, the relationships between the use of CS and the social factors were approached from a quantitative perspective. Overall, the frequency of CS use was significantly correlated with the participants' language attitudes and ethnicity of their network type. More positive and English-oriented attitudes and more English-speaking ties would predict more use of CS. These findings intuitively fit our expectations and tie in well with previous studies of how attitudes might check the frequency of CS (e.g. Poplack, 1980; Toribio, 2002) and of how different language choices and CS in particular vary along with different network types (e.g. Li Wei et al, 2000). The role of proficiency, which is shown to be relevant in previous studies (e.g. Backus, 2003; Poplack, 1980; Zentella, 1990), is confirmed through the importance of ethnicity of network even though the variable itself was not indicated as a significant factor in the multivariate analysis.

In addition, several new findings have been revealed in this chapter. First, I showed that among the factors under investigation, it was attitudes (English orientation) and non-Chineseness of network type that outweighed other variables to predict the total use of CS. Between the two factors, the influence of attitudes was paramount but network was also very important and relevant. I argued that the reason for the importance of

networks is that the alignment with a specific speech community and the subjective inclination to take on speech features of that community is made possible by the access to the community and the contact with and use of the language.

Second, different types of CS were related to different social factors. Attitudes were proven to better predict ICS; whereas ACS, which requires a higher level competence, was correlated with non-Chineseness of network type. A detailed examination revealed that it is the cognitive demand of practicing different types of CS in different registers that constrains the influence of social factors. A model was thus proposed to account for the relationships between social and register factors and CS use. This model suggests that attitudes operate more freely in low demand contexts and ethnicity of network through which communicative competence in English is typically acquired can better predict CS use in higher demanding contexts.

Finally, the mismatch between overt negative evaluation of ACS on solidarity and general use of ACS in the written register was found. I suggest that ACS might enjoy a covert positive evaluation which is linked to higher proficiency in English and higher socioeconomic status.

Chapter 8

Conclusion

In this chapter, I draw together the findings from previous chapters to summarize what has been achieved in this thesis and what contributions are made to the field of CS and sociolinguistics more generally. I also address some of the limitations of this study and some possible directions for future research in this chapter.

8.1 Summary of results

Over the past few decades, the study of CS has emerged in tandem with sociolinguistic study of language change and variation. One of the primary concerns in the research of CS is in what socially meaningful ways two or more languages are drawn on and combined in daily interactions. The intersecting importance of a host of social, cultural and situational variables has been increasingly recognized, such as social networks, language attitudes, language proficiency and gender (e.g. Gardner-Chloros, 2009a; Li Wei et al., 2000; Muysken, 2000; Poplack, 1980; Toribio, 2002). In the pursuit of explaining patterns of variation in CS through broad correlations with social variables, it has become increasingly important to understand the relationships among the social and cultural variables and the specifics of the correlations. Meanwhile, the emergence of new CMC technologies and the prevalence of CS in online environments have inspired researchers to compare social meanings, functions and specific styles of CS across different registers and different interaction modes (e.g. Androutsopoulos, 2013; Hinrichs, 2006; Paolillo, 2001).

The present thesis followed this research trajectory, analyzing and comparing spoken and written CS (use of English in Chinese discourse) among a speaker sample of Chinese-English bilingual professionals based in London. By combining both quantitative and qualitative analyses, I revealed different use of CS in spoken and written register and made several claims of relevance to studies of social influences on and social meanings of CS.

The analyses of CS use across registers and the relationships between CS and social factors were carried out at two stages. At the first stage of analyses (Chapters 4 and 5), I analyzed how frequently, in what forms (alternational CS or ACS vs.

insertional CS or ICS), and for what discourse functions the participants used CS in spoken conversations and in their posts on social media from both quantitative and qualitative perspectives and demonstrated the differences between registers in terms of CS use. The results of analyses showed that register strongly affected both the amount and the type of CS used. First, the participants used CS and both types of CS more frequently with statistical significance in their online posts. Second, their CS in the written register showed a more balanced use of ACS and ICS whereas CS in the spoken register mainly consisted of ICS. Third, the participants' use of CS in the written register, in particular ACS, was more complex in structure, for example, consisting of complex and compound independent clauses. The model proposed later aims to account for these initial findings.

In the second stage of analyses (Chapters 6 and 7), social factors were first tested for independence: they showed moderate correlation, with ethnicity (non-Chineseness) of network being at the center of a dynamic matrix. Their influences on CS were assessed through multivariate analysis. Attitudes and ethnicity of network were the two strongest predictors of overall frequency of CS, with attitudes emerging as the strongest factor. However, when results were broken down by different types of CS, it was revealed that ACS was better predicted by ethnicity of network, and ICS by attitudes.

To account for these patterns, a model was proposed in which the complexity and frequency of CS is inversely correlated with cognitive load demanded by register, at least within informal registers used by L2 English speakers. For instance, synchronous or otherwise cognitively demanding registers are likely to lead to less complex or less frequently alternating CS which requires a lower linguistic and communicative competence. In terms of social factors, as the demand on linguistic and communicative competence of practicing CS or cognitive demand of register increases, the influence of attitudes gradually gives way to that of ethnicity of network type. This is because attitudes can intervene more freely in low demand contexts; in high demand contexts, many such personal preference factors are inhibited and a need for sufficient acquisition of communicative competence through appropriate network exposure becomes necessary. The model thus accounts simultaneously for register and social differences found in the data.

The two stages of analyses also revealed different social meanings of different types of CS. I proposed that ICS might have become an unmarked way of CS use among the participants in that individual cases of ICS have less interactional meanings

and it is the overall mode of ICS use, which has become a recognized way/style of speaking, that marks the participants' positive evaluation of their bilingual and bicultural identities and their membership of bilingual overseas Chinese. On the other hand, ACS is linked to good proficiency in English and higher socioeconomic status. However, such positive evaluation is not overtly spoken of. Given the social norm of opposing spoken English use in Chinese (in the current case, this norm has been alternated as opposing long stretches of spoken English use) and the virtue of maintaining harmonious interpersonal relationship by self-effacement in traditional Chinese culture, ACS was overtly evaluated as "showing-off" and not "down-to-earth".

In sum, the findings of the thesis accounted for inter- and intra-speaker variation in CS among a group of first generation Chinese-English bilingual professionals and how their complex social backgrounds give rise to different patterns of CS. The methodology and the findings in this study allow research on CS to incorporate the intersecting social, situational and cultural variables for a more comprehensive understanding of social significance of CS.

8.2 Contributions of the findings

The findings of this thesis have several theoretical contributions. First, this study is unusual in that I examined the social influence of CS across two registers based on same individuals. With the rapid emergence of social media, some recent studies also extend their interest to CS in online register (e.g. Androutsopoulos, 2013; Hinrichs, 2006; Paolillo, 2001). However, to my best knowledge, this thesis is one of the first attempts that examine and compare the use of CS across different registers based on same individuals. Such comparison not only reveals register-specific features of CS, but also highlights the interaction between social and cognitive constraints on linguistic practice. Past literature that discusses the relationship between cognition and code-switching usually focuses on the mental representation and activation process of linguistic features in the brain (for example, Kutas, Moreno, & Wicha, 2009; Myers-Scotton & Jake, 2001). In addition, such cognitive consideration is usually taken to the neglect of social factors. However, code-switching and linguistic practices at large are constrained by both what is going on in the mind and what is going on in the society. Cognitive capacity and social reality are also subject to dynamic mutual influences. By linking social motivation of code-switching to mental demand of practicing code-switching, this thesis makes an contribution to a more holistic view on language variation and opens up

a new perspective to view the mind-society duality that is not only basic to code-switching, but also to language in general (Backus, 2014).

Second, this thesis approaches the social significance of CS by combining several social variables (network, attitudes and proficiency), all of which have been consistently shown of close relevance. Over the past few decades, studies on social meanings of code-switching have acknowledged the importance of the individual contribution of a host of social factors (e.g. Gardner-Chloros, 2009a; Li Wei et al., 2000; Muysken, 2000; Poplack, 1980; Toribio, 2002). However, in the pursuit of explaining patterns of variation in CS through broad correlations with social variables, it has become increasingly important to understand the relationships among the social and cultural variables and how such relationships shape the production of code-switching jointly. As shown in Chapter 6, social factors are interacting with each other in a dynamic way and any change in one variable might lead to a corresponding change in another. When examined individually, what is predicted by one factor could be due to the close relationship between this variable and another factor which has a stronger influence on the linguistic practice under investigation. The inclusion of another factor might change the results or provide a new perspective to analyze the relationship, either of which would be a valuable addition to our understanding of CS. In this regard, the findings of this thesis make an important contribution. The findings of this thesis confirm some of the claims on CS from previous studies, for example, the relevance of attitudes and ethnicity of network type, and have revealed a more dynamic relationship between CS use and social factors. The lack of a clear effect of proficiency does not place the findings of this study into contradiction with previous studies; instead, the relevance of proficiency is confirmed in this study through the important role of ethnicity of network type, which implies the importance of communicative competence.

Third, I re-examined unmarked use of CS and demonstrated how unmarked use of CS can still be influenced by individual factors. When Myers-Scotton (1993b) proposed the theory of markedness, she acknowledged that the performance in unmarked CS can vary across communities, across individual speakers within the same community and even across communication settings. She also suggested some potential influential factors, such as relative proficiency. However, she did not pursue this topic further and to the best of my knowledge, how unmarked CS can be constrained is also very rare in the literature. In this respect, I contributed new evidence to further extend the theory of markedness by adding how CS is still subject to the influence of individual factors when

it has become unmarked.

Finally, the discussion of social influences on, and social meanings of different types of CS links CS to more general and broader topics in sociolinguistics, and has more general implications to the field of sociolinguistics. One of such implications concerns the diffusion and spread of linguistic innovations. It is not a coincidence that ICS echoes "off-the-shelf" (Eckert, 2003; Milroy, 2007) linguistic variables and ACS "under the counter" (Milroy, 2007) variables in terms of the conditions for them to diffuse and spread. The dynamic relationship between cognitive and social constraints accounting for different types of CS could provide some insight into the reason(s) why some variables are easily picked up and diffused across a broader socio-cultural and geographical domain, and why some others are less prone to be so. Another implication concerns the traditional overt versus covert prestige framework. Not every linguistic variety enjoys an either covert or overt prestige in the traditional sense. Some are rated low on solidarity but their overt prestige has not been established yet, as in the case of ACS in the present thesis. How to define the evaluative response to such linguistic features challenges the traditional opposition between overt and covert prestige and raises some theoretically interesting questions; for example, could we extend the coverage of covert prestige to include any cases where there is a mismatch between overt linguistic evaluation and actual linguistic usage regardless of how the linguistic variety is overtly evaluated?

8.3 Future directions

Limited by time and space, the scope of this thesis is not able to present all the outstanding issues found in the data. A number of questions still remain. First, even though I delimited the speaker sample by restricting their age, length of residence and original dialect, there is still considerable heterogeneity among the participants. The diverse settlement type and socioeconomic status of the participants make it difficult to confine them in a single community in traditional sense. Such high level of heterogeneity, on the one hand, provides enough variation in social variables of interest, such as network types and attitudes, on the other hand, might cause variation in some other variables that are hard to control. For example, in the analysis of data, I showed that there is one particular participant (F2) whose use of CS was exceptionally more frequent than all other participants. Furthermore, the types of switched elements and the complexity of switched clauses attested in all other participants have been observed in

this single speaker. At the same time, she did not show particularly different orientation in terms of language attitudes and network types. It would be an interesting case to find out what other variables have caused the exceptional use. However, given the limited time and the size of the speaker sample, I was not able to conduct participant observation with this speaker and some of her close contacts. Nevertheless, this speaker obviously merits further examination of her language use. She might demonstrate an intermediate stage where a shift in language preferences is taking place. A case study on her and a shift in focus from quantitative to qualitative analysis might shed light on how language maintenance and shift happen within the same generation.

The participants' attitudes were elicited in the form of a questionnaire in this thesis. As mentioned in Chapter 3, the role of questionnaire in eliciting attitudes is limited, especially in eliciting participants' private attitudes. Some indirect approaches, such as matched guise experiment (Lambert, 1967), verbal guise experiment (e.g. Huygens & Vaughan, 1983, cited in Garrett, 2010) and newly proposed open guise design (Soukup, 2012), have been developed to elicit more private attitudes when participants are not aware of the focus of the experiment. Thus, an interesting line of inquiry would be to study participants' attitudes in the form of guised experiment and to compare their implicit and explicit attitudes. Such comparison could further reveal social meanings of CS. In addition, presenting speech samples of different types and degrees of CS could elicit a more nuanced judgment on the appropriateness of CS (Chana & Romaine, 1984).

I examined the use of CS across two registers in this study and the participants showed diverging tendency and style of using CS in almost every aspect. These two registers only represent two broadly differentiated registers. It is obvious that there are considerably more registers a single speaker encounters in day to day interactions. Numerous studies in the current trend of studying CS are based on only one register. However, as monolingual speakers have different styles in different contexts conversing with different interlocutors (Bell, 1997; Wolfram & Schilling-Estes, 1998), it cannot be assumed that bilingual speakers' style of using CS stays the same across registers. Had I not examined the use of CS across two registers, I would not have been able to reveal how social and cognitive constraints interact to affect speakers' use of CS. As speakers are provided with different opportunities in different registers, these different opportunities would display their range of CS and social motivations of CS to a fuller extent. Therefore, taking into consideration more registers (such as multiple-party

conversations and more synchronous digital written registers) in future research would further a comprehensive understanding of CS.

I have only reviewed a few questions arising from exploring new perspectives of examining social significance of CS. My hope is that this thesis can raise more questions than it answers and point to rich possibilities that can further advance the study of CS.

Appendix A

A map of geographical distribution of Chinese dialects
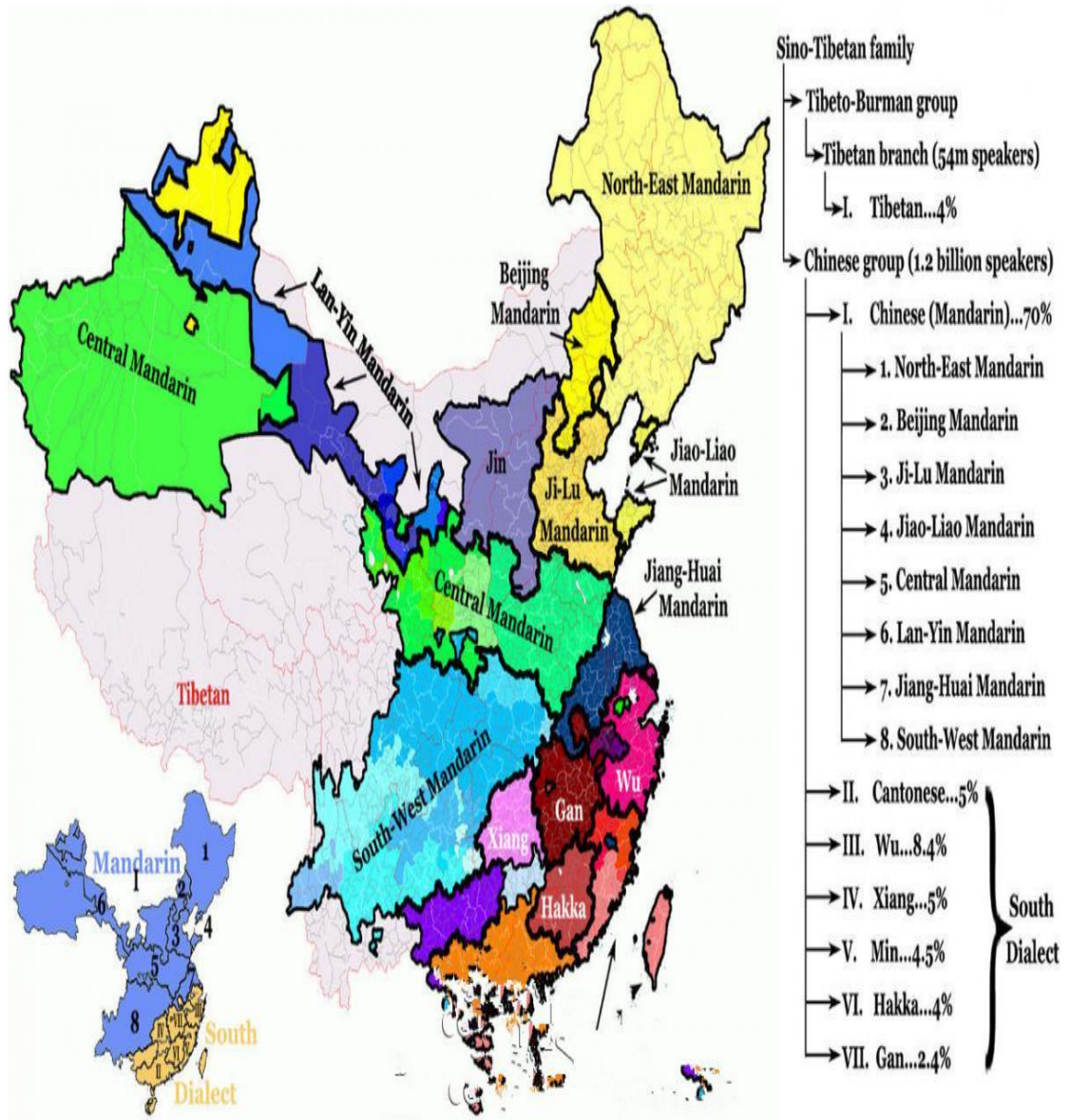
Appendix B

Participants' demographic information

Participants	Age	L.O.R.[1] (years)	Occupation
Participant M1	28	7	Data analyst in a bank
Participant M2	25	8	Self-employed (designing and selling cycling clothes)
Participant M3	33	12	Tour guide for Chinese tourists
Participant M4	26	4.5	Data analyst in a bank
Participant M5	25	5	Chef in a Chinese restaurant
Participant M6	26	10	Works in a financial company
Participant M7	37	11	Self-employed (restaurant)
Participant M8	29	6	Consultant in a business consultancy company
Participant M9	26	10	Self-employed (electronic products repair)
Participant M10	25	3	Data analyst in a publishing house
Participant M11	31	5.5	Researcher in a university
Participant M12	36	8	Self-employed (import and export)
Participant M13	32	9.5	Accountant in a factory
Participant M14	26	6.5	Self-employed (barber shop)
Participant M15	30	7	Researcher in a university
Participant M16	30	12	Self-employed (petrol-related products)
Participant M17	28	10	Engineer in a transport company
Participant M18	29	11	Software analyst in a bank
Participant M19	31	4.5	Manager in a Chinese restaurant
Participant M20	30	5	Waiter in a Chinese restaurant
M21[2]	32	7	Researcher in a university
M22	29	6	Tour guide for Chinese tourists
Participant F1	34	5	Self-employed (selling jewelry)
Participant F2	28	10	Lawyer
Participant F3	29	6.5	Works in a translation company
Participant F4	33	12	Self-employed (as a purchasing agent)
Participant F5	30	11	Accountant in a (non-Chinese) restaurant

Participant F6	28	5	Market analyst in a media company
Participant F7	29	4	Works in a real estate agency
Participant F8	30	11	Receptionist in a Chinese medicine store
Participant F9	32	3.5	Manicurist in a Chinese nails' shop
Participant F10	34	11	Recruitment officer in a university
Participant F11	25	3.5	Sales assistant in a clothes shop
Participant F12	30	6	Works in a car company
Participant F13	28	4	Financial analyst in a bank
Participant F14	30	9	Doctor in a hospital
Participant F15	25	9.5	Works in a design company
Participant F16	28	10	Consultant in a financial company
Participant F17	27	10	Works in a bank
Participant F18	25	5	Receptionist in a Chinese restaurant
Participant F19	26	3	Cosmetics sales assistant in a department store
Participant F20	26	10	Works in a questionnaire design company
F21	28	9	Sales assistant in a cosmetics shop
Note: 1. L.O.R.= Length of residence			
2. Rows highlighted in grey indicate that the speakers were not participants.			

Appendix C

The list of interview questions

Please note that not all questions were discussed with all participants. The portion of interview devoted to each topic varies and sometimes participants themselves would introduce some other topics as well.

Personal Background:

1. Where were you born? And where did you grow up?
2. How is your hometown like? Can you briefly describe it?
3. Where else did you live? For how long? Why did you go there?
4. Are you married? (Do you have boyfriend or girlfriend?) Is your husband/wife/boyfriend/girlfriend Chinese/ Chinese-speaking?

Family:

1. Do you have any another family member living here with you?
2. Do you have any siblings? Are they here or in China?
3. How often do you visit home? How often do you talk to them?
4. Is there any one in your family (immediate and extended) who is not Chinese-speaking?
5. How do you describe your family? More traditional or more modern? In what way?

Education and Language learning:

1. Where did you go to college?
2. Did you go to any school here in the UK?
3. Did you learn Mandarin at school?
4. When did you start to learn English? How did you learn it? Do you enjoy learning it? Why?
5. Do you think it's important to speak good English? Why?
6. What kind of education do you want for your children? What about language learning?

Work/Daily life:

1. What do you do? Can you describe your work briefly and your responsibility at work?

2. Have you had other jobs? What were they?

3. Did you have a job before coming here in China?

4. What's your average day like? Can you describe it?

Friends:

1. Do you have many friends here in the UK? Are they newly made friends?

2. Are most of your friends Chinese, British or of other ethnicity?

3. What do you and your friends usually do?

Hobby and Interest:

1. What do you usually do for fun?

2. What do you usually do on weekend and after work?

3. Do you attend any group activity? Can you describe one in terms of its members, nature, and location, etc.?

Culture:

1. What do you like about here in the UK?

2. What is the favorite thing about living here? Things you don't like?

3. For you, what is British culture? What do you think of it?

4. If you were offered a same position with even more salary in China, would you go back?

5. Do you go back home during Spring Festival? Why or why not?

6. Given a choice, would you like your children to grow up here or in China? Why?

7. Is Chinese culture here different to Chinese culture in China? In what way?

Relocation:

1. What made you decide to come to the UK and London? How did you go about it?

2. What makes you stay here for now?

3. Do you go back to China? How often?

4. Do you feel more at home here or in China?

5. Do you plan to stay here in the future or go back some day? Why?

Appendix D

An overview of quantified frequency and pattern of CS in spoken and written registers

Participant	T.[1] CS	T. ACS	T. ICS	CS in S.[2]	CS in W.[3]	ACS in S.	ACS in W.	ICS in S.	ICS in W.
Participant M1	/	/	/	8.37[4]	/	0.00	/	8.37	/
Participant M2	/	/	/	.000	/	0.00	/	0.00	/
Participant M3	0.57	0.00	0.57	0.45	1.28	0.00	0.00	0.45	1.28
Participant M4	6.36	0.00	6.36	6.76	4.40	0.00	0.00	6.76	4.40
Participant M5	2.14	0.00	2.14	2.23	1.52	0.00	0.00	2.23	1.52
Participant M6	16.96	11.00	10.14	8.22	49.47	1.24	46.27	7.43	25.00
Participant M7	6.17	0.25	5.96	3.17	13.00	0.00	0.76	3.17	12.36
Participant M8	1.14	0.24	0.93	1.10	1.33	0.00	1.43	1.10	0.00
Participant M9	1.31	0.00	1.31	1.43	0.00	0.00	0.00	1.43	0.00
Participant M10	5.42	0.66	4.89	3.83	11.72	0.00	3.10	3.83	9.22
Participant M11	7.74	3.45	4.79	2.20	20.08	0.00	11.71	2.20	11.66
Participant M12	12.27	0.51	11.86	11.82	15.96	0.42	1.49	11.47	15.05
Participant M13	2.68	0.13	2.58	1.45	6.83	0.00	0.51	1.45	6.37
Participant M14	1.55	0.00	1.55	1.99	0	0.00	0	1.99	0.00
Participant M15	/	/	/	2.78	/	0.00	/	2.78	/
Participant M16	2.50	0.21	2.33	3.05	8.70	0.25	8.70	2.84	0.00
Participant M17	9.85	0.00	9.85	10.54	5.56	0.00	0.00	10.54	5.56
Participant M18	5.83	1.37	4.72	3.39	15.69	0.00	8.70	3.39	10.42
Participant M19	0.72	0.42	0.36	0.21	3.95	0.00	3.85	0.21	1.35
Participant M20	0.59	0.17	0.44	0.35	1.96	0.00	1.16	0.35	0.99
Participant F1	3.88	0.28	3.64	2.36	8.33	0.00	1.14	2.36	7.43
Participant F2	36.00	12.12	29.55	32.68	44.81	3.86	32.16	30.71	26.11
Participant F3	3.77	0.00	3.77	4.16	2.24	0.00	0.00	4.16	2.24
Participant F4	2.93	0.00	2.93	3.53	1.53	0.00	0.00	3.53	1.53
Participant F5	9.54	4.39	5.82	5.43	18.05	0.00	13.62	5.43	6.73
Participant F6	4.37	0.77	3.71	3.25	7.87	0.00	3.23	3.25	5.20
Participant F7	5.53	0.92	4.73	3.77	12.5	0.00	4.46	3.77	8.70

Participant M8	3.79	1.35	2.63	2.16	8.40	0.00	5.36	2.16	4.00
Participant F9	1.53	0.00	1.53	0.96	5.38	0.00	0.00	0.96	5.38
Participant F10	4.08	0.44	3.68	3.52	6.83	0.00	2.67	3.52	4.43
Participant M11	1.10	0.11	0.99	0.64	3.91	0.00	0.88	0.64	2.36
Participant F12	3.02	0.28	2.77	2.63	5.45	0.16	1.01	2.49	4.59
Participant F13	5.80	1.69	4.38	3.77	17.36	0.00	10.53	3.77	8.26
Participant F14	14.73	5.84	9.94	8.28	44.96	0.36	33.33	7.97	22.83
Participant F15	7.33	2.91	4.88	3.93	27.77	0.26	21.05	3.70	13.33
Participant F16	8.89	1.28	7.83	7.01	12.81	0.00	3.89	7.01	9.59
Participant F17	6.00	3.09	3.22	3.27	12.9	0.00	11.06	3.27	3.08
Participant F18	1.93	0.37	1.59	1.98	1.72	0.15	1.31	1.84	0.58
Participant F19	2.94	0.13	2.83	1.63	5.93	0.00	0.38	1.63	5.58
Participant F20	5.37	0.45	5.00	5.78	2.83	0.34	1.25	5.50	1.90

Note: 1. T.=Total
    2. S.=spoken register
    3. W.=written register
    4. All the numbers are in percentage.

Appendix E

Questionnaire on language, network and culture

Basic information:

1. Name: 2. Age: 3. Occupation, if any:

4. Gender: 5. Place of Birth: 6. How long in the UK:

English Use:

1. How long did you study English as a subject in school?

    _____

    _

2. Were you exposed to English any other way?

    No ( )

    Yes, please specify: _____

3. Rate your language ability in English from 1 (minimal ability) to 7 (native-like ability):

	1(minimal ability) → 7(native-like ability)
Your ability to understand English	
Your ability to read English	
Your ability to speak English	
Your ability to write English	

4. How much English do you think you use in your daily life?

    80%-70% ( )   60%-50% ( )   40%-30% ( )

    20%-10% ( )   less than 10% ( )

    I barely use English in my daily life (   )

    Other, please specify: _____

5. Please indicate what language you use in the following situations:

    Code: C=Chinese; E=English;

    C>E=mostly Chinese, sometimes English; E>C=Mostly English, sometimes Chinese;

    CE=roughly equal amount of Chinese and English

What language do you use with:	Language	Comments
Your parents, grandparents or their generation		
With your spouse /partners, if any		
With your kids or future kids		
With your sisters, brothers, and cousins, if any		
With your closest friends		
With work colleagues, if any		
Thinking to yourself		
Counting		
Swearing, if you do		
Texting and email, when the person you are writing to is bilingual		
Writing your diary or blog, if any		
Chatting with friends on web		
Posting-up what's new on your social network page, if you use any		

Family and Friends:

1. Do you have family members (immediate family plus extended family members) living in the UK?

   Yes ( )   No ( )

   If yes,

   A. Can you specify your relationship to him/her/them?

   _____

   B. Please list any family member you live with.

   _____

   C. How often do you talk to UK family that you don't live with?

   Once for several months ( )   Once a month ( )

   Once a week ( )   On a daily basis ( )

   Other, please specify: _____

2. How often do you talk to your family back in China over phone or other communication means?

Once for several months ( )   Once a month ( )

Once a week ( )   On a daily basis ( )

Other, please specify: _____ _____

3. How often do you visit your family in China?

Once for a year ( )   Twice a year ( )   More than twice a year ( )

Other, please specify: _____ _____

4. On average, how long do you visit?

A week ( )   Two weeks ( )   A month ( )   More than a month ( )

Other, please specify: _____ ____

5. Are you married?

A. Yes ( )   B. No, but I have a boyfriend/girlfriend here. ( )

C. No, but I have a boyfriend/ girlfriend back in China. ( )

D. No, I am single. ( )

6. Are all of your family members Chinese? (Including immediate family members like parents, children, spouses, brothers, sisters and extended family members like aunts, uncles, and cousins, etc.)

Yes ( )   No ( )

If no,

A.   Can you specify your relationship to the non-Chinese member(s)?

_____ __

B. How often do you talk to non-Chinese family members?

Once for several months ( )   Once a month ( )

Once a week ( )   On a daily basis ( )

Other, please specify: _____

7. How many of your friends here in the UK are Chinese or Chinese-speaking?

All ( )   Almost all ( )   Most ( )

Almost half ( )   Less than half ( )   Almost none ( )

8. How often do you hang out with them?

Once for a month ( )   Once for a week ( )   On a daily basis ( )

Other, please specify: _____ __ ____ _____

9. Do you have non-Chinese friends (aside from work or business related friends) here in the UK?

No ( ) Yes ( )

If yes,

A. Do you talk to each other in English?

No ( )   Yes ( )

B. How often do you hang out with them?

Once for month ( )   Once for a week ( )   On a daily basis ( ).

Other, please specify: _____

Home and Work

1. Do you live with roommates?

Yes ( )   No ( )

If yes,

A. Are all of your roommates Chinese?

Yes ( )

No, they are from different countries and we talk to each other in English. ( )

No, they are mostly British and we talk to each other in English.   ( )

B. Are you good friends with your roommates and do you hang out a lot?

Yes ( )   No ( )

2. Are most of your colleagues English-speaking?

Yes ( ) No ( )

3. Does your work involve a lot of verbal communication with your colleagues?

Yes ( ) No ( )

If yes,

A. What language do you use?

English ( )   Chinese ( )

Mainly English, sometimes Chinese ( )

Equally English and Chinese   ( )

Mainly Chinese, sometimes English ( )

4. Do you hang out with colleagues often after work?

Yes ( )   No ( )

5. If your work provides service or goods, are most of your clients English-speaking?

Yes ( )   No ( )   Not applicable ( )

6. Does your work involve a lot of verbal communication with your clients?

Yes ( ) No ( )   Not applicable ( )

If yes,

A. What language do you use?

English ( )　　　　　　　　Chinese ( )

Mainly English, sometimes Chinese ( )

Equally English and Chinese　　　( )

Mainly Chinese, sometimes English ( )

7. Does your work involve the need to constantly deal with new people and travel?

Yes ( )　No ( )

8. Whom do you think you spend more time with, either on the phone or in person?

Family members ( )　　　Good Friends ( )　　　Colleagues ( )

Only Work or business related colleagues ( )

People for whom my work is providing service or goods ( )

Spouses/partners ( )　　　　　　　Myself ( )

Other, please specify:

9. Please list 5 people you have the most regular interactions with in your daily life:

Descending Order of closeness	Relationship	His/her Age	His/her Time in the UK	How long have you known each other?	In what contexts do you interact?	What language do you speak with him/her?
1	Friend ( ) Family ( ) Colleague ( ) Partner ( )				Work( ) Home( ) Leisure( ) All ( )	Chinese ( ) English ( ) Both ( )
2	Friend ( ) Family ( ) Colleague ( ) Partner ( )				Work( ) Home( ) Leisure( ) All ( )	Chinese ( ) English ( ) Both ( )
3	Friend ( ) Family ( ) Colleague ( ) Partner ( )				Work( ) Home( ) Leisure( ) All ( )	Chinese ( ) English ( ) Both ( )
4	Friend ( ) Family ( ) Colleague ( ) Partner ( )				Work( ) Home( ) Leisure( ) All ( )	Chinese ( ) English ( ) Both ( )
5	Friend ( ) Family ( ) Colleague ( ) Partner ( )				Work( ) Home( ) Leisure( ) All ( )	Chinese ( ) English ( ) Both ( )

10. Do you have regular as much interaction with more than these 5 people?

Yes (   )   No (   )

Interests:

1. What do you usually do in your leisure time?

    _____

2. Do you regularly attend any local group activities? (E.g. volunteering, clubs, gym, etc.)

    If yes,

    A. Are they conducted

    In English (   )   in Chinese (   )   in both (   )

    Not applicable, because verbal communication is not involved (   )

    B. Why do you want to take part in these activities?

    _____

3. What TV programs you watch most? Can you list a few?

    _____

4. Do you read newspaper or read news online? Yes (   )   No (   )

    If yes, in Chinese (   ), in English (   ), in both (   )

5. Which one of the following social network you use most?

    Renren (   )   Facebook (   )   Weibo (   )   QQ Zone(   )   Wexin (   )   None(   )

    Other, please specify: _____

Language Use:

Please rate how much you agree or disagree with the following statements.

1. I think speaking English can help me get a good job.

    Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

2. If I speak good English, people will consider me more intelligent and higher educated.

    Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

3. I think English is an elegant language.

    Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

4. I think English is important to increase a country's global influence.

    Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

5. Which one of the following do you consider as "my language"?

   Chinese ( )   English   Both ( )

6. Speaking standard Chinese indicates good education.

   Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

7. I think Chinese is a beautiful language.

   Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

8. I think proficiency in Chinese might become a big advantage in the international job market.

   Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

9. Assume your family, close friends, boy/girlfriend or spouse are all bilingual, which language do you prefer to speak with them when at home, talking about personal things?

   Chinese ( )   English ( )   Both ( )

10. Do you think your bilingual friends appear more sincere when they speak

    Chinese ( )   English ( )   Both ( )

11. I learned English mainly for academic and professional purpose rather personal purposes.

    Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

12. Speaking English can help me get involved in local life and make more English-speaking friends.

    Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

13. If people say my Chinese is not as good as it was before, I think

    It is okay ( )   I would feel ashamed ( )   It's normal ( )

14. I want to go back to China.

    Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

15. I follow core Chinese values strictly.

    Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

16. I would join in my friends celebrating western festivals.

    Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

17. I would pay special attention to Chinese festivals and make preparation in traditional way to celebrate.

    Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

18. I like the way people here (in the UK) live their lives.

Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

19. I incorporate many western concepts in my worldview.

Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

20. It bothers me when people mix English and Chinese.

Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

21. I feel okay if other people switch between languages.

Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

22. I think it is natural for people like me to mix some English into Chinese.

Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

23. I like to use a little English when speaking Chinese.

Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

24. I think mixing some English into Chinese shows your integration in the UK.

Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

25. I think it's better to speak either "pure" Chinese or "pure" English

Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

26. I think people who constantly mix English into Chinese are showing off their ability to speak English.

Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

Appendix F

Chinese version of the questionnaire
语言，文化，社交关系网问卷调查

基本信息：

1. 姓名：　　　2. 年龄：　　　3. 职业：　　　4. 性别：

5. 成长过程中生活时间最久的地方：　　　　6. 在英国的时间：

英语学习使用背景：

1. 英语作为一门在校学科，您学习了有多久？

   _____

2. 除了在校学习英语，您还通过其他途径学习并使用英语吗？

   否（　）

   是（　），请说明：_____

3. 请您为自己的各项英语能力打分，从1（略懂）到7（精通）：

   听（　）　说（　）　读（　）　写（　）

4. 您认为自己在平时生活中使用英语多少的程度大概有：

   80%-70%（　）　60%-50%（　）　40%-30%（　）　20%-10%（　）

   10%以下（　）　我基本用不着英语（　）

   其他，请说明：_____

5. 请标注在以下场合中您的语言选择：

   *注：汉（汉语）；英（英语）；汉>英（大部分汉语，偶尔英语）；英>汉（大部分英语，偶尔汉语）；汉=英（汉语英语使用大概程度一样）

交谈对象以及语言使用场合	语言选择
父母，祖父母（或他们那一代人）	中（）英（） 中>英（）英>中（）中=英（）
和伴侣（如果有的话）	中（）英（） 中>英（）英>中（）中=英（）
和孩子（或假设以后有孩子的情况	中（）英（）

下）	中>英（） 英>中（） 中=英（）
和兄弟姐妹（如果有的话）	中（） 英（） 中>英（） 英>中（） 中=英（）
和朋友	中（） 英（） 中>英（） 英>中（） 中=英（）
和同事（如果有的话）	中（） 英（） 中>英（） 英>中（） 中=英（）
自言自语的时候	中（） 英（） 中>英（） 英>中（） 中=英（）
数数的时候	中（） 英（） 中>英（） 英>中（） 中=英（）
咒骂的时候	中（） 英（） 中>英（） 英>中（） 中=英（）
发信息或邮件的时候（如果对方中英文都懂）	中（） 英（） 中>英（） 英>中（） 中=英（）
写日记或博客（如果有的话）	中（） 英（） 中>英（） 英>中（） 中=英（）
和朋友在网上聊天	中（） 英（） 中>英（） 英>中（） 中=英（）
在社交网络更新状态	中（） 英（） 中>英（） 英>中（） 中=英（）

亲朋好友：

1. 您有家人或者亲戚生活在英国吗？（直系亲属或远亲）

   是（　　） 否（　　）

   如果是，

   1) 请说明你们之间的关系：＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

   2) 你们住在一起吗？

      是（　　） 否（　　）

   2) 如果你们不住在一起，你们多久交谈一次？

几个月一次 （ ） 　　　一个月一两次 （ ）

每周一两次 （ ） 　　　每天都有交流 （ ）

其他，请说明：_____

2. 您和中国的家人通过电话等语音交流方式多久联系一次？

几个月一两次 （ ） 　　一个月一两次次 （ ） 　　每周一两次 （ ）

每天都有交流 （ ）

其他，请说明：_____

3. 您多久回国一次？

一年一次 （ ） 　　一年两次 （ ） 　　一年超过两次 （ ）

其他，请说明：_____

4. 您每次回国呆多久？

一周 （ ） 　　两到三周 （ ） 　　一个月 （ ） 　　超过一个月 （ ）

其他，请说明：_____

5. 您结婚了吗？

A. 是 （ ） 　　　　B. 否 （ ）

C. 否，但我有男/女朋友在国内或另一个城市。 （ ）

D. 否，但我有男/女朋友和我在同一个城市。 （ ）

6. 您的家人或亲戚都是中国人（或说中文吗）？

是 （ ） 　　　否 （ ）

如否，

1) 请 说 明 你 们 的 关

系：_____

2) 你们交流频繁吗？

好几个月一两次 （ ） 　　　一个月一两次 （ ）

一周一两次 （ ） 　　　每天 （ ）

其他，请说明：_____

7. 您的朋友都是中国人（或说中文）吗？

全部 （ ） 　　　大部分 （ ） 　　　大概一半 （ ）

一小部分 （ ） 　基本没有 （ ）

其他，请说明：_____

8. 您和说中文的朋友经常一起聚会聊天吗？

一个月一两次（　） 一周一两次（　） 每天（　）

其他，请说明：_____

9. 您的朋友（不算工作中有简单往来的人）中有不说中文的吗？

有（　） 无（　）

如果有，

1）你们用英语交谈吗？

是（　） 否（　）

2）你们经常聚会聊天吗？

好几个月一两次（　） 一个月一两次（　）

一周一两次（　） 每天（　）

其他，请说明：_____

工作生活：

1. 您有室友吗？

有（　） 无（　）

如果有，

1）您的室友都是中国人吗？

是（　） 否，他们来自当地（　） 否，他们来自世界各地（　）

2. 您和室友经常一起聊天聚会吗？

是（　） 否（　）

3. 您工作的环境中大家都讲英语吗？

是（　） 否（　）

4. 您的工作需要经常和同事沟通交流吗？

是（　） 否（　）

如果是，

1）你们交谈都用什么语言呢？

英语（　） 中文（　）

大部分英语，偶尔中文（　） 大部分中文，偶尔英语（　）

5. 您下班后经常和同事们聚会吗？

是（　）　否（　）

6. 如果您的工作需要直接和客户对象打交道，对方大部分讲英语吗？

是（　）　否（　）

7. 您的工作需要您经常和客户口头沟通交流吗？

是（　）　否（　）　这条对我不适用（　）

如果是，

1）那么您经常用到的语言是：

英语（　）　　中文（　）

大部分英语，偶尔中文（　）　　大部分中文，偶尔英语（　）

8. 您的工作需要您经常和不同的人打交道吗？

是（　）　否（　）

9. 您觉得您每天和谁在一起花的时间最长（电话或者面对面交流）？

家人亲戚（　）　　朋友（　）　　　丈夫(妻子)/男（女）朋友（　）

同事（　）　　　　客户顾客（　）　　独处（　）

其他，请说明：＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

10. 请列出您日常生活中经常交流的 5 个人：

关系	年龄	对方在英时间	您们认识多久了？	您们经常交流的场合？	您们交流的语言？
朋友（　） 家人亲戚（　） 同事（　） 伴侣（　）				工作（　） 家庭（　） 休闲娱乐（　） 以上都是（　）	中文（　） 英文（　） 中英（　）
朋友（　） 家人亲戚（　） 同事（　） 伴侣（　）				工作（　） 家庭（　） 休闲娱乐（　） 以上都是（　）	中文（　） 英文（　） 中英（　）
朋友（　） 家人亲戚（　） 同事（　） 伴侣（　）				工作（　） 家庭（　） 休闲娱乐（　） 以上都是（　）	中文（　） 英文（　） 中英（　）
朋友（　） 家人亲戚（　） 同事（　）				工作（　） 家庭（　） 休闲娱乐（　）	中文（　） 英文（　） 中英（　）

伴侣（）				以上都是（）	
朋友（）				工作（）	中文（）
家人亲戚（）				家庭（）	英文（）
同事（）				休闲娱乐（）	中英（）
伴侣（）				以上都是（）	

11. 您日常交流的人是否超出以上所列 5 人？

是（　） 　否（　）

兴趣爱好：

1. 您业余时间都喜欢做什么？

   _____

2. 您有经常参加的活动吗？（比如社区俱乐部，健身房，志愿者活动组织等）？

   无 　（　）

   有，我经常去参加 　（　）

3. 如果您上题的答案是是"有"，

   A. 那么参加这些您经常使用的语言是？

   英语（　） 　中文（　）

   大部分英语，偶尔中文（　） 　大部分中文，偶尔英语（　）

   B. 您为什么参加这些活动呢？

   好玩（　） 　交一些当地朋友（　） 　认识一些中国朋友（　）

   其他，请说明：_____

4. 您平时都收看什么节目呢？

   _____

5. 您经常看报纸或者上网看新闻吗？

   是，我经常看中文的新闻（　） 　是， 我经常看英文的新闻（　）

   是，我中英文的新闻都看（　） 　否（　）

6. 以下社交网络，您最常使用？

   人人（　） 　Facebook（　） 　微博（　） 　QQ 空间（　） 　微信 （　）

   其他，请说明：_____

请标记您对以下观点的态度

1. 我认为能够说英语会让我得到一份好工作。

   非常不同意 ○ ○ ○ ○ ○ ○ ○ 非常同意

2. 如果我能够说一口好英语，大家会认为我很聪慧，受过良好教育。

   非常不同意 ○ ○ ○ ○ ○ ○ ○ 非常同意

3. 我认为英语是一门优雅的语言。

   非常不同意 ○ ○ ○ ○ ○ ○ ○ 非常同意

4. 我认为英语对提高一个国家的国际影响力很重要。

   非常不同意 ○ ○ ○ ○ ○ ○ ○ 非常同意

5. 您认为哪门语言最能帮助您表达自己？

   中文（ ） 英文（ ） 两者都是（ ）

6. 说标准的中文意味着接受过良好的教育。

   非常不同意 ○ ○ ○ ○ ○ ○ ○ 非常同意

7. 我认为中文是一门非常优美的语言。

   非常不同意 ○ ○ ○ ○ ○ ○ ○ 非常同意

8. 我认为能够熟练地使用中文会是未来挑选人才的标准之一。

   非常不同意 ○ ○ ○ ○ ○ ○ ○ 非常同意

9. 如果您的家人，好朋友或者伴侣中英文都没问题，您倾向于选择哪种语言来和他们探讨一些私人问题。

   中文（ ） 英文（ ） 两者（ ）

10. 您认为您的朋友在说____的时候听起来更诚挚呢？

    中文（ ） 英文（ ） 两者（ ）

11. 我学习英语只是职业或者学术需要。

    非常不同意 ○ ○ ○ ○ ○ ○ ○ 非常同意

12. 我认为能够讲英语可以让我更快更好地融入到当地的生活中并且交到更多当地的朋友。

    非常不同意 ○ ○ ○ ○ ○ ○ ○ 非常同意

13. 如果大家说我的中文不像以前那么好了，我觉得：

    很正常（ ） 很惭愧（ ） 无所谓（ ）

14. 我想回国。

非常不同意　○　○　○　○　○　○　○　非常同意

15. 我认为自己是非常传统的中国人。

非常不同意　○　○　○　○　○　○　○　非常同意

16. 我和朋友们会庆祝西方节日。

非常不同意　○　○　○　○　○　○　○　非常同意

17. 我很重视中国传统节日，也会在节日到来之前做一些相关的准备。

非常不同意　○　○　○　○　○　○　○　非常同意

18. 我喜欢这里(英国)人们的生活方式。

非常不同意　○　○　○　○　○　○　○　非常同意

19. 我觉得我思维方式和价值观里融合了很多西方的观念。

非常不同意　○　○　○　○　○　○　○　非常同意

20. 如果有人说话中英文交替着说，我觉得很烦。

非常不同意　○　○　○　○　○　○　○　非常同意

21. 别人中英文混合着说，我觉得还好。

非常不同意　○　○　○　○　○　○　○　非常同意

22. 我认为对于我们这样的人来说，有时中英文交替着说是挺正常的

非常不同意　○　○　○　○　○　○　○　非常同意

23. 讲中文的时候我喜欢夹一些英语。

非常不同意　○　○　○　○　○　○　○　非常同意

24. 我觉得有的时候中文里带点英文说明您慢慢地融入了当地的生活。

非常不同意　○　○　○　○　○　○　○　非常同意

25. 我觉得要么就说"中文"，要么就说"英文"，别混着说。

非常不同意　○　○　○　○　○　○　○　非常同意

26. 我认为那些讲中文时经常混合着英文的人总是在炫耀自己能够讲英文，或者刻意向别人显示自己与众不同。

非常不同意　○　○　○　○　○　○　○　非常同意

Appendix G

Internal correlations among the attitudinal dimensions

		Language status of English	Language status of Chinese	English for instrumental purpose	English for Integrative purpose
Language status of English	Pearson Correlation	1	.734**	.071	.290
	Sig. (2-tailed)		.000	.667	
Language status of Chinese	Pearson Correlation	.734**	1	.116	.399
	Sig. (2-tailed)	.000		.481	.012
English for instrumental purpose	Pearson Correlation	.071	.116	1	-.143
	Sig. (2-tailed)	.667	.481		.385
English for Integrative purpose	Pearson Correlation	.290	.399*	-.143	1
	Sig. (2-tailed)	.073	.012	.385	
Chinese cultural alignment	Pearson Correlation	.054	.047	.365*	-.057
	Sig. (2-tailed)	.742	.774	.022	.732
English cultural alignment	Pearson Correlation	.287	.288	-.268	.076
	Sig. (2-tailed)	.077	.076	.099	.644

		Chinese cultural alignment	English cultural alignment	Language solidarity	Attitudes towards CS
Language solidarity	Pearson Correlation	.123	.166	.648**	-.136
	Sig. (2-tailed)	.456	.314	.000	.410
Attitudes towards CS	Pearson Correlation	.373*	.290	-.012	.114
	Sig. (2-tailed)	.019	.073	.940	.488

		Chinese cultural alignment	English cultural alignment	Language solidarity	Attitudes towards CS
Language status of English	Pearson Correlation	.054	.287	.123	.373*
	Sig. (2-tailed)	.742	.077	.456	.019
Language status of Chinese	Pearson Correlation	.047	.288	.166	.290
	Sig. (2-tailed)	.774	.076	.314	.073
English for instrumental purpose	Pearson Correlation	.365*	-.268	.648**	-.012
	Sig. (2-tailed)	.022	.099	.000	.940
English for Integrative purpose	Pearson Correlation	-.057	.076	-.136	.114
	Sig. (2-tailed)	.732	.644	.410	.488
Chinese cultural	Pearson Correlation	1	-.417**	.469**	.017

alignment	Sig. (2-tailed)		.008	.003	.917
English cultural alignment	Pearson Correlation	-.417**	1	-.250	.230
	Sig. (2-tailed)	.008		.125	.159
Language solidarity	Pearson Correlation	.469**	-.250	1	-.107
	Sig. (2-tailed)	.003	.125		.516
Attitudes towards CS	Pearson Correlation	.017	.230	-.107	1
	Sig. (2-tailed)	.917	.159	.516	
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

Appendix H

The correlations among the social factors

		Self-reported English proficiency	Non-Chineseness of network	Openness of network
Self-reported English proficiency	Pearson Correlation	1	.493**	.105
	Sig. (2-tailed)		.001	.524 .
Non-Chineseness of network	Pearson Correlation	.493**	1	.319*
	Sig. (2-tailed)	.001		.048
Openness of network	Pearson Correlation	.105	.319*	1
	Sig. (2-tailed)	.524	.048	
Chinese orientation	Pearson Correlation	-.078	-.447**	-.245
	Sig. (2-tailed)	.636	.004	.132
English orientation	Pearson Correlation	.203	.358*	.096
	Sig. (2-tailed)	.214	.025	.562
		Chinese orientation	English orientation	
Self-reported English	Pearson Correlation	-.078	.203	

proficiency	Sig. (2-tailed)	.636	.214	
Non-Chineseness of network	Pearson Correlation	-.447[**]	.358[*]	
	Sig. (2-tailed)	.004	.025	
Openness of network	Pearson Correlation	-.245	.096	
	Sig. (2-tailed)	.132	.562	
Chinese orientation	Pearson Correlation	1	.000	
	Sig. (2-tailed)		1.000	
English orientation	Pearson Correlation	.000	1	
	Sig. (2-tailed)	1.000		
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

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