

Language, Cultural Norms, and Behaviours – How the Language Bilingual Chinese
Speak May Affect Their Behaviours

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Abstract

The purpose of this research was to determine if Chinese- English bicultural individuals show discomfort when conflicting behavioural norms are simultaneously activated. I first identified behaviours that differentiated Canadian and Chinese along a cultural value dimension. Participants then rated four muted video clips of female actors engaged in the behaviours that were either consistent with Chinese or Canadian behavioural norms identified earlier. Within the set four video clips, the language spoken (English versus Chinese) and the topic (representing Canadian values or Chinese values) were crossed, such that each video contained a unique combination of the language and topic. As predicted, when actors spoke Chinese, they were rated more positively for the Chinese value topic than for the Canadian value topic. Additionally, within the Canadian topic, a comparison of the language spoken revealed that actors were rated significantly more positively when they spoke English than when they spoke Chinese. Contrary to predictions, however, European-Canadians in the control condition were better than chance at guessing the language actors spoke. European-Canadians in the experimental condition and Chinese participants in either condition did not perform better than chance levels in the language guessing task. One major weakness of the study was that none of the behaviours thought to reflect Chinese culture were rated significantly differently by Chinese and European-Canadians. For that reason, the results did not completely support the predicted outcomes. Furthermore, European-Canadians' familiarity with body language associated with speaking English may have accounted for the results of the language guessing task.

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CHAPTER ONE

Introduction

Cultures around the world differ in a multitude of ways. Some differences, such as whether people eat with their hands, forks, or chopsticks, seem to be mere nuances in behaviour; whereas other differences, such as political structure or parenting style, may reflect more deeply rooted differences in value systems between cultures. To the extent that being an effective member of any given culture involves behaving in ways that are in accordance with the norms of the culture, and to the extent that being bicultural entails straddling between the behavioural norms of two cultures, bicultural individuals should encounter situations where the cultural norms of each culture are at odds with one another. My research explored what happens when bicultural individuals experience situations where conflicting cultural norms for behaviour are simultaneously activated. Specifically, I was interested in looking at what happens when the culture of the language being spoken elicits a norm that may be inconsistent with the individual's actual behaviour.

I first start by discussing if language affects thought and then look at cultural differences in values and behavioural norms. Finally, I discuss nonverbal behaviour and the benefit of looking at bicultural individuals' nonverbal behaviour in examining the question of how the presence of two cultural systems affects how bicultural individuals behave.

Effect of Language on Cognition and Behaviour

Language is an important tool in the development of culture. As defined by Webster's New World Dictionary (1982, p. 339), language is "human speech or the

written symbols for speech; the particular style of verbal expression characteristic of a person, group, profession, etc.” Without it, how would we communicate with one another with as much precision as we do? No one is likely to disagree that our existence would be much different if language did not exist. What has been debated upon, however, is if language affects thought and at what level.

This debate has been carried out on three different levels (Lucy, 1997). At the broadest level of the debate—the semiotic level—is the question of whether or not speaking any language affects the way we think. That is, does having a symbolic coding of thought affect thought? At the second level, the question then turns to whether or not different verbal languages affect thought. For example, do French speakers think in systematically different ways than do Japanese speakers? At this level, the debate concerns whether or not the differing structures (e.g., grammatical structure) of different languages influence the thought process. Finally, at the functional level of examination, researchers have asked if the way we use language (e.g., schooled versus colloquially) affects thought. These various levels of inquiry suggest that language does, one way or another, affect thinking.

A definition putting less emphasis on language as the facilitator of thought was offered by Gumperz and Levinson (1996) who suggested that culture, through language, affects the way we think. That is, although speakers of different languages may experience the same event differently, the reason for the difference is attributable primarily to cultural differences in interpretation of the event and not to differences in the structure of different languages.

Similarly, Chiu, Leung, and Kwan (2007) propose that the presence of a language evokes its associated cultural meanings. In other words, each culture develops its own language to facilitate communication among individuals. For example, Kashima and Kashima (2003) have found that speakers of pronoun non-dropping languages (such as English), where users commonly reference themselves or others when describing events, are more individualistic. Speakers of pronoun dropping languages, where events are described without reference to the subject, tend to be more collectivistic. Additionally, comparing Italian and Japanese speakers, Maass, Karasawa, Politi, and Suga (2006) found that, when describing individuals and groups, Italians tended to use more adjectives; whereas Japanese were more inclined to use verbs. Mass et al. suggested that the use of verbs contextualizes the subject(s) to a given place or situation, but the use of adjectives conveys less information about context. Additional evidence comes from a study where participants were asked to complete the sentence “I am...” in either English or Chinese. Trafimow, Silverman, Fan, and Law (1997) showed that participants retrieved more idiocentric thoughts when tested in English than when tested in Chinese, a finding consistent with the notion that members of Western culture are more independent and self-focused than are Easterners.

Finally, Wilkins and Gareis (2006) examined the usage of the locution, “I love you” by testing bilinguals. They found that, of those whose first language was not English, 67.7% reported using the English expression, *I love you*, more often; 16.1% said they used it equally often; and 16.1% said they used it less often. And for those whose first language was English (but who spoke at least one other language fluently), all said that they used the English expression more often than an equivalent alternative in another

language. Furthermore, both native and non-native English speakers reported that expressing love in English was much easier than in their native or other language.

Aside from the idea that a culture develops a specific language to facilitate communication among individuals, Chiu et al. (2007) also suggest that the language, in turn, becomes a mechanism for evoking culture-specific ways of thinking. As an example of language functioning as a mechanism for evoking culture-specific ways of thinking, Ross, Xun, and Wilson (2002) compared the responses of four groups of participants: Chinese-born Chinese participants, half of whom completed the survey material in Chinese, the other half in English, and Canadian-born Chinese and Canadian-born European¹ participants, all of whom completed materials in English. When asked to respond in Chinese, Chinese participants reported more collective self-statements when making self-descriptions, scored lower on a self-esteem scale, and showed more agreement with Chinese cultural views than did Chinese, Chinese-Canadian, and European-Canadians participants, all of whom responded in English. These results suggest that language does affect responses. Additionally, participants responding in Chinese made more references to other people than did those tested in English.

¹ Admittedly, European-Canadians are not a homogeneous group, but they are comprised of subgroups with significant cultural differences. Similarly, although data pertaining to how long these European-Canadians had lived in Canada is not available, the results of the study, showing that European-Canadians rated actors more highly when they spoke English, suggests enough commonality within European-Canadians (presumably, this commonality pertains to an understanding and adoption of Canadian culture and recognition of nonverbal behaviour used when speaking English) that treating them as a group familiar with Canadian culture, but not Chinese culture, is justified.

In another study examining how language and culture affected bilingual English-Chinese speakers' categorization styles, Ji, Zhang, and Nisbett (2004) found that even though Chinese were naturally more inclined to categorize objects in a relational fashion, the testing language affected how often Mainland and Taiwan Chinese made relational groupings. When tested in English, these participants made fewer relational and more categorical groupings than when tested in Chinese. In this case, (testing) language influenced the way participants thought about how the same set of objects related to each other.

Finally, Earle (1969) examined bilingual English-Chinese Hong Kong students' responses to a dogmatism scale when tested in English and Chinese. When tested in English, participants showed less dogmatism than when tested with a Chinese version of the same scale. Earle attributed this difference to bilinguals being familiar with both language cultures and behaving in accordance with each language's respective cultures.

Having reviewed the various findings relating language to cognition, I now turn to a study looking at language and behaviour. Sussman and Rosenfeld (1982) found that Venezuelan participants sat significantly farther apart when speaking English than when speaking Spanish. The results of this study speak most directly to the purpose of the current study. Specifically, I looked at whether or not the different values associated with Canadian and Chinese culture would affect Chinese-English bilinguals' behaviours differently, such that speaking English would evoke conformity to Canadian norms of behaviour, whereas speaking Chinese would evoke conformity to Chinese norms.

Cross-Cultural Differences in Values

People from different cultures have been found to hold different values. Schwartz (1999, pp. 24-25) defines values as “conceptions of the desirable that guide the way social actors select actions, evaluate people and events, and explain their actions and evaluations.” Furthermore, values can be explicitly or implicitly passed on to other members of society and need not be consciously known.

Differences in value systems across cultures have been well documented in psychology (Hofstede, 1983; Hofstede & Bond, 1984; Kim, Atkinson, & Yang, 1999; Schwartz, 1992). Starting with his seminal work in the early 1980s with IBM workers employed across 53 different countries, and subsequently in 1984 (Hofstede & Bond, 1984), Hofstede found that cultures differ on five important dimensions: Power Distance, Individualism, Masculinity, Uncertainty Avoidance, and Long-Term Orientation. In terms of differences between Chinese (from China) and Canadians, the two groups in my study, Hofstede found Chinese to be significantly higher than Canadians in endorsing the power distance and long-term orientation dimensions but much less endorsing of individualism.

Power distance refers to the endorsement and expectation, even by lower powered members, of unequal power distribution among members (be it members of a family or organization). Individualism, and conversely, collectivism, refers to the extent to which members are integrated into groups. People of societies high on individualism form loose ties between one another and tend to look after themselves and their immediate family. Societies low in individualism (and consequently, high on collectivism) tend to be group

oriented where members are protected by the group and, in exchange, gain unquestioning loyalty from members.

Finally, long-term orientation refers to societies that promote virtues oriented towards future rewards. Such virtues may include thrift and perseverance. Cultures with short-term orientations foster virtues related to the past and present, such as respect for tradition, fulfilling social obligations, and protecting one's 'face'. Whether or not long-term orientation truly differentiates Canadian and Chinese is debateable. Although Hofstede has found that Chinese score higher than Canadians on long-term orientation, research has shown that the short-term orientation values, which according to Hofstede are a greater reflection of Canadian values, are characteristic of Chinese values as well. For instance, the idea of face first originated in China (Oetzel, Ting-Toomey, Masumoto, Yokochi, Pan, & Takai, 2001), and the desire to fulfill social obligations would presumably be stronger in a collectivistic society like China than an individualistic one like Canada.

Kim et al. (1999), on the other hand, reported that Asians and North Americans differed significantly on six value dimensions: conformity to norms, family recognition through achievement, emotional self-control, collectivism, humility, and filial piety. Conformity to norms includes behaviours such as not deviating from social and familial expectations and norms. Family recognition through achievement includes the recognition that educational and occupational failure would bring shame to the family, and emotional self-control reflects the belief that controlling one's emotions is a sign of strength. Collectivism pertains to the recognition that the needs of the group should come before an individual's needs and that an individual's achievements should be viewed as

the achievement of the entire family. Humility requires that individuals not be boastful, and finally, filial piety reflects the idea that elders are wiser and that the family should be the source of an individual's trust and dependence. All six of these values were more consistent with Asian culture than North American culture.

Norms are said to be specifications of rules that are to be followed if a corresponding value is to be actualized (Davis, 1966, as cited in Traub & Dodder, 1988). Furthermore, values are much broader; whereas norms are more specific and concrete. In this study, I am interested in determining if language affects behaviour. As such, instead of comparing Canadians and Chinese in terms of cultural values, I decided to compare the two groups on behavioural norms that I believe reflect broader cultural values.

The Present Research

As previously stated, the purpose of this research was to examine how the presence of inconsistent behavioural norms affects bicultural individuals' behaviours. Although some research suggests that language affects people's thoughts and behaviours, no research to date, to my knowledge, has examined how the elicitation of conflicting behavioural norms affects the way bicultural individuals feel or behave. For instance, does it make them feel less comfortable with one set of behavioural norms when a different set of norms are also salient? To examine this idea, I created a situation where inconsistent norms would exist simultaneously. That is, I asked bicultural people to behave in a way consistent with one set of norms (Chinese norms, for instance) but speak in a language that would elicit a different norm (e.g., speaking English to elicit Canadian norms). However, instead of directly asking Chinese-Canadian bicultural individuals to report how they felt when inconsistent cultural norms were activated, I assessed their

comfort indirectly by asking a separate group of participant observers to rate these bicultural individuals' nonverbal behaviour to determine if they displayed any instances of discomfort or negativity.

Using such an indirect method has several advantages. First, as Nisbett and Wilson (1977) have shown, people are not always aware of their inner thoughts and reasons for their behaviour. Given that discomfort due to the presence of inconsistent cultural values may be too subtle to reach conscious awareness or that biculturals may notice discomfort but not attribute the discomfort to the presence of inconsistent cultural values, I thought the use of an indirect method would serve the purpose of this research more effectively. Because a review of the nonverbal behaviour is useful for establishing it as a useful avenue to take as an indirect measure, I discuss some findings from the nonverbal literature in the next section.

Nonverbal Behaviour

We are all aware that decoding another person's speech entails much more than simply focusing on what is explicitly verbalized. We take into account the speaker's tone of voice, facial expression, proximity to us, posturing, etc. Such additional cues all fall under the rubric of nonverbal behaviours.

In an informative review article, DePaulo (1992) presented various properties of nonverbal behaviours. First, they are irrepressibly impactful. That is, whether we like it or not, we are judged not simply by our verbal behaviour but also by our nonverbal behaviour. For instance, when people are asked to pretend to be as passive as possible, observers also perceive them as being unexpressive, inhibited, withdrawn, and uptight (DePaulo & Kirkendol, 1989, as cited in DePaulo, 1992). Thus, although we may aim to

avoid coming across a certain way, however we behave (nonverbally) will also be used to judge us. Second, nonverbal behaviour is linked to emotion. In the seventeenth century, Darwin (1872, as cited in Brehm, Kassin, & Fein, 2005) proposed that facial expressions displayed emotions that were universally understood, and today, this notion is widely held by many people (e.g., Ekman, 1992; Izard, 1992). Consistent with Darwin's idea that facial expressions are linked to emotions, Izard (1992) suggested that emotion translates directly to neuromuscular activity of the face.

Third, nonverbal behaviour can communicate unique meaning. For instance, gesturing, another form of nonverbal behaviour, occurs simultaneously with speech and is co-expressive with speech—meaning, that gestures cover the same idea unit as the verbal speech. However, despite this link, nonverbal behaviour also contributes additional information to what is verbally expressed and so is informative in its own right (McNeill, 1985). Support for this notion can be seen in studies showing that gestures, in part, serve to disambiguate speech (Holler & Beattie, 2003). For instance, when engaged in longer stretches of speech involving lexical ambiguity, people tend to use gesturing to help clarify what they are trying to convey.

Finally, nonverbal behaviours are less accessible to actors than to observers. Although a speaker does get internal cues that an observer does not (e.g., feedback from muscle movement), an observer has the advantage of seeing the expressions displayed on the face of the speaker. Similarly, when we speak, our voice sounds different to us than it does to the person to whom we are speaking. This difference is due to vocal sound waves taking a different route to our ears than to the ears of the recipient (DePaulo, 1992). Thus, we neither see our faces nor hear our voices the way an observer would.

Because of the evidence that nonverbal behaviours convey and can be used to obtain information about inner thoughts and feelings, examining the nonverbal behaviour of bilinguals, instead of using a self-report methodology, may yield interesting results. To create a situation where an individual experiences two different value systems, participants engaged in behaviours that reflected either Canadian or Chinese cultural values to a greater extent. On top of that, the language they spoke was also varied—between Chinese and English.

Given that language can affect thought, by channelling cultural values, I expected that, for Chinese-English bilinguals, speaking Chinese would elicit behaviours consistent with Chinese norms; whereas speaking English would elicit behaviours more consistent with Canadian norms. Confederates performed four scenarios consisting of two behaviours (one more consistent with Chinese culture, the other more consistent with Canadian culture) twice—once in English and once in Chinese. Hence, the two levels of behaviour were crossed with the two levels of language. Consequently, my study had two instances where the behaviour and the language both activated thoughts for the same culture and two instances where the behaviour and the language each activated thoughts from different cultures.

I expected that in situations where the behaviour and language spoken elicited different cultural norms for behaviour, inner tension would arise. This inner tension was operationalised as a comparative decrease in positive nonverbal behaviours (less comfortable, confident, and likeable) and an increase in negative nonverbal behaviours (more nervous and reserved) as perceived by an observer. Because the four videos were muted, observers' ratings of actors were based solely on actors' nonverbal behaviours.

My other research question was if bicultural Chinese-Canadian observers would be able to identify the language spoken by an actor if told the topic of the scenario. Given that Chinese-Canadian bicultural individuals, who are more similar to the actors in the videos (both are bicultural and bilingual), should have more intuitive insight into how the actors in the videos are feeling, Chinese-Canadian biculturals should be more successful than are European-Canadians at determining the language spoken when they know the behaviour. For the control condition (where participants are not given behaviour information), I did not expect European-Canadian and Chinese to perform differently, but Chinese should be less successful at determining the language spoken in the control condition than the experimental condition.

To identify behaviours that would differentiate Chinese and Canadians along a value dimension, I first constructed a list of behaviours and distributed it to Chinese and European-Canadian participants and asked them to rate how consistent each behaviour was with their values. From these responses, distinguishing behaviours were identified and then performed by a group of confederates in both English and Chinese. Video clips of these confederates were made and shown to a group of participants who rated the actors on how comfortable, confident, likable, reserved, and nervous they appeared. The participants also guessed what language the actors were speaking. All video clips were muted, so that audio information was not available to help participants in their assessments. Thus, participants could rely only on confederates' nonverbal behaviour (in the control condition) or confederates' nonverbal behaviour and the information about the behaviour in which they were engaged (in the experimental condition) to make their language guesses.

CHAPTER TWO

Method

Participants

Fifty European-Canadian and 40 Chinese female students studying in Kingston were tested. The mean age of the European-Canadian sample was 19.68 years and 20.10 years for the Chinese-Canadians. Participants received \$5.00 in exchange for their participation.

Materials

Behavioural items. Guided by the value dimensions identified by Hofstede and Bond (1984) and Kim et al. (1999) I generated a list of 15 behavioural items that would differentiate Chinese and Canadian culture (see Appendix A) that could be later acted out by actors. From this list of 15 items, I intended to choose four behaviours (two that were more highly endorsed by Chinese and two more highly endorsed by European-Canadians) for actors to perform.

A female experimenter approached potential participants, mainly during lunch time, in various buildings and sidewalks around the Queen's campus to ask them to participate. Twenty European (13 men, 7 women; $M_{\text{age}} = 21.6$) and 24 Chinese (11 men, 13 women; $M_{\text{age}} = 24.4$) Queen's University students rated how consistent each behaviour was with their own values, using scale options ranging from 1 (*Very Consistent*) to 7 (*Very Inconsistent*). Mean age of the European group was 21.6 years and 24.4 years for the Chinese participants. On average, European participants lived in Canada for 19.65² years,

² Given that the mean age of European-Canadians was 21.6 years and they lived in Canada for approximately 19.65 years, I believed that I could assume that they had lived in Canada for a sufficient part of their lives to have internalized Canadian culture.

and Chinese participants lived here for 4.02 years. In exchange for their participation, the experimenter offered participants blue or yellow highlighters.

Chinese participants completed the survey in Chinese and Europeans participants in English. After participants completed the surveys, the research assistant thanked them and offered them the highlighters.

To compare European and Chinese results, *t* tests were conducted. See Table 1 for a list of behaviours that significantly differentiated Canadian and Chinese. For all the items that were more highly endorsed by Chinese, European-Canadians reported endorsing them less highly but not significantly less ($ps = .11$ or greater). Although these items did not successfully differentiate Chinese and European-Canadians, two needed to be selected, nonetheless. The two items that came closest to being significant and were also believed, *a priori*, to be more highly endorsed by Chinese were chosen as behaviours that the actors would perform. These two items were *At a second hand furniture store, you bargain with the shop owner in hopes of getting a lower price on a piece of furniture* and *When discussing a matter to an older person, you defer to their opinion*. The first item was believed to differentiate along Hofstede's Long-Term Orientation dimension, which is more highly endorsed by Chinese. The second item was believed to differentiate along the Power Distance dimension, which, again, is more highly endorsed by Chinese.

Table 1

Behaviours reflecting significant cross-cultural differences between Chinese and European-Canadians

Behaviour	<i>t</i>	<i>df</i>	<i>p</i>	Mean	
				Chinese	European
Saying no to a nice person who asks you out on a date because you are not interested in him/her	2.64	42	0.01	4.46	3.15
Outwardly agreeing with the advice that your parents give you even though you really don't agree with it	0.21	42	0.84	3.50	3.60
After finishing your dinner at a restaurant, you propose that you and your friend split the dinner bill	1.04	42	0.30	3.50	2.95
Asking a woman how old she is	0.86	42	0.40	4.88	5.3
Saying I love you to a family member	2.79	42	0.01	3.88	2.60
Giving unsolicited advice to a friend	1.04	42	0.30	2.75	3.20
When you bump into some friends in a restaurant, you insist that he/she join you for dinner	2.73	42	0.01	4.62	3.35
Telling a co-worker or classmate, who had been misinformed, that something he/she said was wrong	1.85	42	0.07	3.29	2.55
Asking your mother or father to pay you back the amount of money that he/she borrowed	7.93	24.78	0.001	6.67	3.55
Saying negative things about your family members to a casual friend	2.98	42	0.001	6.08	4.65

Behaviour	<i>t</i>	<i>df</i>	<i>p</i>	Mean	
				Chinese	European
When discussing a matter to an older person, you defer to their opinion	1.40	42	0.17	3.00	3.65
Telling your boyfriend's/girlfriend's parents about how you are one of the best students in your class	0.36	42	0.72	4.75	4.95
Insisting on paying for a dinner that both you and your friend had	0.20	42	0.84	3.25	3.25
Showing dissatisfaction to a store employee who is keeping you waiting because he/she was busy talking about something person on the phone with a friend	0.22	42	0.82	2.75	2.65
At a second hand furniture store, you bargain with the shop owner in hopes of getting a lower price on a piece of furniture	1.62	42	0.11	2.83	3.701

Turning to the items that European-Canadians endorsed more, five items were significant at the .05 level. Because previous research had shown that saying *I love you* was more easily done in English, I selected it for inclusion as one of the two behaviours more highly endorsed by European-Canadians. The second item chosen was *Saying negative things about your family members to a casual friend*. This item was highly significant and more easily acted out for 30 seconds than some of the other items. Additionally, because saying something negative is inherently more emotional than the other items, it might also elicit more nonverbal behaviour, thus increasing the chances that a viewer could detect differences in behaviour between languages.

Video clips. After identifying four behaviours, these behaviours were then acted out by three female actors in both English and Chinese for 30 seconds. Previous research using the thin slice method, where observers are shown brief slices of video of a target, has shown that observers are able to make better than chance predictions about targets in a variety of outcome variables. In a meta-analysis examining 38 different sets of results, with video clips ranging in length from 3.5 seconds to 300 seconds, Ambady and Rosenthal (1992) reported that increased video length did not result in significant increases on predictive accuracy. Thus, video clips for this study were shortened to 15 seconds each even though the confederates acted for approximately 30 seconds. Because confederates were still getting into their roles during the first few moments of each behaviour, the first 10 seconds of video were discarded and the following 15 seconds of were retained for later usage in Study 2 (some confederates finished before 30 seconds were up; therefore, I did not use the final 5 seconds of video).

Actors were recruited through notifications posted on listservs and Facebook. A total of 12 Chinese-English bilingual Chinese students (6 men; 6 women) were selected as actors. To ensure that actors were sufficiently familiar with both Canadian and Chinese cultures, they first had to meet a set of requirements. They had to be comfortable speaking both English and Chinese. Also, they must have lived in North America for a minimum of two years but no more than six years. Participants earned \$10 in exchange for their time.

Although 12 individuals participated as actors, video clips from only three women were eventually used. Due to concerns of cross-gender attraction (which would introduce an additional variable to the design of the study), and because female participants (who would serve as viewers) were more plentiful than male participants, I decided to use video clips only of female actors and to show these clips to only female viewers. Video clips from one female confederate were excluded due to design changes related to video taping. Another woman's videos were also excluded because the results of a prior study indicated that her behaviour was not consistent with this study's hypotheses. Additionally, video clips from one woman, who was a research assistant in the lab and who helped conduct various portions of this study were excluded. I believed that because she served as the experimenter, that this other role would have an influence on how viewers would rate her compared to other actors that they saw, thus potentially creating an actor effect. The remaining three female confederates had lived in Canada for an average time of 3.67 years. Their TOEFL scores ranged between 250 and 270 (which, of course, met Queen's University's minimum language proficiency requirements). All three were 20-year-old undergraduate students.

Video-taping was done using a Panasonic digital camcorder attached to a tripod. The camera captured actors' entire head bodies while seated. Cameras were positioned approximately seven feet in front of the participant. Video was recorded to a DVD located in a separate room.

Actors were tested one at a time by the same experimenter who communicated with all actors exclusively in English. The actors read over the list of five behaviours (see Appendix B) to make sure they understood each one and were given as much time as they needed to plan what they would say while engaged in each behaviour. Because the actors would be acting out each behaviour in English and then in Chinese (or vice versa, depending on the condition that they were assigned to), they wrote down what they would say on a 2 x 3 feet note pad, so that the content would be similar across both languages. The experimenter left the room while the actor did this task and returned approximately 10 minutes later. Once the actors were ready, taping started. The actors were the only individuals in the room while taping. They sat on a chair approximately seven feet away from the cameras. The experimenter, sitting in another room and watching the participants through a TV monitor, communicated with the actor through an intercom system. The experimenter timed the actors as they spoke and stopped them after 30 seconds. After performing each behaviour, actors referred to their notepad to refresh their memories on the content for the next behaviour. They also rated how comfortable they felt while engaged in the behaviour using a 7-point scale where 1 meant *very uncomfortable* and 7 meant *very comfortable* (see Appendix C). When actors finished acting out all behaviours, they filled out a demographics questionnaire and were paid.

Although actors performed four behaviours (two more highly endorsed by Chinese and two by European-Canadians), only video clips of two behaviours were subsequently shown to participants—one that was more highly endorsed by Chinese and one by European-Canadians—for the following reasons. First, of the two behaviours that were endorsed by European-Canadians, the *I love you* item had missing data as one actor could not bring herself to say it in Chinese. Therefore, the *saying something negative about family members to a casual friend* was the default option. Second, because this behaviour presumably elicited negative nonverbal behaviour, I wanted to choose a corresponding behaviour more highly endorsed by Chinese that also contained elements of negativity. Although deferring to the advice of someone older, at first blush, does not appear to be negative, most actors, in fact, asked for advice about a problem that they were experiencing, thus containing a negative element. Therefore, this deferring item was chosen as the second clip.

Table 2 shows the comfort ratings reported by the three actors on the two behaviours selected. As we can see, Actor 1 gave the same comfort rating across both behaviours and languages. Actor 2, however, reported greater comfort when deferring and speaking Chinese. Actor 3 reported feeling equally comfortable speaking Chinese or English for both behaviours, but she felt more comfortable saying something negative about family members.

Table 2
Comfort ratings reported by actors

Behaviour	Actor 2		Actor 1		Actor 3	
	Chinese	English	Chinese	English	Chinese	English
Deferring to an older	4	4	3	2	5	5
Saying something	4	4	2	1	7	7

Characteristic Ratings. As shown in Appendix D, on a sheet of paper, participants made their ratings and language guesses. For the ratings section, after viewing each clip, participants rated how confident, likeable, comfortable, reserved, and nervous the actor was using a 1-7 scale (1 = *Not at all* and 7 = *Very*).

Language Guessing. For the language guessing portion of the study, participants indicated which language they thought the actors spoke by checking one of two boxes labelled Chinese or English. Participants also had room to briefly describe how they made their language selection.

Design

Each of the three actors provided four video clips—2 behaviour (deferring; saying something negative about family members) x 2 language (Chinese; English). Viewers saw all four clips, all of which contained the same actor (thus, actor was a between-subjects variable). All participants completed the characteristics ratings prior to starting the language guessing portion. Completing the task in this order was necessary because, in the language guessing portion, participants were told the behaviour of the conversation in which actors were engaged. Because knowing the behaviour could potentially influence characteristics ratings, the language guess was always the second of the two tasks. For the language guessing, participants were shown each of the four clips again in

random order and, after each clip, guessed the language in which the actor spoke. After making guesses for all four clips, participants were shown the clips again, but this time, the experimenter informed them of what the actor was doing. The order in which the clips were shown was randomized.

Procedure

Participants were tested either individually or in groups of up to five people (depending on how many people could be booked for a given session). Upon arriving at the lab, participants first read a letter of information and then completed a consent form. Subsequently, the experimenter explained, out loud, the written instructions to participants prior to beginning each section and answered any questions were. The experimenter then started the video clips. In between each clip, the experimenter paused the video to give participants sufficient time to make their ratings. After completing all sections, participants completed additional measures for another unrelated data collection.

CHAPTER THREE

Results

Observer Ratings of Actors

Prior to beginning the formal data analysis, eight of the variables (the nervous and reserved variables for each of the four clips) were reverse coded. I then computed Cronbach's alphas using the set of five characteristic variables pertaining to each video clip. Because all four alphas values were .82 or higher, I computed an index variable to represent how positively participants perceived the actors. This index variable was computed by averaging the five characteristics ratings for each video clip (using the reverse coded variables). Higher values indicated greater positivity.

I computed a 2 (behaviour: deferring, saying something negative) x 2 (language: Chinese, English) x 2 (culture: Chinese, European) repeated-measures ANOVA with language and behaviour as within-subjects variables.

I had hypothesized that participants would rate actors more highly when they were saying something negative in English (as opposed to Chinese) and when they deferred to an older person in Chinese (as opposed to English).

Overall, participants rated actors more positively when deferring ($M = 4.66$, $SD = .81$) than saying something negative ($M = 4.13$, $SD = .95$), $F(1, 83) = 15.97$, $p < .001$. Also, actors were rated more positively when they spoke English ($M = 4.56$, $SD = .75$) than when they spoke Chinese ($M = 4.24$, $SD = .92$), $F(1, 83) = 8.60$, $p = .004$, and Chinese ($M = 4.53$, $SD = .65$) participants rated the actors slightly higher than did European participants ($M = 4.26$, $SD = .65$), $F(1, 83) = 3.69$, $p < .06$.

These main effects were qualified by a language x culture interaction, $F(1, 83) = 5.15, p = .03$. (The interaction effects of Behaviour by Culture and Behaviour by Language by Culture were not significant, $F_s(1, 83) < 1$.) European participants rated the actors more positively when they spoke English ($M = 4.55, SD = .74$) than when they spoke Chinese ($M = 3.98, SD = .91$), $t(49) = 2.42, p = .02$. Chinese participants, however, rated actors similarly across Chinese ($M = 4.49, SD = .91$) and English ($M = 4.57, SD = .74$), $t(39) = 0.28, p = .78$.

Although the hypothesized interaction between behaviour and language was not significant, $F(1, 83) = 3.27, p = .07$, follow-up tests did support some of my hypotheses (See Figure 1 for a graph of the means). When actors spoke Chinese, they were rated more highly for the deferring behaviour than for the saying negative things behaviour, $t(89) = 4.21, p < .001$, but contrary to my predictions, the same pattern was observed when they spoke English, $t(88) = 2.41, p = .02$. Additionally, within the saying something negative behaviour, consistent with my hypothesis, actors were rated significantly more positively when they spoke English than when they spoke Chinese, $t(89) = 2.92, p = .004$. However, for the deferring behaviour, actors were not rated differently across languages, $t(89) = 1.13, p = .26$.

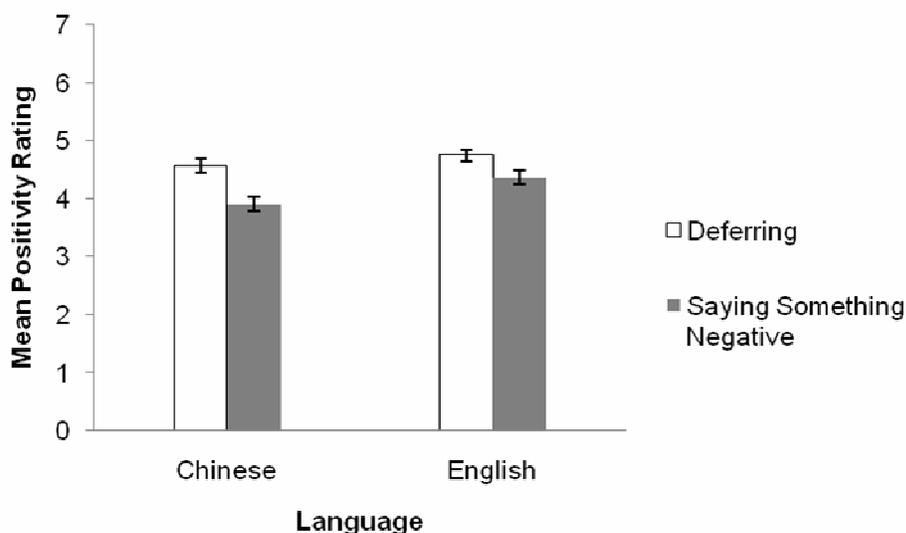


Figure 1

Means and Standard Deviations for Participant Ratings of Actors, Broken Down by Behaviour and Language

Language Identification

Due to the nature of my data set, chi-squares (which require that observations be independent between conditions) and log-linear analysis (which cannot accommodate a mixed factorial design) could not be used as techniques for analyzing the data. Thus, to examine if participants could identify the language spoken by actors, data were analyzed using generalized estimating equations (GEEs), which are similar to generalized linear models, except that GEEs do not assume that the dependent variable is normally distributed nor do they assume that the independent and dependent variables are linearly linked. Thus, given that I have a 2 (culture) x 2 (language) x 2 (behaviour) x 2 (condition: told behaviour vs. control) mixed-factorial design (with one between-subjects variable and three within-subjects variables) and a dichotomous dependent variable, GEEs were the most appropriate data analysis technique for analyzing this data set.

In the model, I specified the culture of the participant, the condition (control vs. experimental), the language spoken, and the behaviour as the predictor variables, with the last three variables being within-subjects variables. Because the outcome variable was dichotomous, I specified a binomial distribution with a logit link function when making model selection criteria in SPSS. Additionally, my model used correct guesses as the model and the incorrect guesses as the reference category.

As expected, the culture by condition effect was significant, $\chi^2(1) = 5.00, p = .03$. No other main effects or interactions were significant ($ps > .10$). I predicted that when told the actor's behaviour, Chinese participants would be better able to identify the language spoken than would European participants, but no differences would be observed in the control condition. However, European-Canadians in the control condition made significantly more correct guesses (65%) than Chinese (50%), $\chi^2(1) = 6.06, p = .01$. In fact, on the item level, European-Canadians made significantly more correct guesses than would be predicted by chance $t(399) = 3.13, p = .002$. (See Table 3 for the proportion of correct guesses made).

Table 3

Proportion of Correct Guesses made by Chinese and European-Canadians Regarding the Language Spoken in each Condition

Culture	Condition	<i>M</i>	<i>SD</i>
Chinese	Control	0.50	0.50
	Experimental	0.54	0.50
European-Canadians	Control	0.65	0.48
	Experimental	0.51	0.50

A look at the incidence rate ratios, $\text{Exp}(B)$, indicated that being a European-Canadian increased a participant's incidence of picking the correct language by a factor of 0.54. Furthermore, compared to their accuracy levels in the experimental condition (51% hit rate), European-Canadians in the control condition (65% hit rate) were more likely to select the correct language by a factor of 1.82. To determine if participants of each culture and within each condition performed significantly differently from chance, I first aggregated that data for each participant. Then, I compared the aggregated values to .50. As would be expected given the result that European-Canadians were better than chance at guessing the language spoken, the only group that performed differently from chance was the European-Canadians in the control condition, and they did significantly better than chance, $t(49) = 3.77, p < .001$. Participants of the other conditions did not perform significantly different than chance, $ps > .44$

CHAPTER FOUR

Discussion

The purpose of this study was to examine how engaging in certain behaviours—behaviours that are more highly endorsed by members of either Canadian or Chinese culture—would affect how Chinese-English bilingual individuals behave. Specifically, when engaged in behaviours that were more highly endorsed by Chinese culture but spoken in English (or vice versa), would actors experience discomfort and would this discomfort be detectable to an observer?

I hypothesized that when the behaviour and language spoken were inconsistent (i.e., engaging in a behaviour that was more highly endorsed by Chinese but spoken in English or engaging in a behaviour more highly endorsed by Canadians but spoken in Chinese), actors would feel noticeably less comfortable than if in a situation when the behaviour and language spoken were consistent (e.g., engaging in a behaviour more highly endorsed by Canadians, spoken in English). This decrease in comfort would be expressed, not necessarily verbally, but through actors' nonverbal behaviour and, in turn, be detectable by an observer who has access only to actors' nonverbal behaviours. Additionally, I hypothesized that Chinese-Canadian biculturals if told the behaviour being performed, would be more likely than European-Canadians to correctly guess the language in which actors spoke.

Results for the characteristic rating part of the study showed that European-Canadians rated actors more positively when they spoke English than when they spoke Chinese. Chinese participants, however, rated actors equally positively across both languages. Concerning my hypothesis that participants would rate actors more highly

when actors were engaged in behaviours that were consistent with the language spoken (language x behaviour interaction), my hypothesis was partially confirmed. When saying something negative about a family member, participants rated actors more highly when speaking English than Chinese. Additionally, when actors spoke Chinese, participants rated them more highly when deferring than when saying something negative about a family member. Concerning the language guessing, an unexpected finding resulted, such that, in the control condition, European-Canadians were better than were Chinese, whose performance was no better than chance, at guessing the language spoken. However, when participants knew the behaviour that actors were engaged in, European-Canadians' guessing abilities reverted back to chance levels.

Observer Ratings of Actors

The language by culture interaction showing that European-Canadians rated actors more highly when they spoke English than when they spoke Chinese suggests that actors' nonverbal behaviour differed across languages and that, at some level, European-Canadians were able to pick up on this difference. However, the fact that European-Canadians rated actors more positively does not necessarily suggest that actors conveyed more positive nonverbal behaviour when speaking English. European-Canadians may have rated actors more highly simply because, when speaking English, actors displayed nonverbal behaviours (e.g., hand gestures, facial expressions) that were more similar to those behaviours used by English speakers, and thus, they were more familiar to European-Canadians than the nonverbal behaviour that actors used when speaking Chinese. The fact that Chinese participants rated actors similarly across languages, suggests that a familiarity explanation makes sense because, being familiar with both

Chinese and Canadian culture, Chinese participants would not rate actors more highly when speaking one language versus the other. Of course, actors may have displayed more positive nonverbal behaviour when speaking English, but such an interpretation is difficult to explain. Given that actors had no reason to feel more positively when speaking English than Chinese, and given that Chinese participants did not rate actors differently across languages, this explanation is probably less likely.

Although the hypothesized interaction between topic and language did not reach significance, post-hoc tests revealed that parts of the hypothesis were supported. First, when actors spoke Chinese, they were rated more highly for the deferring topic than for the saying negative things topic. Additionally, within the saying something negative topic, a comparison of the language spoken revealed that actors were rated significantly more positively when they spoke English than when they spoke Chinese. Examination of the means from Figure 1 shows that one specific cell mean was comparatively higher than I hypothesized—deferring in English. As previously described, actors were rated more highly when they were engaged in the deferring topic than when in the saying something negative topic. Given that the results of the initial values questionnaire of Study 1 did not show that European-Canadians and Chinese rated the deferring item significantly differently, when actors performed this behaviour, they understandably did not show decreased discomfort when speaking English versus speaking Chinese. For the other topic (saying something negative about a family member), however, where the initial survey did show that European-Canadians endorsed it more highly than Chinese, actors did apparently feel more comfortable engaging in it in English than in Chinese. The results for the saying something negative about a family member item lends

preliminary support of the hypothesis that when Chinese-Canadian biculturals experience inconsistent norms for behaviour, they feel less comfortable as reflected in their nonverbal behaviour.

Language Identification

The results of the language identification task ran counter to what I had hypothesized. First, Chinese performance did not improve between the control and experimental conditions. Second, European-Canadians were able to correctly identify the language spoken a significantly greater proportion of the time than did Chinese. Although I did not make a specific hypothesis about how European-Canadians would perform in the experimental condition relative to the control condition, the fact that they performed significantly better in the control condition is not what I would have predicted.

One possible reason is that European-Canadians, by default, were familiar with only one of the cultures, Canadian culture. Therefore, when attempting to decode actors' nonverbal behaviour, European-Canadians looked for movements and gestures matching what they believed to reflect those performed by members of Canadian culture (or English speakers). Contrary to this idea, I suspect that Chinese participants, however, did not focus on one particular default culture, but instead, they tried to classify what they saw as Chinese or Canadian nonverbal behaviour. Perhaps when making a decision about a stimuli, determining if that stimulus is A or not A (which is what European-Canadians likely did) is easier than determining if a stimulus is A, and if not A, then if it is B (what Chinese likely did).

Turning back to my results, by the mere fact that they are familiar with only one culture, the decision process that European-Canadians must make may be easier than the

one that Chinese make. Thus, in the control condition, European-Canadians may have relied on their greater familiarity with nonverbal behaviour displayed by English speakers to guide their language guesses. However, when given behavioural information, these additional details complicated their decision-making process because, similar to Chinese participants, they now had to contend with a more complicated decision-making process (by the addition of more information). How may have the additional information complicated the decision-making process for European-Canadians?

Perhaps the additional topic information that participants received in the experimental condition shifted their attention away from the nonverbal cues and led them to rely more on the topic to guide their language guesses. Given that, in the actor evaluation portion of the study, European-Canadians were able to distinguish when actors were speaking Chinese versus English (without any behaviour information), perhaps the addition of the behaviour information in the language guess task led participants to use the wrong cue, the behaviour topic, in making their language guesses. Although I had reasoned that the addition of the topic information should have increased bicultural Chinese participants' language guessing ability, I did not have a reason to think that European-Canadians would benefit for the additional topic information. Therefore, giving European-Canadians the topic information may have acted as a peripheral or non-diagnostic cue.

According to Nisbett, Zukier, and Lemley (1981), the dilution effect occurs when non-diagnostic information dilutes the implications of the diagnostic information. This dilution happens because the non-diagnostic information, presumably not associated with the target, reduces the perceived similarity between the target and people's conception of

the target. For instance, in the case of the language guessing, European-Canadians have an idea of how English speakers behave, nonverbally. To the extent that actors display these nonverbal behaviours, European-Canadians will judge them as speaking English. However, when also given behaviour information, which is presumably non-diagnostic of Chinese or English nonverbal behaviour, European-Canadians may, none-the-less, believe it to be relevant to the task of language guessing and use it as diagnostic information. However, because the topic information is, in fact, non-diagnostic, incorporating it into their decision-making process will dilute European-Canadians' perception of whether actors are speaking English or not.

Future Directions

As a starting point for future directions, some modifications to the current design of the study could be made. Starting with the initial behavioural questionnaire that was given to European-Canadians and Chinese, the set of behaviours (reflecting Chinese and Canadian cultural norms) used to differentiate Canadian and Chinese cultures should be developed more systematically so as to increase the chances of obtaining behaviours that are equivalent across cultures. For instance, an equal number of positive and negative behaviours should be chosen for the two cultures. Also, behaviours chosen really should reflect categorical differences in acceptability (i.e., a behaviour that is acceptable in one culture, but not in the other) and not just a comparative difference.

A more systematic examination of this research question by breaking this study down into a few different studies may help produce clearer conclusions. If the results had supported this study's hypothesis, thus yielding a language x behaviour interaction (for the characteristics ratings part), I would have had strong evidence to conclude that, when

a behaviour and the language spoken elicited different cultural norms for behaviour, Chinese-English biculturals would experience discomfort and that this discomfort would be manifested in their nonverbal behaviour and would be detectable by an observer. Given that results did not show a language x behaviour interaction, however, trying to determine what went wrong is tricky. Was it that actors did not feel significantly less comfortable across the four videos and thus did not show decreased comfort in their nonverbal behaviour? Or did actors feel differently across the four videos (and in the manner that was hypothesized) but that this discomfort was so mild that it was not displayed in their nonverbal behaviour? Still perhaps the problem lay in the observers—in that they were not able to pick up on the subtle differences in comfort levels that actors displayed, but instead, they simply focused on what nonverbal behaviour was more familiar to them when making their characteristic ratings?

As a first step in teasing these possibilities apart, perhaps showing that Chinese-Canadians do, in fact, feel less comfort when their behaviour and the language they are speaking elicit different cultural norms would be a good start. Although this discomfort may take place at a subconscious level, we have no proof that it necessarily does. Conducting an independent study to examine whether or not this discomfort takes place would provide a good foundation for continuing on with the rest of the project. Although the self-comfort ratings that actors reported did not support the notion that the discomfort is experienced at the conscious level, perhaps the behaviours they engaged in did not do a good job of differentiating between Chinese and Canadian behavioural norms, and so, despite speaking Chinese or English while engaging in behaviours, comfort ratings did not differ.

Another area where a future study would need to improve upon the current one concerns the elimination of confounds. As described earlier, the possibility that European-Canadians' responses were driven by their greater familiarity with nonverbal behaviour associated with speaking English is a potential confound. Our ability to properly interpret this study's results, given this familiarity explanation, is limited.

Future studies that build upon the findings of this study could look at whether or not the inclusion of verbal behaviour would affect results. Given that we rarely engage in communication where we have access to only the nonverbal component, perhaps including the verbal information when showing clips to observers may be worthwhile as it would be a more realistic reflection of normal communication. Additionally, perhaps testing a different group of bicultural individuals (e.g., Italian-Canadians) to see if they show that hypothesized pattern of results would also be interesting.

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Appendix

Appendix B

Order of Language and Conversational Topic

Language Order: English ---→ Chinese

1. When you bump into some friends in a restaurant, you insist that he/she join you for dinner
2. At a second-hand furniture store, you bargain with the shop owner in hopes of getting a lower price on a piece of furniture
3. Telling a family member that you love him or her
4. When discussing a matter with an older person, you defer to his/her opinion
5. Saying negative things about your family members to a casual friend.

Appendix D

Rating Items

For this section of the study, you will see 4 clips containing the same speaker. The speaker is a bilingual Queen's University student who has been asked by a researcher to engage in some conversations either in English or Chinese. The sound is muted so you won't know what language the speaker is speaking in nor what the topic is. After viewing each clip, please rate him/her on the following characteristics.

Clip #1

1. How COMFORTABLE is the speaker?

1	2	3	4	5	6	7
Not at all Comfortable						Very Comfortable

2. How CONFIDENT is the speaker?

1	2	3	4	5	6	7
Not at all Confident						Very Confident

3. How LIKABLE is the speaker?

1	2	3	4	5	6	7
Not at all Likable						Very Likable

4. How NERVOUS is the speaker?

1	2	3	4	5	6	7
Not at all Nervous						Very Nervous

5. How RESERVED is the speaker?

1	2	3	4	5	6	7
Not at all Reserved						Very Reserved

Clip #2

1. How COMFORTABLE is the speaker?

1	2	3	4	5	6	7
Not at all Comfortable						Very Comfortable

2. How CONFIDENT is the speaker?

1	2	3	4	5	6	7
Not at all Confident						Very Confident

3. How LIKABLE is the speaker?

1	2	3	4	5	6	7
Not at all Likable						Very Likable

4. How NERVOUS is the speaker?

1	2	3	4	5	6	7
Not at all Nervous						Very Nervous

5. How RESERVED is the speaker?

1	2	3	4	5	6	7
Not at all Reserved						Very Reserved

Clip #3

1. How COMFORTABLE is the speaker?

1	2	3	4	5	6	7
Not at all Comfortable						Very Comfortable

2. How CONFIDENT is the speaker?

1	2	3	4	5	6	7
Not at all Confident						Very Confident

3. How LIKABLE is the speaker?

1	2	3	4	5	6	7
Not at all Likable						Very Likable

4. How NERVOUS is the speaker?

1	2	3	4	5	6	7
Not at all Nervous						Very Nervous

5. How RESERVED is the speaker?

1	2	3	4	5	6	7
Not at all Reserved						Very Reserved

Clip #4

1. How COMFORTABLE is the speaker?

1	2	3	4	5	6	7
Not at all Comfortable						Very Comfortable

Clip #3

What language is the speaker speaking in? Chinese_____ English_____

How did you make your decision? _____

Clip #4

What language is the speaker speaking in? Chinese_____ English_____

How did you make your decision? _____

Now you will be told what topic the speaker is engaged in before seeing each video. Afterward, you will be asked once again to guess what language the speaker is speaking in.

Clip #1

What language is the speaker speaking in? Chinese_____ English_____

How did you make your decision? _____

Clip #2

What language is the speaker speaking in? Chinese_____ English_____

How did you make your decision? _____

Clip #3

What language is the speaker speaking in? Chinese_____ English_____

How did you make your decision? _____

Clip #4

What language is the speaker speaking in? Chinese _____ English _____

How did you make your decision? _____

Demographics

1. Age: _____

2. Gender: ___M ___F

3. Major: _____

4. What year of your major are you in? _____

5. How familiar are you with Chinese culture?

1	2	3	4	5	6	7
Not at all familiar			Somewhat familiar			Very familiar

6. Do you have Chinese friends?

1	2	3	4	5	6	7
None of my friends are Chinese			Some of my friends are Chinese			Many of my friends are Chinese

1. With which of the following cultures do you identify yourself? Check one answer:

- Chinese
 Canadian
 both Chinese and Canadian
 another ethnic group; please write in: _____

2. How many of your close friends are:

- | | None | Only one | A few | Most | All |
|-------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Chinese? | <input type="checkbox"/> |
| b. Canadians? | <input type="checkbox"/> |
| c. Other ethnics? | <input type="checkbox"/> |

3. How often do you spend free time in school with:

- | | Never | Rarely | Sometimes | Most of the time | All of the time |
|-------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Chinese? | <input type="checkbox"/> |
| b. Canadians? | <input type="checkbox"/> |
| c. Other ethnics? | <input type="checkbox"/> |

4. How often do you spend free time out of school with:

- | | Never | Rarely | Sometimes | Most of the time | All of the time |
|-------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Chinese? | <input type="checkbox"/> |
| b. Canadians? | <input type="checkbox"/> |
| c. Other ethnics? | <input type="checkbox"/> |

5. How often do you participate in traditional **Chinese** activities or customs?

- Never
 Almost never
 A few times a year
 Monthly
 Weekly

6. How often do you participate in traditional **Canadian** activities or customs?

- Never
 Almost never
 A few times a year
 Monthly
 Weekly

How much do you agree or disagree with each of the following statements?

	Strongly disagree	Somewhat disagree	Not sure/ Neutral	Somewhat agree	Strongly agree
7. I am proud of being Chinese.	[]	[]	[]	[]	[]
8. I am happy to be Chinese.	[]	[]	[]	[]	[]
9. I am proud of being Canadian.	[]	[]	[]	[]	[]
10. I am happy to be Canadian.	[]	[]	[]	[]	[]
[]					