

**Associations between Social Competence, Emotion Regulation,
Language Skills, and Cultural Orientations: A Study with
Mandarin-English Bilingual Preschoolers**

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Abstract

Social competence is important to preschool children because it is closely related to their social adjustment and taken as a fundamental element of their school readiness. To date, no studies have examined social competence of Mandarin-English bilingual preschoolers from the perspectives of emotion regulation, language skills and cultural orientations. This PhD project was designed to address these issues. The project includes a major study (Study 1) and a smaller-scale study (Study 2) conducted two years after Study 1.

Study 1 was designed to investigate how emotion regulation, language skills, and cultural orientations were associated with social competence. Ninety-six children who spoke Mandarin at home and aged between 36 and 69 months were recruited from 15 childcare centres in northwest Sydney. Social competence was measured by teachers' reports on the Behaviour Assessment System for Children - second edition (BASC-2) with four composites: Externalizing, Internalizing, Behavioural Symptoms and Adaptive Skills. Positive Emotion Regulation and Emotion Dysregulation were measured using the Disappointing Gift (DG) task and teacher report on the Emotion Regulation Checklist (ERC). Mandarin and English language skills were measured with standardised language tests. Host and heritage cultural orientations were measured with modified General Ethnicity Questionnaires. The results indicate Positive Emotion Regulation, Emotion Dysregulation, and English skills were associated with social competence. In addition, Positive Emotion Regulation buffered the effects of limited English proficiency on Behavioural Symptoms but Emotion Dysregulation reduced the effects of English skills on Adaptive Skills. Host culture orientation was negatively associated with Internalizing,

Behavioural Symptoms and positively with Adaptive Skills. Associations between host cultural orientation and social competence were stronger in girls than in boys. Heritage cultural orientation was not associated with any composite of the BASC-2 either in the overall sample or by gender.

Study 2 was designed to examine how proficient Mandarin-speaking children were in English morphemes of plurals and tense and whether positive emotion regulation was positively associated with proficiency in the morphemes. It is important to conduct such an investigation because findings have the potential to provide suggestions for morpheme learning and improving emotion regulation abilities. Eighteen children aged 48-64 months were recruited from seven childcare centres in northwest Sydney. Elicitation was used to test proficiency in plurals and tense. Positive emotion regulation was assessed by the ERC and the DG. The results show that plurals and tense presented great difficulties to the participants and positive emotion regulation measured by the ERC was positively associated with tense scores.

Statement of originality

I certify that the research in this thesis entitled “Associations between social competence, emotion regulation, language skills, and cultural orientations: A study with Mandarin-English bilingual preschoolers” is my original work and it has not been previously submitted as part of requirements for a degree to any university or institution other than Macquarie University.

I also certify that the thesis is an original piece of research and it has been written by me. All the help and assistance that I have received in my research work and the preparation of the thesis itself have been appropriately acknowledged.

In addition, I certify that all information resources and literature used are indicated in the thesis. The research presented in this thesis was approved by Macquarie University Ethics Review Committee, reference numbers 5201300508 (July 2013) and 5201500491 (August 2015).

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Chapter 1 Introduction

Social competence refers to the ability to conduct appropriate social interactions and make use of personal and environmental resources to achieve one's goals (Rose-Krasnor, 1997; Waters & Sroufe, 1983). Children with a high level of social competence generally succeed in social interactions and peer relationships and have few difficulties with transitions, such as starting school (Monopoli & Kingston, 2012; Taborsky & Oliveira, 2012). Parents often note that social development is an important consideration when selecting formal child care (Hu, Torr, & Whiteman, 2014). Among children from immigrant backgrounds who have just entered an educational context, limited host language presents an obvious source of difficulty in social interactions (Oades-Sese, Esquivel, Kaliski, & Maniatis, 2011; Winsler et al., 2014). Children who have limited language skills may have difficulty in expressing themselves effectively or comprehending others. Nevertheless, language production and comprehension may not completely explain social difficulties. Children's abilities to regulate emotions need to be considered when investigating their social interactions and social competence development (Denham et al., 2003; Eisenberg, Fabes, Guthrie, & Reiser, 2000). Moreover, cultural environments in which immigrant children have grown also tend to affect specific aspects and quality of social interactions (Chen & French, 2008). This PhD project will focus on the associations between social competence, emotion regulation, language skills and cultural orientations among Mandarin-English bilingual children in Australian childcare.

It is important to focus on Mandarin-English bilingual children because in recent years Western countries have seen an increasing influx of immigrants from Asia

("Australian Historical Population Statistics," 2014; Cheah & Leung, 2011; Lee & Edmonston, 2011). Among Asian immigrants, people from a Chinese origin, coming from mainland China, Taiwan, Malaysia, and the like, are one of the largest in number (Chau, Yu, & Law, 2014; Lu, Samaratunge, & Härtel, 2015; Zhou, 2014). In Australia, Mandarin has become the language spoken by the second largest number of people after English ("Australian social trends," 2013; Cooke, Zhang, & Wang, 2013).

Theoretical backgrounds

Eisenberg, Sadovsky, and Spinrad (2005) present a heuristic model (see Figure 1.1) to explain the relationships between language skills, emotion regulation, social competence and academic motivation and skills. The factors contributing to social competence development include language, emotion regulation and academic skills. Language can directly contribute to social competence development and emotion regulation abilities. Language can also indirectly foster social competence through emotion regulation. Children who have a good repertoire of emotional knowledge are better able to display or mask their emotions – an ability that tends to contribute to social competence development. In other words, emotion regulation mediates relations between language skills and social competence. The model also displays how academic motivation and skills are associated with other constructs but those associations will not be considered in this project because academic skills may be more of a research interest for school years while this PhD project is conducted with preschool children.

Eisenberg et al.'s (2005) model is yet to be tested with immigrant bilingual children, some of whom may have difficulty with the social subtleties of the host language or may even have difficulty expressing basic needs and ideas to peers. The model predicts a

relationship between language skills and social competence but importantly this relationship is changed by emotion regulation. For example, a girl may have her request to play with a peer ignored because the peer does not understand the request. The girl's emotional reaction to the rejection may then be critical. If she becomes upset and either isolates herself or reacts aggressively, she may have further difficulties in social relationships with the peer. If she can regulate her negative emotions, she may find other strategies for peer engagement such as helping the peer with building blocks. In this example, it is clear that there is a relationship between language and social competence, but the child's ability to regulate emotions can change that relationship.

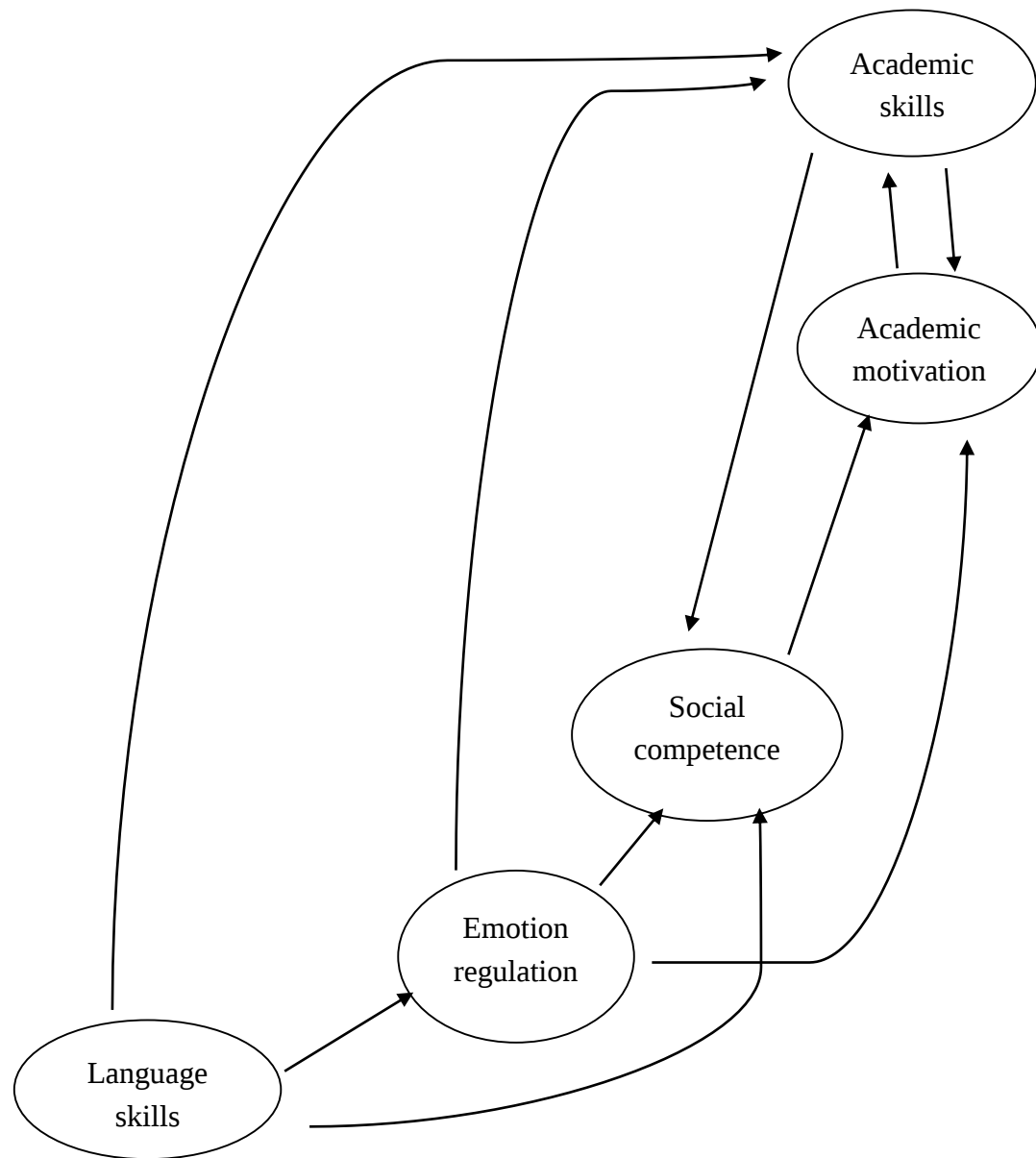


Figure 1. Heuristic model explaining relationships between language, emotion knowledge, emotion regulation, social competence, academic motivation and academic skills (Eisenberg et al., 2005, p. 114)

Apart from language skills and emotion regulation, culture tends to be another important factor that cannot be overlooked when investigating immigrant children's social behaviours (Chen & French, 2008; Farver, Narang, & Bhadha, 2002). Culture defines proper attitudes and behaviours in group contexts and communicates values and beliefs to

its members (Chen & French, 2008; Mpofu, Thomas, & Chan, 2004). Western culture tends to encourage emotion expression and be more accepting of children's rough play but discourages the internalizing of behaviours as these behaviours would be viewed as socially incompetent (Chen & French, 2008; Suizzo et al., 2008). Unlike Western culture, traditional Chinese culture values group interest and one would expect a high level of emotion control to be valued and to be predictors of low levels of externalizing problems (e.g., aggression and hyperactivity) (Ho, 1996). Some internalizing behaviours such as being shy and sensitive would be interpreted as indicators of social accomplishment and maturity in traditional Chinese culture (Chen, Rubin, & Li, 1997). Nonetheless, as China has become more modernised and westernised in recent years, shy and withdrawn behaviours tend to be less accepted with assertive behaviours becoming more valued (Chen & French, 2008; Eisenberg et al., 2007).

Overview of prior research investigating children's social competence, emotion regulation, language skills and cultural orientations

It is not just theoretically important to investigate the relationships between language skills, emotion regulation and social competence. Large numbers of Mandarin-speaking children enter educational contexts each year and some may be faced with maladjustment due to limited English proficiency. While it may be difficult to improve their English proficiency in the short term, childcare educators can intervene in children's adjustment issues from an emotional perspective. To date there is limited research investigating relationships between emotion regulation, language and social competence. An exception is Monopoli and Kingston (2012) study with children aged 6-8 years. They investigate whether language skills and emotion regulation are associated with social competence and

whether language skills mediate the relations between emotion regulation and social competence. The findings indicate that language skills and positive emotion regulation are positively associated with social competence and emotion dysregulation is negatively associated with social competence. However, they do not find that language skills have a mediation effect. However, their research is inspiring as it opens up a new avenue for future research to follow.

Notably, Monopoli and Kingston (2012) have investigated school-aged children. There is a group of studies conducted with preschoolers focusing on the associations between emotion regulation and social competence or (host) language skills and social competence. Table 1.1 presents a brief summary of these studies. It is noted that some of these studies also investigate the associations beyond emotion regulation, language skills and social competence and those findings are not presented due to the research goal of this project.

Table 1.1

Summary of Previous Studies Investigating Social Competence, Emotion Regulation and Language Skills

Study	Associations investigated	Findings
Blair, Denham, Kochanoff, and Whipple (2004) 153 children, 80 boys, 73 girls, mean age 44.39 months, no information about age range.	Emotion regulation strategies and behavioural problems	1. Positive (i.e., constructive) emotion regulation is negatively correlated with internalizing behaviours. 2. Emotion dysregulation (i.e., emotional venting) is positively correlated with externalizing behaviours and negatively with social competence.
Godleski, Kamper, Ostrov, Hart, and Blakely-McClure (2015) 97 children, 55 boys, 42 girls, mean age 45.22 months, $SD = 6.99$, no information about age range 59% Caucasian children	Positive emotion regulation and peer rejection and physical victimisation	Positive emotion regulation predicts a decrease in peer rejection and physical victimisation.
Cohen and Mendez (2009) 2-year longitudinal design 331 children, 49.5% boys, 50.5% girls, age range 33-70 months, 83.1% African American	Emotion regulation, language skills and stability of peer play behaviours	1. Emotion dysregulation is positively associated with maladaptive behaviours but negatively with social competence. 2. Children who display stable maladaptive behaviours have lower levels of receptive language skills and positive emotion regulation abilities than children who display consistently adaptive behaviours.

Table continued

Oades-Sese et al. (2011) 207 children from Hispanic backgrounds, 54.1% boys, 45.9% girls, age range 4-5.58 years	English skills and social competence	Children who have limited English have the highest levels of teacher-reported peer play disruption (i.e., being aggressive, antisocial and disturbing ongoing activities) and withdrawal and the lowest levels of prosocial behaviours (e.g., comforting and helping peers and showing creativity in play) when compared with peers whose English is native-like and peers whose English is fluent.
Goldfeld and Goldfeld (2014) 261,147 children, 97.5% being 5-year-old population, 51.3% male, 48.7% female	English skills and socioemotional competence	Lack of English is associated with developmental vulnerability on a wide range of domains such as lower levels of social competence, approaches to learning and readiness to explore new things, and prosocial behaviours, and higher levels of anxious, fretful and aggressive behaviours and inattention.
Kang, Haddad, Chen, and Greenberger (2014) 7356 children from Asian and Hispanic backgrounds, 50% boys, 50% girls, mean age 5.44 years, no information for age range	English and socioemotional competence	Children with persistent limited English proficiency have lower levels of teacher-reported approaches to learning behaviours, self-control behaviours and interpersonal skills for both Asian and Hispanic Americans, but the associations were stronger for Asian American children.

The general pattern of these studies is that positive emotion regulation and (host) language skills are positively associated with social competence but emotion dysregulation is negatively associated with social competence. The findings confirm Eisenberg et al.'s (2005) heuristic model that emotion regulation and language each contribute to social competence development. Yet based on these findings, it seems unlikely that emotion regulation just mediates the relations between language skills and social competence (i.e., language skills contribute to emotion regulation abilities, which in turn contribute to social competence). More likely, emotion regulation may moderate the relationship between language skills and social competence.

A mediator shifts a causal effect from an independent variable to a dependent variable and functions as a go-between (Baron & Kenny, 1986; Holmbeck, 2002). That is, the mediator serves to explain the process or mechanism by which the independent variable significantly affects the dependent variable. A moderator is a variable that specifies conditions under which an independent variable is associated with a dependent variable (Baron & Kenny, 1986; Holmbeck, 2002). In other words, the association between the independent variable and the dependent variable can vary as a function of the moderator.

This study shows that positive emotion regulation may be a moderator between English skills and social competence. When children are able to regulate their emotions positively, their English skills may be unrelated to social competence. However, when children are unable to regulate their emotions positively, English skills may contribute to social interactions and social competence development. Given emotion dysregulation plays a negative role in social competence development as indicated by the above studies

(see Blair et al., 2004; Cohen & Mendez, 2009), emotion dysregulation may also be a moderator between English skills and social competence. When children dysregulate their emotions, their English skills may be unrelated to social competence. When children do not dysregulate their emotions, English skills may contribute to social competence development. In other words, emotion dysregulation may reduce the effects of English skills on social competence.

Apart from emotion regulation and host language skills, a small group of studies with bilingual children show that heritage language skills are positively associated with social competence. Table 1.2 summarises these findings.

Table 1.2

Summary of Previous Studies Investigating Social Competence and Heritage

Language Skills

Study	Findings
Chang et al. (2007) 345 children from Hispanic backgrounds, no information about ratio of gender, mean age 4.61 years ($SD = 0.30$)	1. Increased amount of the heritage language spoken is positively associated with teacher ratings of social skills and assertiveness. 2. More heritage language spoken in the classroom is associated with a decrease in peer victimisation.
Oades-Sese et al. (2011) 207 children from Hispanic backgrounds, 54.1% boys, 45.9% girls, age range 4-5.58 years	1. Children who are proficient in heritage languages have similar levels of socioemotional competence as those who are proficient in the host language. 2. Children not proficient in heritage languages as well as the host language are rated by teachers as having lower levels in play activity but a higher level of inhibited behaviours.
Chen et al. (2014) 258 children, 48.1% girls, 51.9% boys from Chinese-speaking families, age range 6-9 years	Chinese language proficiency is positively associated with teacher and parent reports of socially appropriate behaviours.

Positive associations between heritage language skills and social competence may not be surprising because speaking heritage languages may help immigrant children

extend social interactions, reach out to peers from the same ethnic groups, and avoid communication difficulties with parents who may want to maintain heritage languages. Nevertheless, these studies either focus on school-aged children or non-Mandarin-speaking children. It is important to extend such studies to Mandarin-English bilingual preschoolers to increase current understanding and better address the needs of immigrant children's social competence development.

As previously stated, cultural environments in which a child grows cannot be neglected when examining the child's social behaviours. There is a body of research investigating the associations between Chinese children's cultural orientations and social competence. Cultural orientation is defined as the degree to which individuals are affected by and engaged in the norms and practices of a specific culture (Tsai, Ying, & Lee, 2000). Table 1.3 summarises the major findings of this body of research.

Table 1.3

Summary of Previous Studies Investigating Cultural Orientations and Social Competence among Chinese School-aged Children

Study	Host cultural orientation	Heritage cultural orientation	Gender differences
Chang, Morrissey, and Koplewicz (1995) 181 children, 41% boys, 59% girls, age range 5-17 years	Assimilation to host culture is negatively associated with externalizing and internalizing behaviours	No significant associations are reported	1. Host cultural adjustment is negatively associated with overall behavioural problems and internalizing behaviours in boys. 2. The amount of Chinese spoken at home is positively associated with externalizing behaviours in girls.
Juang and Nguyen (2009) 309 Chinese adolescents, 46% male, 54% female, age range 13-17 years	Overall host cultural orientation is unrelated to misconduct, but later autonomy expectation, an aspect of host cultural orientation, is related to less misconduct	Overall heritage cultural orientation is unrelated to misconduct, but Chinese family obligation, an aspect of heritage cultural orientation, is related to less misconduct	Boys, not girls, who value family cohesiveness, responsibility, and well-being, display less misconduct.

Table continued

Chen and Tse (2010)	356 children, 50% boys, 50% girls, mean age 11 years, no information about age range	1. English language use, an aspect of host cultural orientation, is associated positively with sociability, positive sociometric nomination, teacher rated social competence and perceived self-worth but negatively with sensitivity, shyness and loneliness 2. Participation in Western cultural activities is positively associated with teacher-rated social competence	Participation in Chinese cultural activities is associated positively with teacher-rated social competence, positive sociometric nomination, and perceived self-worth but negatively with sensitivity, shyness and loneliness.	Not investigated
Chen et al. (2014)	258 children, 51.9% boys, 48.1% girls, age range 6-9 years	English proficiency and English media use are associated positively with social competence but negatively with behavioural problems when parenting practices are featured by high warmth with high control	Chinese proficiency, an aspect of heritage cultural orientation, is positively associated with teacher-rated socially appropriate behaviours	Not investigated

Though the findings are slightly different, these studies tend to show that both host and heritage cultural orientations are positively associated with social competence and the associations tend to vary across gender. Nevertheless, all these studies are conducted with school-aged Chinese children. My literature research shows there is no study of a similar nature conducted with Mandarin-speaking preschoolers in Western countries. It is necessary to conduct such a study because new understandings may have primary implications for parents and teachers on how host and heritage cultural orientations can be incorporated into parenting practices and educational programs so that Mandarin-speaking children's social competence development can be facilitated.

Relationships between proficiency of grammatical morphemes and emotion regulation

There is a body of research showing that young children's language skills are positively associated with their self-regulation of emotions such as anger and frustration (Roben, Cole, & Armstrong, 2013; Vallotton & Ayoub, 2011). These findings appear to support a proposition that language skills and emotion regulation have mutual influence (Cole, Armstrong, & Pemberton, 2010). Language provides children with an additional and socially appropriate means of expressing their needs, abilities to understand their own and others' emotional lives and becomes an additional tool for regulating actions. Emotion regulation also helps develop language skills. This is because children with better emotion regulation abilities are more likely to benefit from social interactions and have more opportunities to develop language skills (Cole et al., 2010).

These studies, however, were conducted mainly with English monolingual children. No study to date has examined if or how the learning of grammatical morphemes might be

associated with emotion regulation in bilingual preschoolers. A study of this PhD project will be conducted to explore whether Mandarin-English bilingual preschoolers' proficiency in these grammatical morphemes is positively associated with their emotion regulation abilities. It is important to conduct such an investigation because evidence shows that some English grammatical morphemes (e.g., plurals, present and past tense) are challenging to Mandarin-English bilingual school-aged children (Jia, 2003; Jia & Fuse, 2007; Li, 2012; Nicoladis, Song, & Marentette, 2012). Mandarin-English bilingual preschoolers may also have similar difficulties in these morphemes. If emotion regulation abilities are positively associated with proficiency in grammatical morphemes, the finding may provide preliminary evidence for the development of intervention programs to improve bilingual children's English morpheme learning and emotion regulation abilities.

Measurement of social competence, emotion regulation, language skills and cultural orientations

Social competence can be measured by self-rating, peer status rating, behavioural observations, and adult reports (Attili, 1990; Bornstein, Hahn, & Haynes, 2010; Rose-Krasnor, 1997). However, some of these methods may not be appropriate for young children. For instance, self-perceptions and peer status rating are viewed by researchers as not appropriate for children under 5 years old as these approaches may not provide reliable data (Ladd & Coleman, 1993; Rose-Krasnor, 1997). Behavioural observations may help to collect reliable data but the method is "a very ambitious, costly, and sometimes not a manageable endeavor" (Arnold & Lindner-Müller, 2012, p. 15). Adult reports of behavioural checklists are frequently used to measure young children's social competence (Bierman, Kalvin, & Heinrichs, 2015; Cohen & Mendez, 2009; Luchtel,

Hughes, Luze, Bruna, & Peterson, 2010). This approach is based on judgments of parents or teachers who spend time and have experiences with the child. It is important to select social competence measures that are geared to the context being addressed (Ren & Pope, 2014). The present project is interested in bilingual children's social competence in preschools, so teachers' reports of children's behaviours in preschool contexts will be used.

Emotion regulation can be measured by self-rating, parent or teacher reports, investigators' observations or experimental methods (Denham, 2006). Due to consideration that young children can have considerable difficulty reflecting and reporting their own emotions, adult reports are used to measure children's emotion regulation (Cohen & Mendez, 2009; Fan, 2011; Kahle, Miller, Lopez, & Hastings, 2016). Apart from adult reports, investigators' observation of a child's emotional behaviours in a particular context (e.g., a disappointing situation) can provide additional information. Researchers point out that multiple measures such as adult reports and investigators' own observation yield more comprehensive data than can be achieved from a single informant or with a single measure (Cole, Martin, & Dennis, 2004; Denham, 2006).

Regarding young children's language skills, two approaches are generally used: adult ratings and language tests (Sheng, Lu, & Kan, 2011; White & Jin, 2011). Adult ratings refer to use of questionnaires sent to parents or educators to rate children's language skills (Luchtel et al., 2010; Spomer & Cowen, 2001). These tests are easy to administer but can only capture the basics of language such as documenting nouns and verbs frequently used by a child or estimates of sentence length. A detailed assessment of language can only be done by a researcher or practitioner with an in-depth understanding of language

development. Many of the diagnostic tests, such as the Preschool Language Scales (PLS), provide comprehensive language profiles but require more than one hour administration time which makes these more detailed tests difficult to use in research in which more than one test is administered for children. The current version of the PLS has an associated brief version - Preschool Language Scales – 5th edition Screening Test (PLS-5 Screening Test). It requires less training for use and can be administered in 6-10 minutes. The PLS-5 Screening Test will be used in the present project to assess Mandarin-English bilingual preschoolers' overall English skills. However, the norm of the test is developed on European-American children in majority and other ethnic children in minority (Zimmerman, Steiner, & Pond, 2012). To provide data for the development of a guideline for early childhood educators and psychologists who use this test with Mandarin-English bilingual children, it is necessary to investigate typical errors these children will make on the test. Due to linguistic differences between Mandarin and English and Chinese children are generally less encouraged to develop autonomous skills (Jia & Fuse, 2007; Luo, Tamis-LeMonda, & Song, 2013; Qi, 2010), it is expected that word final consonants, use of plurals, personal pronouns, and language items embedded with autonomy, all of which the PLS-5 Screening Test includes, will present challenges to the children in the present project. However, children's overall performance on the PLS-5 Screening Test might be improved if they attend childcare centres for longer periods of time. This is because proficiency in a language among young children is generally associated with length of exposure to the language (Bedore & Peña, 2008; Jia, Aaronson, & Wu, 2002).

As for cultural orientation measurement, questionnaires are generally used by self-rating or adult reports if children are in early childhood and not mature enough (Chen &

Tse, 2010; Kang, 2006; Phinney, 2003; Tsai et al., 2000). The areas that cultural orientation questionnaires have commonly include language use, social affiliation, cultural pride, participation of cultural activities, food and media use (Kang, 2006; Knight et al., 2009). To my knowledge, there is no measure specifically developed to measure cultural orientations of Mandarin-English bilingual. Therefore, it is important to develop a measure suitable for preschool children. Due to time constraints, this PhD project will not develop a new measure, test its validity and reliability but modify the General Ethnicity Questionnaires (Tsai et al., 2000), which was designed for adult users, to make it appropriate for young Mandarin-English bilingual children from immigrant backgrounds.

Research hypotheses

Based on Eisenberg et al.'s (2005) heuristic model and the previous relevant research, the following hypotheses are made.

Hypotheses relating to emotion regulation and language skills

- 1) Positive emotion regulation is positively associated with social competence
- 2) Emotion dysregulation is negatively associated with social competence
- 3) English proficiency is positively associated with social competence
- 4) Positive emotion regulation and emotion dysregulation moderate the relationship between English skills and social competence
- 5) Mandarin proficiency is positively associated with social competence.

Hypotheses relating to cultural orientations

- 1) Host cultural orientation is positively associated with social competence
- 2) Heritage cultural orientation is positively associated with social competence

- 3) Relationships between cultural orientations and social competence vary across gender.

Hypotheses relating to performance on the PLS-5 Screening Test

- 1) Word final consonants, use of plurals, personal pronouns, and language items embedded with autonomy will present challenges to Mandarin-English bilingual preschoolers.
- 2) Overall performance on the test will be improved when children attend childcare centres for longer time.

Hypotheses relating grammatical morphemes and emotion regulation

- 1) English plurals, present and past tense will present challenges to Mandarin-English bilingual preschoolers
- 2) Proficiency in English plurals, present and past tense will be positively associated with emotion regulation abilities.

Thesis outline

This thesis has been presented according to the requirements for a thesis to be published. Following this chapter, chapter 2 is a paper reviewing previous studies investigating social competence of Chinese children in Western countries. Chapter 3 is a paper reviewing previous studies investigating social competence of Asian and Latino children in English-speaking countries from a bilingual perspective. Chapter 4 is the Methods section of the thesis. Chapter 5 is a paper investigating the relationship between language skills, emotion regulation and social competence. Chapter 6 is a paper investigating cultural orientations and social competence. Chapter 7 is a paper reporting the typical errors made by Mandarin-speaking children when tested by the English

measure. This paper contains additional analyses beyond the main research hypotheses.

Chapter 8 is a paper reporting a smaller scale study (Study 2) conducted nearly two years after the major study (Study 1). Chapter 9 is a general discussion and conclusion. Table 1.4 presents chapter numbers, the names of journal articles included in the chapters and authors' contributions to the journal articles.

Table 1.4

Journal Articles in the Chapters and Authors' Contribution

Chapter	Article	Authors' contribution
2	Ren, Y., & Wyver, S. (2014). Social-emotional adjustment of Chinese immigrant children in Western countries. <i>Virginia Review of Asian Studies</i> , 16, 231-242. http://www.virginiareviewofasianstudies.com/archived-issues/2014-2/	I identified the main focus of this article, conducted the literature review, completed most of the writing and selected the journal for submission. My principal supervisor (Wyver) helped with analysis and explanation of individual studies and in compiling the literature review.
3	Ren, Y., & Wyver, S. (2016). Bilingualism and development of social competence of English language learners: A review. <i>Child Studies in Asia-Pacific Contexts</i> , 6(1), 17-29. doi: 10.5723/csac.2016.6.1.017.	I identified the main focus of this article, conducted the literature review, and completed most of the writing. My principal supervisor (Wyver) helped with analysis and explanation of individual studies, compiled the literature review, and selected the journal for submission.
5	Ren, Y., Wyver, S., Xu Rattanasone, N., & Demuth, K. (2016). Social competence and language skills in Mandarin–English bilingual preschoolers: The moderation effect of emotion regulation. <i>Early Education and Development</i> , 27(3), 303-317. doi: 10.1080/10409289.2015.1066639	All authors were involved in the conceptualisation of this study. I recruited the participants, collected all data with the exception of the English testing for which my principal supervisor (Wyver) trained a research assistant who has English as her first language. I completed the statistical analysis with some guidance from all three supervisors, prepared the manuscript for submission, and completed the revisions required following review. My principal supervisor selected the journal for submission.

Table continued

6	Ren, Y., & Wyver, S. (2016). Social competence, cultural orientations and gender differences: A study of Mandarin-English bilingual preschoolers. <i>International Journal of Early Years Education</i> , 24(02), 139-152. doi: 10.1080/09669760.2016.1138282	I conceptualised this study, modified and translated the measure used to assess children's cultural orientations, and conducted the statistical analysis with some support from my principal supervisor (Wyver). I was also responsible for most of the preparation of the manuscript and responded to reviewers' comments. My principal supervisor selected the journal for submission.
7	Ren, Y., Xu Rattanasone, N., Wyver, S., Hinton, A., & Demuth, K. (2016). Interpretation of errors made by Mandarin-speaking children on the Preschool Language Scale - 5th edition screening test. <i>Australian Journal of Educational and Developmental Psychology</i> , 15, 24-34	All authors were involved in the conceptualisation of this study. I recruited the participants, completed the statistical analysis with some guidance from all three supervisors, prepared the manuscript for submission with involvement of my supervisors, and completed the revisions required following review. My principal supervisor (Wyver) trained the fourth author (Hinton), a research assistant who has English as her first language, to conduct the Preschool Language Scale - 5th edition screening test, and selected the journal for submission.
8	Ren, Y., Xu Rattanasone, N., Demuth, K., Andronos, F., & Wyver, S. Relationships between positive emotion regulation and proficiency with grammatical morphemes of plurals and tense: A study of Mandarin-English bilingual preschoolers. Preparation for submission as a research note to an early childhood journal for consideration of publication	All authors were involved in the conceptualisation of this study. I recruited the participants, collected all data with the exception of the English testing, conducted the statistical analysis with some support from my supervisors, and was responsible for the preparation of the manuscript. My associate supervisors (Demuth and Xu Rattanasone) trained the third author (Andronos), a research assistant who has English as her first language, to develop and conduct English testing of plurals, tense and third person pronouns. My supervisor (Wyver) selected the journal for submission.

References

- Arnold, K.-H., & Lindner-Müller, C. (2012). Assessment and development of social competence: introduction to the special issue. *Journal for Educational Research*, 4(1), 7-19.
- Attili, G. (1990). Successful and disconfirmed children in the peer group: Indices of social competence within an evolutionary perspective. *Human Development*, 33(4-5), 238-249. doi:10.1159/000276521
- Australian Historical Population Statistics. (2014). Retrieved from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/3105.0.65.001>
- Australian social trends. (2013). Retrieved from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Main+Features30April+2013>
- Baron, R., & Kenny, D. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality & Social Psychology*, 51(6), 1173-1182.
- Bedore, L. M., & Peña, E. D. (2008). Assessment of bilingual children for identification of language impairment: Current findings and implications for practice. *International Journal of Bilingual Education and Bilingualism*, 11(1), 1-29. doi:10.2167/beb392.0
- Bierman, K. L., Kalvin, C. B., & Heinrichs, B. S. (2015). Early childhood precursors and adolescent sequelae of grade school peer rejection and victimization. *Journal of Clinical Child & Adolescent Psychology*, 44(3), 367-379. doi:10.1080/15374416.2013.873983

- Blair, K. A., Denham, S. A., Kochanoff, A., & Whipple, B. (2004). Playing it cool: Temperament, emotion regulation, and social behavior in preschoolers. *Journal of School Psychology, 42*(6), 419-443. doi:10.1016/j.jsp.2004.10.002
- Bornstein, M. H., Hahn, C.-S., & Haynes, O. M. (2010). Social competence, externalizing, and internalizing behavioral adjustment from early childhood through early adolescence: Developmental cascades. *Development and Psychopathology, 22*(Special Issue 04), 717-735. doi:10.1017/S0954579410000416
- Chang, F., Crawford, G., Early, D., Bryant, D., Howes, C., Burchinal, M., et al. (2007). Spanish-speaking children's social and language development in pre-kindergarten classrooms. *Early Education and Development, 18*(2), 243-269. doi:10.1080/10409280701282959
- Chang, L., Morrissey, R. F., & Koplewicz, H. S. (1995). Prevalence of psychiatric symptoms and their relation to adjustment among Chinese-American youth. *Journal of the American Academy of Child & Adolescent Psychiatry, 34*(1), 91-99. doi:10.1097/00004583-199501000-00019
- Chau, R. C. M., Yu, S. W. K., & Law, C. S. F. (2014). Culturally sensitive health care services for Chinese people in Britain. *Journal of Ethnic & Cultural Diversity in Social Work, 23*(3-4), 256-270. doi:10.1080/15313204.2014.942939
- Cheah, C., & Leung, C. (2011). The social development of immigrant children: A focus on Asian and Hispanic children in the United States. In P. Smith & C. Hart (Eds.), *The Wiley-Blackwell handbook of childhood social development* (2nd ed., pp. 161-180). MA: Blackwell Publishing Limited.

- Chen, S. H., Hua, M., Zhou, Q., Tao, A., Lee, E. H., Ly, J., et al. (2014). Parent-child cultural orientations and child adjustment in Chinese American immigrant families. *Developmental Psychology*, 50(1), 189-201. doi:10.1037/a0032473
- Chen, X., & French, D. C. (2008). Children's social competence in cultural context. *Annual Review of Psychology*, 59(1), 591-616.
doi:10.1146/annurev.psych.59.103006.093606
- Chen, X., Rubin, K. H., & Li, B. (1997). Maternal acceptance and social and school adjustment in Chinese children: A four-year longitudinal study. *Merrill-Palmer Quarterly*, 43(4), 663-681.
- Chen, X., & Tse, H. (2010). Social and psychological adjustment of Chinese Canadian children. *International Journal of Behavioral Development*, 34(4), 330-338.
doi:10.1177/0165025409337546
- Cohen, J. S., & Mendez, J. L. (2009). Emotion regulation, language ability, and the stability of preschool children's peer play behavior. *Early Education & Development*, 20(6), 1016-1037. doi:10.1080/10409280903305716
- Cole, P., Armstrong, L., & Pemberton, C. (2010). The role of language in the development of emotion regulation. In S. Calkin & M. A. Bell (Eds.), *Child development at the intersection of emotion and cognition: Human brain development* (pp. 59-77). Washington, D.C: American Psychological Association.
- Cole, P. M., Martin, S. E., & Dennis, T. A. (2004). Emotion regulation as a scientific construct: Methodological challenges and directions for child development research. *Child Development*, 75(2), 317-333. doi:10.1111/j.1467-8624.2004.00673.x

- Cooke, F. L., Zhang, J., & Wang, J. (2013). Chinese professional immigrants in Australia: a gendered pattern in (re)building their careers. *The International Journal of Human Resource Management*, 24(13), 2628-2645.
doi:10.1080/09585192.2012.750615
- Denham, S. A. (2006). Social-emotional competence as support for school readiness: What is it and how do we assess it? *Early Education and Development*, 17(1), 57-89. doi:10.1207/s15566935eed1701_4
- Denham, S. A., Blair, K. A., DeMulder, E., Levitas, J., Sawyer, K., Auerbach–Major, S., et al. (2003). Preschool emotional competence: Pathway to social competence? *Child Development*, 74(1), 238-256. doi:10.1111/1467-8624.00533
- Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2000). Dispositional emotionality and regulation: their role in predicting quality of social functioning. *Journal of Personality & Social Psychology*, 78(1), 136-157. doi:10.1037/10022-3514.78.1.136
- Eisenberg, N., Ma, Y., Chang, L., Zhou, Q., West, S. G., & Aiken, L. (2007). Relations of effortful control, reactive undercontrol, and anger to Chinese children's adjustment. *Development and Psychopathology*, 19(02), 385-409.
doi:10.1017/S0954579407070198
- Eisenberg, N., Sadovsky, A., & Spinrad, T. L. (2005). Associations of emotion-related regulation with language skills, emotion knowledge, and academic outcomes. *New Directions for Child and Adolescent Development*, 109, 109-118.
- Fan, C. K. (2011). *A longitudinal examination of children's emotion regulation problems, negative parenting behaviors, and the development of internalizing behavior*

problems. (Doctor of Philosophy), The University of Michigan.

Farver, J. A. M., Narang, S. K., & Bhadha, B. R. (2002). East meets west: Ethnic identity, acculturation, and conflict in Asian Indian families. *Journal of Family Psychology*, *16*(3), 338-350.

Godleski, S. A., Kamper, K. E., Ostrov, J. M., Hart, E. J., & Blakely-McClure, S. J. (2015). Peer victimization and peer rejection during early childhood. *Journal of Clinical Child & Adolescent Psychology*, *44*(3), 380-392.
doi:10.1080/15374416.2014.940622

Goldfeld, S., & Goldfeld, S. (2014). Early development of emerging and English-proficient bilingual children at school entry in an Australian population cohort. *International Journal of Behavioral Development*, *38*(1), 42-51.
doi:10.1177/0165025413505945

Ho, D. Y. F. (1996). Filial piety and its psychological consequences. In M. H. Bond (Ed.), *The handbook of Chinese psychology* (pp. 155-165). New York: Oxford University Press.

Holmbeck, G. N. (2002). Post-hoc probing of significant moderational and mediational effects in studies of pediatric populations. *Journal of Pediatric Psychology*, *27*(1), 87-96. doi:10.1093/jpepsy/27.1.87

Hu, J., Torr, J., & Whiteman, P. (2014). 'Parents don't want their children to speak their home language': How do educators negotiate partnerships with Chinese parents regarding their children's use of home language and English in early childhood settings? *Early Years*, *34*(3), 255-270. doi:10.1080/09575146.2014.927419

Jia, G. (2003). The acquisition of the English plural morpheme by native Mandarin

- Chinese-speaking children. *Journal of Speech, Language, and Hearing Research*, 46(6), 1297-1211.
- Jia, G., Aaronson, D., & Wu, Y. (2002). Long-term language attainment of bilingual immigrants: Predictive variables and language group differences. *Applied Psycholinguistics*, 23(04), 599-621. doi:10.1017/S0142716402004058
- Jia, G., & Fuse, A. (2007). Acquisition of English grammatical morphology by native Mandarin-speaking children and adolescents: Age-related differences. *Journal of Speech & Hearing Research*, 50, 1280-1299.
- Juang, L. P., & Nguyen, H. H. (2009). Misconduct among Chinese American adolescents: The role of acculturation, family obligation, and autonomy expectations. *Journal of Cross-Cultural Psychology*, 40(4), 649-666. doi:10.1177/0022022109335185
- Kahle, S., Miller, J. G., Lopez, M., & Hastings, P. D. (2016). Sympathetic recovery from anger is associated with emotion regulation. *Journal of Experimental Child Psychology*, 142, 359-371. doi:10.1016/j.jecp.2015.10.004
- Kang, H. S., Haddad, E., Chen, C., & Greenberger, E. (2014). Limited English proficiency and socioemotional well-being among Asian and Hispanic children from immigrant families. *Early Education and Development*, 25(6), 915-931. doi:10.1080/10409289.2014.883664
- Kang, S. M. (2006). Measurement of acculturation, scale formats, and language competence: Their implications for adjustment. *Journal of Cross-Cultural Psychology*, 37(6), 669-693. doi:10.1177/0022022106292077
- Knight, G., Vargas-Chanes, D., Losoya, S., Cota-Robles, S., Chassin, L., & Lee, J. (2009). Acculturation and enculturation trajectories among Mexican-American adolescent

- offenders. *Journal of Research on Adolescence*, 19(4), 625-653.
doi:10.1111/j.1532-7795.2009.00614.x
- Ladd, G., & Coleman, C. (1993). Young children's peer relationships: Forms, features, and functions. In Spodek (Ed.), *Handbook of research on the education of young children* (pp. 57-76). New York: MacMillan.
- Lee, S. M., & Edmonston, B. (2011). Age-at-arrival's effects on Asian immigrants' socioeconomic outcomes in Canada and the U.S. *International Migration Review*, 45(3), 527-561. doi:10.1111/j.1747-7379.2011.00857.x
- Li, M.-C. (2012). *The acquisition of tense and agreement by early child second language learners*. (Doctor of Philosophy), University of Illinois at Urbana-Champaign, Urbana, Illinois. (3600696)
- Lu, Y., Samaratunge, R., & Härtel, C. (2015). *Skilled migration, expectation, and reality: Chinese professionals and the global labour market*. Farnham, Surrey, United Kingdom: Gower
- Luchtel, M., Hughes, K., Luze, G., Bruna, K., & Peterson, C. (2010). A comparison of teacher-rated classroom conduct, social skills, and teacher-child relationship quality between preschool English learners and preschool English speakers. *NHSA Dialog*, 13(2), 92-111. doi:10.1080/15240751003737877
- Luo, R., Tamis-LeMonda, C. S., & Song, L. (2013). Chinese parents' goals and practices in early childhood. *Early Childhood Research Quarterly*, 28(4), 843-857.
doi:10.1016/j.ecresq.2013.08.001
- Monopoli, W. J., & Kingston, S. (2012). The relationships among language ability, emotion regulation and social competence in second-grade students. *International*

Journal of Behavioral Development, 36(5), 398-405.

doi:10.1177/0165025412446394

Mpofu, E., Thomas, K. R., & Chan, F. (2004). Social competence in Zimbabwean multicultural schools: Effects of ethnic and gender differences. *International Journal of Psychology*, 39(3), 169-178. doi:10.1080/00207590344000385

Nicoladis, E., Song, J., & Marentette, P. (2012). Do young bilinguals acquire past tense morphology like monolinguals, only later? Evidence from French–English and Chinese–English bilinguals. *Applied Psycholinguistics*, 33(03), 457-479.

doi:10.1017/S0142716411000439

Oades-Sese, G. V., Esquivel, G. B., Kaliski, P. K., & Maniatis, L. (2011). A longitudinal study of the social and academic competence of economically disadvantaged bilingual preschool children. *Developmental Psychology*, 47(3), 747-764.

doi:10.1037/a0021380

Phinney, J. (2003). Ethnic identity and acculturation. . In K. Chun, P. Balls Organista, & G. Martin (Eds.), *Acculturation: Advances in Theory, Measurement, and Applied Research* (pp. 63-81). Washington DC: American Psychological Association.

Qi, R. (2010). Pronoun acquisition in a Mandarin-- English bilingual child. *International Journal of Bilingualism*, 14(1), 37-64. doi:10.1177/1367006909356649

Ren, L., & Pope, E. C. (2014). Pathways of influence: Chinese parents' expectations, parenting styles, and child social competence. *Early Child Development and Care*, 185(4), 614-630. doi:10.1080/03004430.2014.944908

Roben, C. K. P., Cole, P. M., & Armstrong, L. M. (2013). Longitudinal relations among language skills, anger expression, and regulatory strategies in early childhood.

- Child Development*, 84(3), 891-905. doi:10.1111/cdev.12027
- Rose-Krasnor, L. (1997). The nature of social competence: A theoretical review. *Social Development*, 6(1), 111-135. doi:10.1111/j.1467-9507.1997.tb00097.x
- Sheng, L. I., Lu, Y., & Kan, P. F. (2011). Lexical development in Mandarin–English bilingual children. *Bilingualism: Language and Cognition*, 14(04), 579-587. doi:10.1017/s1366728910000647
- Spomer, M. L., & Cowen, E. L. (2001). A comparison of the school mental health referral profiles of young ESL and English-speaking children. *Journal of Community Psychology*, 29(1), 69-82.
- Suizzo, M. A., Chen, W. C., Cheng, C. C., Liang, A. S., Contreras, H., Zanger, D., et al. (2008). Parental beliefs about young children's socialization across US ethnic groups: Coexistence of independence and interdependence. *Early Child Development and Care*, 178(5), 467-486. doi:10.1080/03004430600823917
- Taborsky, B., & Oliveira, R. F. (2012). Social competence: an evolutionary approach. *Trends in Ecology & Evolution*, 27(12), 679-688. doi:10.1016/j.tree.2012.09.003
- Tsai, J., Ying, Y., & Lee, P. (2000). The meaning of "being Chinese" and "being American", validation among Chinese American young youths. *Journal of Cross-Cultural Psychology*, 31(3), 302-332. doi:10.1177/0022022100031003002
- Vallotton, C., & Ayoub, C. (2011). Use your words: The role of language in the development of toddlers' self-regulation. *Early Childhood Research Quarterly*, 26(2), 169-181. doi:10.1016/j.ecresq.2010.09.002
- Waters, E., & Sroufe, L. A. (1983). Social competence as a developmental construct. *Developmental Review*, 3(1), 79-97. doi:10.1016/0273-2297(83)90010-2

- White, D. L., & Jin, L. (2011). Evaluation of speech and language assessment approaches with bilingual children. *International journal of language & communication disorders*, 46(6), 613-627. doi:10.1111/j.1460-6984.2011.00049.x
- Winsler, A., Burchinal, M. R., Tien, H.-C., Peisner-Feinberg, E., Espinosa, L., Castro, D. C., et al. (2014). Early development among dual language learners: The roles of language use at home, maternal immigration, country of origin, and socio-demographic variables. *Early Childhood Research Quarterly*, 29(4), 750-764. doi:10.1016/j.ecresq.2014.02.008
- Zhou, M. (2014). Segmented assimilation and socio-economic integration of Chinese immigrant children in the USA. *Ethnic and Racial Studies*, 37(7), 1172-1183. doi:10.1080/01419870.2014.874566

Chapter 2 Social-emotional adjustment of Chinese immigrant children in Western countries

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Social-emotional adjustment of Chinese immigrant children in Western countries

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Abstract

Despite the large number of studies examining academic achievement of Chinese immigrant children (CIC) in western countries, little is known about their social-emotional competence. Examination of the studies conducted in the last decade revealed mixed findings in terms of CIC's social competence. Compared to western children, CIC were found to possess less emotional knowledge and had difficulty regulating emotions consistent with the host cultural norms. The differences between Chinese collective and western individualist values are employed to consider these findings. The studies of CIC's language competence with relevance to social-emotional adjustment are also reviewed. The results indicated that their English proficiency predicted their social-emotional wellbeing in the host countries.

Key words: Chinese immigrant children; social-emotional adjustment; acculturation; language competence

Favorable changes to immigration policies and secure natural and social environment in western countries have resulted in increasingly large number of immigrants from Asian countries, especially from China. U.S estimates for 2011 reveal Asians represent over one quarter of the total foreign-born population, and Chinese immigrants constitute the largest proportion (20 percent) of people of Asian origin (Gryn & Gambino, 2012). In Canada, two thirds of its population growth is due to international immigration, with China topping the list of countries of origin (Li, 2010). In Australia, China is ranked third for overseas-born residents after the United Kingdom and New Zealand and Chinese is the top ethnic minority language (Australian Bureau of Statistics, 2013).

Migration is a stressful event. While leaving their home country for a new country hoping to seek better opportunities, immigrant parents find they are constantly confronted with the situations between “determination and hesitation, expectations and apprehensions, and dreams and worries” (Li, 2001, p. 489). Their children can equally feel stressed. The sources of stress can include (a) language problems; (b) separation from previous home social networks; (c) feeling of being different from majority peers in the host country; (d) readjustment to changes in family functioning; and (e) confusion in behavioural norms between their home culture and the host culture (Lee & Chen, 2000). The children also enter educational contexts that include what Tobin (2011) refers to as implicit cultural practices. Such practices are not part of the mandated curriculum or regulatory framework, but include practices and knowledge representative of the larger cultural context. While there is much value in implicit cultural practices, they are not transparent and open to scrutiny and are therefore a challenge for immigrant children to decode.

Despite various difficulties, Chinese immigrant children (CIC) seem to prosper, especially in academic areas. Together with other Asian born children, CIC are commonly labeled as “model minorities”: they are talented, work hard, pursue academic excellence and outperform their western counterparts at all grades (Kitano & Sue, 1973). They are portrayed by the mass media as academic whizzes and “whiter than white” (Sue & Kitano, 1973, p. 87). This stereotype has begot a large body of research investigating reasons behind their academic success and parental rearing practices (Ji & Koblinsky, 2009; Li, 2006; Li, 2004; Li, Yamamoto, Luo, Batchelor, & Bresnahan, 2010). While the model minority stereotype of Asians initially appears positive, it hides many difficulties. Firstly, positive academic findings relate to older children, not children in the early years who may be at-risk in educational settings (Crosnoe, 2013). Second, there is some evidence of children and adolescents being pressured to pursue a narrow range of career options where Asians are believed to succeed (Kao, 1995). Third, the focus on academic achievement has overshadowed concerns about CIC’s social-emotional competence, which is a relatively neglected area of investigation.

This review starts with studies that have examined CIC’s social competence. It then proceeds to studies that have investigated CIC’s emotion knowledge and regulation. After each of these two groups of studies, explanations from a cultural perspective are provided. Finally the review extends to a body of research exploring CIC’s host and home language competence with relevance to their social-emotional adjustment. Before embarking on the review, it is noteworthy that studies centering exclusively on young CIC are remarkably scarce. In light of this, literature on immigrant adolescents is included. However, key attention is paid to young children’s social-emotional wellbeing.

Social competence

Social competence is defined as a child's ability to interact well, build positive relationships with others and feel good about oneself (Raver & Zigler, 1997). It involves an array of developmental skills that a child must master (Longoria, Page, Hubbs-Tait, & Kennison, 2009) and is emphasized as a fundamental element for school readiness (Oades-Sese, Esquivel, Kaliski, & Maniatis, 2011). Children possessing good social competence are better prepared for school and achieve academically at higher levels than those less socially competent (Monopoli & Kingston, 2012).

Some studies found CIC experience high level of internalizing behaviours. Behaviours of this type are characterized by over-control of emotions and displayed as staying quiet, social withdrawal, apparent anxiety, loneliness, sadness, feelings of worthlessness, and dependency (Han & Huang, 2010). For example, CIC aged 6 to 7 years were rated by teachers and parents as having more social problems, being shyer and less independent than their western counterparts (Huntsinger, Jose, & Larson, 1998). Older CIC (average 12 years) adjusting to the new US school environments were found to have significantly higher levels of depression, anxiety, and stress than western and mainland Chinese counterparts (Zhou, Peverly, Xin, Huang, & Wang, 2003). In addition, CIC reported loneliness, fear, unhappiness, sadness, and stress in interpersonal relationships more frequently than the other two groups. They perceived themselves low in self-worth and being disliked by teachers. They had a negative attitude toward schools and teachers, and this attitude was found to be significantly related to their internalizing problems. Nevertheless, Chen and Tse (2008) found that despite high levels of

internalizing behaviours, the problems did not lead to serious behavioural problems and social maladjustment.

Evidence of externalising problems amongst CIC has been found for adolescents. These problems are characterized by under-control of emotions, including difficulties with interpersonal relationships and rule breaking (Han & Huang, 2010). For instance, CIC ranging from 13 to 17 years old were reported to damage school properties, hurt classmates, steal from stores and threaten teachers with a frequency comparable to their European American counterparts (Juang & Nguyen, 2009). In another similar age group, CIC were found not to behave uniformly well as commonly depicted. Instead, they were reported to have comparable behavioural problems as or even higher than their western peers: they drank, smoked, fought and used substance (Choi & Lahey, 2006). These studies challenge the “model minority” stereotype. Lack of evidence of externalizing behaviours in younger children is possibly due to the paucity of research and remains an area in need of investigation.

Gender also appeared to be significant. Chinese girls but not boys were found to be more shy-withdrawn and sensitive than their western counterparts, and these attributes were likely to lead to peer rejection (Chen & Tse, 2008). They were observed to conduct more non-aggressive offences than western girls (Choi & Lahey, 2006). They scored significantly higher in home language competence but significantly lower in home culture rejection, depression, loneliness and mother-rated internalizing problems than their male counterparts (Lee & Chen, 2000). Chinese boys had significantly higher levels in victimization than Caucasian boys but there were no differences between girls in the two groups (Chen & Tse, 2010).

Contrary to these findings that newly arrived CIC demonstrated higher level of social problems, there is another body of research, mostly conducted with older children aged from 13 to 18 years old, indicating they were socially more competent than those who had resided longer in the host countries. Second generation CIC had more intergenerational dissonance with parents than first generation, demonstrated an increasing level of adjustment problems and reported more internalizing problems (Wu & Chao, 2011). Generational status was also found to be related to emotional distress and risk behaviours (Willgerodt & Thompson, 2006). Relative to first and second Chinese youth, third generation displayed more stress, which was reflected by poor appetite, sleeping problems, trouble relaxing, and stomach ache. Being second generation was more associated with deviant acts than first generation.

Cultural explanation of social competence

An important factor associated with social adjustment is immigrant children's experience of the host culture (Kang, 2006). The term acculturation is generally employed to define the process of change that immigrant people experience due to continuous firsthand contacts with people from different cultures (Kang, 2006). The process of acculturation should include both host culture orientation and home culture retention and both dimensions should be considered when examining immigrant cultural adjustment (Oppedal, Roysamb, & Heyerdahl, 2005).

The differences between Chinese and western cultures are often used to explain strengths and difficulties in CIC's adjustment to the host culture. Chinese culture, influenced by Confucianism for more than 2,000 years, emphasizes filial piety, respect for elders, obedience to authority, lifelong obligation to family, and interpersonal harmony

(Ho, 1996). Chinese parental childrearing is often called authoritarian parenting, which is characterized by high control but low warmth (Maccoby & Martin, 1983). Chinese children are encouraged to learn self-control behaviours and to be modest (Ho, 1996). By contrast, western culture values individualism, taking initiatives, autonomy, equality with parents, and active social participation (Dion & Dion, 1996). Western parenting is generally authoritative, featured by high warmth and high control (Maccoby & Martin, 1983). Children embracing social initiative and assertiveness are regarded as competent and confident, while the lack of active social participation is considered maladaptive (Rubin, Burgess, & Hastings, 2002). The different parenting styles may explain some of the differences observed by researchers. Authoritarian parenting predicts high levels of internalizing and externalizing problems and lower social competence, whereas authoritative parenting is positively associated with children's regulatory abilities (Cheah, Leung, Tahseen, & Schultz, 2009; Chen, Dong, & Zhou, 1997; Zhou et al., 2008).

It is important to note that social competence, as discussed above, is viewed from a western perspective. From a Chinese perspective, CIC may be more socially competent than their western counterparts. Chinese children are taught to attend to interpersonal relationships from early childhood. Being cooperative and altruistic are considered good moral values (Yao, 1985). Therefore, Chinese culture is more likely to suppress disruptive behaviours to maintain interpersonal harmony. With longer residence in the host country, CIC are assimilated more to the individualistic culture, which encourages autonomy, independence and act out their behaviours. Very likely, autonomy and independence mean more separation and less discipline from parents, a potential pathway for deviant behaviour. Potentially, Chinese cultural influence may act as a protective factor for newly

CIC and being acculturated may be connected with social adjustment difficulties.

Supporting this explanation is the finding that Chinese adolescents who value family cohesiveness and obligation engage in fewer misconducts than those who value western autonomy and independence (Juang & Nguyen, 2009). Nonetheless, further research is needed to determine the pathway(s) to antisocial behaviour in CIC.

Emotional knowledge and emotion regulation

Emotional knowledge generally refers to understanding of emotions in facial expressions, behavioural cues, and social contexts (Trentacosta & Fine, 2010). One of the central tasks of early childhood is to build up emotional understanding and improve abilities to manage and adaptively utilize emotions (Trentacosta & Fine, 2010). Emotion regulation includes initiating, maintaining, or modulating internal feelings and physiological states often in response to external contextual changes (Eisenberg, Fabes, Guthrie, & Reiser, 2000). Regulation of emotions plays a critical role in young children's social and academic success (Denham, Bassett, & Zinsser, 2012). In early childhood emotion regulation plays a crucial role in developing social competence and interpersonal relationships (Oades-Sese et al., 2011). Effective emotion regulation means a reaction appropriate to a specific situation, enhances social-emotional well-being and directs subsequent social and cognitive behaviours (Raver, 2002). Individual variation in emotional expressions and regulation affects the child's popularity with peers, adjustment to a new environment, development of temperament, sympathy, prosocial and asocial behaviours (Rothbart & Bates, 1998). Longitudinal studies have found a clear connection between emotional knowledge and display of appropriate emotional behaviours (Denham & Kochanoff, 2002; Dunn, Brown, & Beardsall, 1991).

Previous research indicated that CIC had less emotion knowledge and used less emotional expressions compared with their western counterparts. As early as age three, CIC and western children were found to have attained different levels of emotion understanding, which in turn had different impacts on long-term memory of significant personal experiences (Wang, Hutt, Kulkofsky, McDermott, & Wei, 2006). CIC performed less well than their western peers in emotion production tasks such as asking them to describe situations likely to provoke happy, fearful and angry emotions. They described routine activities with brief, skeletal, and emotionally unexpressive memory accounts without specific episodes. On the contrary, western children had greater emotion understanding, gained emotion knowledge more rapidly, provided more memory elaborations and described more contextual details in their narratives.

CIC aged between 3 to 8 years not merely commanded and used less emotional language but exhibited fewer positive emotional behaviours (Garrett-Peters & Fox, 2007). They were reported to display significantly more negative emotional behaviours than western counterparts in response to a disappointing situation. Additionally their assimilation level of western culture was reversely associated with negative emotional behaviours. That is, the more CIC were acculturated to western values, the fewer they demonstrated negative emotional behaviours and the more they demonstrated positive behaviours upon disappointment. While older western children exhibited fewer negative emotional expressions than younger ones, older CIC displayed negative expressions similar to younger ones given that the immigration status was controlled.

Cultural explanation to emotional knowledge and emotion regulation

Cultural differences, as applied above to explain CIC's social competence, can again provide explanation regarding these findings. In Confucian doctrine, strong emotions are deemed as unhealthy and hurting harmonious relationships, and true love between family members are demonstrated more by deeds than by words (Confucius, 500 B.C.). Laozi, an ancient sage and teacher of Confucius, stressed that verbal language may distort true meaning because words are often paradoxical and open to different interpretations (Laozi, 600 B.C.). Under these traditional cultural influences, Chinese parents rarely use verbal language to express their emotions (Wu & Chao, 2011). Instead, they turn to facial expressions or color of face to convey their emotions such as satisfaction, pride, sympathy and anger. Children are often disciplined to restrain emotional expressions (Wang, 2001). Unlike Chinese families, western parents tend to express parental warmth through physical or verbal ways such as hugging or praising their children. Western children are encouraged to convey or articulate their feelings so that their emotional needs can be met (Wang, 2001). Socialization of young children by Chinese parents generally emphasizes relational competence whereas socialization by western parents generally emphasizes individualistic competence (Friedlmeier, Corapci, & Cole, 2011).

Wang's (2001) study of mother-child conversation styles is illustrative of important differences. When communicating with their 3-year-old children, Chinese mothers were found often using an emotion-criticizing, parent-centred and low-elaborative conversational style (Wang, 2001). They paid little attention to eliciting children's feelings and emotions and frequently made moral judgement about their children's incorrect emotional behaviours. Children passively responded to the mothers' questions without

providing any new information. Western mothers adopted an emotion-explaining, child-centered and high-elaborative conversational style in which the mothers provided details of emotional events and talked frequently about the causes of children feelings. Their children actively supplemented parents' narratives. The findings suggested that emotion-criticizing style may inhibit development of emotion understanding while emotion-explaining style may contribute to early acquisition of emotion knowledge and reminiscence of emotional experiences. Rather than emphasizing emotion understanding, Chinese mothers emphasized collective experiences and didactic instructions. Chinese participants in this study were from mainland China, but Wang (2006) also found similar differences to exist between European-American mothers and first generation Chinese immigrant mothers.

The findings that CIC displayed less positive but more negative emotional behaviours seem to contrast the notion that Chinese culture values emotion control and promotes interpersonal harmony. However, these results are hardly surprising if parenting differences of child emotion socialization are closely observed. Chinese parents prioritize children's academic achievement and behavioural discipline and generally regard emotion as disruptive to academic accomplishment and family-valued filial piety (Rao, McHale, & Pearson, 2003). Psychological control is used by Chinese parents to support children's learning whereas western parents promote autonomy (Cheung & Pomerantz, 2011). Western parents frequently use rich emotion discourse to help children develop emotional knowledge (Wang et al., 2006), while Chinese parenting emphasizes harmonious social relationships (Chan, Bowes, & Wyver, 2009). It is important to note that all studies demonstrate large within culture differences. Thus while differences can be observed at

group level, they do not apply to all individuals within those groups. Further, cultures do not exist independently of each other. As noted in the opening of this article, people of Chinese origin represent a significant proportion of the population in the major English-speaking countries and there is increased mobility between China and these countries.

Language competence and social-emotional wellbeing

Language plays an important role in social-emotional wellbeing: through it daily interactions are conducted, interpersonal relationships are formed, children are socialized, concepts are mediated, and emotions are conveyed. When coming to a primarily monolingual society where children need to learn a new language, the association between language competence and social-emotional wellbeing may be more complex. It is, however, inevitable that immigrant children will come into contact with people of the host country. Host language provides more than a shared symbol system, it is the primary means through which new cultural norms, values, beliefs and rules of social contact are transmitted (Kang, 2006). When bilinguals are presented with the same question in two languages, answers in Chinese reflect Chinese cultural values whereas answers in English reflect western cultural values (Wang, 2013).

Research with CIC aged from 6 to 12 years showed that English proficiency predicted their social-emotional wellbeing. For instance, English proficiency was found to be positively associated with teacher-rated competence and self-worth and negatively associated with shyness, loneliness, peer rejection and victimization (Chen & Tse, 2010). Additionally, among the first generation, better English helped them acquire a higher level of peer acceptance than those with relatively limited English (Chen & Tse, 2010). High

English proficiency was also reported to be related to low behavioural problems and high level of social skills (Chen et al., 2013).

Lee and Chen (2000) offered a number of additional findings with their study examining language competence and psychological adjustment of CIC ranging from 10 to 15 years in Canada. First, CIC who arrived in Canada at a younger age and lived there for a longer period commanded a higher level of English compared to those who arrived later in childhood and were there for a shorter period. Second, those who identified themselves as Chinese Canadians were rated a higher English competence than those who identified themselves as Chinese. Third, English proficiency was significantly and negatively correlated with rejection of Chinese culture. Fourth, English proficiency was significantly and positively associated with their parents' English competence. Fifth, English competence was significantly and negatively correlated with depression, loneliness, frustration in school and social isolation from the western peers. Last but not least, among CIC who regarded themselves as Chinese Canadians, English competence was negatively correlated with Chinese competence.

Several parallel findings in terms of Chinese competence were also obtained by Lee and Chen (2000). First, CIC's Chinese competence was positively correlated with age of immigration but negatively with residence length. Second, those who identified themselves as Chinese scored significantly higher in Chinese language than those who identified themselves as Chinese Canadians. Third, Chinese proficiency was positively associated with rejection of the host culture. Fourth, CIC's Chinese competence was non-significantly correlated with their parents' Chinese competence. Fifth, Lee and Chen (2000) did not find a significant correlation between Chinese competence and social-

psychological problems, but other studies revealed conflicting results. Chen and Tse (2010) found high Chinese proficiency was associated with shyness and peer victimization. Chen et al. (2013) reported families in which both parents and children possessed high level of Chinese language showed better child adjustment. Conversely, poorer child adjustment was observed in the families where parents were high while children were low in Chinese proficiency.

These findings have provided evidence of the important role that English acquisition plays a critical role in cross-cultural adaption. Poor command of English impedes CIC's effective communication with peers and teachers and hence they may be viewed as uncooperative, unfriendly and unknowledgeable. Their behavioural styles may be perceived as incompatible to mainstream norms. On the contrary, fluent English can help CIC get involved in peer activities, conduct successful interactions and hence obtain peer acceptance. Once they have good mastery of English and are able to convey their social and emotional experiences, they may adjust well to the new context.

Two of above mentioned findings need to be interpreted with caution. First, home language and culture are not relevant to or even negatively associated with CIC's social-emotional adjustment. Maintenance of home language and culture might alienate CIC from mainstream peers. However, a body of research with other ethnic minority children suggests that bilingualism or proficiency in either language contributes to immigrants' social-emotional wellbeing significantly (Han, 2010; Oades-Sese et al., 2011). Second, English competence and Chinese competence are often negatively correlated. This finding warrants further investigation as it conflicts with the widely accepted linguistic interdependence theory. The theory states that advancement in one language is conducive

to learning another language and first language must be developed to a particular level in order for the linguistic skills to be transferred to the successful acquisition of a second language (Collier, 1995; Cummins, 1981).

Conclusion

Currently, research on social-emotional adjustment of CIC's and related areas of social competence and emotional expression present mixed findings. One group of studies indicate that CIC experience a high level of internalizing problems and similar level of externalizing problems to their western counterparts. The behavioural problems are displayed mainly in forms of shyness, silence, fear, loneliness, anxiety, feelings of inferiority, social withdrawal, difficulties with interpersonal relationships, and rule breaking. Importantly, these findings subvert the stereotype of "model minority" as commonly labeled on CIC. Another group of studies find that CIC are indeed more socially and cognitively competent than their western peers, especially when they are first generation immigrants. As they are more acculturated to the host countries, they report increasing misconduct. Compared to western children, CIC possess and use less emotional language. They exhibit difficulty regulating emotions appropriate in the host society. Concerning all these social-emotional performances, the drastic contrasts between Chinese collectivist culture and authoritarian parenting approach versus western individualistic values and authoritative parenting styles may be the main causes. English competence is also crucial with good English predicting good social and psychological adjustment while poor English results in more social-emotional problems.

Implications and further research

This literature review aims to provide Chinese immigrant parents, western teachers and policy makers with some insights about CIC's social-emotional adjustment and the correlation with acculturation and language competence. It is anticipated that an understanding of how CIC adapt to the new context will help parents establish better strategies to rear their children, help teachers to evaluate these children social-psychological needs, their weakness and strengths to better educate them, and help policy makers to establish better policies from cultural and linguistic perspectives so that maladjustment can be reduced and competence can be promoted.

Two recommendations are made for further research. First, social-emotional adjustment of ethnic minority children is a complex issue. In addition to acculturation and language competence, there are apparently other significant socioeconomic, contextual and personal factors. It is important to include these variables in future similar studies. Second, the studies were all conducted in North America and the studies examining social competence were mostly conducted with CIC in their later childhood even up to adolescence. It is timely for the research to be extended to other countries and younger age groups.

References

- Australian Bureau of Statistics. (2013). Retrieved March 20, 2013, from <http://www.abs.gov.au/ausstats/abs@.nsf/Products/84074889D69E738CCA257A5A00120A69?opendocument>
- Chan, S. M., Bowes, J., & Wyver, S. (2009). Chinese parenting in Hong Kong: links among goals, beliefs and styles. *Early Child Development and Care*, 179(7), 849-862. doi: 10.1080/03004430701536525
- Cheah, C., Leung, C., Tahseen, M., & Schultz, D. (2009). Authoritative parenting among immigrant Chinese mothers of preschoolers. *Journal of Family Psychology*, 23, 311-320. doi: 10.1037/a0015076
- Chen, S., Hua, M., Zhou, Q., Tao, A., Lee, E., Ly, J., & Main, A. (2013). Parent-child cultural orientations and child adjustment in Chinese American immigrant families. *Developmental Psychology*. doi: 10.1037/a0032473
- Chen, X., Dong, Q., & Zhou, H. (1997). Authoritative and authoritarian parenting practices and social and school performance in Chinese children. *International Journal of Behavioral Development*, 21, 855-873. doi: 10.1080/016502597384703
- Chen, X., & Tse, H. (2008). Social functioning and adjustment in canadian-born children with Chinese and European background. *Developmental Psychology*, 44(4), 1184-1189. doi: 10.1037/0012-1649.44.4.1184
- Chen, X., & Tse, H. (2010). Social and psychological adjustment of Chinese Canadian children. *International Journal of Behavioral Development*, 34(4), 330-338. doi: 10.1177/0165025409337546

- Cheung, C. S.-S., & Pomerantz, E. M. (2011). Parents' involvement in children's learning in the United States and China: Implications for children's academic and emotional adjustment. *Child Development*, 82(3), 932-950. doi: 10.2307/29782882
- Choi, Y., & Lahey, B. (2006). Testing the model minority stereotype: Youth behaviors across racial and ethnic groups. *Social Service Review*, 80(3), 419-452. doi: 10.1086/505288
- Collier, V. P. (1995). *Promoting academic success for ESL students: Understanding second language acquisition for school*. Elizabeth, NJ: New Jersey Teachers of English to Speakers of Other Languages- Bilingual Educators
- Confucius. (500 B.C.). *The Analects* (D. C. Lau, Trans.). Hong Kong: The Chinese University Press. (Translated and edited in 1992).
- Crosnoe, R. (2013). *Preparing the children for immigrants for early academic success*. Washington DC: Migration Policy Institute.
- Cummins, J. (1981). The role of primary language development in promoting educational success for language minority students. In California State Department of Education (Ed.), *Schooling and language minority students: A theoretical framework* (pp. 3-50). Los Angeles: California State University.
- Denham, S., Bassett, H., & Zinsser, K. (2012). Early childhood teachers as socializers of young children's emotional competence. *Early Childhood Education Journal*, 40(3), 137-143. doi: 10.1007/s10643-012-0504-2
- Denham, S., & Kochanoff, A. T. (2002). Parental contributions to preschoolers' understanding of emotion. *Marriage & Family Review*, 34(3-4), 311-343. doi: 10.1300/J002v34n03_06

- Dion, K. L., & Dion, K. K. (1996). Chinese adaptation to foreign cultures. In M. H. Bond (Ed.), *The handbook of Chinese psychology* (pp. 457-478). New York: Oxford University.
- Dunn, J., Brown, J., & Beardsall, L. (1991). Family talk about feeling states and children's later understanding of other's emotions. *Developmental Psychology*, 27(3), 448-455. doi: 10.1037/0012-1649.27.3.448
- Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2000). Dispositional emotionality and regulation: Their role in predicting quality of social functioning. *Journal of Personality & Social Psychology*, 78(1), 136-157. doi: 10.1037/10022-3514.78.1.136
- Friedlmeier, W., Corapci, F., & Cole, P. (2011). Emotion socialization in cross-cultural perspective. *Social and Personality Psychology Compass*, 7(5), 410-427. doi: 10.1111/j.1751-9004.2011.00362.x
- Garrett-Peters, P. T., & Fox, N. A. (2007). Cross-cultural differences in children's emotional reactions to a disappointing situation. *International Journal of Behavioral Development*, 31(2), 161-169. doi: 10.1177/0165025407074627
- Gryn, T., & Gambino, C. (2012). The foreign born from Asia: 2011. Retrieved September 5 2013, 2013, from www.census.gov/prod/2012pubs/acsbr11-06.pdf
- Han, W.-J. (2010). Bilingualism and socioemotional well-being. *Children and Youth Services Review*, 32(5), 720-731. doi: 10.1016/j.childyouth.2010.01.009
- Han, W.-J., & Huang, C.-C. (2010). The forgotten treasure: Bilingualism and Asian children's emotional and behavioral health. *American Journal of Public Health*, 100(5), 831-838. doi: 10.2105/AJPH.2009.174219

- Ho, D. Y. F. (1996). Filial piety and its psychological consequences. In M. H. Bond (Ed.), *The handbook of Chinese psychology* (pp. 155-165). New York: Oxford University Press.
- Huntsinger, C. S., Jose, P. E., & Larson, S. L. (1998). Do parent practices to encourage academic competence influence the social adjustment of young European American and Chinese American children? *Developmental Psychology*, 34(4), 747-756.
- Ji, C. S., & Koblinsky, S. A. (2009). Parent involvement in children's education: An exploratory study of urban, Chinese immigrant families. *Urban Education*, 44(6), 687-709. doi: 10.1177/0042085908322706
- Juang, L. P., & Nguyen, H. H. (2009). Misconduct among Chinese American adolescents: The role of acculturation, family obligation, and autonomy expectations. *Journal of Cross-Cultural Psychology*, 40(4), 649-666. doi: 10.1177/0022022109335185
- Kang, S.-M. (2006). Measurement of acculturation, scale formats, and language competence: Their implications for adjustment. *Journal of Cross-Cultural Psychology*, 37(6), 669-693. doi: 10.1177/0022022106292077
- Kao, G. (1995). Asian Americans as model minorities? A look at their academic performance. *American Journal of Education*, 103(2), 121-159. doi: 10.2307/1085574
- Kitano, H. H. L., & Sue, S. (1973). The model minorities. *Journal of Social Issues*, 29(2), 1-9. doi: 10.1111/j.1540-4560.1973.tb00069.x
- Laozi. (600 B.C.). *Tao Te Ching [The Classic of the Way and Virtue]* (D. C. Lau, Trans.). Hong Kong: The Chinese University Press. (translated and edited in 2001).

- Lee, B. K., & Chen, L. (2000). Cultural communication competence and psychological adjustment: A study of Chinese immigrant children's cross-cultural adaptation in Canada. *Communication Research*, 27(6), 764-792. doi: 10.1177/009365000027006004
- Li, G. (2006). What do parents think? Middle-class Chinese immigrant parents' perspectives on literacy learning, homework, and school-home communication. *School Community Journal*, 16(2), 27-46.
- Li, J. (2001). Expectations of Chinese immigrant parents for their children's education: The interplay of Chinese tradition and the Canadian context. *Canadian Journal of Education*, 26(4), 477-494. doi: 10.2307/1602178
- Li, J. (2004). Parental expectations of Chinese immigrants: a folk theory about children's school achievement. *Race Ethnicity and Education*, 7(2), 167-183. doi: 10.1080/1361332042000234286
- Li, J., Yamamoto, Y., Luo, L., Batchelor, A. K., & Bresnahan, R. M. (2010). Why attend school? Chinese immigrant and European American preschoolers' views and outcomes. *Developmental Psychology*, 46(6), 1637-1650.
- Li, P. (2010). Immigrants from China to Canada: Issues of demand and supply of human capital. Retrieved September 5 2013, 2013, from <http://www.opencanada.org/wp-content/uploads/2011/05/Immigrants-from-China-to-Canada-Peter-S.-Li.pdf>
- Longoria, A. Q., Page, M. C., Hubbs-Tait, L., & Kennison, S. M. (2009). Relationship between kindergarten children's language ability and social competence. *Early Child Development and Care*, 179(7), 919-929. doi: 10.1080/03004430701590241

- Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent - child interaction In E. M. Hetherington (Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development* (pp. 1-102). New York: Wiley.
- Monopoli, W. J., & Kingston, S. (2012). The relationships among language ability, emotion regulation and social competence in second-grade students. *International Journal of Behavioral Development*, 36(5), 398-405. doi: 10.1177/0165025412446394
- Oades-Sese, G. V., Esquivel, G. B., Kaliski, P. K., & Maniatis, L. (2011). A longitudinal study of the social and academic competence of economically disadvantaged bilingual preschool children. *Developmental Psychology*, 47(3), 747-764. doi: 10.1037/a0021380
- Oppedal, B., Roysamb, E., & Heyerdahl, S. (2005). Ethnic group, acculturation, and psychiatric problems in young immigrants. *Journal of Child Psychology and Psychiatry*, 46(6), 646-660. doi: 10.1111/j.1469-7610.2004.00381.x
- Rao, N., McHale, J., & Pearson, E. (2003). Links between socialization goals and child-rearing practices in Chinese and Indian mothers. *Infant and Child Development*, 12(5), 475-492. doi: 10.1002/icd.341
- Raver, C. (2002). Emotions matter: Making the case for the role of young children' emotional development for early school readiness. *Social Policy Report*, 16(3), 3-19.

- Raver, C. C., & Zigler, E. F. (1997). Social competence: An untapped dimension in evaluating head start's success. *Early Childhood Research Quarterly*, 12(4), 363-385. doi: 10.1016/s0885-2006(97)90017-x
- Rothbart, M. K., & Bates, J. E. (1998). Temperament. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 105-176). New York: Wiley.
- Rubin, K. H., Burgess, K. B., & Hastings, P. D. (2002). Stability and social-behavioral consequences of toddlers' inhibited temperament and parenting behaviors. *Child Development*, 73(2), 483.
- Sue, S., & Kitano, H. H. L. (1973). Stereotypes as a measure of success. *Journal of Social Issues*, 29(2), 83-98. doi: 10.1111/j.1540-4560.1973.tb00074.x
- Tobin, J. (2011). Implicit cultural beliefs and practices in approaches to early childhood education and care. *Asia-Pacific Journal of Research in Early Childhood Education*, 5(1), 3-22.
- Trentacosta, C. J., & Fine, S. E. (2010). Emotion knowledge, social competence, and behavior problems in childhood and adolescence: A meta-analytic review. *Social Development*, 19(1), 1-29. doi: 10.1111/j.1467-9507.2009.00543.x
- Wang, Q. (2001). "Did you have fun?": American and Chinese mother-child conversations about shared emotional experiences. *Cognitive Development*, 16(2), 693-715. doi: 10.1016/S0885-2014(01)00055-7
- Wang, Q. (2006). Relations of maternal style and child self-concept to autobiographical memories in Chinese, Chinese immigrant, and European American 3-year-olds. *Child Development*, 77(6), 1794-1809. doi: 10.2307/4139275

- Wang, Q. (2013). The cultured self and remembering. In P. Bauer & R. Fivush (Eds.), *The Wiley handbook on the development of children's memory* (pp. 605-625). West Sussex, UK: John Wiley & Sons.
- Wang, Q., Hutt, R., Kulkofsky, S., McDermott, M., & Wei, R. (2006). Emotion situation knowledge and autobiographical memory in Chinese, immigrant Chinese, and European American 3-Year-olds. *Journal of Cognition & Development*, 7(1), 95-118. doi: 10.1207/s15327647jcd0701_5
- Willgerodt, M. A., & Thompson, E. A. (2006). Ethnic and generational influences on emotional distress and risk behaviors among Chinese and Filipino American adolescents. *Research in Nursing and Health*, 29(4), 311-324. doi: 10.1002/nur.20146
- Wu, C., & Chao, R. K. (2011). Intergenerational cultural dissonance in parent-adolescent relationships among Chinese and European Americans. *Developmental Psychology*, 47(2), 493-508. doi: 10.1037/a0021063
- Yao, E. L. (1985). Adjustment needs of Asian immigrant children. *Elementary School Guidance and Counseling*, 19(3), 222-227.
- Zhou, Q., Wang, Y., Deng, X., Eisenberg, N., Wolchik, S. A., & Tein, J. (2008). Relations of parenting and temperament to Chinese children's experience of negative life events, coping efficacy, and externalizing problems. *Child Development*, 79, 493-513. doi: 10.1111/j.1467-8624.2008.01139.x
- Zhou, Z., Peverly, S., Xin, T., Huang, A., & Wang, W. (2003). School adjustment of first-generation Chinese-American adolescents. *Psychology in the Schools*, 40(1), 71-84. doi: 10.1002/pits.10065

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Bilingualism and development of social competence of English language learners: A
review

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Abstract

To help define future research direction and enhance educational service for children from Asian and Latino immigrant backgrounds, this review examines research investigating social competence with reference to host and heritage language skills. A targeted search obtained 14 peer-reviewed studies published from 1994 to 2014 focusing on children aged from birth to 12 years. Social competence is mainly measured by four dimensions: externalizing behaviours, internalizing behaviours, social skills and relationships with others. The evidence suggests that English proficiency levels are positively associated with social skills and parent-child relationships are of higher quality when parent-child heritage language difference is minimal. However the findings are mixed regarding how English levels are associated with externalizing, internalizing behaviours and relationships with others and how heritage language levels are associated with social competence. This review makes a set of recommendations for future research including assessment of participants' language proficiency with language tests and examination of emotional factors in the relationship between English and social competence. The implications of the findings are also discussed for educators.

Keywords: immigrant children; social competence; English; heritage languages

According to the United Nations (2014), 3.2 percent of the world population - 232 million people – were international migrants in 2013. English-speaking countries US, UK, Canada and Australia are within the top ten migrant receiving countries. Asians and Latinos are the two largest migrant groups to these countries (Bhui, McKenzie, & Rasul, 2007; Wong, 2000). The primary focus of this review is on children from Asia-Pacific contexts, but it also considers the broader research literature investigating children from Latino background for the purpose of informing future research. Despite large-scale Asian and Latino migration into English-speaking countries, research on these populations has just begun (Cheah & Leung, 2011). To date, most research with immigrant children has focused on their academic performance, but research on immigrant children's development of social competence is limited (Halle et al., 2014; Marks, Patton, & Coll, 2010; Sam, 2006). Having a good understanding of immigrant children's development of social competence is not only theoretically interesting but valuable for educational practices since it provides educators with valuable information which will impact on learning. However, advancement in theory and practice is constrained because prior studies either under-sampled immigrant children or prevented them from full participation due to lack of available assessment instruments (Halle et al., 2014).

Social competence is defined as abilities that enable children to achieve personal goals in social interactions while at the same time maintaining positive relationships with others (Rose-Krasnor, 1997). It is a key skill as children need to manage social situations by learning from past experiences and applying the experiences to new contexts, build positive relationships with peers, and feel good about themselves (Blair, Denham, Kochanoff, & Whipple, 2004; Semrud-Clikeman, 2007; Wentzel, 1999). Higher social

competence levels in children are predictive of school readiness and early academic success as children can quickly adjust to classroom routines (Denham, 2006; Galindo & Fuller, 2010). Conversely, lower social competence levels may compromise children's mental and physical health, peer relationships and school achievement (Rose-Krasnor, 1997; Semrud-Clikeman, 2007).

Social competence plays an important role for children from immigrant backgrounds because it is closely related to these children's social adjustment in new environments (Chen & Tse, 2010; von Grünigen, Kochenderfer-Ladd, Perren, & Alsaker, 2012). Children of immigrant backgrounds often "face unique challenges when negotiating relationships within a new peer group that leave them vulnerable to peer rejection and other problems relating to classmates" (von Grünigen et al., 2012, p. 197). At the same time, they display their ethnically related strengths (e.g., self-control in Chinese culture) in social interactions (Chen & Tse, 2010). Given ever-increasing immigrant populations in English-speaking countries (United Nations, 2014), understanding unique challenges and strengths of social competence development of immigrant children should be an important undertaking at the contemporary era.

Although many factors, such as parenting practices, family socioeconomic status, and child temperament, affect social competence of immigrant children (Leyva, Berrocal, & Nolivos, 2014; Liew, Castillo, Chang, & Chang, 2011; Raviv, Kessenich, & Morrison, 2004), there are strong theoretical grounds for the association between language and social competence (see *Theoretical backgrounds* below). The aim of this review is to explore prior studies that investigated how social competence was associated with the host language (i.e., English) skills and heritage languages skills among children aged from

birth to 12 years from Asian and Latino immigrant families. Asian immigrants mainly represent those from China, India, Japan, Korea, the Philippines, Vietnam, Thailand, Laos and Cambodia, and Latino immigrants represent people from Mexico, Cuba, Puerto Rico, South or Central America, and other Latino cultures regardless of nation (Cheah & Leung, 2011). Although Asian and Latino families differ to a large extent, such as Asians are more likely to be well-educated and skilled migrants while Latino immigrants are more educationally and economically disadvantaged (Zhang, Hong, Takeuchi, & Mossakowski, 2012), the two ethnic groups also have many similarities: a) they make up the two largest international migration groups; b) they move to the developed countries for better economic opportunities and better education for their children; and c) they share values, beliefs and norms with a more collectivist orientation (De-Feyter & Winsler, 2009; Han & Huang, 2010; Le & Stockdale, 2005; McDonald et al., 2005; Pumariega, Rothe, & Pumariega, 2005).

The term English language learners (ELLs) is used in this review to represent immigrant children and children of immigrants. Though children of immigrants are born and raised in host countries, many choose to speak heritage languages at home and have little exposure to English in their community contexts (Clarke, 2009; Soltero-Gonzalez, 2009). While acknowledging heterogeneity within ELLs such as different heritage languages they speak and different ethnic groups they belong to, it is also possible to identify common features which support advance in theory and policy direction. It is the common features that are the focus of this review.

This review includes studies with participants aged from birth to 12 years. Though the nature of age effects on the acquisition of a second language is controversial, there are

studies indicating that ELLs who are exposed to English at a younger age, i.e., before adolescence, tend to have some English learning advantages, such as a better pronunciation if exposed to natural learning contexts (Brown, 2007; Jia & Aaronson, 2003). Biological processes that support cognitive, behavioural and affective development before adolescence are also likely to be different from those after adolescence (Steinberg, 2005). Moreover, 12 years is generally when children transition from primary school to secondary school, and the school environment can be a particularly important determinant of changes in behaviours (Coombes, Jones, Page, & Cooper, 2014).

Theoretical backgrounds

Language is an essential tool needed to gain mastery over behaviour, cognition and emotion and a fundamental means children use to conduct social interactions with the outside world, others and self (Vygotsky, 1978). Outwardly language is directed in the form of collaborative dialogue to regulate and transform social activities of other individuals, and inwardly it is directed in the form of private speech (speech for the self) to regulate one's own mental activities. Children's early language development establishes a foundation of behavioural competence and social skills at older ages (Hebert-Myers, Guttentag, Swank, Smith, & Landry, 2006).

According to the language socialization theory, language mediates not only communications but also the learning of behavioural norms and social practices (Duff, 2007). Language is a major medium in child development of social competence and cultural knowledge. The process of learning language is indeed a process of establishing child's own ethnic identity and developing a sense of positive self-image and social belonging (Ochs & Schieffelin, 2011).

Relationships between language and social competence is not linear but complex. According to Eisenberg, Sadovsky, and Spinrad (2005), language can directly affect social competence and emotion understanding, which in turn affects emotion regulation abilities. Language can also indirectly affect social competence through emotion regulation abilities. Hebert-Myers et al. (2006) make a similar statement: the factors that can have significant impacts on social competence include abilities to regulate negative emotions, the abilities to sustain attention, and adequate language skills. These complex relationships mean that the direct effect of language and its potential interaction with emotion regulation abilities and attention management need to be considered when examining relationships between language and social competence.

Method

Search terms

In order to conduct a comprehensive review with all possible peer reviewed studies investigating ELLs' social competence, combinations of search descriptors were developed with an immigrant descriptor (immigrant OR migrant), AND a child descriptor (child), AND a language descriptor (language OR English) AND a social competence descriptor (social competence OR social skills OR social functioning OR adjust OR behavior OR behaviour OR mental). Multisearch was used to retrieve all possible peer review studies. Our university library uses the Multisearch engine to retrieve information from 250 common databases including PsycINFO, ERIC, JSTOR, Sociological Abstracts, and Scopus.

Inclusion and exclusion criteria

A set of inclusion and exclusion criteria were developed to select peer reviewed studies. Studies were included if they 1) focused on children aged from birth to 12 years; 2) were published from 1994 to 2014; and 3) researched on children from Asian and/or Latino backgrounds in English-speaking countries. The studies were excluded if they 1) had a specific focus on atypically developing children having language disorders and clinical behavioural problems; 2) compared social competence difference between ELLs and native English-speaking children without apparent reference to host and/or heritage language skills. That is, the studies did not employ any instruments to measure language use/proficiency, and 3) were case studies. The case studies were excluded not because we disagreed with this research method but because we were more interested in the relationships between the constructs. The strength of case studies, however, is in-depth understanding of interested phenomena rather than identifying relationships between constructs (Barone, 2004).

Results

Altogether 14 studies met the inclusion and exclusion criteria. It is notable one study had a wide age range exceeding 12 years (Chen & Tse, 2010), and it was still reviewed because the majority of the participants in this study met the age criterion. Table 1 lists the main features of these studies. Among them, three (21.4%) focused on children from a particular single country of origin such as China, and 11 studies (78.6%) focused on children from pan-ethnic Asian or Latino background or both. Seven (50%) focused exclusively on preschool children and another seven (50%) focused on school-aged children from kindergarten to grade five. Six (42.9%) had large-scale nationally

representative datasets with more than 1,000 participants. Two (14.2%) had a sample with less than 100 participants. The remaining six (42.9%) had 200-801 participants. Six (42.9%) had a longitudinal design and eight (57.1%) a cross-sectional design. Eleven (78.6%) studies investigated social competence with reference to both host (i.e., English) and heritage languages, two (14.3%) to English only and one (7.1%) to heritage languages only.

Table 1

Main Features of Selected Studies

Author(s) & year	ethnicity focus	age or grade	sample size	design	reference to	country
Preschool children						
Winsler et al. (2014)	Asian & Latino	0-5 years	9250	longitudinal	EL* & HL*	US
Vaughan et al. (2007)	Latino	9-36 months	76	longitudinal	EL & HL	US
De-Feyter and Winsler (2009)	Latino	4 years	2194	cross-sectional	EL& HL	US
Chang et al. (2007)	Latino	4-5 years	345	cross-sectional	EL & HL	US
Oades-Sese et al. (2011)	Latino	4-5 years	207	longitudinal	EL & HL	US
Howes et al. (2011)	Latino	Mean 63 months	801	cross-sectional	EL & HL	US
Luchtel et al. (2010)	Latino	50-71 months	1034	cross-sectional	EL & HL	US
School-aged children						
Dawson and Williams (2008)	Latino	K- 3	2,840	longitudinal	EL	US
Spomer and Cowen (2001)	Asian & Latino	Largely K-3	469	cross-sectional	EL	US
Han (2010)	Latino	K-5	20534	longitudinal	EL & HL	US
Han and Huang (2010)	Asian	K-5	12580	longitudinal	EL & HL	US
Chen et al. (2014)	Chinese	6-9 years	258	cross-sectional	EL & HL	US
Tannenbaum and Howie (2002)	Chinese	9-12 years	40	cross-sectional	HL	Australia
Chen and Tse (2010)	Chinese	mean age 11 years	356	cross-sectional	EL & HL	Canada

*Note. EL = English language, HL = heritage language

An area of research underdeveloped

The limited number of studies underlines the fact that research of social competence among ELLs has just emerged. Clearly, there is a need for more research on social

development of Asian and Latino ELLs. Inspection of Table 1 also reveals that each of the authors or author groups have contributed only one or two studies in this area. This suggests the examination of ELLs' social competence with reference to language skills is not a major focus for any of the researchers or research groups. Theoretical and methodological advances are usually made when at least one researcher or researcher group takes a leading role. The absence of such leadership is apparent.

Dimensions indexing social competence

Social competence in the 14 studies was mainly indexed by four dimensions: externalizing behaviours, internalizing behaviours, social skills and relationships with others (i.e., peers, teachers, and parents). Externalizing behaviours are characterized by under-control of negative emotions (i.e., sadness, fear and disappointment) and displayed as aggression, hyperactivity and rule-breaking (Eisenberg, Fabes, Guthrie, & Reiser, 2000). Internalizing behaviours are featured by over-control of negative emotions and displayed as anxiety, depression, and social withdrawal. Social skills mainly incorporate interpersonal skills, autonomy, assertiveness, frustration tolerance, engagement in pretend play and self-worth. Table 2 presents the dimensions of social competence each study contains. It is notable not all the studies used the terms of *externalizing behaviours*, *internalizing behaviours*, *social skills*, and *relationships with others*, but we categorized into the four dimensions based on the authors' descriptions of their social competence measures. It also needs to be noted that other indicators such as *cognitive competence* and *physical competence* which the selected studies investigated but are not the focus of this review are not listed in Table 2.

Table 2

Social Competence Dimensions across Selected Studies

Author(s) & year	externalizing behaviours	internalizing behaviours	social skills	relationships with others
Preschool children				
Winsler et al. (2014)	√	√	√	
Vaughan et al. (2007)	√		√	
De-Feyter and Winsler (2009)	√	√	√	
Chang et al. (2007)	√	√	√	√
Oades-Sese et al. (2011)	√	√	√	
Howes et al. (2011)*	√	√	√	
Luchtel et al. (2010)	√	√	√	√
School-aged children				
Dawson and Williams (2008)	√	√		
Spomer and Cowen (2001)	√	√	√	
Han (2010)	√	√	√	
Han and Huang (2010)	√	√		
Chen et al. (2014)	√	√	√	√
Tannenbaum and Howie (2002)		√	√	√
Chen and Tse (2010)	√	√	√	√

*Note. This study measured teacher-child relationship but took this as a predicting variable of ELL's social competence rather than as an outcome variable as predicted by language levels.

Findings across studies

There are two sections in this part: relationship between English levels and social competence and relationship between heritage language levels and social competence. In each section, we first present the findings across the selected studies and then discuss the findings mainly in terms of consistence the studies have reached and recommendations

future research should consider. At the end of this part, we discuss the divergent results of associations of English and heritage languages with social competence.

English levels and social competence

Of 13 studies examining the relationship between English levels and externalizing behaviours (see Tables 1 and 2), five found a negative association, four found a positive association, and four found no association (Chang et al., 2007; Chen & Tse, 2010; Howes et al., 2011; Vaughan et al., 2007). Of the 12 studies examining the relationship between English levels and internalizing behaviours, eight found a negative association, two found a positive association and two did not report significant associations (Chang et al., 2007; Dawson & Williams, 2008). Of the 11 studies examining relationship between English levels and social skills, eight studies found a positive association and three found no association (Chang et al., 2007; Luchtel, Hughes, Luze, Bruna, & Peterson, 2010; Vaughan et al., 2007). Three studies investigated relationships with others with reference to English. Two studies found positive relationships and one study did not report significant associations (Chang et al., 2007). Table 3 presents details of the findings of these studies.

Table 3

Relationships between English Levels and Four Dimensions of Social Competence

externalizing behaviours	<i>Positive relationships</i>	
	ELLs had	
	1. lower levels of teacher-rated classroom conduct and acting-out problems than those who spoke English native-likely or fluently (Han, 2010; Luchtel et al., 2010; Spomer & Cowen, 2001); and	
	2. fewer parent-rated externalizing behaviours than children who were from immigrant backgrounds but spoke English at home (Winsler et al., 2014).	
	<i>Negative relationships</i>	
	ELLs with lower/the lowest levels of English had	
	1. higher levels of externalizing behaviours in grade three when their English skills were limited at school entry (Dawson & Williams, 2008);	
	2. more behavioural concerns in second generation (born in US) when compared with first generation counterparts (born overseas) (De-Feyter & Winsler, 2009);	
	3. the fastest increasing rate of teacher-reported externalizing behaviours from kindergarten to grade five when compared with peers whose English was native-like and fluent (Han & Huang, 2010);	
	4. the highest levels of teachers reported peer play disruption (i.e., being aggressive, antisocial and disturbing ongoing activities) when compared with peers whose English was native-like and fluent (Oades-Sese et al., 2011); and	
	5. higher levels of externalizing behaviours when parenting practices were characterized by low warmth and high control (Chen et al., 2014);	

internalizing behaviours	Positive relationships ELLs displayed fewer behavioural concerns than peers who only spoke English (Luchtel et al., 2010; Winsler et al., 2014). Negative relationships ELLs with lower/the lowest levels of English had 1. higher levels of teacher- or parent-rated cautiousness, shyness, anxiety, and loneliness (Chen & Tse, 2010; Howes et al., 2011; Spomer & Cowen, 2001); 2. more behavioural concerns when they were second generation compared with first generation (De-Feyter & Winsler, 2009); 3. the fastest increasing rate of teacher-reported internalizing behaviours from kindergarten to grade five compared with their peers whose English was native-like and fluent (Han, 2010; Han & Huang, 2010); 4. the highest levels of withdrawal at play when compared with peers whose English was native-like and fluent and whose heritage language skills were at higher levels (Oades-Sese et al., 2011); and 5. higher levels of teacher- and parent-reported internalizing behaviours when parenting practices were characterized by high control but low warmth (Chen et al., 2014).
	Positive relationships ELLs with lower/the lowest levels of English skills had 1. fewer socio-emotional protective factors in second generation than in first generation (De-Feyter & Winsler, 2009); 2. the lowest level of teacher-rated interpersonal and self-control skills through kindergarten to grade five when compared with peers whose English was native-like and fluent (Han, 2010); 3. lower levels of social interactions and less pretend play at preschools (Howes et al., 2011; Oades-Sese et al., 2011); 4. lower level of teacher-reported assertiveness, interpersonal skills and parent-rated engagement with mothers (Spomer & Cowen, 2001; Winsler et al., 2014); and 5. lower levels of self-worth, peer-rated social interactions (e.g., sociability and cooperation), and teacher and parent reported social competence at schools when they also used less English media use and had fewer associations with native English-speaking friends (Chen et al., 2014; Chen & Tse, 2010).
relationship with others	Positive relationships ELLs with lower levels of English had 1. less positive peer relationship (Chen & Tse, 2010); and 2. less positive teacher-child relationships than English-speaking peers (Luchtel et al., 2010).

Discussion of findings of English levels and social competence

Based on the numbers of studies finding positive, negative and non-significant associations, a conservative conclusion is that English levels are positively associated with social skills, in particular that higher levels of English are associated with higher levels of social interactions with peers and teachers. Nevertheless it is still unclear how English levels are associated with externalizing, internalizing behaviours and relationships with others.

It is difficult to explain why these studies obtained inconsistent results. Differences in participant characteristics may be a reason. The participants across the 13 studies varied in terms of ethnicity (i.e., single versus mixed ethnicities), immigrant status (i.e., first, second, and non-immigrants), and years of residence in host countries. Some studies took native English-speaking children as control groups without controlling confounding factors such as socioeconomic status (Han, 2010; Han & Huang, 2010; Luchtel et al., 2010). The effects of these factors may be mixed up with English levels on social competence ratings and future research should try to disentangle these confounding factors. Moreover, apart from Chen and Tse (2010), Chen et al. (2014) and Winsler et al. (2014), most studies did not examine difference among ELLs within a single ethnicity (i.e., Chinese and Mexico). It is important to do this because ethnicity can also be a factor affecting developmental trajectory of ELLs who are even from the same region such as Asia (Beiser et al., 2010).

Another reason for the inconsistent findings may be varied measures used to measure English proficiency. Among the 13 studies, five used (standardised) language tests (Chang et al., 2007; Dawson & Williams, 2008; De-Feyter & Winsler, 2009; Howes et al., 2011;

Oades-Sese, Esquivel, Kaliski, & Maniatis, 2011), two used Likert scale questionnaires (Chen et al., 2014; Chen & Tse, 2010), and the rest used language status (i.e., ELLs and non-ELLs) or teacher- or parent-report of classroom or home language use (i.e., English or heritage languages). Using language status or home or classroom language use may be inadequate because it only provided a rough assessment of English. It is still unknown what each ELL's English proficiency was within a particular group (i.e., speaking heritage language at home) and how English proficiency was associated with social competence within that group. Future research should consider a direct assessment of English proficiency of all participants with a language test, which can be easily carried out by researchers and educators, and then compare their social competence ratings against their English scores.

The relationship between language skills and social competence is unlikely to be linear. Future research needs considering other factors, such as emotion regulation, which may interact with language skills in predicting social competence. Limited English may lead to negative emotions such as fear and sadness, but if ELLs can regulate negative emotions effectively, they may still adjust well in schools. In contrast, if ELLs have poor emotion regulation abilities, even though they speak English well, they may still exhibit behavioural problems. In other words, abilities to regulate emotions may change the relationship between English skills and social competence and such abilities should be examined in future research.

Heritage language levels and social competence

Twelve studies (see Table 1) investigated social competence with reference to heritage language levels, but not all the studies examined heritage languages in the same

detailed manner as they did with English. This is possibly because heritage languages are less important than English for ELL's social adjustment. For succinctness, we will discuss the findings at global social competence level instead of at specific dimension level. Of the 12 studies, seven found a positive association, three found a negative association, one found both positive and negative associations (Tannenbaum & Howie, 2002), and one found no association (Vaughan et al., 2007). Table 4 presents details of the findings of these studies.

Table 4

Relationships between Heritage Language Levels and Social Competence

Positive relationships

ELLs with lower levels of heritage languages or speaking less heritage languages at school had

1. higher levels of vulnerability and anxiety (Tannenbaum & Howie, 2002);
2. lower teacher-rated interpersonal skills, lower levels of frustration tolerance, and less close relationship with teachers who also spoke heritage languages (Chang et al., 2007);
3. fewer social skills and more problem behaviours compared with those who were first generation and spoke much heritage language (De-Feyter & Winsler et al., 2009; Luchtel et al., 2010);
4. lower levels of teacher-rated social competence compared with those who spoke heritage language fluently (Oades-Sese et al., 2011);
5. less time in pretend play (Howes et al., 2011);
6. lower levels of parents and teachers reported social competence (Chen et al., 2014); and
7. more problem behaviours during preschool years compared with peers who spoke more heritage languages (Winsler et al., 2014).

Negative relationships

ELLs with higher levels of heritage languages or only speaking heritage languages had

1. lower levels of self-reliance (Tannenbaum & Howie, 2002);
 2. more teacher-reported shyness and peer victimization in classroom (Chen & Tse, 2010);
 3. more internalizing behaviours and fewer interpersonal and self-control skills than those who spoke English native-likely or fluently (Han, 2010; Han & Huang, 2010).
-

Two studies need extra illustration because they both found speaking heritage was positively associated with parent-child relationship and family unity. Children's Chinese language proficiency was positively associated with parental warmth and acceptance (Chen et al., 2014). Chinese language use was associated positively with ELLs' perception of cohesive and egalitarian family structure but negatively with their perception of hierarchical family structure (Tannenbaum & Howie, 2002). Higher level of Chinese language maintenance was also related to better family member relationship and higher level of loyalties.

Discussion of findings of heritage language levels and social competence

Based on the numbers of studies finding positive, negative and both associations, a conservative conclusion may be that speaking heritage languages is conducive to family relationship, though such findings still need more studies to confirm. What is still unclear is how heritage language skills are associated with other dimensions of social competence.

It is difficult to compare the findings across these studies as they had different research foci and used different instruments to collect data. Rather than classifying ELLs into groups with a rough assessment such as home language use and comparing social competence ratings between groups, it is recommended that future research consider measuring all participants' heritage language proficiency with a language test and then compare all ELLs' social competence ratings against their heritage language scores. Moreover, compared with studies investigating relationships between English levels and social competence, studies investigating the associations of heritage language proficiency and social competence are fewer in number and narrower in scope. For theoretical

advancement and educational implications, more research is needed to uncover the effects of heritage languages on ELLs' social competence development.

Discussion of divergent results of English and heritage languages

According to Tables 3 and 4, it appears that English skills are especially beneficial for communications at school and promote social interactions with peers and teachers whereas heritage language skills are particularly helpful for communications at home and develop family relation quality (Chen & Tse, 2010; Howes et al., 2011; Oades-Sese et al., 2011; Tannenbaum & Howie, 2002). Such divergent results indicate that it is important for future research to consider contexts when investigating relationships between language skills and social competence. It may also be important to consider who will rate social competence measures as parents may be more likely to measure from a home context perspective while teachers from a school context perspective. A review of cross-informant correlations of child behaviours reported a mean correlation of 0.27 between parent and teacher ratings (Achenbach, McConaughy, & Howell, 1987). Different raters (parents vs. teachers) from different context perspectives (home vs. school) may also account for the inconsistent findings across the selected studies. Future research should differentiate parents' and teachers' ratings of social competence measures when conducting such kind of studies.

The selected studies did not provide much information about ELLs' social or ethnic identity development with the process of maintaining heritage languages and learning English. Since language learning is also a process of establishing ethnic identity, which is closely related to formation and development of behavioural norms and practices (Duff, 2007; Ochs & Schieffelin, 2011), it may be interesting for future research to consider how

heritage language helps sustain the original ethnic identity and how host language learning helps establish new ethnic identity. Then it may be interesting to examine how social behaviours and skills transform at home and school contexts due to ethnic identity changes. As such, longitudinal data is preferred as it can more clearly characterize the developmental trajectory.

Conclusion

Rapid growth of Asian and Latino population in English-speaking countries highlights the need to understand the particular development of social competence of ELLs so that developmental science is inclusive of this growing population and better educational services can be provided for them. Based on the small set of the peer-reviewed studies, conservative conclusions are that English skills are positively associated with social skills and speaking heritage languages promotes child-parent relationships. Nevertheless, the findings are inconsistent regarding how English levels are associated with externalizing and internalizing behaviours and relationships with others. Neither are the findings consistent regarding how heritage language skills are related to social competence at school and community contexts. The mixed findings may be better clarified if future research can have: a) consistent measures of all possible variables; b) a direct assessment of all ELLs' English and heritage language proficiency with language tests; and c) investigation of potential interacting factors, such as emotion regulation and academic skills, between English and social competence.

As noted previously, the majority (12 out of 14) of the reviewed studies were conducted in the United States (US) and no studies focusing on preschool children were conducted outside of the US. Research could be advanced by replicating the US studies in

other favoured destinations of migrants such as Australia, Canada and United Kingdom to determine whether the main findings extend beyond the US context. It is possible that findings may be attributable to characteristics of US culture or immigrants choosing the US and not relevant to other countries.

Although many questions remain, there is consistency in the findings to suggest at least two implications for educators. First, this review may alert educators to potential difficulties ELLs may face in social competence development if their English skills are not on par with their English speaking peers. Educators may support children in finding alternative paths for the development of social competence that is less dependent on language. For instance, educators can consider training or improving ELLs' emotion regulation abilities to handle challenging situations. Second, educators need to be aware that speaking heritage languages is helpful for parent-child relationship, which means a complete shift to English language by ELLs may undermine family closeness. It may be beneficial if ELLs are allowed to use their heritage languages with peers and have access to teachers who can also speak their heritage languages in educational contexts.

References

- Achenbach, T., McConaughy, S., & Howell, C. (1987). Child/adolescent behavioural and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin*, 101(2), 213-232.
- Barone, D. M. (2004). Case-study research. In N. K. Duke & M. H. Mallette (Eds.), *Literacy research methodologies* (pp. 7-27). New York: Guilford Press.
- Beiser, M., Hamilton, H., Rummens, J. A., Oxman-Martinez, J., Ogilvie, L., Humphrey, C., & Armstrong, R. (2010). Predictors of emotional problems and physical aggression among children of Hong Kong Chinese, Mainland Chinese and Filipino immigrants to Canada. *Social Psychiatry & Psychiatric Epidemiology* 45(10), 1011-1021. doi: 10.1007/s00127-009-0140-3
- Bhui, K., McKenzie, K., & Rasul, F. (2007). Rates, risk factors & methods of self harm among minority ethnic groups in the UK: A systematic review. *BMC Public Health*, 7(1), 336-350. doi: 10.1186/1471-2458-7-336
- Blair, K. A., Denham, S. A., Kochanoff, A., & Whipple, B. (2004). Playing it cool: Temperament, emotion regulation, and social behavior in preschoolers. *Journal of School Psychology*, 42(6), 419-443. doi: 10.1016/j.jsp.2004.10.002
- Brown, H. D. (2007). *Principles of language learning and teaching* (5th ed.). New York: Pearson Education, Inc.
- Chang, F., Crawford, G., Early, D., Bryant, D., Howes, C., Burchinal, M., . . . Pianta, R. (2007). Spanish-speaking children's social and language development in pre-kindergarten classrooms. *Early Education and Development*, 18(2), 243-269. doi: 10.1080/10409280701282959

- Cheah, C., & Leung, C. (2011). The social development of immigrant children: A focus on Asian and Hispanic children in the United States. In P. Smith & C. Hart (Eds.), *The Wiley-Blackwell handbook of childhood social development* (2nd ed., pp. 161-180). MA: Blackwell Publishing Limited.
- Chen, S. H., Hua, M., Zhou, Q., Tao, A., Lee, E. H., Ly, J., & Main, A. (2014). Parent-child cultural orientations and child adjustment in Chinese American immigrant families. *Developmental Psychology*, 50(1), 189-201. doi: 10.1037/a0032473
- Chen, X., & Tse, H. (2010). Social and psychological adjustment of Chinese Canadian children. *International Journal of Behavioral Development*, 34(4), 330-338. doi: 10.1177/0165025409337546
- Clarke, P. (2009). Supporting children learning English as a second language in the early years (birth to six years). Retrieved November 10, 2012, from http://www.vcaa.vic.edu.au/Documents/earlyyears/supporting_children_learning_esl.pdf
- Coombes, E., Jones, A., Page, A., & Cooper, A. R. (2014). Is change in environmental supportiveness between primary and secondary school associated with a decline in children's physical activity levels? *Health & Place*, 29(1), 171-178. doi: 10.1016/j.healthplace.2014.07.009
- Dawson, A., & Williams, S. (2008). The impact of language status as an acculturative stressor on internalizing and externalizing behaviors among Latino/a children: A longitudinal analysis from school entry through third grade. *Journal of Youth and Adolescence*, 37(4), 399-411. doi: 10.1007/s10964-007-9233-z

- De-Feyter, J., & Winsler, A. (2009). The early developmental competencies and school readiness of low-income, immigrant children: Influences of generation, race/ethnicity, and national origins. *Early Childhood Research Quarterly*, 24(4), 411-431.
- Denham, S. A. (2006). Social-emotional competence as support for school readiness: What is it and how do we assess it? *Early Education and Development*, 17(1), 57-89. doi: 10.1207/s15566935eed1701_4
- Duff, P. A. (2007). Second language socialization as sociocultural theory: Insights and issues. *Language Teaching*, 40(04), 309-319. doi: 10.1017/S0261444807004508
- Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2000). Dispositional emotionality and regulation: Their role in predicting quality of social functioning. *Journal of Personality & Social Psychology*, 78(1), 136-157. doi: 10.1037/10022-3514.78.1.136
- Eisenberg, N., Sadovsky, A., & Spinrad, T. L. (2005). Associations of emotion-related regulation with language skills, emotion knowledge, and academic outcomes. *New Directions for Child and Adolescent Development*, 109, 109-118.
- Galindo, C., & Fuller, B. (2010). The social competence of Latino kindergartners and growth in mathematical understanding. *Developmental Psychology*, 46(3), 579-592. doi: 10.1037/a0017821
- Halle, T. G., Whittaker, J. V., Zepeda, M., Rothenberg, L., Anderson, R., Daneri, P., . . . Buysse, V. (2014). The social–emotional development of dual language learners: Looking back at existing research and moving forward with purpose. *Early Childhood Research Quarterly*, 29(4), 734-749. doi: 10.1016/j.ecresq.2013.12.002

- Han, W.-J. (2010). Bilingualism and socioemotional well-being. *Children and Youth Services Review*, 32(5), 720-731. doi: 10.1016/j.childyouth.2010.01.009
- Han, W.-J., & Huang, C.-C. (2010). The forgotten treasure: Bilingualism and Asian children's emotional and behavioral health. *American Journal of Public Health*, 100(5), 831-838. doi: 10.2105/AJPH.2009.174219
- Hebert-Myers, H., Guttentag, C. L., Swank, P. R., Smith, K. E., & Landry, S. H. (2006). The importance of language, social, and behavioral skills across early and later childhood as predictors of social competence with peers. *Applied Developmental Science*, 10(4), 174-187. doi: 10.1207/s1532480xads1004_2
- Howes, C., Wishard, G. A., Fuligni, A., Zucker, E., Lee, L., Obregon, N. B., & Spivak, A. (2011). Classroom dimensions predict early peer interaction when children are diverse in ethnicity, race, and home language. *Early Childhood Research Quarterly*, 26(4), 399-408. doi: 10.1016/j.ecresq.2011.02.004
- Jia, G., & Aaronson, D. (2003). A longitudinal study of Chinese children and adolescents learning English in the United States. *Applied Psycholinguistics*, 24(01), 131-161. doi: 10.1017/S0142716403000079
- Le, T. N., & Stockdale, G. D. (2005). Individualism, collectivism, and delinquency in Asian American adolescents. *Journal of Clinical Child & Adolescent Psychology*, 34(4), 681-691. doi: 10.1207/s15374424jccp3404_10
- Leyva, D., Berrocal, M., & Nolivos, V. (2014). Spanish-speaking parent-child emotional narratives and children's social skills. *Journal of Cognition & Development*, 15(1), 22-42. doi: 10.1080/15248372.2012.725188

- Liew, J., Castillo, L., Chang, B., & Chang, Y. (2011). Temperament, self-regulation, and school adjustment in Asian American children. In L. Leong, D. Juang, D. Qin & H. FitzGerald (Eds.), *Asian American and Pacific island children's mental health, Volume 1: Development and context*. Westport, CT: Praeger Publishers.
- Luchtel, M., Hughes, K., Luze, G., Bruna, K., & Peterson, C. (2010). A comparison of teacher-rated classroom conduct, social skills, and teacher–child relationship quality between preschool English learners and preschool English speakers. *NHSA Dialog*, 13(2), 92-111. doi: 10.1080/15240751003737877
- Marks, A., Patton, F., & Coll, C. (2010). More than the A-B-Cs and 1-2-3s: The importance of family cultural socialization and ethnic identity development for children of immigrants' early school success. In E. Grigorenko & R. Takanishi (Eds.), *Immigration, diversity, and education* (pp. 245-258). New York: Routledge.
- McDonald, E. J., McCabe, K., Yeh, M., Lau, A., Garland, A., & Hough, R. L. (2005). Cultural affiliation and self-esteem as predictors of internalizing symptoms among Mexican American adolescents. *Journal of Clinical Child & Adolescent Psychology*, 34(1), 163-171. doi: 10.1207/s15374424jccp3401_15
- Oades-Sese, G. V., Esquivel, G. B., Kaliski, P. K., & Maniatis, L. (2011). A longitudinal study of the social and academic competence of economically disadvantaged bilingual preschool children. *Developmental Psychology*, 47(3), 747-764. doi: 10.1037/a0021380

- Ochs, E., & Schieffelin, B. (2011). The theory of language socialization. In E. Ochs & B. Schieffelin (Eds.), *The handbook of language socialization* (pp. 1-21). Malden, MA: Wiley-Blackwell.
- Pumariega, A., Rothe, E., & Pumariega, J. (2005). Mental health of immigrants and refugees. *Community Mental Health Journal*, 41(5), 581-597. doi: 10.1007/s10597-005-6363-1
- Raviv, T., Kessenich, M., & Morrison, F. J. (2004). A mediational model of the association between socioeconomic status and three-year-old language abilities: the role of parenting factors. *Early Childhood Research Quarterly*, 19(4), 528-547. doi: 10.1016/j.ecresq.2004.10.007
- Rose-Krasnor, L. (1997). The nature of social competence: A theoretical review. *Social Development*, 6(1), 111-135. doi: 10.1111/j.1467-9507.1997.tb00097.x
- Sam, D. L. (2006). Adaptation of children and adolescents with immigrant background: Acculturation or development. In M. H. Bornstein & L. R. Cote (Eds.), *Acculturation and parent-child relationships: Measurement and development* (pp. 97-111). Mahwah, NJ: Erlbaum.
- Semrud-Clikeman, M. (2007). *Social competence in children*. New York: Springer Science Business Media, LLC.
- Soltero-Gonzalez, L. (2009). Preschool Latino immigrant children: Using the home language as a resource for literacy learning. *Theory Into Practice*, 48(4), 283-289. doi: 10.1080/00405840903192771
- Steinberg, L. (2005). Cognitive and affective development in adolescence. *Trends in Cognitive Sciences*, 9(2), 69-74. doi: 10.1016/j.tics.2004.12.005

- Tannenbaum, M., & Howie, P. (2002). The association between language maintenance and family relations: Chinese immigrant children in Australia. *Journal of Multilingual and Multicultural Development*, 23(5), 408-424. doi: 10.1080/01434630208666477
- United Nations. (2014). International migration. Retrieved April 21, 2014, from <http://esa.un.org/unmigration/wallchart2013.htm>
- Vaughan, V., Mundy, P., Acra, F., Block, J., Delgado, C., Parlade, M., . . . Pomares, Y. (2007). Infant joint attention, temperament, and social competence in preschool children. *Child Development*, 78(1), 53-69.
- von Grünigen, R., Kochenderfer-Ladd, B., Perren, S., & Alsaker, F. D. (2012). Links between local language competence and peer relations among Swiss and immigrant children: The mediating role of social behavior. *Journal of School Psychology*, 50(2), 195-213. doi: 10.1016/j.jsp.2011.09.005
- Vygotsky, L. S. (1978). *Mind in society: the development of higher psychological processes* (M. Cole, Trans.). Cambridge, MA: Harvard University Press.
- Wentzel, K. R. (1999). Social-motivational processes and interpersonal relationships: Implications for understanding students' academic success. *Journal of Educational Psychology*, 91(1), 76-97.
- Winsler, A., Burchinal, M. R., Tien, H.-C., Peisner-Feinberg, E., Espinosa, L., Castro, D. C., . . . De Feyter, J. (2014). Early development among dual language learners: The roles of language use at home, maternal immigration, country of origin, and socio-demographic variables. *Early Childhood Research Quarterly*, 29(4), 750-764. doi: 10.1016/j.ecresq.2014.02.008

Wong, J. S. (2000). The effects of age and political exposure on the development of party identification among Asian American and Latino immigrants in the United States.

Political Behavior, 22(4), 341-371.

Zhang, W., Hong, S., Takeuchi, D. T., & Mossakowski, K. N. (2012). Limited English proficiency and psychological distress among Latinos and Asian Americans.

Social Science & Medicine, 75(6), 1006-1014. doi:

10.1016/j.socscimed.2012.05.012

Chapter 4 Methods

In this thesis, there is a major study (Study 1) and a smaller follow-up study (Study 2) which was conducted nearly two years after Study 1.

Study 1

Participants

Criteria for participants

Four criteria were applied for participant selection. First, children who spoke Mandarin at home and whose parents migrated from mainland China, Taiwan or the southern part of Asia were selected. Second, due to the age requirement of the social competence measure and the Mandarin proficiency test (see *Measures* below), the children needed to be between three years (36 months) and six years (72 months) of age. Moreover, children aged six years and over usually attend school in Australia. Third, children of first generation (born overseas) and second generation (born in Australia with at least one parent born overseas) migrants were selected. Children of third generation or greater migrants were excluded because they are more likely to be assimilated to the white western middle class in terms of cultural values and beliefs (Hook & Balistreri, 2007; Qin, 2009). Fourth, all children had to be attending formal child care at least one day per week.

Information about participants

One hundred and seven children were initially recruited from 15 English-speaking childcare centres, widely dispersed across northwest Sydney. Two children were later withdrawn by their parents and five children did not complete the English assessment. Four children were removed because they had one parent from Caucasian and African backgrounds. Data were finally completed for 96 children. The children were aged from

36 to 69 months ($M = 52.07$, $SD = 8.45$). The age of starting childcare ranged from 6 to 63 months ($M = 31.10$, $SD = 10.91$) and the length of time of attending childcare ranged from 2.86 to 57.01 months ($M = 20.90$, $SD = 11.11$). Mandarin-speaking children made up 25-40% of the total number of children across the 15 centres, based on teachers' reports (see Teacher Consent Form in Appendix 1). Parents' ethnicities were: both Chinese ($n = 94$), Chinese and Taiwanese ($n = 1$), Chinese and Malaysian Chinese ($n = 1$). The primary caregivers were mother ($n = 39$), mother and father ($n = 38$), grandparent ($n = 15$), mother and grandparent ($n = 2$), and father ($n = 2$). The details of the participants from the 15 childcare centres are presented in Table 4.1.

Table 4.1

Childcare information

Centre	No. of boys	No. of girls	% of children speaking Mandarin
A	13	9	38
B	8	7	32
C	6	6	40
D	6	2	35
E	2	6	30
F	3	4	28
G	3	2	32
H	3	1	28
I	2	1	36
J	2	1	26
K	1	1	28
L	1	1	25
M	1	1	33
N	1	1	30
O	1	0	25
Total	53	43	-

Because the English and the Mandarin proficiency tests (see *Measures* below) had different test forms for each age group, the 96 children were divided into three age groups of three years (36-47 months), four years (48-59 months), and five years (60-71 months). Table 4.2 presents more information related to age, age of starting childcare, and length of time in childcare for each age group and in total.

Table 4.2

Age, Age of Starting Childcare, and Length of Time in Childcare of Three Age Groups and in Total.

	Age			Age of starting childcare			Length of time in childcare		
	<i>M</i>	<i>SD</i>	range	<i>M</i>	<i>SD</i>	range	<i>M</i>	<i>SD</i>	range
Age 3* (n=33)	42.73	2.93	36-47	26.67	8.46	3-41	16.06	9.22	5-42
Age 4** (n=37)	52.78	3.36	48-59	30.65	10.43	7-50	21.86	10.78	2-48
Age 5*** (n=26)	62.92	2.38	60-69	37.23	12.13	6-62	25.69	11.67	3-57
Total (N=96)	52.07	8.45	36-69	31.10	10.91	6-63	20.90	11.11	2-57

Note. * 36-47 months, ** 48-59 months, *** 60-69 months

Among these children, 27 (28%) children were the only child in their families, 49 (51%) children had one sibling, 14 children (15%) had two siblings, and 6 (6%) children had three siblings. Fifty-nine (62%) children were the first-born child in their families, 29 (30%) were the second-born child, and 8 (8%) were the third-born child. Parental education of 73 (76%) children was a bachelor degree or higher, while 23 (24%) children had parents with a TAFE certificate, high school education, or primary school education. Thirty-five (36%) children were first generation and 61 (64%) children were second generation Australians. Table 4.3 presents detailed information related to gender, number

of siblings, birth order, parental education and generational status for each age group and in total.

Table 4.3

Number of Each Gender, Siblings and Birth Order, Parental Education, and Child's Generational Status in Each Group and in Total.

		Gender		No of siblings				Birth order			Parental Education		Generation	
		M	F	0	1	2	3	1 st	2 nd	3 rd	Bachelor below	Bachelor & over	1 st	2 nd
Age 3*	n	15	18	13	15	4	1	19	11	3	9	24	12	21
n=33	%	45	55	39	46	12	3	58	33	9	27	73	36	64
Age 4**	n	21	16	11	20	6	-	25	11	1	9	28	16	21
n=37	%	57	43	30	54	16	-	68	30	2	24	76	43	57
Age 5***	n	17	9	3	14	4	5	15	7	4	5	21	7	19
n=26	%	65	35	12	54	15	19	58	27	15	19	81	27	73
Total	n	53	43	27	49	14	6	59	29	8	23	73	35	61
N=96	%	55	45	28	51	15	6	62	30	8	24	76	36	64

Note. * 36-47 months, ** 48-59 months, *** 60-69 months

Measures

As stated in the *Introduction*, the main research hypotheses of this study are: 1) positive emotion regulation and emotion dysregulation are associated with social competence positively and negatively respectively; 2) English and Mandarin proficiencies are positively associated with social competence; 3) emotion regulation moderates the relationship between English and social competence; 4) western and Chinese cultural orientations are positively associated with social competence; and 5) the associations between cultural orientation and social competence vary across gender. Apart from these hypotheses, additional analyses were conducted to investigate typical errors made by Mandarin-speaking children when tested by the English measure (see ***English proficiency*** below). The purpose of the additional analyses was to provide preliminary data on developing a guideline for early childhood educators and psychologists who use the measure. Childcare teachers were asked to rate a social competence questionnaire and an emotion regulation questionnaire. Emotion regulation was also assessed by my direct observation of children's behaviours. English and Mandarin proficiencies were measured using standardised language tests. Given that the participants were relatively young (i.e., 3-5 years old) and their attention span might be short, it was necessary to control the length of time of the language tests appropriately. It was also necessary to administer the Mandarin and English tests separately to avoid child fatigue. Parents were asked to complete a questionnaire about their children's cultural orientations. It is noted here that a satisfactory measure of Chinese preschoolers' cultural orientations could not be found and modification of an adult assessment was needed. The following sections present each measure in detail.

Social competence

The Teacher Rating Scale of the Behavior Assessment System for Children – 2nd version (BASC-2) (Reynolds & Kamphaus, 2004) was used to measure social competence in the present study. The BASC-2 is a standardised scale and consists of three scales in terms of age ranges and one scale for children aged two years zero months to five years 11 months is used for the present study. The measure was chosen because it is a multidimensional system designed to assess both adaptive and maladaptive behaviours (Chee, 2007; Reynolds & Kamphaus, 2004). The Teaching Rating Scale was selected because this study focuses on children's social competence and behavioural problems in childcare and the teachers had the greatest familiarity with children's behaviours in the childcare context. The scale consists of 100 items and teachers use a four-point Likert scale from 1 (*never*) to 4 (*almost always*) to indicate how characteristic each item is of a particular child. The TRS contains four composites assessing 11 types of behaviour: Externalising (hyperactivity and aggression), Internalising (anxiety, depression, and somatisation), Behavioural Symptoms (hyperactivity, aggression, atypicality, withdrawal, and attention problems), and Adaptive Skills (adaptability, social skills and functional communication). Cronbach's alpha score for the overall scale was .89 in the present study. The manual of the measure provides a norm so that raw scores can be transformed into percentile scores and T scores for each composite. This study uses T scores for all analysis. Evidence from external studies indicated the BASC-2 and its previous edition (i.e. BASC) had good reliability and validity and was suitable for Chinese children (see Baker & Jones, 2006; Merydith, 2001; Monopoli & Kingston, 2012; Sandoval &

Echandia, 1994; Zhou, Peverly, Xin, Huang, & Wang, 2003). Completion of the BASC-2 took around 20 minutes.

Emotion regulation

Emotion regulation was measured by the Emotion Regulation Checklist (ERC) (Shields & Cicchetti, 1997) and the Disappointing Gift (DG) task (Saarni, 1984). The ERC is a 24-item checklist and teachers use a four-point Likert scale from 1 (*never*) to 4 (*almost always*) to indicate how characteristic each item is of a particular child. The measure was selected for the present study because it was designed to target processes central to emotionality and regulation in children including emotional intensity and change and situational appropriateness of emotional expressions (Curtis & Cicchetti, 2007). The scale has two subscales: Lability/Negativity and Emotion Regulation. The subscale Lability/Negativity assesses mood swings, angry reactivity, and intensity of both positive and negative emotions. The subscale is comprised of 15 items and higher scores reflect greater emotion dysregulation. The subscale Emotion Regulation assesses adaptive regulation, including flexibility, equanimity, and contextual appropriateness. The subscale consists of 8 items and higher scores reflect greater positive emotion regulation. One item is not scored for either of the subscales as it has not loaded either factor in validation analyses (Shields & Cicchetti, 1997). Cronbach's alpha was .72 in the present study. It is notable that the scale was originally designed for children aged 6 to 12 years old. It has now been used widely for preschoolers because it is adults who rate and has been demonstrated to be appropriate (Cohen & Mendez, 2009; Monopoli & Kingston, 2012; Oades-Sese, Esquivel, Kaliski, & Maniatis, 2011; Shields et al., 2001). Completion of the ERC took approximately 10 minutes.

The DG was used in the present study because it is a direct observation of emotional expressive behaviours and the combined score with the ERC provided a more comprehensive measure of emotion regulation than either measure alone. Upon completing the Mandarin test, the assessor (i.e., I) told the child s/he would receive “很酷的礼物” (*a very cool gift*) as a prize for her/his excellent performance. The gift was actually a scrap of wood. One minute after the child’s exposure to the wood, I pretended to realise that I brought the wrong gift and then presented a package of desirable gifts and asked the child to choose one. The whole procedure was video-recorded for 3-5 minutes. Cronbach’s alpha of the DG was .61 in the present study. The DG task has been used widely to assess young children’s emotion regulation (Carlson & Wang, 2007; Johnson, Walden, Conture, & Karrass, 2010; Saarni, 1984).

Table 4.4

Saarni’s (1984) Emotion Regulation Coding Criteria

Positive	Negative	Transitional Response
1. Broad smile with teeth showing	1. Nose wrinkling	1. Slight smile-open or closed lips
2. Broad, closed lip smile	2. Lowered brows as in a frown or as in annoyance, disappointment	2. Faint or mumbled "thank you"
3. Enthusiastic "thank you"	3. Omitted "thank you"	3. Knit brows while smiling slightly, or as in distress
4. Arched brows as in positive surprise	4. Puckered or pursed mouth	4. Tongue movements visible outside mouth
5. Smiling eye contact with experimenter	5. Tight, straight-line mouth	5. Two or more gaze shifts between gift and experimenter
6. Eye crinkle while smiling	6. Avoids eye contact with experimenter	6. Biting or teeth visible on lips
	7. Negative noise emitted (e.g., snort, "ugh")	7. Hand to face, head
	8. Abrupt departure from room	8. Head tilt, turn
	9. Shoulder shrug	9. Questioning vocalization
		10. Laughing, giggling
		11 Mouthing (opening, shutting)
		12 Abrupt loss of smile

I conducted coding with guidance of the scheme developed by Saarni (1984) as presented in Table 4.4. The coding scheme classifies all possible responses into three categories: positive, negative and transitional. Children's responses were coded for 30 to 40 seconds following exposure to the disappointing gift. Each behaviour that appeared, regardless of its frequency, was coded as one point and added to the positive or negative sum. Transitional behaviours were also coded but were not used for analysis in the present study. An early childhood teacher who was also a PhD candidate and a native Mandarin speaker received training for coding and coded 25% of the sample selected randomly. Satisfactory Cohen's kappas were obtained ranging from .66 to .79.

From the two measures, I created two composites: Positive Emotion Regulation and Emotion Dysregulation. Positive Emotion Regulation was generated by adding the Z scores of ERC Emotion Regulation and DG positive category. Emotion Dysregulation was formed by adding the Z scores of ERC Lability/Negativity and DG negative category.

English proficiency

The Preschool Language Scales (5th edition) Screening Test (PLS-5 Screening Test) (Zimmerman, Steiner, & Pond, 2012) is a standardised screening criterion developed to assess Language including auditory comprehension and expressive communication in English. The test was selected for the present study because it is an interactive, play-based, individually administered assessment for children from birth to seven years 11 months and takes only 6-10 minutes to administer with each child. It includes the most discriminating test items from the PLS-5 and is used to identify children who need further assessment (Zimmerman et al., 2012). Apart from Language, the PLS-5 Screening also measures five additional factors: Articulation, Connected Speech, Social/Interpersonal,

Fluency and Voice. The PLS-5 Screening Test has different forms for different age groups. The present study used three forms (three, four and five years). Cronbach's alphas for the three forms were .88, .87 and .79. The test was administered in the childcare centres by a research assistant who is a native English speaker with early childhood education qualifications and enrolled in a PhD program in early childhood. Unlike the PLS-5, the PLS-5 Screening Test does not provide a standardised scoring system. When investigating associations between English and social competence (see Chapter Five), I used only the Language section of the PLS-5 Screening Test for analysis. Percentage scores were used in this chapter. For instance, if a 4-year-old girl correctly answered 12 out of 16 question items in the Language section, her score was 75% (i.e., $12/16 * 100\%$). For the additional analyses which investigated typical errors made by Mandarin-speaking children when tested by the PLS-5 Screening Test (see Chapter Seven), all the sections of the test (i.e., Language, Articulation, Connected Speech, Social/Interpersonal, Fluency and Voice) were included. A pass rate was used for analyses. For instance, if 20 out of 25 children of a particular age passed Articulation, the pass rate of this section was 80% ($20/25 * 100\%$).

Mandarin Proficiency

The Receptive and Expressive Vocabulary Test (REVT) (Huang, Jian, Zhu, & Lu, 2010) is a norm-referenced standardised measure assessing Mandarin proficiency in children aged 3-6 years. The test was chosen for the present study because it is one of the very few language tests designed to assess young children's Mandarin proficiency. The REVT is implemented individually and assesses expressive and receptive skills in four areas of nomination, classification, definition and reasoning. Each age range has its own

test form and our study used three forms (three, four and five years) according to the participants' ages. Once testing starts, it does not terminate until the child answers five consecutive question items incorrectly. This means a three-year-old child can proceed to the 4-year test form or even the 5-year test form if s/he does not have five consecutive incorrect answers. However, if a child answers five consecutive questions incorrectly within his/her age-range test form, the administrator needs to test the child backward to the previous age-range test until the child reaches 3 consecutive items correctly. If there are no five consecutive false answers within the age-range test, all the answers of the previous age-range test will be automatically scored as correct. In the present study, the raw scores of expressive and receptive skills of each child were summed as a total score and transformed into a standardised score based on the norm of the measure. Cronbach's alphas of the three age test forms in the present study were .95, .98 and .97. The test has high criteria validity when compared with the Chinese version of the Wechsler Preschool and Primary Scale of Intelligence (Huang et al., 2010). The REVT was administered in the childcare centres by the researcher.

Cultural orientations

The General Ethnicity Questionnaire (GEQ) (Tsai, Ying, & Lee, 2000) was used to measure cultural orientations. It was selected because it is a bidimensional measure assessing Mandarin speaking immigrants' orientations to both heritage and host cultures. The measure was developed in the United States and has an American version and a Chinese version measuring the host and heritage cultural orientations respectively. Each version measures five areas: language use, social affiliation, cultural activities, cultural pride, media and food. The American version has 37 items and the Chinese version has 39

items. The items are identical in wording, except for the culture referenced. Responses were coded on a 5 point Likert-type scale from 1 (*strongly disagree/not at all*) to 5 (*strongly agree/very much*). Because the GEQ was developed in America for adult use, I made some modifications to make it suitable for parents to rate their children in Australia after a pilot trial with eight parents. Table 4.5 summarises the modifications made.

Table 4.5

Summary of Modifications Made to the General Ethnicity Questionnaire

1. I changed “America” to “Australia”
 2. I deleted seven questions which are inappropriate for young children:
 - 1) *Compared to how much I negatively criticize other cultures, I criticize Chinese/western culture less;*
 - 2) *I am embarrassed/ashamed of Chinese/western culture;*
 - 3) *I relate to my partner or spouse in a way that is Chinese;*
 - 4) *The people I date are Chinese/American;*
 - 5) *How much do you speak Chinese/English at prayer;*
 - 6) *I admire people who are Chinese/American;*
 - 7) *Now as an adult, my friends are Chinese/American.*
 3. I changed the subject of each statement from “I” to “My child”.
 4. I modified three items:
 - 1) *I was proud of Chinese/western culture to* *I approve of Chinese value and beliefs of raising a child;*
 - 2) *I have strong belief that my children should only have Chinese/English names only* *My child likes to be called by his Chinese/English name;*
 - 3) *I wish to be accepted by Chinese/Americans* *My child feels uneasy when being around with Chinese/Caucasian Australians.*
 5. I added two question items in the Chinese version:
 - 1) *My child likes to go back to my home country*
 - 2) *On average, how many days does your child stay at your home country each year?*

A. 0 days B 1-5 days C 6-10 days D 11-20 days E more than 20 days.
-

After modification, there were 31 items in the GEQ Australian version (GEQ-AU) and 34 question items in the GEQ Chinese version (GEQ-CN) (see General Ethnicity Questionnaire – Chinese and Australian versions in Appendix 4). For each child I generated a GEQ-AU score representing host cultural orientation and a GEQ-CN score representing heritage cultural orientation by calculating a mean score of all items in each version. This is one of the methods recommended by the developers regarding the use of the measure (Tsai et al., 2000). Cronbach's alphas were .92 and .91 for the GEQ-AU and the GEQ-CN respectively in the present study. External studies also demonstrated its acceptable reliability and validity (Celenk & Van de Vijver, 2011; Dinh, Weinstein, Tein, & Roosa, 2013; Ying & Han, 2008; Ying, Han, & Wong, 2008).

Procedures

Childcare centres were first identified through local council and then the directors of the centres were contacted individually through emails or calls introducing the project's aims and purposes. When the directors expressed interest, I forwarded to the centres Parent and Child Information and Consent Form (see Appendix 2) and Teacher Consent Form (see Appendix 1). The teachers helped contact parents whose children spoke Mandarin at home as their first language and forwarded to them the Parent and Child Information and Consent Form. Figure 4.1 below shows the procedures for the data collection. Every child participant was compensated with a small gift and the teachers received 10 Australian dollars per child rated.

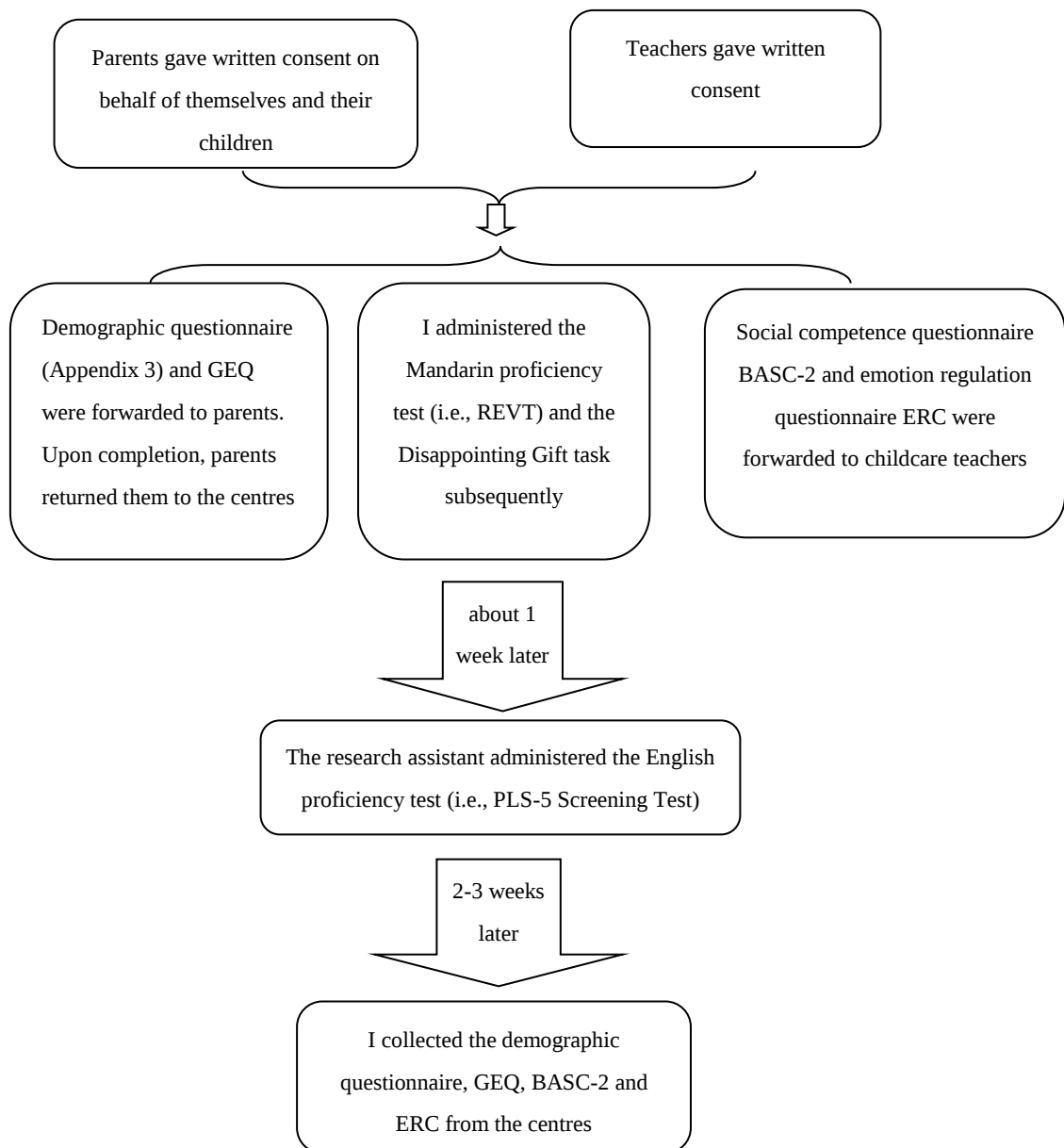


Figure 4.1 Data collection procedures

The language tests were administered at quiet places in the childcare centres. Apart from parents' consent on behalf of their children, verbal consent was also obtained from all the children. When I administered the REVT to a child, I first introduced myself and what I was going to do and asked whether s/he wanted to participate. All the children answered yes and then I told the child s/he could stop any time if s/he did not want to continue the test. Similar processes also occurred with the PLS-5 Screening Test administered by the research assistant. No child elected to withdraw from either of the two tests. Notably, seven children from the same childcare centre took the PLS-5 Screening Test first and the REVT a week later. Independent sample *t* tests show there were no differences in English and Mandarin scores between these seven children and the rest of the sample. Personal conversations with the directors indicated that there were children from other ethnic backgrounds across the 15 centres.

Additional language analyses

It is important to conduct additional language analyses on the participants' performance on the PLS-5 Screening Test. This is done for the purpose of providing preliminary guidelines to future users of the PLS-5 Screening Test when testing Mandarin-English bilingual preschoolers. Guidelines are needed to avoid unnecessary referrals because Mandarin-English bilingual children may have reduced performances on the test caused by cross-language interference rather than by their real language delay or disorder.

Methods of analysis

The data collected from all measures were entered onto sheets of the Statistical Package for Social Sciences (SPSS) (version 22.0). Descriptive statistics (mean and

standard deviations) were used to obtain a broad description of the demographic factors of the participants and independent and dependent variables of interest. Pearson correlations were used to calculate the relationships between the variables of interest. Table 4.6 presents the methods of analysis employed to address the main research hypotheses and the additional analyses investigating typical errors made by Mandarin-speaking children when tested with the PLS-5 Screening Test. The table also gives information about the current scholarly literature (i.e., in press or under review) that investigate these research hypotheses and the measures used to address the hypotheses.

Table 4.6

Analysis Methods for Research Hypotheses

Hypotheses	Analysis methods	Paper	Measures
1. Positive emotion regulation and emotion dysregulation are correlated with social competence positively and negatively respectively	Multiple regression after controlling for demographic factors including age, gender, generational status and parents' education level	Ren, Y., Wyver, S., Xu Rattanasone, N., & Demuth, K. (2016). Social competence and language skills in Mandarin–English bilingual preschoolers: The moderation effect of emotion regulation. <i>Early Education and Development</i> , 27(3), 303-317. doi: 10.1080/10409289.2015.1066639 (see Chapter 5).	Demographic questionnaire
2. English and Mandarin proficiencies are positively correlated with social competence	Hierarchical regression testing the interaction effects of English times Positive Emotion Regulation/ Emotion Dysregulation		Behavioural Assessment System for Children – 2 nd version.
3. Emotion regulation moderates the relationship between English and social competence	Post-hoc analyses of moderation effects of emotion regulation		Emotion Regulation Checklist Disappointing Gift Preschool Language Scales – 5 th Screening Test The Receptive and Expressive Vocabulary Test

Table continued

4. Western and Chinese cultural orientations are positively correlated with social competence	Multiple regression after controlling for demographic factors including age, gender, and parents' education level	Ren, Y., & Wyver, S. (2016). Social competence, cultural orientations and gender differences: A study of Mandarin-English bilingual preschoolers. <i>International Journal of Early Years Education</i> , 24(02), 139-152. doi: 10.1080/09669760.2016.1138282 (see Chapter 6).	Demographic questionnaire Behavioural Assessment System for Children – 2 nd version. General Ethnicity Questionnaires
5. Associations between cultural orientations and social competence vary across gender	Multiple regressions within each gender		
6. Typical errors made by Mandarin-speaking children when tested by the PLS-5 Screening Test	Pass rate (i.e., the percentage of children who passed a particular task among all children who completed the task)	Ren, Y., Xu Rattanasone, N., Wyver, S., Hinton, A., & Demuth, K. (2016). Interpretation of errors made by Mandarin-speaking children on the Preschool Language Scale - 5th edition screening test. <i>Australian Journal of Educational and Developmental Psychology</i> , 15, 24-34 (see Chapter 7).	Demographic questionnaire Preschool Language Scales – 5th Screening Test The Receptive and Expressive Vocabulary Test

Study 2

Study 2, which was conducted nearly two years after Study 1, was initially intended as a longitudinal study to follow up the children who had participated in Study 1. The aim was to investigate possible changes in language skills and social-emotional competence among the children. However, checking with the 15 childcare centres showed that the children in Study 1 had either moved to other childcare centres or to schools. A smaller scale study was conducted with new children and more language measures testing English inflectional morphemes (i.e., plurals and tense) were employed because previous studies (Jia, 2003; Nicoladis, Song, & Marentette, 2012) indicate that these areas are challenging to Mandarin-speaking children. The study also investigated whether positive emotion regulation was positively associated with proficiency in the morphemes.

Participants

Apart from the previous criteria (see *Criteria for participants* in Study 1), two more criteria were set up for participants in Study 2, in order that they might be more comfortable with the English proficiency test: the children needed to be at least four years old and have attended childcare for at least one year. Initially 24 new children participated, but six children were later excluded because their scores on the Preschool Language Scales (5th edition) Screening Test were 70 out of 100, which indicates that they might have had difficulties understanding the instructions of the test that measures inflectional morphemes. Eventually 18 children were included in the second phase. The children were from seven of the first 15 childcare centres. Their ages ranged from 48 to 64 months ($M = 56.17$, $SD = 4.60$). There were eight girls and 10 boys and six children were first generation and 12 second generation. Age of starting childcare ranged from 7 to 48

months ($M = 29.46$, $SD = 11.65$) and attendance in childcare ranged from 12 to 48 months ($M = 27.00$, $SD = 11.75$). The parents all came from mainland China. The primary caregivers were mother and father ($n = 8$), mother ($n = 6$), grandparents ($n = 2$), and mother and grandparent ($n = 2$). Seventeen primary caregivers had a bachelor degree or higher. Six children were the only child in their families, nine children had one sibling, and three children had two siblings. Twelve children were the first-born child and six children were the second-born child in their families. More details about the participants from the seven centres are given in Table 4.7.

Table 4.7

Childcare Information

Childcare Centre	No. of boys	No. of girls	% of children speaking Mandarin
A	3	1	32
B	2	2	36
C	2	1	40
D	1	1	25
E	1	1	28
F	1	1	40
G	0	1	25
Total	10	8	-

Measures

Social competence. The Teacher Rating Scales of the Behavioral Assessment System for Children-2 (BASC-2) (Reynolds & Kamphaus, 2004) for 2-5 year olds was used to measure social competence. Cronbach's alpha score for the BASC-2 was .92 in Study 2.

Emotion Regulation. The Emotion Regulation Checklist (ERC) (Shields & Cicchetti, 1997) and the Disappointing Gift (DG) task (Saarni, 1984) were used to

measure Positive Emotion Regulation and Emotion Dysregulation. The ERC includes Emotion Regulation and Lability/Negativity. Cronbach's alpha score for the ERC was .83 in Study 2. The DG includes the positive category, the negative category and a transitory category, which was not used. Coding of the DG data was conducted by me and a PhD candidate in early childhood education, who is also a native Mandarin speaker, after receiving training for coding. Inter-coder reliability (i.e., Cohen's kappa) ranged from .63 to .82. Coding disagreement was resolved through discussion. Cronbach's alpha score for the DG was .79. Positive Emotion Regulation was the sum of the Z scores of ERC Emotion Regulation and DG positive category. Emotion Dysregulation was the sum of the Z scores of ERC Lability/Negativity and DG negative category.

English proficiency. The Preschool Language Scales (5th edition) Screening Test (PLS-5 Screening Test) was used to assess English proficiency (Zimmerman et al., 2012). Two test forms (four and five years) were used in Study 2 and Cronbach's alphas were .85 and .83. The PLS-5 Screening Test was administered in quiet places in childcare centres by an English native speaker who has a master degree in linguistics.

Mandarin proficiency. The Receptive and Expressive Vocabulary Test (REVT) (Huang et al., 2010) was used to assess Mandarin proficiency. Two test forms (four and five years) were used in Study 2. Cronbach's alpha was .91. I administered the REVT in quiet places in childcare centres.

Test of inflectional morphemes (TIM). Apart from the PLS-5 Screening Test, three additional language measures testing plurals, present tense, and past tense were used in Study 2 because previous studies (Jia, 2003; Nicoladis et al., 2012; Qi, 2010) and Study 1 (see Chapter Seven) found that these inflectional morphemes are challenging to Chinese

children exposed to English in early years. Each of these measures had 10 questions for 10 morphemes (see Table 4.8).

Table 4.8

Morphemes Included in the Additional Language Measures

Plurals	Present tense	Past tense
dogs	hugs	hooted
bags	races	washed
horses	hops	batted
cats	wishes	guarded
roses	teaches	hopped
hats	digs	waited
noses	reads	hugged
houses	washes	knocked
beds	sits	wished
buses	watches	potted

Pictures of the morphemes stored in a laptop were used as stimuli. A typical task testing a plural form is this: the research assistant pointed to a picture of a dog in the laptop and said “*Here is a dog*” and then asked “*These are ...*” while pointing to the next picture containing several dogs. The child was scored correct as long as the plural form was articulated. A typical task testing present tense is this: the research assistant pointed to a picture and questioned “She likes to jog. She does it every day. What does she do every day?” The child was scored correct when the answer contained “jogs” such as *She jogs (every day)* or *(The) woman/person jogs (every day)*. A typical task testing past tense is this: the research assistant pointed to a picture and asked “She likes to wave. She does it every day. What did she do yesterday?” The child was scored correct when the answer contained “waved” such as *She waved (yesterday)* or *(The) child waved (yesterday)*.

Cronbach’s alpha score was .88 for the entire TIM. The order of administering the English

measures in this second phase was the PLS-5 Screening Test → plurals → present tense
→ past tense.

Procedures

The procedures were similar to those in Study 1. When the directors of the childcare centres expressed interest, I forwarded to the centres Parent and Child Information and Consent Forms (see Appendix 6) and Teacher Consent Forms (see Appendix 5). The teachers helped contact parents whose children spoke Mandarin at home as their first language and forwarded them the Parent and Child Information and Consent Forms. Verbal consent was obtained from all children during language tests and they were told they could stop at any time during testing sessions. Figure 4.2 shows the procedures of the data collection. Every child participant was compensated with a small gift after the behavioural assessment of emotion regulation, parents received 20 Australian dollars on behalf of their children for participating in the study, and the teachers received 20 Australian dollars per child rated.

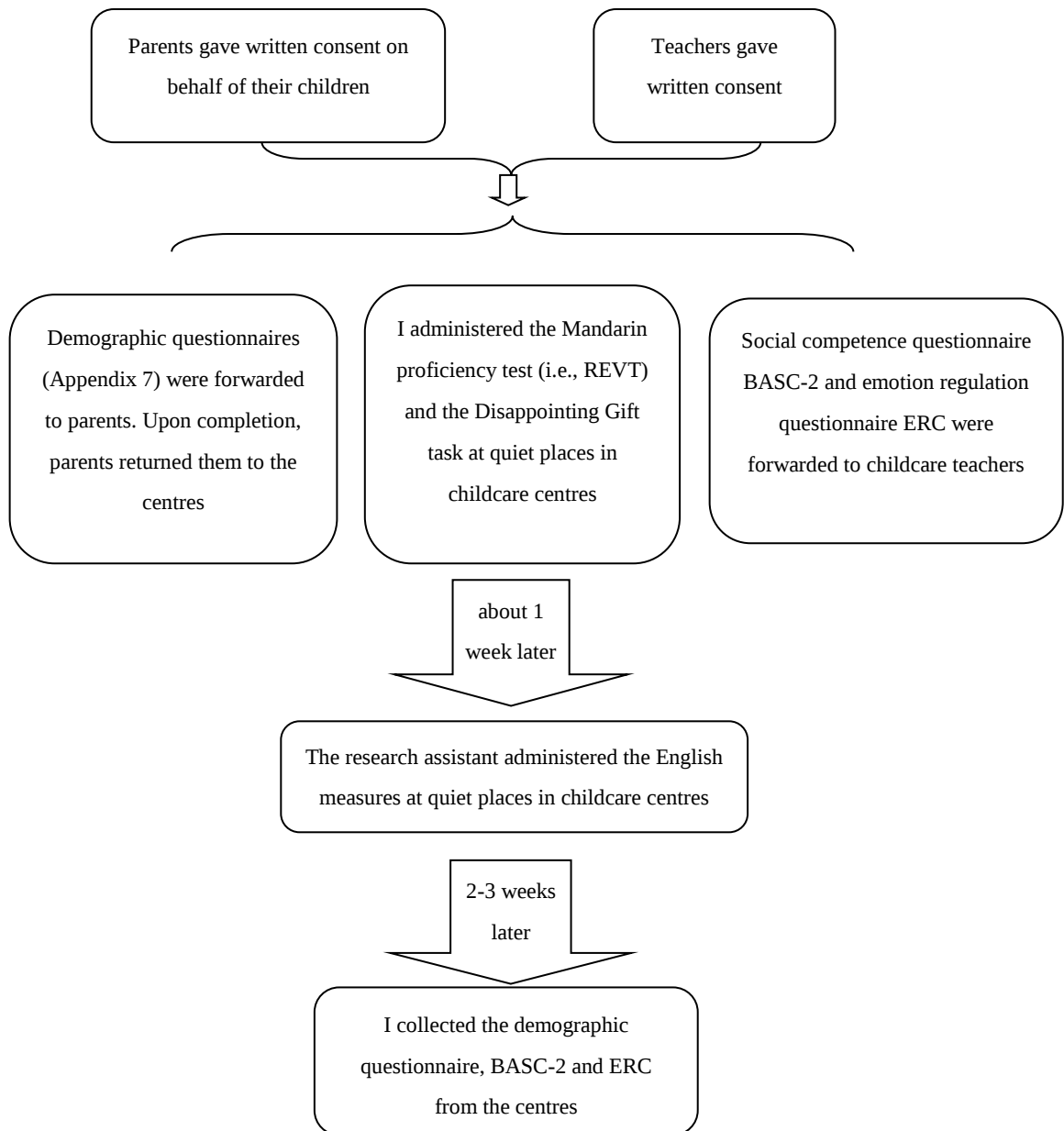


Figure 2 Data collection procedures

References

- Baker, F., & Jones, C. (2006). The effect of music therapy services on classroom behaviours of newly arrived refugee students in Australia—a pilot study. *Emotional & Behavioural Difficulties*, 11(4), 249-260. doi: 10.1080/13632750601022170
- Carlson, S. M., & Wang, T. S. (2007). Inhibitory control and emotion regulation in preschool children. *Cognitive Development*, 22(4), 489-510. doi: 10.1016/j.cogdev.2007.08.002
- Celenk, O., & Van de Vijver, F. (2011). Assessment of acculturation: issues and overview of measures. *Online Readings in Psychology and Culture*, 8(1), 1-22.
- Chee, S. T. (2007). Test review: Reynolds, C. R., & Kamphaus, R. W. (2004). Behavior assessment system for children (2nd ed.). Circle Pines, MN: American Guidance Service. *Assessment for Effective Intervention*, 32(2), 121-124. doi: 10.1177/15345084070320020301
- Cohen, J. S., & Mendez, J. L. (2009). Emotion regulation, language ability, and the stability of preschool children's peer play behavior. *Early Education & Development*, 20(6), 1016-1037. doi: 10.1080/10409280903305716
- Curtis, W. J., & Cicchetti, D. (2007). Emotion and resilience: A multilevel investigation of hemispheric electroencephalogram asymmetry and emotion regulation in maltreated and nonmaltreated children. *Development and Psychopathology*, 19(3), 811-840. doi: 10.1017/S0954579407000405
- Dinh, K. T., Weinstein, T. L., Tein, J.-Y., & Roosa, M. W. (2013). A mediation model of the relationship of cultural variables to internalizing and externalizing problem

- behavior among Cambodian American youth. *Asian American Journal of Psychology*, 4(3), 176-184. doi: 10.1037/a0030165
- Hook, J., & Balistreri, K. (2007). Immigrant generation, socioeconomic status, and economic development of countries of origin: A longitudinal study of body mass index among children. *Social Science & Medicine*, 65(5), 976-989. doi: 10.1016/j.socscimed.2007.04.032
- Huang, R., Jian, X., Zhu, L., & Lu, L. (2010). *Receptive and expressive vocabulary test*. Taipei: Psychological Publishing Company.
- Jia, G. (2003). The acquisition of the English plural morpheme by native Mandarin Chinese-speaking children. *Journal of Speech, Language, and Hearing Research*, 46(6), 1297-1311. doi: 10.1044/1092-4388(2003/101)
- Johnson, K. N., Walden, T. A., Conture, E. G., & Karrass, J. (2010). Spontaneous regulation of emotions in preschool children who stutter: Preliminary findings. *Journal of Speech, Language and Hearing Research*, 53(6), 1478-1495.
- Merydith, S. P. (2001). Temporal stability and convergent validity of the Behavior Assessment System for Children. *Journal of School Psychology*, 39(3), 253-265. doi: 10.1016/S0022-4405(01)00064-4
- Monopoli, W. J., & Kingston, S. (2012). The relationships among language ability, emotion regulation and social competence in second-grade students. *International Journal of Behavioral Development*, 36(5), 398-405.
- Nicoladis, E., Song, J., & Marentette, P. (2012). Do young bilinguals acquire past tense morphology like monolinguals, only later? Evidence from French–English and

- Chinese–English bilinguals. *Applied Psycholinguistics*, 33(03), 457-479. doi: 10.1017/S0142716411000439
- Oades-Sese, G. V., Esquivel, G. B., Kaliski, P. K., & Maniatis, L. (2011). A longitudinal study of the social and academic competence of economically disadvantaged bilingual preschool children. *Developmental Psychology*, 47(3), 747-764. doi: 10.1037/a0021380
- Qi, R. (2010). Pronoun acquisition in a Mandarin— English bilingual child. *International Journal of Bilingualism*, 14(1), 37-64. doi: 10.1177/1367006909356649
- Qin, D. (2009). Being “good” or being “popular”: gender and ethnic identity negotiations of Chinese immigrant adolescents. *Journal of Adolescent Research*, 24(1), 37-66. doi: 10.1177/0743558408326912
- Reynolds, C. R., & Kamphaus, R. W. (2004). *Behavior assessment system for children second edition*. Bloomington, MN: Pearson Education, Inc.
- Saarni, C. (1984). An observational study of children's attempts to monitor their expressive behavior. *Child Development*, 55(4), 1504-1513. doi: 10.2307/1130020
- Sandoval, J., & Echandia, A. (1994). Behavior assessment system for children. *Journal of School Psychology*, 32(4), 419-425. doi: 10.1016/0022-4405(94)90037-X
- Shields, A., & Cicchetti, D. (1997). Emotion regulation among school-age children: The development and validation of a new criterion Q-sort scale. *Developmental Psychology*, 33(6), 906-916.
- Shields, A., Dickstein, S., Seifer, R., Giusti, L., Dodge Magee, K., & Spritz, B. (2001). Emotional competence and early school adjustment: A study of preschoolers at

risk. *Early Education and Development*, 12(1), 73-96. doi:

10.1207/s15566935eed1201_5

Tsai, J., Ying, Y., & Lee, P. (2000). The meaning of "being Chinese" and "being American", variation among Chinese American young youths. *Journal of Cross-Cultural Psychology*, 31(3), 302-332. doi: 10.1177/0022022100031003002

Ying, Y., & Han, M. (2008). Cultural orientation in Southeast Asian American young adults. *Cultural Diversity and Ethnic Minority Psychology*, 14, 29-37. doi: 10.1037/1099-9809.14.1.29

Ying, Y., Han, M., & Wong, S. (2008). Cultural orientation in Asian American adolescents: Variation by age and ethnic density. *Youth and Society*, 4, 507-523.

Zhou, Z., Peverly, S., Xin, T., Huang, A., & Wang, W. (2003). School adjustment of first-generation Chinese-American adolescents. *Psychology in the Schools*, 40(1), 71-84. doi: 10.1002/pits.10065

Zimmerman, I. L., Steiner, V. G., & Pond, R. E. (2012). *Preschool language scales, fifth edition – Australian and New Zealand language adapted edition (PLS-5)*.

Camberwell VIC, Australia: Pearson Australia Group.

Chapter 5 Social competence and language skills in Mandarin-English bilingual preschoolers: Moderation effect of emotion regulation

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Social competence and language skills in Mandarin-English bilingual preschoolers:

Moderation effect of emotion regulation

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Abstract

Research Findings: The main aim of this study was to examine whether language skills and emotion regulation were associated with social competence and whether the relationship between English skills and social competence was moderated by emotion regulation in Mandarin-English bilingual preschoolers. Language skills of 96 children aged 36-69 months from Australian childcare centers were assessed using standardized English and Mandarin tests. Social competence was assessed using teacher reports on the Behavior Assessment System for Children-2 (BASC-2) with four composite scales: Externalizing, Internalizing, Behavioral Symptoms and Adaptive Skills. Positive Emotion Regulation and Emotion Dysregulation were assessed using the Disappointing Gift task and teacher report on the Emotion Regulation Checklist. The results show that Positive Emotion Regulation, Emotion Dysregulation, English and Mandarin skills were associated with different composites of the BASC-2, the relationships between English skills and Behavioral Symptoms were moderated by Positive Emotion Regulation, and English skills and Adaptive Skills were moderated by Emotion Dysregulation. *Practice or Policy:* Discussion of the results includes new considerations for a focus on emotion regulation as well as language to promote social competence in bilingual children.

Keywords: Social competence, emotion regulation, early bilingual development

Social competence in children is defined as a set of abilities that enables flexible and appropriate responses in social interactions (Rose-Krasnor, 1997). It is a key skill in early childhood development as children need to manage social situations by learning from past experiences and applying them to new contexts, build positive relationships with peers and adults outside the home, and to feel good about themselves (Blair, Denham, Kochanoff, & Whipple, 2004; Wentzel, 1999). It is emphasized in preschool programs as a fundamental component of school readiness and has become an integral part of evaluating preschoolers' developmental progress (Blair, 2002; Raver & Zigler, 1997). Children who enter kindergarten with a more positive social competence profile are more successful in early adjustment to school and have better academic achievement (Denham, 2006; Rhoades, Warren, Domitrovich, & Greenberg, 2011). Conversely, less socially competent children are more likely to experience peer difficulties, emotional maladjustment and poor academic outcome (Rose-Krasnor, 1997).

Success in social tasks is influenced by a child's emotional competence, which involves recognition of their own emotions and the ability to regulate expression of emotions (Denham et al., 2011). Emotion regulation is conceptualized as initiating, maintaining or modulating one's internal feelings and physiological states often in response to external changes (Eisenberg, Fabes, Guthrie, & Reiser, 2000, 2002). It is the interface between emotions and other psychological processes such as problem solving abilities, attention and concentration (Cole, Martin, & Dennis, 2004). There are two types of emotion regulation: positive emotion regulation and emotion dysregulation (Blair et al., 2004; Eisenberg et al., 2000, 2002). Positive emotion regulation enables children to use flexible and adaptive means to cope with emotions (Grolnick, McMenamy, & Kurowski,

1999). Children with a higher level of positive emotion regulation are more likely to be seen as sociable and popular among peers (Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994). Emotion dysregulation leads to children using nonconstructive means to regulate emotions, especially negative emotions such as fear, sadness and disappointment (Dvorak, Pearson, & Kuvaas, 2013; Herndon, Bailey, Shewark, Denham, & Bassett, 2013). Children with a higher level of emotion dysregulation are prone to displaying externalizing behaviors (e.g., aggression and hyperactivity) or internalizing behaviors (e.g., anxiety, depression and social withdrawal), and have been found to be low in prosocial behaviors (Eisenberg et al., 1994; Rydell, Berlin, & Bohlin, 2003).

In addition to the role of emotion regulation, language skills are often regarded as an important factor associated with social competence. Language ability of American children aged 37-65 months was linked to positive social behaviors as rated by teachers, observers and peers and predicted significant variance of prosocial behaviors (Cassidy, Werner, Rourke, Zubernis, & Balaraman, 2003). Similar results also appeared among preschoolers from low income families in the United States (Longoria, Page, Hubbs-Tait, & Kennison, 2009). American children aged 48-61 months with lower language skills had more disruptive behaviors and negative responses, fewer initiations in communications and shorter duration of engagement than their peers with higher language skills in preschools (Qi, Kaiser, & Milan, 2006). For bilingual children, host language skills have been found to be positively associated with social competence. English proficiency of Chinese Canadian children in grades 4-8 was positively associated with peer-rated interpersonal relationship, teacher-rated social skills and perceived self-worth (Chen & Tse, 2010). Recent research conducted with Australian children in early childhood found

bilinguals who were fluent in English displayed higher levels of social competence such as more prosocial and helping behaviors and more physical independence (Goldfeld, O'Connor, Mithen, Sayers, & Brinkman, 2014). On the contrary, those who were not proficient in English were more likely to be lower in social competence such as displaying anxious, fretful and aggressive behaviors and being inattentive and hyperactive. Similar results appeared among children from Asian and Latino backgrounds in the United States (Han, 2010; Han & Huang, 2010). Those who were proficient in English had higher levels of teacher-rated approach-to-learning, self-control and interpersonal skills while those who were not proficient in English had higher levels of externalizing and internalizing behaviors.

It is now well established that bilingualism can lead to some developmental advantages, particularly inhibitory control which is promoted by the need to suppress a competing language in order to communicate effectively. The first clear example came from Bialystok's (1999) work which showed that Chinese-English bilingual children aged 5-6 years performed better than monolingual counterparts at problem solving tasks that required control of distracting information (Bialystok, 1999). Since then, studies have shown a range of advantages for bilingual children in cognitive domains (Bialystok & Martin, 2004; Sabbagh, Xu, Carlson, Moses, & Lee, 2006). Building on this body of work, some researchers have demonstrated advantages in social development. For example, it has been demonstrated that bilingual preschoolers are more sensitive to ambiguous referential cues than monolingual children (Yow & Markman, 2011). The authors argued that the advantage may be partly due to better inhibitory control, but more

likely the advantage is attributable to self-generated efforts of bilingual children to communicate effectively with others and avoid communicative breakdown.

Bilingual children's heritage language skills are also found to be positively associated with social competence. A study with bilingual preschoolers from Latino backgrounds in the United States found that children who were proficient in the heritage languages but limited in English were rated by teachers as having a similar level of social competence as children who spoke English fluently (Oades-Sese, Esquivel, Kaliski, & Maniatis, 2011). Some researchers found proficiency in heritage languages was positively associated with self-esteem and family relationships (Portes & Hao, 2002; Tseng & Fuligni, 2000). Moreover given many preschoolers from immigrant families only speak the heritage language and have little exposure to English upon attending childcare (Soltero-Gonzalez, 2009), they may use the heritage language at times for social interactions in childcare settings (Clarke, 2009). Therefore, it might be expected that heritage language is positively associated with social competence, though it alone may not be sufficient for the development of social competence.

The studies reviewed above indicate both abilities to regulate emotions and language skills are related to social competence. However, it is still unknown how emotion regulation interacts with host language skills in predicting bilingual children's social competence. It is likely that the contribution of host language skills is enhanced or inhibited by the abilities to regulate emotions in social situations. For example, positive emotion regulation is likely to enable the child to find alternative pathways for successful communication reducing dependency on fluency in the host language. Emotion dysregulation is likely to exacerbate the consequences of a communication error if the

child uses nonconstructive means such as lapsing into a sullen silence or throwing a tantrum to resolve the problem.

Interactions between language skills and emotion regulation in predicting social competence has been tested by Monopoli and Kingston (2012) among children aged 6-8 years. However instead of testing moderation, they tested the mediation effect (i.e., functioning as a go-between factor) of language skills between positive emotion regulation and social competence and between emotion dysregulation and social competence. Their results showed that positive emotion regulation and language skills were positively associated with social competence and emotion dysregulation was negatively associated with social competence. Nevertheless, language skills did not have a mediation effect. Their failure to detect the mediation of language skills may be because their assumption was incorrect (for difference between moderation and mediation, see Baron & Kenny, 1986). Since positive emotion regulation, emotion dysregulation and English independently predict social competence, it may be more likely that positive emotion regulation and emotion dysregulation would moderate the relationship between English and social competence.

Investigating emotion regulation as a moderator among bilingual children is not just a theoretically interesting question. Large scale global migration means that each year, children go into educational contexts ill-equipped to take advantage of the curricula and potentially exposed to adverse social circumstances such as isolation from peers. While some early childhood centers and schools may be able to support rapid gains in the new language, this may not always be the case. Teachers and other professionals working with these children may be able to support emotion regulation to promote social adjustment.

By focusing on Mandarin-speaking preschoolers in Australia, the present study tested the relationships among social competence, emotion regulation and language abilities. We hypothesized 1) positive emotion regulation would be positively associated with social competence while emotion dysregulation would be negatively associated with social competence; 2) English skills and Mandarin skills would be positively associated with social competence, and 3) positive emotion regulation and emotion dysregulation would moderate the relationship between English skills and social competence.

Methods

Participants

Participants in the present study were 96 children who spoke Mandarin as a first language at home. They were all typically developing children without serious chronic health problems or mental retardation. The children were recruited from 15 childcare centers located in the metropolitan area of Sydney and ranged in age from 36 to 69 months ($M = 52.07$, $SD = 8.45$). There were 53 boys (age range 36-66 months, $M = 52.87$, $SD = 8.78$) and 43 girls (age range 39-69 months, $M = 51.09$, $SD = 8.03$). Thirty five were first generation (born overseas) and 61 were second generation (born in Australia with at least one parent born overseas). Attendance at an English-speaking childcare ranged from 2.86 to 57.01 months ($M = 20.90$, $SD = 11.11$). Parents ethnicities were: both Chinese ($n = 94$), Chinese and Taiwanese ($n = 1$), Chinese and Malaysian Chinese ($n = 1$). The primary caregivers were mother ($n = 39$), mother and father ($n = 38$), grandparent ($n = 15$), mother and grandparent ($n = 2$), and father ($n = 2$). Seventy five percent of the primary caregivers had a bachelor degree or higher.

Measures

Social competence. The Teacher Rating Scales of the Behavioral Assessment System for Children-2 (BASC-2) (Reynolds & Kamphaus, 2004) for 2-5 year old was used to assess social competence. The BASC-2 contains four composites: Externalizing (undercontrolled behaviors), Internalizing (overcontrolled behaviors), Behavioral Symptoms (overall problem behaviors), and Adaptive Skills (emotional understanding, daily-living skills and communicative competence). Cronbach's alpha score for the overall scale was .89 in the present study. Prior studies reported good reliability and validity of the BASC-1 and BASC-2 and suitability for Chinese children (Monopoli & Kingston, 2012; Zhou, Peverly, Xin, Huang, & Wang, 2003).

Positive Emotion Regulation and Emotion Dysregulation. Two measures were used to assess children's Positive Emotion Regulation and Emotion Dysregulation: the Emotion Regulation Checklist (ERC) (Shields & Cicchetti, 1997) and the Disappointing Gift (DG) task (Saarni, 1984). The ERC and the DG measured different aspects of emotion regulation and the combined score provided a more comprehensive measure than either measure alone. In the present study, Positive Emotion Regulation and Emotion Dysregulation were derived from different scores of the ERC and the DG. The ERC is a 24-item checklist and is rated on a 4-point Likert scale from 1 (*never*) to 4 (*almost always*). It has two subscales: Emotion Regulation and Lability/Negativity. The former is used to assess empathy, equanimity and emotional understanding, and the latter emotional intensity and mood lability. The childcare teachers completed the ERC in the present study and Cronbach's alpha was .72. The ERC has been found to be appropriate for use with Chinese children (Chang, Schwartz, Dodge, & McBride-Chang, 2003; Xu & Zhang,

2008). The DG task was used as a behavioral measure of emotion regulation. The first author conducted the DG task in Mandarin as the language was the children's and the first author's preferred language. Prior to administration of the Mandarin test (see the section on *Mandarin proficiency* below) in childcare center, the child was told s/he would receive “很酷的礼物” (*a very cool gift*) as a prize for completing the test. When the test was finished, the child was offered a box containing a scrap of wood and asked to open it to get the gift. One minute after exposure to the wood, the assessor pretended to realize that he brought a wrong gift and then presented a package of desirable gifts and asked the child to choose one. The whole procedure was video-recorded for 3-5 minutes. Emotional responses of the DG are coded into three categories: positive, negative, and transitional (Saarni, 1984). Cronbach's alpha of the DG task in the present study was .61. The DG task has been used widely to assess young children's emotion regulation (Carlson & Wang, 2007; Johnson, Walden, Conture, & Karrass, 2010; Saarni, 1984). With the two measures of the ERC and the DG, we created a Positive Emotion Regulation score and Emotion Dysregulation score for each child after the DG was coded (see *Coding of DG* below). Positive Emotion Regulation was generated by adding the Z scores of ERC Emotion Regulation and DG positive category. Emotion Dysregulation was formed by adding the Z scores of ERC Lability/Negativity and DG negative category.

English proficiency. The Preschool Language Scales (5th edition) Screening (PLS-5 Screening) (Zimmerman, Steiner, & Pond, 2012) is a standardized screening criterion developed to assess auditory comprehension and expressive communication in English. It is an individually administered test for children from birth to seven years. The PLS-5 Screening rather than the PLS-5 was used for the present study because the administration

of the PLS-5 takes 45 to 60 minutes, which childcare teachers indicated to be an unacceptably long period for most participants when combined with other testing required for our study. The PLS-5 Screening takes 6-10 minutes per child. It includes the most discriminating test items from the PLS-5 and is used to identify children who need further assessment (Zimmerman et al., 2012). The test has different forms designed for different age ranges. This present study used three forms (three, four and five years) according to the participants' ages. Cronbach's alphas of three forms in the present study were .88, .87 and .79. The test was administered in the childcare centers by a research assistant who was a native English speaker with early childhood education qualifications.

Mandarin proficiency. The Receptive and Expressive Vocabulary Test (REVT) (Huang, Jian, Zhu, & Lu, 2010) is a norm-referenced measure assessing Mandarin proficiency of children aged 3-6 years. It is implemented individually and assesses expressive and receptive skills in four areas of nomination, classification, definition and reasoning. Each age range has its own test form and our study used three forms (three, four and five years) according to the participants' ages. Cronbach's alphas of the three forms in the present study were .95, .98 and .97. The test has high criteria validity when compared with Chinese version of Wechsler Preschool and Primary Scale of Intelligence (Huang et al., 2010). The REVT was administered in the childcare centers by the first author who was a native Mandarin speaker with extensive language testing and early childhood research experience.

Procedures

Childcare centers were identified online through local councils. Directors of the centers were then contacted and if they were willing to participate, consent forms and

demographic questionnaires were provided to the centers to pass on to Mandarin-speaking parents. The REVT (with the DG) and the PLS-5 Screening were administered to each child in two separate testing sessions to minimize fatigue factors. Twenty-one teachers from the 15 centers also participated in providing the ratings of the BASC-2 and the ERC. Among the 21 teachers, five spoke fluent Mandarin, four had a basic functional use of Mandarin, and the rest had no use of Mandarin. One teacher was male. Other demographic information such as teachers' age, ethnicity, highest education degree and years working in childhood care were not available. Nevertheless all teachers had a certificate in early childhood education as a minimum required by the state government and all had experience of teaching Mandarin-speaking children because the teachers' consent forms showed Mandarin-speaking children made up 25-40% of the overall children across the 15 centers. Conversations with childcare directors indicated all centers also had children from other ethnic and immigrant backgrounds. The teachers were compensated for their time with 10 Australian dollars per child rated.

Coding of DG

The first author conducted the coding after receiving training from a developmental psychologist who was experienced in coding the DG procedures. The coding system developed by Saarni (1984) was used in the present study. Because Saarni's (1984) coding system was used for western children, using it with Chinese children needed additional vigilance. Unlike Saarni (1984) who coded western sample for 10-15 seconds, the present study followed the amendment made by Garrett-Peters and Fox (2007) for Chinese children and coded each child for 30-40 seconds following exposure of the disappointing gift until the child finished reacting to the disappointing gift. The rationale

behind this longer coding period was to allow Chinese children sufficient response time given previous reports of behavioral inhibition and longer response latencies in Chinese children (Chen et al., 1998; Garrett-Peters & Fox, 2007). Every case was coded three times consecutively for correctness. An early childhood teacher who was also a PhD candidate and a native Mandarin speaker coded 25% of the sample selected randomly after receiving training for coding. Satisfactory Cohen's kappas were obtained ranging from .66 to .79. Saarni's (1984) coding system classifies all possible responses into three categories: positive, negative and transitional. The positive and negative behaviors represent those which are obviously positive or negative such as smiling at the researcher or frowning. The positive category is equivalent to ERC Emotion Regulation and the negative category is equivalent to ERC Lability/Negativity. Each behavior that appeared was coded as one point and added to the positive or negative sum. Transitional behaviors were also coded but were not used for analysis in the present study.

Results

In our analysis plan, we first computed descriptive statistics and bivariate correlations. Then we estimated hierarchical regression equations to test the effects of Emotion Dysregulation, Positive Emotion Regulation, English and Mandarin on the four social competence composites after controlling the effects of demographic factors of age, gender, generational status and primary caregivers' education degree. Finally we conducted hierarchical regressions to test the moderation effect of emotion regulation on the relationships between English skills and the four social competence composites.

Descriptive statistics and bivariate correlations

Table 1

Descriptive Statistics

	<i>M</i>	<i>SD</i>	Minimum	Maximum
Externalizing	50.01	9.19	41.00	83.00
Internalizing	51.07	10.24	37.00	89.00
Behavioral Symptoms	50.33	9.87	37.00	85.00
Adaptive skills	49.34	9.05	33.00	68.00
Emotion Dysregulation	0.00*	1.62	-2.55	4.40
Positive Emotion Regulation	0.00*	1.61	-4.22	4.23
English	62.34	21.32	0.00	100.00
Mandarin	96.97	17.72	66.00	134.00

Note. $N = 96$. * Emotion Dysregulation and Positive Emotion Regulation used Z scores.

The mean scores and standard deviations of Externalizing, Internalizing, Behavioral Symptoms and Adaptive Skills indicate the children in our sample were rated close to the normative sample of the BASC-2, which has a mean score of 50 and a standard deviation of 10. Further *One-Sample t*-test shows there are no statistical differences in the four composites between the present sample and the normative BASC-2 sample (the statistical outcomes are not presented here). This result indicates that the present sample did not have cultural differences in behavioral expressions, such as having more internalizing behaviors than western children (see Chen et al., 1998). Because of this, the following analyses did not control cultural differences as a confounding variable. Because we used Z scores, the means of Emotion Dysregulation and Positive Emotion are zero. The score ranges of Mandarin and English indicate some children scored full marks while others displayed limited proficiency in either language. Because the REVT was not used with Chinese Australian children before and the PLS-5 Screening was not used for diagnostic

purpose, the participants in our study who displayed limited proficiency in either test were still included in all analyses. There were no obvious indicators showing they had hearing, visual, cognitive or psychiatric deficits.

Table 2

Bivariate Correlations

	1	2	3	4	5	6	7
1. Externalizing	-						
2. Internalizing	.38***	-					
3. Behavioral Symptoms	.81***	.51***	-				
4. Adaptive Skills	-.37***	-.11	-.58***	-			
5. Emotion Dysregulation	.69***	.40***	.63***	-.41***	-		
6. Positive Emotion regulation	-.37***	-.28**	-.59***	.66***	-.57***	-	
7. English	-.21*	-.15	-.38***	.42***	-.28**	.38***	-
8. Mandarin	-.10	.20*	-.13	.22*	.05	.20*	.08

*** $p < .001$, ** $p < .01$, * $p < .05$

The bivariate correlation results (Table 2) indicate that the BASC-2 composite scales Externalizing, Internalizing and Behavioral Symptoms positively correlated with each other. Adaptive Skills correlated negatively with Externalizing and Behavioral Symptoms. Emotion Dysregulation correlated negatively with Adaptive Skills but positively with Externalizing, Internalizing and Behavioral Symptoms. Positive Emotion Regulation correlated negatively with Externalizing, Internalizing, Behavioral Symptoms, and Emotion Dysregulation but positively with Adaptive Skills. English correlated negatively with Externalizing, Behavioral Symptoms, and Emotion Dysregulation but positively with Adaptive Skills and Positive Emotion Regulation. Mandarin correlated positively with Internalizing, Adaptive Skills and Positive Emotion Regulation.

Emotion regulation, English and Mandarin as predictors of social competence

We conducted hierarchical regressions of the four BASC-2 composites from: step 1 the demographic factors including gender, age, generational status and primary caregiver's education, and step 2 the main predictors of Emotion Dysregulation, Positive Emotion Regulation, English and Mandarin. In step 1, primary caregivers' education degrees was categorized into two levels – below bachelor versus bachelor and higher – because there was no big variance in this variable and the majority (75% as mentioned in *Participants* section) had a bachelor degree or higher. In step 2, the main predictors were entered in one step rather than in more steps because they were at the same level predicting social competence independently as previously argued. The overall effects of the demographic factors in step 1 were significant only in Externalizing and Behavioral Symptoms $F(4, 91) = 2.47$ and 2.78 , $R^2 = 0.10$ and 0.11 , $ps < .05$. Among the

demographic factors, only gender was significant, $\beta = .25$ and $.21$, $SE = 1.84$ and 1.97 , $t = 2.54$ and 2.12 , $ps < .05$.

Table 3

Main Effects of Emotion Dysregulation, Positive Emotion Regulation, English and Mandarin in Predicting Social Competence Composites

Variables	β	SE	t
Externalizing			
Emotion Dysregulation	.71	.56	7.24***
Positive Emotion Regulation	.09	.56	.81
English	-.01	.04	-.12
Mandarin	-.08	.04	-1.07
Internalizing			
Emotion Dysregulation	.32	.74	2.72**
Positive Emotion Regulation	-.11	.79	-.86
English	-.13	.05	-1.22
Mandarin	.27	.06	2.88**
Behavioral Symptoms			
Emotion Dysregulation	.42	.57	4.60***
Positive Emotion Regulation	-.29	.62	-2.82**
English	-.18	.04	-2.04*
Mandarin	-.05	.04	-.71
Adaptive Skills			
Emotion Dysregulation	-.06	.56	-.56
Positive Emotion Regulation	.55	.60	5.09***
English	.20	.04	2.23*
Mandarin	.09	.04	1.15

*** $p < .001$, ** $p < .01$, * $p < .05$

That is, boys had higher levels of Externalizing and Behavioral Symptoms than girls.

After controlling the effects of demographic factors, the overall effects of the main predictors of Emotion Dysregulation, Positive Emotion Regulation, English and Mandarin

in step 2 were all significant, $\Delta F(4, 87) = 16.91, 6.84, 20.01$ and 16.75 , $\Delta R^2 = .40, .22, .43$ and 0.40 , $ps < .001$ for Externalizing, Internalizing, Behavioral Symptoms and Adaptive Skills respectively. The effects of the individual main predictors are listed in Table 3. The results partially supported the hypothesis that emotion regulation was associated with social competence. Emotion Dysregulation was associated positively with Externalizing, Internalizing and Behavioral Symptoms. Positive Emotion Regulation was associated positively with Adaptive Skills but negatively with Behavioral Symptoms.

The hypothesis that English would be associated with social competence was partially supported. English scores were positively associated with Adaptive Skills and negatively with Behavioral Symptoms. Contrary to our hypothesis that Mandarin would be associated with social competence, Mandarin scores were positively associated with Internalizing.

Emotion regulation as a moderator

Because gender was significant in predicting Externalizing and Behavioral Symptoms and Mandarin was significant in predicting Internalizing, the two factors were controlled when testing moderation effect of emotion regulation. Hierarchical regression equations were estimated in these outcome variables from: step 1, gender (or Mandarin); step 2, Emotion Dysregulation, Positive Emotion Regulation and English; step 3, Emotion Dysregulation X English and Positive Emotion Regulation X English. For the outcome variable Adaptive Skills, there were only two steps in regression because no demographic factor or Mandarin had effect on it. The results are shown in Table 4. For Externalizing, none of the predictors were significant except for Emotion Dysregulation. Neither interaction was significant. The full regression equation explained 48% of the total

variance of Externalizing. For Internalizing, Mandarin and Emotion Dysregulation were significant. Neither interaction was significant. The full regression equation explained 22% of the total variance of Internalizing. For Behavioral Symptoms, gender was significant in step 1. Emotion Dysregulation and Positive Emotion Regulation were significant step 2. The interaction between Positive Emotion Regulation X English was significant. The full regression equation explained 53% of the total variance of Behavioral Symptoms. For Adaptive Skills, Emotion Dysregulation in step 2 and Positive Emotion Regulation and English in both steps were significant. The interaction between Emotion Dysregulation X English was significant. The full regression equation explained 50% of the total variance of Adaptive Skills.

Table 4

Standardized Coefficients and Explained Variance for Hierarchical Regression Equations Predicting the Social Competence Composites

	Externalizing			Internalizing			Behavioral			Adaptive	
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2
gender	.24*	.06	.04	-	-	-	.20*	.02	-.002	-	-
Mandarin	-	-	-	.20*	.25*	.20*	-	-	-	-	-
Emotion Dysregulation	-	.69***	.72*	-	.33**	.97**	-	.41***	.17	-.04	.61*
Positive Emotion Regulation	-	-.04	-.48	-	-.14	.36	-	-.30**	-.13	.56***	.69*
English	-	-.02	-.01	-	-.02	.01	-	-.15	-.13	.19*	.23**
Emotion Dysregulation X English	-	-	-.03	-	-	-.67	-	-	.26	-	-.68*
Positive Emotion Regulation X English	-	-	.52	-	-	-.54	-	-	.67*	-	-.16
ΔR^2	.06*	.42***	.03	.04*	.18***	.03	.04*	.49***	.04*	.47***	.03*
ΔF	5.60	27.51	3.10	4.05	7.17	1.88	3.88	26.93	3.50	26.73	3.06

*** $p < .001$, ** $p < .01$, * $p < .05$

Post-hoc probing of moderation effect was conducted among the two significant interactions with the procedures developed by Baron and Kenny (1986) and Holmbeck (2002). The results indicate Positive Emotion Regulation moderated the relationship between English and Behavioral Symptoms and Emotion Dysregulation moderated the relationship between English and Adaptive Skills (see Figure 1). Increased English proficiency was associated with decreased Behavioral Symptoms only when Positive Emotion Regulation was low (1 *SD* below the mean), $b = -.15$, $p = .009$; and English proficiency was not associated with Behavioral Symptoms when Positive Emotion Regulation was high (1 *SD* above the mean), $b = .02$, $p = .78$. Increased English proficiency was associated with increased Adaptive Skills only when Emotion Dysregulation was low (1 *SD* below the mean), $b = .27$, $p < .001$; and English proficiency was not associated with Adaptive Skills when Emotion Dysregulation was high (1 *SD* above the mean), $b = .05$, $p = .41$.

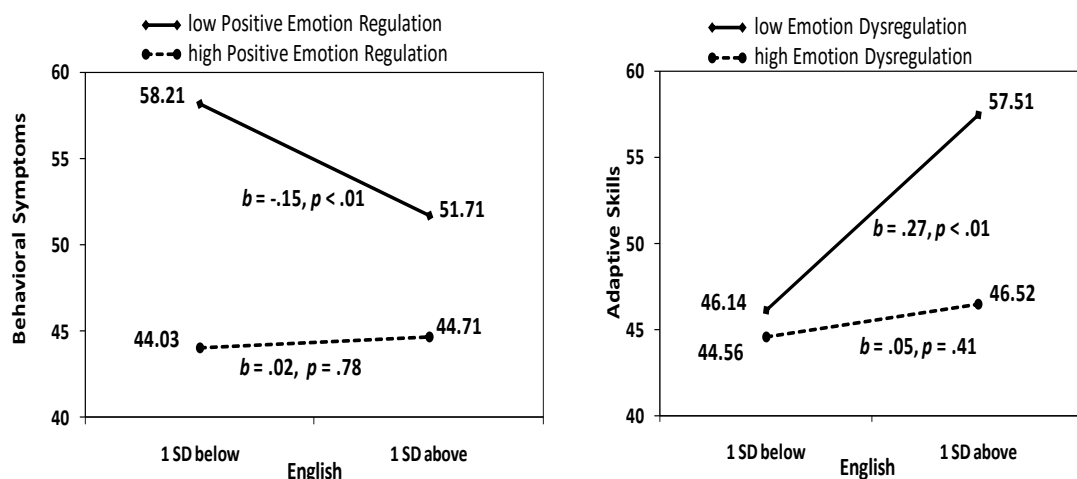


Figure 1. Simple slopes for statistical prediction of social competence from English at low (1 *SD* below) and high (1 *SD* above) levels of Positive Emotion Regulation and Emotion Dysregulation.

Discussion

To date, research on bilingual children's social competence in English-speaking countries has mainly focused on its associations with English skills and heritage language maintenance (Chen et al., 2014; Han, 2010; Han & Huang, 2010; Luchtel, Hughes, Luze, Bruna, & Peterson, 2010). Little is known about whether emotion regulation is also associated with social competence and whether emotion regulation moderates the relationship between English skills on social competence among bilingual children. Our results indicate that positive emotion regulation, emotion dysregulation, English and Mandarin skills were associated with different aspects of social competence and positive emotion regulation and emotion dysregulation moderated the relationships between English skills and different aspects of social competence among bilingual children.

Emotion regulation and social competence

Emotion dysregulation was positively associated with externalizing behaviors, internalizing behaviors and behavioral problems and positive emotion regulation was associated negatively with behavioral problems and positively with adaptive skills. The findings are not completely consistent with the previous studies (Cohen & Mendez, 2009; Monopoli & Kingston, 2012), which found both types of emotion regulation were strongly associated with all composites of the social competence measure. The reason for such a difference is that Cohen and Mendez (2009) made their conclusions based on bivariate correlation results and Monopoli and Kingston (2012) regressed social competence composites each time on a single predicting variable. Neither study considered the effects of other predicting variables.

It is not surprising that emotion regulation of the bilingual children in our study was associated with their social competence. The children were likely to be exposed to various challenges. Besides English difficulties, they may have other challenges such as experiencing a transitional stage from home to new educational settings and unfamiliarity with new childcare routines and activities (Clarke, 2009). They may also receive failure feedback from teachers and feel negative emotions such as fear and sadness (Han & Huang, 2010). Dysregulation of these negative emotions could lead to various behavioral problems and impair children's abilities to successfully negotiate in educational settings (Herndon et al., 2013). In contrast, the children who used positive means to regulate negative emotions may have displayed fewer behavioral problems and established better relationships with peers and teachers. The previous work largely investigated western children without an immigrant focus (Cohen & Mendez, 2009; Eisenberg et al., 2000; Monopoli & Kingston, 2012), whereas our study extends to children from immigrant families.

English and social competence

Our findings indicate that English played an important role among the children who had difficulties regulating emotions positively and among the children who rarely dysregulated emotions. Amidst the first group, their limited English was associated with behavioral problems. This is not surprising as inadequate English may have caused communication difficulties such as not correctly understanding teachers' instructions and peers' words and not clearly conveying one's own ideas. Communication difficulties may have increased the likelihood of negative emotions, which, if not handled appropriately, were likely to end in behavioral problems. Amidst the second group, their increased

English skills were linked to an increase in adaptive skills. This is again anticipated as good English can be a protective factor. If the children did not always regulate their emotions in a negative manner, their advanced English was likely to help them adjust well in childcare by pleasantly engaging in peer play and enjoying interpersonal exchanges.

Mandarin and social competence

Contrary to our expectation that Mandarin skills would be associated with social competence, our study finds Mandarin skills were positively associated with internalizing behaviors. The exact reason of such an association is not known. A possibility is that the children who spoke more Mandarin may not have been well accepted or even rejected by their English speaking peers. Rejection can be the direct cause of internalizing behaviors of anxiety and loneliness (Bierman, Kalvin, & Heinrichs, 2014). However given previous studies with school-aged immigrant children showed that fluency in the heritage language had benefits for self-worth (Bialystok & Martin, 2004; Han & Huang, 2010) and self-worth helped reduce internalizing behaviors (McDonald et al., 2005), the association between Mandarin and internalizing behaviors in the present study requires caution. There may be moderating effect from a third variable. For example, authoritarian parenting practices which Chinese families are likely to adopt are found to be associated with internalizing behaviors (Nelson et al., 2006). The association may have happened briefly when the children changed their settings from home to childcare and from speaking Mandarin to speaking English. Notably, our bivariate correlations (see Table 2) show that Mandarin positively correlated with positive emotion regulation. Prior work showed positive emotion regulation helps reduce internalizing behaviors among preschoolers (Eisenberg et al., 2001). All these further suggest that the association between children's

speaking Mandarin and displaying internalizing behaviors is temporary and may disappear quickly. Longitudinal research is warranted for confirmation.

Moderating effect of emotion regulation

An important finding of our study is that positive regulation of emotions moderated the relationship between English skills and behavioral problems. For the children who had poor abilities to regulate their emotions positively, limited English was linked to more behavioral problems while advanced English was associated with fewer behavioral problems. However, for the children who were better at regulating their emotions positively, English was not related to the variance in behavioral problems no matter how advanced the language was. All this suggests that positive emotion regulation appears to be a robust protective factor against the effect of limited English. Children with limited English are likely to experience native emotions such as shyness (Chen & Tse, 2010), but if they can effectively appraise social context and act accordingly, they may not display serious behavioral problems. Previous studies with bilingual children showed that limited English was associated with behavioral problems (Goldfeld et al., 2014; Han & Huang, 2010). Our finding suggests that children with limited English skills may not display behavioral problems if they can regulate their emotions positively.

Another important finding of our study is that emotion dysregulation moderated the relationship between English and adaptive skills. For the children who did not dysregulate their emotions, limited English was associated with fewer adaptive skills while advanced English was associated with more adaptive skills. However, for the children who dysregulated their emotions, adaptive skills did not vary with the increase of English skills. This finding suggests emotion dysregulation has a strong negative effect on

children's social life in childcare. It is likely to reduce or even deplete the possible benefits advanced English might bring to adjustment to new environments. Although previous studies with bilingual children showed English skills were linked to adjustment such as sociability, positive peer relationship and self-control (Chen & Tse, 2010; Han, 2010; Oades-Sese et al., 2011), our finding suggests that English skills are positively linked to social adjustment when children do not regulate emotions in a negative manner. It seems for young children to successfully engage in interpersonal exchanges and form positive peer relationships with others in childcare, they need both good English skills and sound abilities to avoid emotion dysregulation.

Limitations and implications

There are three main limitations in our study. First, the PLS-5 Screening used for measuring English proficiency may not be able to capture all important aspects of English skills. Future research should consider using a more comprehensive test of English to confirm the findings presented in our study. Second, there may be some inherent shared variance between the ERC and the BASC-2 and both forms were completed by the same informant. Nevertheless we also had a direct behavioral assessment of emotion regulation through the DG task. Third, our study was cross-sectional and causal relationships between the constructs cannot be established. English skills and abilities to regulate emotion positively may result in high social competence ratings. It is also possible that social emotional functioning serves as an important foundation for learning and making additional contributions to language outcomes (Gillanders, 2007). To find out causality and possible magnitude of the associations between these constructs, longitudinal design is recommended in later research.

The results of this paper have several important implications. First, teachers and parents need to remember that emotion regulation plays a very important role in the development of social competence. Emotion regulation also changes the relationship between English proficiency and social competence. Teachers and parents need to consider from an emotional perspective to intervene if children display behavioral problems and social maladjustment. Second, teachers and parents need to know that lack of proficiency in English may not only result in communication difficulties but also impact behavioral development and adaptive skills negatively, especially among children who have difficulties regulating emotions appropriately. To avoid negative outcomes, teachers and parents need to consider necessary actions and provide more opportunities to improve English skills. Third, teachers and parents need to know that speaking heritage language may result in internalizing behaviors in childcare but they may not need to overreact to this association and overlook the possible advantages, such as family cohesion and self-worth, which the heritage language may bring forth (Bialystok & Martin, 2004; Winsler et al., 2014).

References

- Baron, R., & Kenny, D. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality & Social Psychology*, 51(6), 1173-1182.
- Bialystok, E. (1999). Cognitive complexity and attentional control in the bilingual mind. *Child Development*, 70(3), 636-644. doi: 10.1111/1467-8624.00046
- Bialystok, E., & Martin, M. M. (2004). Attention and inhibition in bilingual children: evidence from the dimensional change card sort task. *Developmental Science*, 7(3), 325-339. doi: 10.1111/j.1467-7687.2004.00351.x
- Bierman, K., Kalvin, C., & Heinrichs, B. (2014). Early childhood precursors and adolescent sequelae of grade school peer rejection and victimization. *Journal of Clinical Child & Adolescent Psychology*, 0(0), 1-13. doi: 10.1080/15374416.2013.873983
- Blair, C. (2002). School readiness as propensity for engagement: Integrating cognition and emotion in a neurobiological conceptualization of child functioning at school entry. *American Psychologist*, 57, 111-127.
- Blair, K. A., Denham, S. A., Kochanoff, A., & Whipple, B. (2004). Playing it cool: Temperament, emotion regulation, and social behavior in preschoolers. *Journal of School Psychology*, 42(6), 419-443. doi: 10.1016/j.jsp.2004.10.002
- Carlson, S. M., & Wang, T. S. (2007). Inhibitory control and emotion regulation in preschool children. *Cognitive Development*, 22(4), 489-510. doi: 10.1016/j.cogdev.2007.08.002

- Cassidy, K. W., Werner, R. S., Rourke, M., Zubernis, L. S., & Balaraman, G. (2003). The relationship between psychological understanding and positive social behaviors. *Social Development, 12*(2), 198-221. doi: 10.1111/1467-9507.00229
- Chang, L., Schwartz, D., Dodge, K. A., & McBride-Chang, C. (2003). Harsh parenting in relation to child emotion regulation and aggression. *Journal of Family Psychology, 17*(4), 598-606. doi: 10.1037/0893-3200.17.4.598
- Chen, S. H., Hua, M., Zhou, Q., Tao, A., Lee, E. H., Ly, J., & Main, A. (2014). Parent-child cultural orientations and child adjustment in Chinese American immigrant families. *Developmental Psychology, 50*(1), 189-201. doi: 10.1037/a0032473
- Chen, X., Hastings, P., Rubin, K. H., Chen, H., Cen, G., & Stewart, S. (1998). Child-rearing attitudes and behavioral inhibition in Chinese and Canadian toddlers: A cross-cultural study. *Developmental Psychology, 34*(4), 677-686.
- Chen, X., & Tse, H. (2010). Social and psychological adjustment of Chinese Canadian children. *International Journal of Behavioral Development, 34*(4), 330-338. doi: 10.1177/0165025409337546
- Clarke, P. (2009). Supporting children learning English as a second language in the early years (birth to six years). Retrieved November 10, 2012, from http://www.vcaa.vic.edu.au/Documents/earlyyears/supporting_children_learning_esl.pdf
- Cohen, J. S., & Mendez, J. L. (2009). Emotion regulation, language ability, and the stability of preschool children's peer play behavior. *Early Education & Development, 20*(6), 1016-1037. doi: 10.1080/10409280903305716

- Cole, P. M., Martin, S. E., & Dennis, T. A. (2004). Emotion regulation as a scientific construct: Methodological challenges and directions for child development research. *Child Development*, 75(2), 317-333. doi: 10.1111/j.1467-8624.2004.00673.x
- Denham, S., Warren, H., Salisch, M., O, B., Chin, J., & Geangu, E. (2011). Emotions and social development in childhood. In P. Smith & C. Hart (Eds.), *The Wiley-Blackwell handbook of childhood social development* (pp. 413-433): Blackwell Publishing Ltd.
- Denham, S. A. (2006). Social-emotional competence as support for school readiness: What is it and how do we assess it? *Early Education and Development*, 17(1), 57-89. doi: 10.1207/s15566935eed1701_4
- Dvorak, R., Pearson, M., & Kuvaas, N. (2013). The five-factor model of impulsivity-like traits and emotional lability in aggressive behavior. *Aggressive Behavior*, 39(3), 222-228. doi: 10.1002/ab.21474
- Eisenberg, N., Cumberland, A., Spinrad, T. L., Fabes, R. A., Shepard, S. A., Reiser, M., . . . Guthrie, I. K. (2001). The relations of regulation and emotionality to children's externalizing and internalizing problem behavior. *Child Development*, 72(4), 1112.
- Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2000). Dispositional emotionality and regulation: Their role in predicting quality of social functioning. *Journal of Personality & Social Psychology*, 78(1), 136-157. doi: 10.1037/10022-3514.78.1.136

- Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2002). The role of emotionality and regulation in children's social competence and adjustment. In L. Pulkkinen & A. Caspi (Eds.), *Paths to successful development: Personality in the life course* (pp. 46-70). New York: Cambridge University Press.
- Eisenberg, N., Fabes, R. A., Nyman, M., Bernzweig, J., & Pinuelas, A. (1994). The relations of emotionality and regulation to children's anger-related reactions. *Child Development, 65*(1), 109-128. doi: 10.2307/1131369
- Garrett-Peters, P. T., & Fox, N. A. (2007). Cross-cultural differences in children's emotional reactions to a disappointing situation. *International Journal of Behavioral Development, 31*(2), 161-169. doi: 10.1177/0165025407074627
- Gillanders, C. (2007). An English-speaking prekindergarten teacher for young Latino children: Implications of the teacher-child relationship on second language learning. *Early Childhood Education Journal, 35*(1), 47-54. doi: 10.1007/s10643-007-0163-x
- Goldfeld, S., O' Connor, M., Mithen, J., Sayers, M., & Brinkman, S. (2014). Early development of emerging and English-proficient bilingual children at school entry in an Australian population cohort. *International Journal of Behavioral Development, 38*(1), 42-51. doi: 10.1177/0165025413505945
- Grolnick, W. S., McMenamy, J. M., & Kurowski, C. O. (1999). Emotional self-regulation in infancy and toddlerhood. In L. Balter & C. Tamis-LeMonda (Eds.), *Child psychology: A handbook of contemporary issues* (pp. 3-22). Philadelphia, PA: Psychological Press.

- Han, W.-J. (2010). Bilingualism and socioemotional well-being. *Children and Youth Services Review*, 32(5), 720-731. doi: 10.1016/j.childyouth.2010.01.009
- Han, W.-J., & Huang, C.-C. (2010). The forgotten treasure: Bilingualism and Asian children's emotional and behavioral health. *American Journal of Public Health*, 100(5), 831-838. doi: 10.2105/AJPH.2009.174219
- Herndon, K. J., Bailey, C. S., Shewark, E. A., Denham, S. A., & Bassett, H. H. (2013). Preschoolers' emotion expression and regulation: Relations with school adjustment. *The Journal of Genetic Psychology*, 174(6), 642-663. doi: 10.1080/00221325.2012.759525
- Holmbeck, G. N. (2002). Post-hoc probing of significant moderational and mediational effects in studies of pediatric populations. *Journal of Pediatric Psychology*, 27(1), 87-96. doi: 10.1093/jpepsy/27.1.87
- Huang, R., Jian, X., Zhu, L., & Lu, L. (2010). *Receptive and expressive vocabulary test*. Taipei: Psychological Publishing Company.
- Johnson, K. N., Walden, T. A., Conture, E. G., & Karrass, J. (2010). Spontaneous regulation of emotions in preschool children who stutter: Preliminary findings. *Journal of Speech, Language and Hearing Research*, 53(6), 1478-1495.
- Longoria, A. Q., Page, M. C., Hubbs-Tait, L., & Kennison, S. M. (2009). Relationship between kindergarten children's language ability and social competence. *Early Child Development and Care*, 179(7), 919-929. doi: 10.1080/03004430701590241
- Luchtel, M., Hughes, K., Luze, G., Bruna, K., & Peterson, C. (2010). A comparison of teacher-rated classroom conduct, social skills, and teacher-child relationship

- quality between preschool English learners and preschool English speakers. *NHSA Dialog*, 13(2), 92-111. doi: 10.1080/15240751003737877
- McDonald, E. J., McCabe, K., Yeh, M., Lau, A., Garland, A., & Hough, R. L. (2005). Cultural affiliation and self-esteem as predictors of internalizing symptoms among Mexican American adolescents. *Journal of Clinical Child & Adolescent Psychology*, 34(1), 163-171. doi: 10.1207/s15374424jccp3401_15
- Monopoli, W. J., & Kingston, S. (2012). The relationships among language ability, emotion regulation and social competence in second-grade students. *International Journal of Behavioral Development*, 36(5), 398-405. doi: 10.1177/0165025412446394
- Nelson, J., Hart, C., Wu, B., Yang, C., Roper, S., & Jin, S. (2006). Relations between Chinese mothers' parenting practices and social withdrawal in early childhood. *International Journal of Behavioral Development*, 30(3), 261-271. doi: 10.1177/0165025406066761
- Oades-Sese, G. V., Esquivel, G. B., Kaliski, P. K., & Maniatis, L. (2011). A longitudinal study of the social and academic competence of economically disadvantaged bilingual preschool children. *Developmental Psychology*, 47(3), 747-764. doi: 10.1037/a0021380
- Portes, A., & Hao, L. (2002). The price of uniformity: Language, family and personality adjustment in the immigrant second generation. *Ethnic and Racial Studies*, 25(6), 889-912. doi: 10.1080/0141987022000009368

- Qi, C. H., Kaiser, A. P., & Milan, S. (2006). Children's behavior during teacher-directed and child-directed activities in Head Start. *Journal of Early Intervention*, 28(2), 97-110. doi: 10.1177/105381510602800202
- Raver, C. C., & Zigler, E. F. (1997). Social competence: An untapped dimension in evaluating head start's success. *Early Childhood Research Quarterly*, 12(4), 363-385. doi: 10.1016/s0885-2006(97)90017-x
- Reynolds, C. R., & Kamphaus, R. W. (2004). *Behavior assessment system for children second edition*. Bloomington, MN: Pearson Education, Inc.
- Rhoades, B. L., Warren, H. K., Domitrovich, C. E., & Greenberg, M. T. (2011). Examining the link between preschool social–emotional competence and first grade academic achievement: The role of attention skills. *Early Childhood Research Quarterly*, 26(2), 182-191. doi: 10.1016/j.ecresq.2010.07.003
- Rose-Krasnor, L. (1997). The nature of social competence: A theoretical review. *Social Development*, 6(1), 111-135. doi: 10.1111/j.1467-9507.1997.tb00097.x
- Rydell, A., Berlin, L., & Bohlin, G. (2003). Emotionality, emotion regulation, and adaptation among 5- to 8-year-old children. *Emotion*, 3(1), 30-47.
- Saarni, C. (1984). An observational study of children's attempts to monitor their expressive behavior. *Child Development*, 55(4), 1504-1513. doi: 10.2307/1130020
- Sabbagh, M. A., Fen, X., Carlson, S. M., Moses, L. J., & Kang, L. (2006). The development of executive functioning and theory of mind. *Psychological Science*, 17(1), 74-81.

- Shields, A., & Cicchetti, D. (1997). Emotion regulation among school-age children: The development and validation of a new criterion Q-sort scale. *Developmental Psychology*, 33(6), 906-916.
- Soltero-Gonzalez, L. (2009). Preschool Latino immigrant children: Using the home language as a resource for literacy learning. *Theory Into Practice*, 48(4), 283-289. doi: 10.1080/00405840903192771
- Tseng, V., & Fuligni, A. J. (2000). Parent-adolescent language use and relationships among immigrant families with east Asian, Filipino, and Latin American backgrounds. *Journal of Marriage and Family*, 62(2), 465-476. doi: 10.1111/j.1741-3737.2000.00465.x
- Wentzel, K. R. (1999). Social-motivational processes and interpersonal relationships: Implications for understanding students' academic success. *Journal of Educational Psychology*, 91(1), 76-97.
- Winsler, A., Burchinal, M. R., Tien, H.-C., Peisner-Feinberg, E., Espinosa, L., Castro, D. C., . . . De Feyter, J. (2014). Early development among dual language learners: The roles of language use at home, maternal immigration, country of origin, and socio-demographic variables. *Early Childhood Research Quarterly*, 29(4), 750-764. doi: 10.1016/j.ecresq.2014.02.008
- Xu, Y., & Zhang, Z. (2008). Distinguishing proactive and reactive aggression in Chinese children. *Journal of Abnormal Child Psychology*, 36(4), 539-552. doi: 10.1007/s10802-007-9198-0

Yow, W. Q., & Markman, E. M. (2011). Young bilingual children's heightened sensitivity to referential cues. *Journal of Cognition & Development, 12*(1), 12-31. doi: 10.1080/15248372.2011.539524

Zhou, Z., Peverly, S., Xin, T., Huang, A., & Wang, W. (2003). School adjustment of first-generation Chinese-American adolescents. *Psychology in the Schools, 40*(1), 71-84. doi: 10.1002/pits.10065

Zimmerman, I. L., Steiner, V. G., & Pond, R. E. (2012). *Preschool language scales, fifth edition – Australian and New Zealand language adapted edition (PLS-5)*.

Camberwell VIC, Australia: Pearson Australia Group.

Chapter 6 Social competence, cultural orientations and gender differences: A study of Mandarin-English bilingual preschoolers

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Social competence, cultural orientations and gender differences: A study of
Mandarin-English bilingual preschoolers

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Abstract

This study investigated whether host and heritage cultural orientations were associated with Chinese preschoolers' social competence and whether such associations varied across gender in Western contexts. Ninety-six Chinese-Australian children aged 36-69 months from 15 childcare centres in Sydney participated in the study. The General Ethnicity Questionnaires were modified to obtain a parent report of children's orientation to the host and heritage cultures. Social competence was assessed using teacher reports on the Behaviour Assessment System for Children-2 (BASC-2) with four composite scales: Externalizing, Internalizing, Behavioural Symptoms and Adaptive Skills. Host culture orientation was negatively associated with Internalizing, Behavioural Symptoms and positively with Adaptive Skills in the overall sample. When analysed by gender, host cultural orientation was found to be positively associated with Adaptive Skills for boys and girls and negatively associated with Externalizing and Behavioural Symptoms only in girls. Heritage cultural orientation was not associated with the BASC-2 composites either in the overall sample or by gender. The results indicate that host culture has a stronger relationship with social competence than heritage culture, particularly for girls.

Keywords: social competence; General Ethnicity Questionnaire; Externalizing; Internalizing; Behavioural Symptoms; Adaptive Skills

Social competence is viewed as an important goal of development in both home and educational contexts (Arnold & Lindner-Müller, 2012). It refers to abilities to conduct effective initiations and responses in social interactions (Rose-Krasnor, 1997). Social competence is a multifaceted construct - including emotional, behavioural and social skill aspects (Arnold & Lindner-Müller, 2012; Kanning, 2003; Longoria, Page, Hubbs-Tait, & Kennison, 2009) and is closely related to social adjustment in new contexts (Bornstein, Hahn, & Haynes, 2010; Chen & Tse, 2010). In early childhood, social competence tends to vary across gender, and gender differences generally favours girls over boys. For instance, girls are more likely than boys to display prosocial behaviours (caring and helping others) and less likely to display aggressive and disruptive behaviours (Walker, 2005; Walker, Irving, & Berthelsen, 2002). Preschool girls are more interpersonally orientated on the playground and display more cooperative group play whereas preschool boys display more solitary play (Barbu, Cabanes, & Le Maner-Idrissi, 2011). Apart from gender, the cultural context in which a child develops influences social competence development. In the developmental process, the child “not only masters the items of cultural experience but also the habits of cultural behaviour” (Vygotski, 1929, p. 415). Culture defines appropriate attitudes and behaviours in group contexts, regulate interpersonal relations, and impart values and beliefs to its members (Chen & French, 2008; Mpofu, Thomas, & Chan, 2004).

Western and Chinese cultures tend to place different values on social competence. The differences can sometimes be in almost direct contrast. For instance, Western individualistic culture generally encourages open expression of emotions and attainment of one’s personal goal as an important source of well-being and life satisfaction (Garrett-

Peters & Fox, 2007). It values autonomy, creativity, assertiveness and taking initiatives in social interactions (Chen & French, 2008; Oades-Sese, Esquivel, Kaliski, & Maniatis, 2011). Unlike Western culture, Chinese collectivist culture is more likely to value social order, filial piety, respect for authorities and elders, and group interests (Zhu & Hu, 2011). To maintain interpersonal harmony and group interests, individuals need to restrain personal needs and display behavioural control (Chen & French, 2008). Behavioural control and obedience are emphasised from an early age and often seen as a sign of self-discipline and social maturity (Ho, 1996; Huang & Lamb, 2014).

The process of adhering to the values, norms and behaviours of a specific culture and exploring and defining ones' cultural identity is generally defined as cultural orientation (Tsai, Ying, & Lee, 2000; Umaña-Taylor, Alfaro, Bámaca, Guimond, & Buehler, 2009). Cultural orientation is generally measured in the domains of language use, social affiliation, participation in cultural activities, and the use of food and media (Chen & Tse, 2010; Kang, 2006; Phinney, 2003; Tsai et al., 2000). Although adapting to the host cultural values can be a reversed process of maintaining the heritage cultural values, the two processes can also be independent or even interdependent for those who have bicultural orientations (Kang, 2006). Thus, when measuring cultural orientations, it is preferable to employ a bidimensional measure so that two cultural orientations can be assessed separately (Kang, 2006; Tsai et al., 2000). Currently, there is unfortunately no measure suitable for preschoolers from Chinese immigrant backgrounds. Lack of an appropriate measure has limited progress in the investigation of Chinese preschoolers' social competence from their cultural orientation perspectives.

The aim of the present study is to investigate whether host and heritage cultural orientations are associated with Mandarin-English bilingual preschooler' social competence. It is important to conduct such an investigation because the findings have potentials to improve childcare services for Mandarin-speaking children from Chinese background. It is important to focus on Chinese preschoolers because Chinese communities have grown significantly in recent years in English-speaking countries and currently constitute one of the top ethnic minorities in these countries (Gryn & Gambino, 2012; Li, 2010; Lu, Samaratunge, & Härtel, 2012; Rochelle & Shardlow, 2012)

Previous studies with Chinese children

To our knowledge, there is no research investigating Chinese preschoolers' cultural social competence with regard to their cultural orientations. However there is a body of research with school-aged Chinese children and adolescents showing that their host cultural orientation level is positively associated with social competence. Based on parents, teachers and self reports, Chinese children were more sociable and cooperative but were less shy, anxious and withdrawn when they spoke more English (Chang, Morrissey, & Koplewicz, 1995; Chen & Tse, 2010). English media use and English proficiency were positively associated with self-worth, peer acceptance, social skills and prosocial behaviours (Chang et al., 1995; Chen et al., 2014; Chen & Tse, 2010). Nevertheless, it is not clear to what extent these findings from school-aged children also hold true for Chinese preschoolers in Western childcare.

Similarly, research also indicates that heritage cultural orientation is positively associated with social competence among Chinese school-aged children. Participation in heritage cultural activities and endorsement of Chinese family obligation were positively

associated with self-worth, peer acceptance and social skills but negatively with shyness, loneliness and misconduct behaviours (Chen & Tse, 2010; Juang & Nguyen, 2009). Children's Chinese language proficiency and use were positively associated with their appropriate behaviours and school adjustment when parents also maintained heritage cultural values (Chen et al., 2014; Costigan & Dokis, 2006). These findings may appear unexpected because Chinese culture is generally believed to encourage some internalizing behaviours such as shyness and discourage assertiveness (Chen & French, 2008). However, negative association between heritage cultural orientation and social competence may fail to capture other aspects of social life of Chinese children in Western countries. By participating in Chinese cultural activities and orientating towards Chinese culture, immigrant children may have more chances to be engaged in social interactions, make more friends, promote their interpersonal relations and widen their cultural knowledge (Chen and Tse 2010). Nevertheless, evidence is needed to show whether positive association between heritage cultural orientation and social competence also exists among Chinese preschoolers.

Gender difference

Some studies conducted with school-aged Chinese children and adolescents also demonstrated that different cultural factors were related to externalizing behaviours of boys and girls, with assimilation to American culture and amount of Chinese spoken at home respectively showing negative associations (Chang et al., 1995). Endorsement of Chinese cultural values such as family obligation was negatively associated with misconduct only in boys (Juang & Nguyen, 2009). These findings indicate that the associations between host cultural orientation and social competence are sometimes

associated with gender. Nevertheless findings in this area are limited. More work is needed, particularly to determine if gender also changes the relationships between cultural orientations and social competence among Chinese preschoolers.

The present study

Based on the previous studies, we tested the following hypotheses: 1) host cultural orientation is positively associated with social competence; 2) heritage cultural orientation is positively associated with social competence; and 3) associations between cultural orientations and social competence will vary across gender.

Methods

Participants

Ninety-six children who spoke Mandarin at home participated in the present study. They were all typically developing children without chronic health problems or disability. The children were recruited from 15 English-speaking childcare centres in the Greater Sydney Region. They ranged in age from 36 to 69 months ($M = 52.07$, $SD = 8.45$) with 53 boys (age range 36-66 months, $M = 52.87$, $SD = 8.78$) and 43 girls (age range 39-69 months, $M = 51.09$, $SD = 8.03$). Thirty-five were first generation (born overseas) and 61 were second generation (born in Australia with at least one parent born overseas). Fifty-nine (62%) children were the only child or the first-born child in their families and 37 (38%) had older siblings. This indicates that a minority of the children might hear English at home from their older siblings (Bridges & Hoff, 2014). Attendance at an English-speaking childcare ranged from 2.86 to 57.01 months ($M = 20.90$, $SD = 11.11$). Parents' ethnicities were: both Chinese ($n = 94$), Chinese and Taiwanese ($n = 1$), Chinese and Malaysian Chinese ($n = 1$). Seventy-five percent of the parents had bachelor degrees or

higher. All the parents reported they spoke Mandarin to their children at home. While all the 15 childcare centres had populations of Mandarin-speaking children, all the centres reported using English as their only language of instruction. More details of participants from 15 childcare centres are listed in Table 1.

Table 1

Childcare Information

childcare	Number		Age range in month	Length in childcare in month	% of children speaking Mandarin in this centre
	boys	girls			
A	13	9	39-60	3-57	38
B	8	7	40-65	10-36	32
C	6	6	36-59	10-24	40
D	6	2	45-63	2-36	35
E	2	6	39-61	7-28	30
F	3	4	45-60	9-42	28
G	3	2	48-65	2-36	32
H	3	1	39-64	5-33	28
I	2	1	55-69	10-22	36
J	2	1	50-62	12-24	26
K	1	1	40-66	9-27	28
L	1	1	41-46	5-6	25
M	1	1	41-56	6-33	33
N	1	1	54-59	18-30	30
O	1	0	58	8	25

Measures

Social competence

The Teacher Rating Scale of the Behavioral Assessment System for Children – 2nd Edition (BASC-2) (Reynolds & Kamphaus, 2004) for 2-5 year-olds was used to measure both adaptive and problem behaviours. The scale consists of 100 questions and has four

composites assessing 11 types of behaviour: Externalizing (*hyperactivity and aggression*), Internalizing (*anxiety, depression and somatization*), Behavioural Symptoms (overall behavioural problems including *hyperactivity, aggression, depression, atypicality, withdrawal, and attention problems*), and Adaptive Skills (*adaptability, social skills and functional communication*). The childcare teachers were asked to rate the child's behaviours on a four-point scale of frequency ranging from 1 (*Never*) to 4 (*Almost always*). For instance, how often does the child "*disrupt the play of other children?*" (measuring *aggression*) or "*offer help to other children?*" (measuring *social skills*). Cronbach's alphas were .94, .89, .96, and .92 for the four composites respectively in the present study. The BASC-2 is a well-researched instrument that provides the assessor with a comprehensive assessment tool that results in reliable and valid data for both general and clinical populations (Chee, 2007).

Cultural orientations

The General Ethnicity Questionnaire (GEQ) (Tsai et al., 2000) is a bidimensional measure with the American version and the Chinese version assessing Chinese immigrants' host cultural orientation and heritage cultural orientation respectively. The American version has 37 items and the Chinese version has 39 question items. The items are identical in wording except for the culture referenced. The measure assesses five aspects of cultural orientation including language use, social affiliation (with families and friends), cultural activities, cultural pride, media use and food. Responses are coded on a 5-point scale ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*). Because the GEQ was developed in America for adult use, we modified to make it suitable for children in Australia after a pilot trial with eight parents. First, we changed "*America*" into

“Australia”. Second we deleted seven questions which were inappropriate for young children: *Compared to how much I negatively criticize other cultures, I criticize Western/Chinese culture less; I am embarrassed/ashamed of Western/Chinese culture; I relate to my partner or spouse in a way that is Chinese; The people I date are American/Chinese; How much do you speak English/Chinese at prayer; I admire people who are American/Chinese and Now as an adult, my friends are American/Chinese*. Third we changed the subject of each statement from “I” to “My child” so that parents could rate the questionnaire. Fourth, we modified three items: from *I was proud of Western/Chinese culture* to *I approve to Western/Chinese value and beliefs of raising a child*; from *I have strong belief that my children should only have English/Chinese names* to *My child likes to be called by his English/Chinese name*, and from *I wish to be accepted by Americans/Chinese* to *My child feels uneasy when being around with Caucasian/Chinese Australians*. Last, two items were added to the Chinese version: *My child likes to go back to my home country* and *On average, how many days does your child stay at your home country each year? A 0 day, B 1-5 days, C.6-10 days, D 11-20 days, and E more than 20 days*. After modification, the GEQ Australian version (GEQ-AU) had 31 items and the GEQ Chinese version (GEQ-CN) had 34 items. For each child we created an overall GEQ-AU score and an overall GEQ-CN score by calculating the mean of all the items. This is one of the methods suggested by the developers concerning how to use the GEQ (Tsai et al., 2000). Both Chinese language and English translation were provided so that parents could complete the GEQ with the language they preferred. Of the parents who completed the GEQ, 32 (33.3%) were fathers and 64 (66.7%) were mothers. *Independent-Samples t-tests* show there was no difference ($p > .05$) between father-ratings and mother-

ratings in the GEQ-AU and the GEQ-CN. Cronbach's alphas were .92 and .91 for the GEQ-AU and the GEQ-CN in the present study. Notably, a few questions may reflect parents' perceptions or practices (e.g., *I approve of Chinese value and beliefs of raising a child*). These questions are appropriate in reflecting children's cultural orientations because parental cultural socialisation strongly affects children's development of cultural orientations (see Hughes et al., 2006 for a review). Previous studies demonstrated acceptable validity of the GEQ (Celenk & Van de Vijver, 2011; Dinh, Weinstein, Tein, & Roosa, 2013).

Procedures

Childcare centres were identified through local councils. Directors of the centres were contacted and if they expressed interest, consent forms with demographic and the GEQ forms were provided to the centres to pass on to Mandarin-speaking parents. Twenty-one teachers from the 15 centres also participated in providing the ratings of the BASC-2. Among the 21 teachers, five spoke fluent Mandarin, four had a basic functional use of Mandarin, and the rest had no use of Mandarin. One teacher was male. Other demographic information such as teachers' age, ethnicity, highest education degree and years working in childhood care were not available. Nevertheless, all teachers had experience of teaching Mandarin-speaking children and had a certificate in early childhood education as a minimum qualification required by the state government. Personal conversations with childcare directors indicated that all centres also had children from other ethnic and immigrant backgrounds and the teachers only spoke English in the childcare centres. The teachers were compensated for their time with ten Australian dollars per child rated.

Results

We first computed mean and standard deviations of the four BASC-2 composites (Externalizing, Internalizing, Behavioural Symptoms and Adaptive Skills) and the GEQ-AU and the GEQ-CN for the total sample and by gender. We then estimated bivariate correlation between these variables. Next we ran regression analysis to estimate the associations of the GEQ-AU and the GEQ-CN with the four BASC-2 composites. Finally we ran regression analysis with each gender to test the associations of the GEQ-AU and the GEQ-CN with the four BASC-2 composites.

Mean, standard deviation and bivariate correlation

Table 2 presents the results of computation of means and standard deviations of the total sample and each gender. The means and standard deviations of Externalizing, Internalizing, Behavioural Symptoms and Adaptive Skills indicate that the present sample was very close to the normative sample of the BASC-2, which has a mean score of 50 and a standard deviation of 10. *One-Sample t*-test shows there are no statistical differences in Externalizing $t(95) = .01, p = 0.99$, Internalizing $t(95) = 1.03, p = .31$, Behavioural Symptoms $t(95) = 0.33, p = .74$, and Adaptive Skills $t(95) = -0.71, p = .48$ between the present sample and the normative BASC-2 sample. This indicates that the participants in the present study had a similar level of social competence with the normative sample of the BASC-2. *Paired Sample t*-test shows the mean score (i.e., 3.17) of the GEQ-AU is significantly lower than that (i.e., 3.34) of the GEQ-CN, $t = 2.12, p = .001$. This indicates that the children on average had a higher level of heritage cultural orientation than host cultural orientation. We also checked whether there was difference in the GEQ-AU and the GEQ-CN between genders. *Independent-Samples t*-tests show there was no difference

($p > .05$) between each pair and the boys and the girls had similar levels of host and Heritage cultural orientations.

Table 2

Mean and Standard Deviation in Total and by Gender

	Mean (SD)		
	Total ($n = 96$)	Boys ($n = 53$)	Girls ($n = 43$)
Externalizing	50.01 (9.19)	51.96 (10.54)	47.60 (6.53)
Internalizing	51.07 (10.24)	51.09 (10.45)	51.05 (10.09)
Behavioural Symptoms	50.33 (9.87)	52.09 (11.20)	48.16 (7.52)
Adaptive Skills	49.34 (9.05)	48.64 (9.38)	50.21 (8.66)
GEQ-AU [^]	3.17 (0.48)	3.12 (0.46)	3.24 (0.49)
GEQ-CN ^{^^}	3.34 (0.47)	3.31 (0.46)	3.38 (0.48)

Note: GEQ-AU[^] = General Ethnicity Questionnaire Australian version

GEQ-CN^{^^} = General Ethnicity Questionnaire Chinese Version

Bivariate correlation (Table 3) shows that Externalizing, Internalizing and Behavioural Symptoms positively correlated with one another and Adaptive Skill negatively correlated with Externalizing and Behavioural Symptoms. The GEQ-AU was associated negatively with Internalizing and Behavioural Symptoms and positively with Adaptive Skill. The GEQ-CN was negatively associated with the GEQ-AU but not associated with any of the BASC-2 composites.

Table 3

Bivariate Correlation

	1	2	3	4	5
1. Externalizing	-				
2. Internalizing	.38***	-			
3. Behavioral Symptoms	.81***	.51***	-		
4. Adaptive Skills	-.37***	-.11	-.58***	-	
5. GEQ-AU [^]	-.20	-.27**	-.35***	.45***	-
6. GEQ-CN ^{^^}	.05	.14	.14	-.06	-.33**

Note: GEQ-AU[^] = General Ethnicity Questionnaire Australian version

GEQ-CN^{^^} = General Ethnicity Questionnaire Chinese Version

*** $p < .001$, ** $p < .01$, * $p < .05$.

Associations between cultural orientations and social competence

To test the effects of cultural orientations, we first controlled demographic factors of age, gender and parental education because the previous studies indicated that these factors could affect social competence development (Chen et al., 2014; Chen & Tse, 2010; Juang & Nguyen, 2009). There is evidence showing childcare experience influences socioemotional development (Claessens, 2012), so we also controlled length of time in childcare. Hierarchical regressions were computed from: step 1 age, gender, parental education and length of time in childcare; and step 2 the GEQ-AU and the GEQ-CN. In step 1, parental education was categorized into two levels– below bachelor versus bachelor and higher – because there was limited variance and the majority (75% as mentioned in *Participants* section) had a bachelor degree or higher. The GEQ-AU and the GEQ-CN were entered in the same step because there is no evidence showing one cultural

orientation is more important than the other and we considered them to be at the same level in terms of our hypotheses.

The results (Table 4) show that in step 1, age was significantly associated with Externalizing $B = -0.24$, $SE = 0.12$, $p = .05$, with the older children displaying a lower level of externalizing behaviours than the younger children. Gender was significantly associated with Externalizing $B = 4.82$, $SE = 1.85$, $p = .01$, and Behavioural Symptoms $B = 3.99$, $SE = 1.98$, $p = .05$ with the boys displaying a higher level of externalizing behaviours and overall behavioural problems than the girls. Length of time spent in childcare was significantly associated with Adaptive Skills $B = 0.19$, $SE = 0.09$, $p = .04$, with more time spent in childcare being associated with a higher level of adaptive skills. In step 2, the GEQ-CN was associated with none of the BASC-2 composites, but the GEQ-AU was associated negatively with Internalizing $B = -4.78$, $SE = 2.36$, $p = .046$ and Behavioural Symptoms $B = -6.22$, $SE = 2.21$, $p = .006$ but positively with Adaptive Skills $B = 8.10$, $SE = 1.96$, $p < .001$. The full regression equation in step 2 accounted for 5% of the variance of Internalizing, 9% of the variance of Behavioural Symptoms and 15% of the variance of Adaptive Skills.

Table 4

Hierarchical Regression Predicting Four Social Competence Composites

	Externalizing				Internalizing				Behavioural Symptoms				Adaptive Skills			
Step 1	<i>B</i>	<i>SE</i>	<i>P</i>	ΔR^2	<i>B</i>	<i>SE</i>	<i>P</i>	ΔR^2	<i>B</i>	<i>SE</i>	<i>P</i>	ΔR^2	<i>B</i>	<i>SE</i>	<i>P</i>	ΔR^2
Age	-0.24	0.12	.05		-0.14	0.13	.28		-0.17	0.13	.19		0.14	0.12	.25	
Gender	4.82	1.85	.01	.09*	-0.05	2.07	.98	.06	3.99	1.98	.05	.11*	-1.59	1.82	.38	.10*
Parental education	1.04	2.14	.63		4.20	2.40	.08		3.72	2.29	.11		0.65	2.11	.76	
Time in childcare	0.05	0.09	.56		-0.18	0.10	.07		-0.11	.10	.27		0.19	0.09	.04	
Step 2																
GEQ-AU [^]	-3.10	2.15	.15	.03	-4.78	2.36	.046	.05	-6.22	2.21	.006	.09**	8.10	1.96	.000	.15***
GEQ-CN ^{^^}	0.45	2.09	.83		1.07	2.30	.64		0.99	2.15	.65		1.81	1.91	.35	

Note: GEQ-AU[^] = General Ethnicity Questionnaire Australian version

GEQ-CN^{^^} = General Ethnicity Questionnaire Chinese Version

*** $p < .001$, ** $p < .01$, * $p < .05$.

Gender differences

To test whether associations between cultural orientations and social competence varied across gender, we ran multiple regressions by entering the GEQ-AU and the GEQ-CN for each gender. The results (Table 5) show that, the GEQ-AU was negatively associated with Externalizing $B = -4.72$, $SE = 2.03$, $p = .03$, and Behavioural Symptoms $B = -5.93$, $SE = 2.26$, $p = .01$ only in girls. The GEQ-AU was positively associated with Adaptive Skills in both boys $B = 12.08$, $SE = 2.70$, $p < .001$, and girls $B = 6.87$, $SE = 2.63$, $p = .01$. The GEQ-CN was associated with none of the BASC-2 composites in either gender.

Table 5

Multiple Regression Predicting Four Social Competence Composites by Gender

	General Ethnicity Questionnaire - Australian						General Ethnicity Questionnaire - Chinese					
	Boys			Girls			Boys			Girls		
	<i>B</i>	<i>SE</i>	<i>P</i>	<i>B</i>	<i>SE</i>	<i>P</i>	<i>B</i>	<i>SE</i>	<i>P</i>	<i>B</i>	<i>SE</i>	<i>P</i>
Externalizing	-1.51	3.57	.67	-4.72	2.03	.03	1.42	3.61	.70	-0.59	2.07	.78
Internalizing	-4.74	3.45	.18	-6.11	3.18	.06	1.40	3.50	.69	1.12	3.24	.73
Behavioural Symptoms	-7.04	3.64	.059	-5.93	2.26	.01	0.35	3.69	.93	1.60	2.30	.49
Adaptive Skills	12.08	2.70	.000	6.87	2.63	.01	5.07	2.73	.07	-0.74	2.68	.78

Since the GEQ-AU was significant in predicting Adaptive Skills in both genders, we compared the two regression coefficients (*Bs*) to investigate whether the coefficients differed significantly from each other using the statistical method proposed by previous researchers (Brame, Paternoster, Mazerolle, & Piquero, 1998; Clogg, Petkova, & Haritou, 1995). The result indicates that the coefficients did not differ as *Z* value was lower than the significance level of 1.96 ($p > .05$). This means there was no gender difference in the relationship between host cultural orientation and adaptive skills though this relationship was significant in both genders.

Discussion

To date, previous research investigating social competence with regard to cultural orientations in Western countries has mainly focused on school-aged Chinese children and adolescents, but no research of a similar nature has been conducted with Chinese preschoolers in Western childcare. It is important to focus on social competence of preschoolers from cultural and gender perspectives because early years mark an important period of social competence development (Cohen & Mendez, 2009; Santos, Vaughn, Peceguina, Daniel, & Shin, 2014) and gender and culture can be important factors associated with social competence development (Barbu et al., 2011; Chen et al., 2014).

Host cultural orientation and social competence

Based on both correlation and regression results, host (i.e., Australian) cultural orientation was negatively associated with internalizing behaviours and overall behavioural problems and positively associated with adaptive skills. This is consistent with the previous studies conducted with school-aged Chinese children and adolescents (Chang et al., 1995; Chen et al., 2014; Chen & Tse, 2010; Juang & Nguyen, 2009).

Possibly children have greater emotional expression when there is a stronger orientation to Western cultural values, which encourage expression of emotions (Garrett-Peters & Fox, 2007). There is evidence showing that encouraging expression of emotions helps reduce occurrence of internalizing behaviours (Eisenberg et al., 2001; Fung & Lau, 2012). In addition, more engagement in host culture promotes initiative-taking skills, independence and assertiveness in social interactions, which are all valued adaptive skills in Western countries (Chen & French, 2008; Oades-Sese et al., 2011). Nevertheless, interpretations from the opposite direction may also be true. That is, more socially competent children may have more chances to engage in host culture. Clearly more research, especially with longitudinal designs, is needed to determine causes and effects.

Heritage cultural orientation and social competence

Heritage cultural orientation was not associated with social competence, and this is not consistent with the previous studies with older school-aged Chinese children and adolescents (Chen et al., 2014; Chen & Tse, 2010; Costigan & Dokis, 2006; Juang & Nguyen, 2009). It is possible that developmental and/or contextual differences for younger children mean that heritage cultural orientation is less likely to be associated with social competence than is the case for older children and adolescents. This result suggests that some of the difficulties faced in later childhood could be prevented with appropriate education programmes in early years. There is a need for research to investigate this issue further. Future research should include longitudinal and intervention studies.

Gender differences

Our findings indicate that host and heritage cultural orientations did not vary across gender but the Chinese preschool girls' social competence was more strongly associated

with host cultural orientation. When host cultural orientation level increased, externalizing behaviours and overall behavioural problems decreased in the girls but not in the boys. Specific reasons for these findings are unclear. It is possible that cultural orientation plays a different role in early social development of girls and boys, as would be predicted by Identity Theory (Carter, 2014). The finding is also consistent with gender differences found in other studies. Greater discrepancies between teacher and parent report of externalizing behaviours of girls compared to boys were found by Berg-Nielsen, Solheim, Belsky, and Wichstrom (2012). Although we did not compare to parent ratings, the possible explanations provided by Berg-Nielsen et al. (2012) may also be applicable to our findings. They speculated that socially desirable behaviour may be more context specific for girls than for boys with girls having higher levels of socially competent behaviours in day care but relaxing and acting out at home, or there may be a same-gender bias by the raters who are mainly female with “more tolerance for the way girls’ externalizing behaviours manifests itself while boys misbehaviour is perceived as more bothersome” (407). Future research should replicate our findings to further examine whether social competence is related to host cultural orientation more strongly in Chinese girls than in Chinese boys and what reasons account for such associations.

Implications and limitations

With an increasing number of children from immigrant backgrounds entering childcare, educators and parents should pay close attention to social competence development of these children as social competence is closely related to social adjustment in new settings and predicts later school readiness (Bornstein et al., 2010; De-Feyter & Winsler, 2009; Taborisky & Oliveira, 2012). The findings of this study indicate that

educators and parents should be aware that children with more orientation towards host culture tend to have lower levels of internalizing behaviours but higher levels of adaptive skills at childcare centres. Exposing children to Western cultural values and behavioural norms and helping children develop social adjustment in childcare are likely to mutually benefit each other. In addition, educators and parents should consider gender difference when handling social adjustment issues of these children from immigrant backgrounds. The new understanding may also have suggestions for developing intervention and prevention programmes for ethnic minority children who experience adjustment difficulties at childcare settings.

There are several limitations in this present study. Our sample is fairly small and homogeneous in socioeconomic backgrounds. Seventy five percent of the Chinese parents had bachelor degrees or higher, which is above the Australian national level of approximate 42 percent Chinese people having bachelor degrees or higher (Expanding links with China and India, 2009). Future research with more diversity is important to establish if these findings are accurate for the broad range of Chinese immigrants in Western countries. The design of the study means we are unable to consider directions of influence. Future longitudinal and intervention studies may play an important role in determining directions of influence which is needed if educational or other intervention programmes are to be developed from this research.

References

- Arnold, K.-H., & Lindner-Müller, C. (2012). Assessment and development of social competence: introduction to the special issue. *Journal for Educational Research*, 4(1), 7-19.
- Barbu, S., Cabanes, G., & Le Maner-Idrissi, G. (2011). Boys and girls on the playground: sex differences in social development are not stable across early childhood. *Plos One*, 6(1), e16407-e16407. doi: 10.1371/journal.pone.0016407
- Berg-Nielsen, T., Solheim, E., Belsky, J., & Wichstrom, L. (2012). Preschoolers' psychosocial problems: In the eyes of the beholder? Adding teacher characteristics as determinants of discrepant parent–teacher reports. *Child Psychiatry & Human Development*, 43(3), 393-413. doi: 10.1007/s10578-011-0271-0
- Bornstein, M. H., Hahn, C.-S., & Haynes, O. M. (2010). Social competence, externalizing, and internalizing behavioral adjustment from early childhood through early adolescence: Developmental cascades. *Development and Psychopathology*, 22(Special Issue 04), 717-735. doi: 10.1017/S0954579410000416
- Brame, R., Paternoster, R., Mazerolle, P., & Piquero, A. (1998). Testing for the equality of maximum-likelihood regression coefficients between two independent equations. *Journal of Quantitative Criminology*, 14(3), 245-261.
- Bridges, K., & Hoff, E. (2014). Older sibling influences on the language environment and language development of toddlers in bilingual homes. *Applied Psycholinguistics*, 35(02), 225-241. doi: 10.1017/S0142716412000379

- Carter, M. (2014). Gender socialization and identity theory. *Social Sciences*, 3(2), 242.
doi: 10.3390/socsci3020242
- Celenk, O., & Van de Vijver, F. (2011). Assessment of acculturation: issues and overview of measures. *Online Readings in Psychology and Culture*, 8(1), 1-22.
- Chang, L., Morrissey, R. F., & Koplewicz, H. S. (1995). Prevalence of psychiatric symptoms and their relation to adjustment among Chinese-American youth. *Journal of the American Academy of Child & Adolescent Psychiatry*, 34(1), 91-99.
doi: 10.1097/00004583-199501000-00019
- Chee, S. T. (2007). Test review: Reynolds, C. R., & Kamphaus, R. W. (2004). Behavior assessment system for children (2nd ed.). Circle Pines, MN: American Guidance Service. *Assessment for Effective Intervention*, 32(2), 121-124. doi: 10.1177/15345084070320020301
- Chen, S. H., Hua, M., Zhou, Q., Tao, A., Lee, E. H., Ly, J., & Main, A. (2014). Parent-child cultural orientations and child adjustment in Chinese American immigrant families. *Developmental Psychology*, 50(1), 189-201. doi: 10.1037/a0032473
- Chen, X., & French, D. C. (2008). Children's social competence in cultural context. *Annual Review of Psychology*, 59(1), 591-616. doi: 10.1146/annurev.psych.59.103006.093606
- Chen, X., & Tse, H. (2010). Social and psychological adjustment of Chinese Canadian children. *International Journal of Behavioral Development*, 34(4), 330-338. doi: 10.1177/0165025409337546

- Claessens, A. (2012). Kindergarten child care experiences and child achievement and socioemotional skills. *Early Childhood Research Quarterly*, 27(3), 365-375. doi: 10.1016/j.ecresq.2011.12.005
- Clogg, C. C., Petkova, E., & Haritou, A. (1995). Statistical methods for comparing regression coefficients between models. *American Journal of Sociology*, 100(5), 1261-1293. doi: 10.2307/2782277
- Cohen, J. S., & Mendez, J. L. (2009). Emotion regulation, language ability, and the stability of preschool children's peer play behavior. *Early Education & Development*, 20(6), 1016-1037. doi: 10.1080/10409280903305716
- Costigan, C. L., & Dokis, D. P. (2006). Relations between parent-child acculturation differences and adjustment within immigrant Chinese families. *Child Development*, 77(5), 1252-1267. doi: 10.2307/3878430
- De-Feyter, J., & Winsler, A. (2009). The early developmental competencies and school readiness of low-income, immigrant children: Influences of generation, race/ethnicity, and national origins. *Early Childhood Research Quarterly*, 24(4), 411-431.
- Dinh, K. T., Weinstein, T. L., Tein, J.-Y., & Roosa, M. W. (2013). A mediation model of the relationship of cultural variables to internalizing and externalizing problem behavior among Cambodian American youth. *Asian American Journal of Psychology*, 4(3), 176-184. doi: 10.1037/a0030165
- Eisenberg, N., Cumberland, A., Spinrad, T. L., Fabes, R. A., Shepard, S. A., Reiser, M., . . . Guthrie, I. K. (2001). The relations of regulation and emotionality to

children's externalizing and internalizing problem behavior. *Child Development*, 72(4), 1112-1134.

Expanding links with China and India. (2009). Retrieved April 20 2015, 2015, from [http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/LookupAttach/4102.0Publication24.09.092/\\$File/41020_ChinaIndia.pdf](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/LookupAttach/4102.0Publication24.09.092/$File/41020_ChinaIndia.pdf)

Fung, J., & Lau, A. S. (2012). Tough love or hostile domination? Psychological control and relational induction in cultural context. *Journal of Family Psychology*, 26(6), 966-975. doi: 10.1037/a0030457

Garrett-Peters, P. T., & Fox, N. A. (2007). Cross-cultural differences in children's emotional reactions to a disappointing situation. *International Journal of Behavioral Development*, 31(2), 161-169. doi: 10.1177/0165025407074627

Gryn, T., & Gambino, C. (2012). The foreign born from Asia: 2011. Retrieved September 5 2013, 2013, from www.census.gov/prod/2012pubs/acsbr11-06.pdf

Ho, D. Y. F. (1996). Filial piety and its psychological consequences. In M. H. Bond (Ed.), *The handbook of Chinese psychology* (pp. 155-165). New York: Oxford University Press.

Huang, C.-Y., & Lamb, M. E. (2014). Are chinese children more compliant? Examination of the cultural difference in observed maternal control and child compliance. *Journal of Cross-Cultural Psychology*, 45(4), 507-533. doi: 10.1177/0022022113513652

Hughes, D., Rodriguez, J., Smith, E. P., Johnson, D. J., Stevenson, H. C., & Spicer, P. (2006). Parents' ethnic-racial socialization practices: a review of research and

directions for future study. *Developmental Psychology*, 42(5), 747-770. doi:

10.1037/0012-1649.42.5.747

Juang, L. P., & Nguyen, H. H. (2009). Misconduct among Chinese American adolescents:

The role of acculturation, family obligation, and autonomy expectations. *Journal of Cross-Cultural Psychology*, 40(4), 649-666. doi: 10.1177/0022022109335185

Kang, S.-M. (2006). Measurement of acculturation, scale formats, and language

competence: Their implications for adjustment. *Journal of Cross-Cultural Psychology*, 37(6), 669-693. doi: 10.1177/0022022106292077

Kanning, U. P. (2003). *Diagnostic social competence*. Göttingen: Hogrefe.

Li, P. (2010). Immigrants from China to Canada: Issues of demand and supply of human

capital. Retrieved September 5 2013, 2013, from <http://www.opencanada.org/wp-content/uploads/2011/05/Immigrants-from-China-to-Canada-Peter-S.-Li.pdf>

Longoria, A. Q., Page, M. C., Hubbs-Tait, L., & Kennison, S. M. (2009). Relationship

between kindergarten children's language ability and social competence. *Early Child Development and Care*, 179(7), 919-929. doi: 10.1080/03004430701590241

Lu, Y., Samaratunge, R., & Härtel, C. E. J. (2012). The relationship between acculturation

strategy and job satisfaction for professional Chinese immigrants in the Australian workplace. *International Journal of Intercultural Relations*, 36(5), 669-681. doi:

10.1016/j.ijintrel.2012.04.003

Mpofu, E., Thomas, K. R., & Chan, F. (2004). Social competence in Zimbabwean

multicultural schools: Effects of ethnic and gender differences. *International Journal of Psychology*, 39(3), 169-178. doi: 10.1080/00207590344000385

- Oades-Sese, G. V., Esquivel, G. B., Kaliski, P. K., & Maniatis, L. (2011). A longitudinal study of the social and academic competence of economically disadvantaged bilingual preschool children. *Developmental Psychology*, 47(3), 747-764. doi: 10.1037/a0021380
- Phinney, J. (2003). Ethnic identity and acculturation. In K. Chun, O. Balls, P & G. Martin (Eds.), *Acculturation: Advances in theory, measurement, and applied research*. (pp. 63-81). Washington DC: American Psychological Association.
- Reynolds, C. R., & Kamphaus, R. W. (2004). *Behavior assessment system for children second edition*. Bloomington, MN: Pearson Education, Inc.
- Rochelle, T. L., & Shardlow, S. M. (2012). Involvement in volunteer work and social participation among UK Chinese. *International Journal of Intercultural Relations*, 36(5), 728-736. doi: 10.1016/j.ijintrel.2012.04.004
- Rose-Krasnor, L. (1997). The nature of social competence: A theoretical review. *Social Development*, 6(1), 111-135. doi: 10.1111/j.1467-9507.1997.tb00097.x
- Santos, A. J., Vaughn, B. E., Peceguina, I., Daniel, J. R., & Shin, N. (2014). Growth of social competence during the preschool years: A 3-year longitudinal study. *Child Development*, 85(5), 2062-2073. doi: 10.1111/cdev.12246
- Taborsky, B., & Oliveira, R. F. (2012). Social competence: an evolutionary approach. *Trends in Ecology & Evolution*, 27(12), 679-688. doi: 10.1016/j.tree.2012.09.003
- Tsai, J., Ying, Y., & Lee, P. (2000). The meaning of "being Chinese" and "being American", variation among Chinese American young youths. *Journal of Cross-Cultural Psychology*, 31(3), 302-332. doi: 10.1177/0022022100031003002

- Umaña-Taylor, A. J., Alfaro, E. C., Bámaca, M. Y., Guimond, A. B., & Buehler, C. (2009). The central role of familial ethnic socialization in Latino adolescents' cultural orientation. *Journal of Marriage and Family*, 71(1), 46-60. doi: 10.2307/40262858
- Vygotski, L. S. (1929). The problem of the cultural development of the child. *The Pedagogical seminary and journal of genetic psychology*, 36(3), 415-434. doi: 10.1080/08856559.1929.10532201
- Walker, S. (2005). Gender differences in the relationship between young children's peer-related social competence and individual differences in theory of mind. *The Journal of Genetic Psychology*, 166(3), 297-312.
- Walker, S., Irving, K., & Berthelsen, D. (2002). Gender influences on preschool children's social problem-solving strategies. *The Journal of Genetic Psychology*, 163(2), 197-209.
- Zhu, Z. S., & Hu, B. Y. (2011). San zi jing: A Chinese primer. *Childhood Education*, 87(6), 415-420. doi: 10.1080/00094056.2011.10523225

Chapter 7 Interpretation of errors made by Mandarin-speaking children on the Preschool Language Scales – 5th edition screening test

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Interpretation of errors made by Mandarin-speaking children on the Preschool Language

Scales – 5th edition screening test

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Abstract

We investigated typical errors made by Mandarin-speaking children when measured by the Preschool Language Scales - fifth edition, Screening Test (PLS-5 Screening Test). The intention was to provide preliminary data for the development of a guideline for early childhood educators and psychologists who use the test with Mandarin-speaking children. Seventy-one Mandarin-speaking children aged 36-69 months from 15 childcare centres in northwest Sydney participated in the study. The children all had typically developing Mandarin competence as screened by a standardised Mandarin test. The results were consistent with our hypotheses. That is, due to linguistic differences between Mandarin and English, and Chinese children's general low level of autonomy, the most challenging areas on the PLS-5 Screening Test were production of word final consonants which do not occur in Mandarin, the use of plurals, personal pronouns, and language items embedded with autonomy. Children's overall performance on the test improved when their time attending English speaking childcare increased. The results are discussed with reference to implications for psychologists and childcare educators working with Mandarin-speaking children.

Keywords: Mandarin-speaking children, PLS-5 Screening Test, phonemes, plurals, pronouns

The Preschool Language Scales – 5th edition Screening Test (PLS-5 Screening Test) is an efficient instrument to help clinicians and educators identify toddlers and children who are at risk for language delay and who may require referral for additional speech and language assessment (Zimmerman, Steiner, & Pond, 2012). The test items are the most discriminating items selected from the full test, the Preschool Language Scales (5th edition) (Zimmerman et al., 2012). The PLS-5 Screening Test is now in use in Australia. However, there are no guidelines for interpreting scores of children for whom English is not their first language. There are no studies reporting the performance of Mandarin-speaking children on the PLS-5 Screening Test even though Mandarin is the most common language spoken at home after English in Australia (Australian social trends, 2013; Cooke, Zhang, & Wang, 2013; Lu, Samaratunge, & Härtel, 2012). Given the current social and economic mobility between China and Australia, more Mandarin-speaking people are likely to migrate to Australia. If the PLS-5 Screening Test is to be used widely in Australia, it will be useful to have a guideline on interpreting performance of children who speak other languages as their first language, especially Mandarin.

This is important because the learners' first language will influence the acquisition patterns of their second language (Bedore & Peña, 2008). During the early stages of acquiring English as a second language, Mandarin-speaking children are likely to experience specific challenges that are influenced by their first language Mandarin. We can expect these children to make errors on the PLS-5 Screening Test that reflect difficulties with learning English as a second language even though their Mandarin may be typically developing. To date no studies have examined the errors made on the PLS-5 Screening Test by children who are learning English as a second language and who have

typically developing Mandarin. The present study attempts to fill this gap and provide preliminary data on this group of children.

The PLS-5 Screening Test provides the following: norm-based criterion scores on areas of emerging interaction, language and speech skills in infants and toddlers; norm-referenced scores for articulation and language; and descriptive information for social/interpersonal communication skills, stuttering, and voice for children aged three years to seven years and eleven months (Zimmerman et al., 2012). In our study we examined the performance of a group of Mandarin-speaking children aged from three to five years.

Some items in the PLS-5 Screening Test measure pronunciation of certain phonemes (e.g., the last sound in *dog*), use of plurals and use of personal pronouns. These tasks are likely to be demanding for Mandarin-speaking children and lead to poor performance on the test because of substantial differences between Mandarin and English in these areas. In the following sections we illustrate these differences.

The typical syllabic word structure in Mandarin is consonant plus vowel (Hua & Dood, 2000; Lin & Johnson, 2010). Most words in Mandarin are in the form of /ma/ and /pa/ with only two consonants /n/ and /ng/ allowed in word final position, like the final sounds in the English words *kin* and *king*. English, on the other hand, has an abundance of word final consonants, e.g., *dog*, *cats*. Moreover, English has voiced consonants /b, d, g, z/ and interdental fricatives /θ, ð/, but these consonants are all absent in Mandarin (En, Brebner, & McCormack, 2014; Lin & Johnson, 2010). Therefore when voiced consonants or interdental fricatives appear at word final position in English, Mandarin-speaking children may display difficulties. Previous studies have shown that in the word final

position, voiced consonants (e.g., /g/) and interdental fricatives (e.g., /θ/), are particularly challenging for native Mandarin-speakers (Broselow, Chen, & Wang, 1998; Broselow & Xu, 2004; En et al., 2014; Hansen, 2001; Lin & Johnson, 2010).

Mandarin and English differ greatly in the use of inflectional grammar in marking plurals. English regular plural nouns are marked by adding the morpheme -s, e.g., *dogs*. Mandarin on the other hand marks plurals by number and/or quantifier, e.g., ‘two dogs’ in Mandarin would be ‘two quantifier dog’. Given that inflectional grammar occurs at the end of words, evidence shows Mandarin-speaking children have difficulty in acquiring plurals even after many years of English emersion (Jia, 2003).

The two languages also differ in personal pronominal systems and the marking of possessives. While English has gender (*he* vs. *she*), animacy (*he* vs. *it*) and case contrasts (*he* vs. *him*) (Qi, 2010), Mandarin only uses one spoken form of pronoun ‘*ta*’ to cover all these pronouns (e.g., *he*, *she*, *him*, *her*, and *it*). While spoken forms of possessive pronouns, e.g., *his*, *hers* and *its*, are different in English, possessives in Mandarin are marked by a single morpheme ‘*de*’ attached to the pronoun ‘*ta*’, e.g., ‘*ta de*’ which could mean *his*, *hers*, and *its*. To avoid this ambiguity, Mandarin speakers prefer to use nouns and proper names, e.g., boy/girl, the boy’s/the girl’s (Qi, 2010).

Apart from the cross-linguistic differences as illustrated above, some language tasks in the PLS-5 Screening Test are embedded with western cultural practices of autonomy, such as self-care skills of knowing what to do when being sick or explaining how household appliances are used. These tasks favour western children because Chinese children generally are less likely to be encouraged by their parents to develop self-care skills and learn self-sufficiency in various activities including toileting, walking,

exploring, and communicating (Keller et al., 2007; Liu et al., 2005; Luo, Tamis-LeMonda, & Song, 2013).

The linguistic and cultural differences noted above may result in Mandarin-speaking children performing poorly on the PLS-5 Screening Test, but their overall performance on the test may increase with more exposure to the English language and Australian culture. Research shows that proficiency in a language among young children is associated with length of exposure to the language (Bedore & Peña, 2008; Jia, Aaronson, & Wu, 2002). Many bilingual children growing up in English-speaking countries do not start functional learning of English until they enter childcare centres or preschools (Bedore & Peña, 2008; Verdon, McLeod, & Winsler, 2014). Thus, length of attending childcare can be taken as an index of length of exposure to English, with longer attendance predicting better performance on the PLS-5 Screening Test.

The present study

The present study was part of a larger project on social competence, emotion regulation, and language development in Mandarin-speaking preschoolers (*Ren, Wyver, Xu Rattanasone, & Demuth, 2015*). The primary goal of the present study was to examine typical errors made by Mandarin-speaking children as measured by the PLS-5 Screening Test. Based on the phonological, grammatical, and morphological differences between English and Mandarin and in cultural values of autonomy, we hypothesised that Mandarin-speaking children would show poor performance in articulating word final consonants, plurals, personal pronouns, and language items embedded with autonomy. We also hypothesised that length of attending childcare would predict overall performance on the PLS-5 Screening Test.

Methods

Participants

Ninety-six children who spoke Mandarin as a first language at home were recruited from 15 English-speaking childcare centres located in northwest Sydney (*Ren et al., 2015*). The teachers' consent forms showed Mandarin-speaking children made up 25-40% of the overall number of children across the 15 childcare centres. From the 96 children, we selected children whose scores on a Mandarin receptive and expressive language test were no less than one standard deviation below the mean (i.e. 85 and above). This was to ensure that all participants had normal development in their first language, that is, there was no speech and language disorder or delay. Seventy-one children were included in the present study with age ranging from 36 to 69 months ($M = 51.90$, $SD = 8.61$) and length of time in childcare ranging from 2 to 57 months ($M = 20.92$, $SD = 11.13$). There were 37 boys and 34 girls. Twenty-eight were first generation (born overseas) and 43 were second generation (born in Australia with at least one parent born overseas). The parents of the 71 children all came from mainland China. Seventy-five percent of the parents had a bachelor degree or higher. Because the PLS-5 Screening Test and Mandarin proficiency test have different forms designed for different age ranges (see the section Measures below), the participants in the present study were given tests on three ages: 3-, 4-, and 5-year-olds. Twenty-five (35.2%) children were 3-year-olds (age range 36-47 months, $M = 42.40$, $SD = 3.08$; Mandarin score range 85-128, $M = 100.36$, $SD = 13.39$), 28 (39.4%) children were 4-year-olds (age range 48-59 months, $M = 53.21$, $SD = 3.40$; Mandarin score range 89-134, $M = 105.82$, $SD = 12.54$), and 18 (25.4%) children were 5-year-olds (age

range 60-69 months, $M = 63.06$, $SD = 2.44$; Mandarin score range 87-134, $M = 109.83$, $SD = 16.70$).

Measures

PLS-5 Screening Test. The PLS-5 Screening Test has different forms designed for different age ranges. We used three forms (3-, 4-, and 5-year-olds) according to the participants' ages. Cronbach's alphas of three forms in the present study were .90, .86 and .89. The PLS-5 Screening Test includes six sections: Articulation, Language, Connected Speech, Social/Interpersonal, Fluency, and Voice. Articulation measures pronunciation of certain phonemes in the initial, medial and final positions of words. Language consists of several subsections with each subsection comprising several questions and assessing specific language skills. The three age forms differ in the tasks of the Articulation and Language, as Table 1 indicates. The other four sections measure the same constructs and are identical in wording. Connected Speech measures how much the child can be understood. Social/Interpersonal measures the child's typical behaviours such as greeting or saying "bye." Fluency examines degrees of smoothness, repetitions or pause of the child's speech. Voice examines whether the child sounds like typically developing children or there are atypical sounds like sounding hoarse or screaming. At the end of a test record form, a Screening Summary is provided. A child should be referred for additional assessment if he or she cannot pass any of the six sections.

Table 1.

Phonemes in Articulation and Subsections in Language across Three Age Groups

	Phonemes (underlined and bold)	Language subsections
3-year-olds	1. <u>p</u> an 2. <u>d</u> og	Recognizes action in pictures
	3. dog 4. <u>m</u> onkey	Understands negatives in sentences
	5. mon <u>k</u> ey 6. <u>t</u> eeth	Names a variety of pictured objects
	7. <u>h</u> orse 8. <u>f</u> eather	Uses plurals
		Produces one four-to-five-word sentence
4-year-olds	1. <u>p</u> an/ <u>p</u> ot 2. dog	Understands sentences with post-noun
	3. <u>m</u> onkey 4. mon <u>k</u> ey	elaboration
	5. <u>t</u> eeth 6. <u>f</u> eather	Understands pronouns (<i>his, her, she, they</i>)
	7. <u>sh</u> oe 8. <u>ch</u> icken	Tells how an object is used
	9. hor <u>s</u> e 10. <u>l</u> ight/ <u>l</u> amp	Uses possessives
5-year-olds		Answers questions about hypothetical events
	1. <u>sh</u> oe 2. <u>l</u> ight/ <u>l</u> amp	Points to letters
	3. <u>s</u> un 4. <u>ch</u> icken	Understands complex sentences
	5. hor <u>s</u> e 6. <u>f</u> eather	Uses possessive pronouns
	7. feather <u>r</u> 8. te <u>e</u> th	Formulates meaningful, grammatically correct sentences
	9. <u>c</u> ar 10. <u>r</u> ed	Uses modifying noun
		Names categories

The fourth author of this paper, who is a native English speaker with a teaching degree in early childhood and teaching experience, conducted the PLS-5 Screening Test assessment. She was trained by the third author who is a native English speaker with a PhD in psychology. The assessment took place in a quiet place in the childcare centres. The assessor first established rapport with each child before administering the test. Children who were shy were often accompanied by childcare teachers during the testing

session to help them feel more relaxed. Administration, recording of responses, and scoring followed the procedures outlined in the PLS-5 Screening Test Manual.

Mandarin proficiency test. The Receptive and Expressive Vocabulary Test (REVT) (Huang, Jian, Zhu, & Lu, 2010) is a norm-referenced measure assessing Mandarin proficiency of children aged 3-6 years. It is administered individually and assesses expressive and receptive skills. Each age range has its own test form and the present study used three forms (three, four and five years) according to the participants' ages. Cronbach's alphas of the three forms in the present study were .95, .98 and .97. The REVT was administered in the childcare centres by the first author who is a native Mandarin speaker with extensive language testing and early childhood research experience.

Scoring

Scoring was conducted in accordance with the instructions provided by the PLS-5 Screening Test (Zimmerman et al., 2012). The first author transferred all the scores of the participants from the record forms into Excel spreadsheets. The Articulation section was coded 1 for *pass* when a 3-year-old child correctly pronounced five or more phonemes and a 4- and 5-year-old child correctly pronounced eight or more phonemes. Otherwise, the child was coded as 0 for *fail*. The Language sections of 3- and 4-year-olds had five subsections and the language section of 5-year-olds had six subsections (see Table 1). Based on the criterion of the test, each subsection was coded as 1 for *pass* and 0 for *fail*. The overall Language section was coded as 1 for *pass* when a 3- and 4-year-old child passed four or more subsections and a 5-year-old child passed five or more subsections. Otherwise, the child was coded as 0 for *fail*. The other four sections of Connected Speech, Social/Interpersonal, Fluency and Voice were coded as 1 for *pass* and 0 for *fail* according

to the criterion provided in the test. Finally, the performance (i.e., *pass* or *fail*) of each of the six sections was recorded in the Screening Summary.

Results

We use *pass rate* to report our results. Pass rate refers to the percentage of children who passed a particular task. For instance, 17 out of the 25 3-year-olds correctly produced the word *pan/pot*, so the pass rate for this task is 68%. We will focus on two sections of the PLS-5 Screening Test in the following analyses because of low pass rates. These include the phonemes of Articulation section and the subsections of Language section. The pass rates of Connected Speech, Social/Interpersonal, Fluency and Voice were relatively stable and high (68-92% for the 3-year-olds; 82-93% for the 4-year-olds; and 78-94% for the 5-year-olds). We will not report these sections in detail because they are not the interest of this paper (i.e., examining typical errors). In the following sections, we will report first on the phonemes in Articulation with pass rates less than 60% and then on subsections in Language with pass rates less than 60%. It should be noted that the selection of the criterion of less than 60% pass rate is an arbitrary decision. The PLS-5 Screening Test does not provide percentile scores on the normative sample. In the final analysis, we examine whether children's length of time in childcare predicts overall performance of the PLS-5 Screening Test (i.e., number of passes of the six sections).

Articulation

The pass rates of Articulation were 84%, 82%, and 72% for the 3-, 4- and 5-year-olds respectively. The ranges of the pass rates of the phonemes were 60-92% for the 3-year-olds, 68-100% for the 4-year-olds, and 28-100% for the 5-year-olds (see Table 2).

The 3-year-olds had one phoneme, i.e., /g/ in the final consonant in *dog*, of which the pass

rate was just 60%. A typical wrong response was deletion of the final consonant, i.e., /dɒg/ produced as /dɔ/. The 4-year-olds did not have any items of which the pass rates were below 60%. The 5-year-olds had one item /θ/, the word final consonant in *teeth* of which the pass rate was only 28% (see Table 2). A typical wrong response to *teeth* was /s/ substitution, i.e., /ti:θ/ produced as /ti:s/.

Table 2

Pass Rates of the Phonemes in Articulation across Three Age Groups

3-year-olds		4-year-olds		5-year-olds	
sound	%	sound	%	sound	%
<u>p</u> an/pot	68	<u>p</u> an/pot	86	<u>sh</u> oe	72
<u>d</u> og	88	dog	75	<u>l</u> ight/lamp	83
dog	60	<u>m</u> onkey	100	<u>s</u> un	100
<u>m</u> onkey	88	mon <u>k</u> ey	100	<u>ch</u> icken	89
mon <u>k</u> ey	92	<u>t</u> eeth	93	hor <u>s</u> e	83
<u>t</u> eeth	80	<u>f</u> eather	82	<u>f</u> eather	100
<u>h</u> orse	84	<u>sh</u> oe	68	feath <u>er</u>	89
<u>f</u> eather	68	<u>ch</u> icken	89	teeth	28
		hor <u>s</u> e	82	<u>car</u>	94
		<u>l</u> ight/lamp	86	<u>red</u>	94

Language

The pass rates for Language were 44%, 32%, and 33% for the 3-, 4- and 5-year-olds respectively. This section has a set of subsections, each made up of several questions. We only report the subsections of which the pass rates were below 60%. When a subsection had a pass rate higher than 60%, we then checked whether any individual question within the subsection had a pass rate below 60%.

3-year-olds

Figure 1 shows the pass rates of the five subsections among the 3-year-olds. Two subsections had a pass rate below 60%: *using plurals* and *producing a four-to-five word sentence*. *Using plurals* was by far the most difficult subsection because it had the lowest pass rate (8%) among the five subsections of the language measure. Though the subsection *naming a variety of pictured objects*, designed to measure expressive vocabulary, had a pass rate higher than 60%, two questions in this subsection were particularly challenging: *scissors* and *refrigerator/fridge* with a pass rate of 40% and 19% respectively.

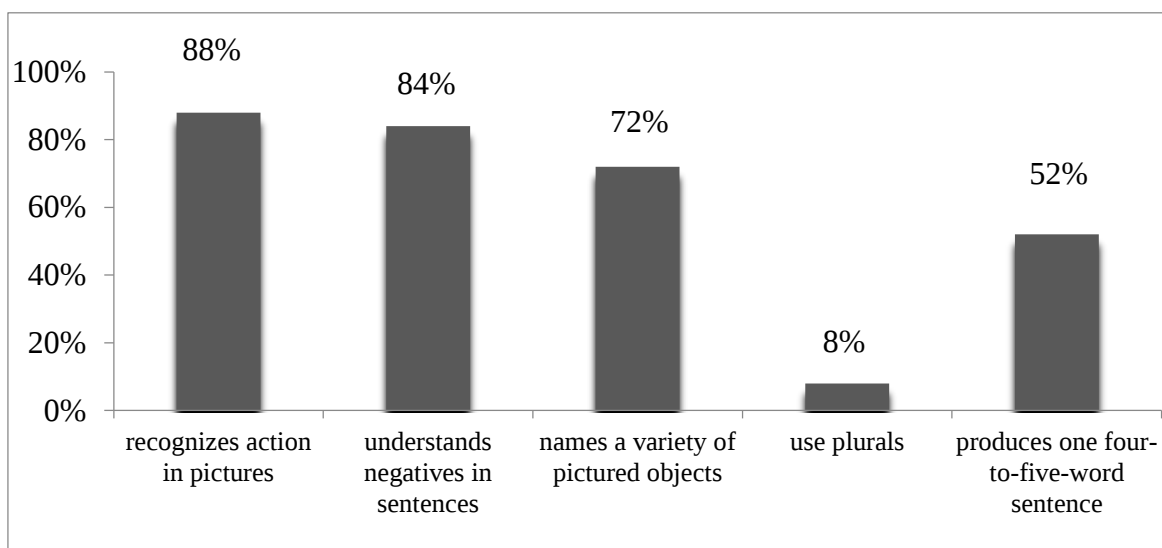


Figure 1. Pass rates of 3-year-olds in Language (n = 25)

4-year-olds

Figure 2 shows the pass rates of the five subsections among the 4-year-olds. Two subsections had a pass rate below 60%: *understanding pronouns* and *telling how an object is used* (i.e., *What do you do with a coat/towel/cup?*). Though the subsection *answering questions about hypothetical questions* had a pass rate higher than 60%, two questions in

this subsection had a pass rate lower than 60%: *What would you do if you felt sick* (54%) and *What would you do if you want to play with your friend's toy* (50%).

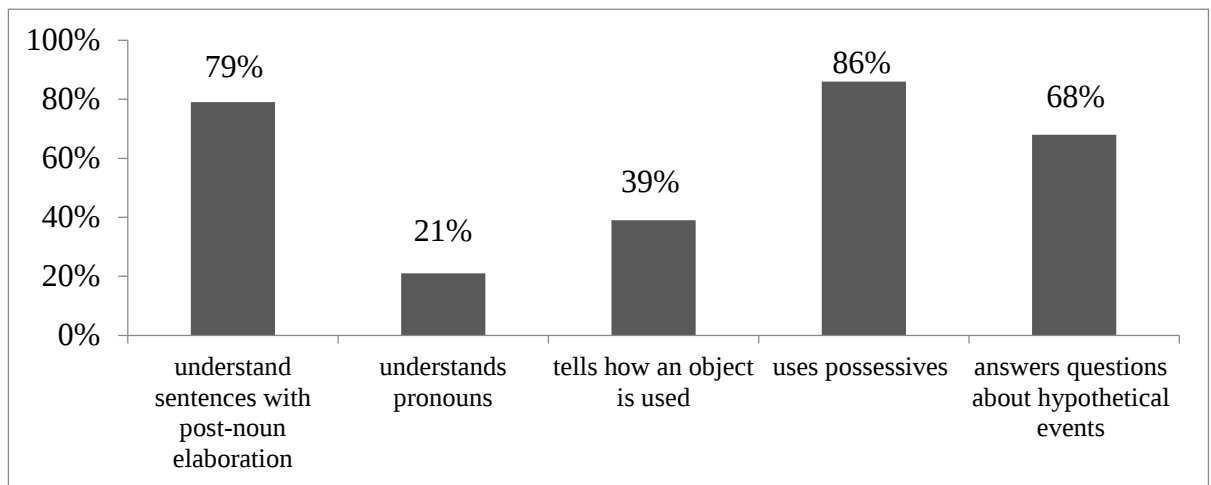


Figure 2. Pass rates of 4-year-olds in Language (n = 28)

5-year-olds

Figure 3 shows the pass rates of the six subsections among the 5-year-olds. Three subsections had a pass rate below 60%: *using possessive pronouns*, *formulating meaningful sentences*, and *using modifying noun phrases*. Specifically, on *using possessive pronouns*, most children used nouns such as *boy/boy's* and *girl/girl's* instead of using pronouns of *his* or *her/hers* as the instructions prompted. The subsection *formulating meaningful sentences* had four questions and all of them contained pronouns such as *she*, *her*, and *he*. For the subsection *using modifying noun phrases*, most children just pointed to the pictures instead of asking questions. For instance, the assessor instructed “*Here are two cars. Tell me which car to point to. Say, point to...*” The children then pointed to a particular car instead of asking the assessor to do so (e.g., *point to the dirty car*). This indicates the children had trouble not only in modifying noun phrases but also in correctly understanding the assessor's instructions.

Though the subsection of *naming categories* had a pass rate higher than 60%, two questions had a pass rate lower than 60%: naming categories, i.e., *Cereal, orange, mashed potatoes, pizza: these are all...* (56%) and *Water, milk, juice, cordial: these are all...* (56%). The two questions were difficult possibly because some items such as *cereal, mashed potatoes* and *cordial* are western food and drinks (Kim, Thompson, & Penm, 2010) and may be unfamiliar to Chinese children.

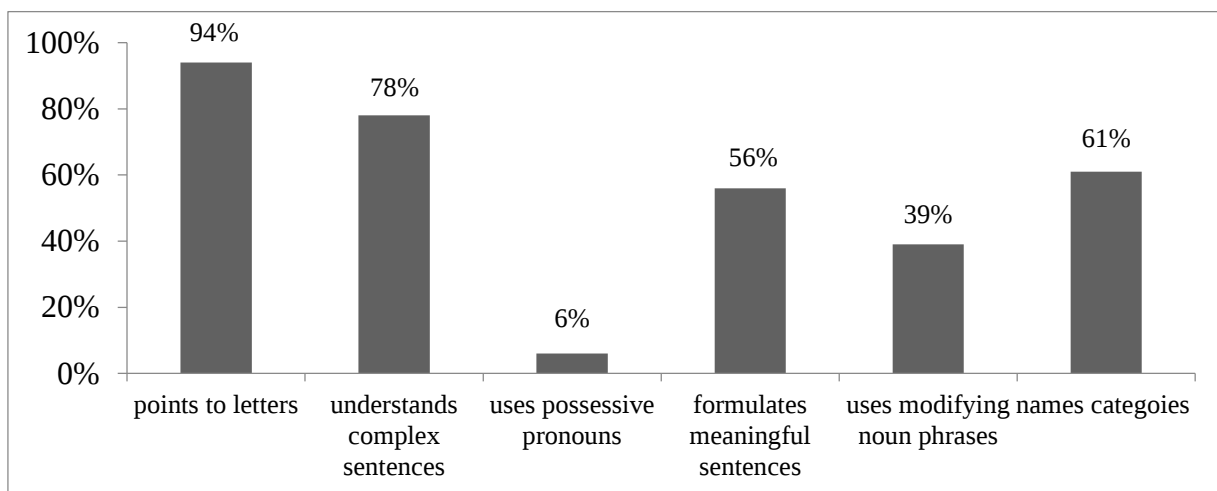


Figure 3. Pass rates of 5-year-olds in Language (n = 18)

Screening Summary

The Screening Summary records the number of *passes* of the six sections: Articulation, Language, Connected Speech, Social/Interpersonal, Fluency, and Voice. A child passes the PLS-5 Screening Test if he or she passes all the six sections and should be referred to additional assessment if he or she fails any of the six sections. Among the 71 children in the present study, 21 children (29.6%) passed all the sections of the PLS-5 Screening Test but the majority of the children (70.4%) failed at least one section of the test.

To investigate whether length of time in childcare was related to performance on the PLS-5 Screening Test, we plotted *number of passes* (i.e., 0-6) of the six sections by *length*

of time in childcare in months and regressed the former on the latter as shown in Figure 4.

The result indicates that length of time in childcare positively predicts number of passes, $b = 0.5$, $p = .002$.

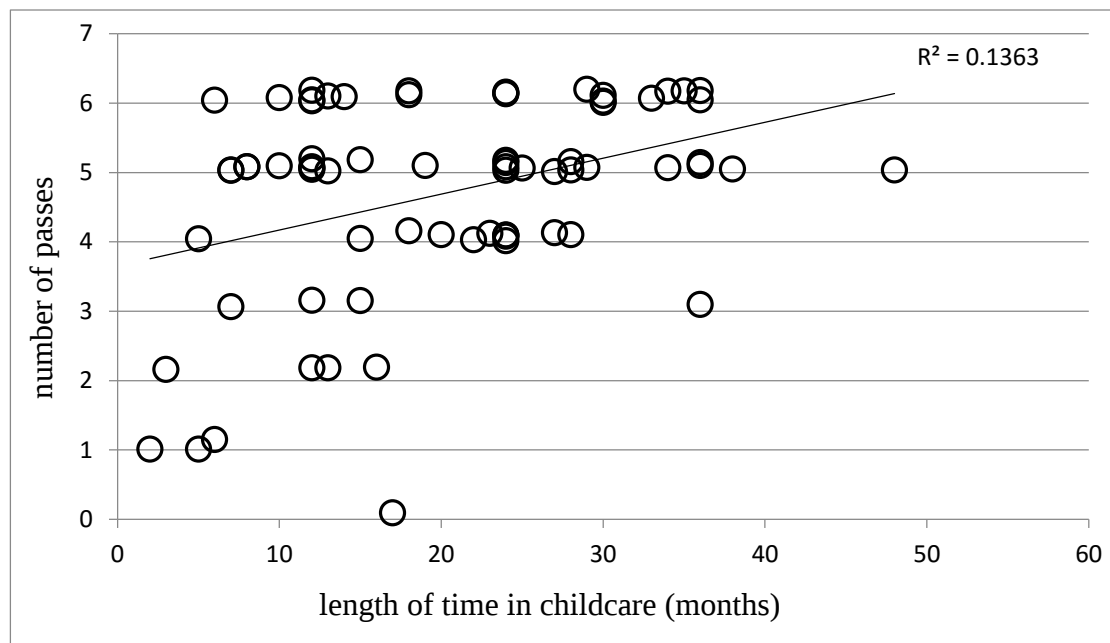


Figure 4. Relationship of length of time in childcare and number of passes of the six sections in the PLS-5 Screening Test

Discussion

The main aim of the present study was to explore typical errors made by Mandarin-speaking children as measured by the PLS-5 Screening Test. Consistent with our hypotheses, the most salient difficulties Mandarin-speaking children displayed were on word final consonants that do not occur in Mandarin, plurals, personal pronouns, and items embedded with autonomy. Their length of attending childcare positively predicts the number of passes of the six sections of the PLS-5 Screening Test.

Our results suggest that when producing a word final consonant that does not occur in Mandarin, children will typically use deletion or substitution. In the 3-year-olds, the final consonant/g/ in *dog* is deleted. This finding is consistent with other studies that

reported word final consonant deletion among Mandarin-English bilingual children and adults (Broselow & Xu, 2004; En et al., 2014; Lin & Johnson, 2010). In the 5-year-olds, the final consonant of *teeth* is substituted with /s/ (*tees*). In both cases, the Mandarin children's pattern of performance is consistent with much younger English monolinguals (Kirk, 2008; McIntosh & Dodd, 2008).

Regarding the difficulties with plurals, while it is consistent with previous studies with older Mandarin-speaking children (Jia, 2003; Lin & Johnson, 2010), the children in our study were much younger. Few studies have examined this group of preschoolers. While typically developing English monolingual children have mastered plural morphology by three years of age (Brown, 1973; Lahey, Liebergott, Chesnick, Menyuk, & Adams, 1992), only 8% of the 3-year-olds in the present study demonstrated mastery of English plurals (see Figure 1). The poor mastery may also be due to pronunciation variations in the plurals measured. The PLS-5 Screening Test uses three allomorphs in testing plurals: /z/ (*babies*), /s/ (*cats*) and /əz/ (*horses*). Different plural allomorphs may have increased difficulties for Mandarin-speaking children, whose first language does not use inflectional grammar to mark plurals.

Comprehension and production of personal pronouns also proved to be very challenging to the Mandarin-speaking children. The difficulties were not only reflected in the language tasks that directly measured personal pronouns (e.g., *understanding pronouns* among the 4-year-olds and *using possessive pronouns* among the 5-year-olds), but also may be embedded in the other language tasks, for example, *formulating meaningful sentences* among the 4-year-olds, which had four questions all containing personal pronouns. Mandarin-speaking children's preference for nouns and proper names

to personal pronouns (Qi, 2010) was also supported in the present study. Instead of using pronouns such as *his* or *her/hers*, the children used *boy/boy's* or *girl/girl's* when performing the task of *using possessive pronouns*. Third personal pronouns tend to be difficult for young children because third personal pronouns represent someone else out of the speech situations (Huxley, 1970). A study with monolingual English-speaking children aged 3-7 years has shown that stable correct comprehension of third personal pronouns appears at age five, with improvement through ages six and seven (Scholes, 1981). Therefore tasks with pronouns are especially difficult for Mandarin-speaking young children.

Difficulties with language items that refer to behaviours that encourage autonomy are demonstrated by large percentages of children who failed to answer self-care language tasks. More than 60 percent of the 4-year-olds could not answer what they could do with a *coat/towel/cup*. Nearly 50 percent of children could not correctly answer the questions about *what they would do if they felt sick*, and more than 60 percent of the 3-year-olds could not correctly name *scissors* and *a fridge*. Chinese children are rarely encouraged to do self-care or family-care tasks such as putting on a coat, opening a fridge, taking medicine or going to bed when being sick. As a result, they may not have rich or in-depth language experience in these terms and hence were unable to answer the questions. Also, many of these items and tasks that appear on the test are not items or tasks children may be exposed to in a childcare situation. For example, children may not know the English word *fridge*.

Implications and limitations

There are at least three implications of the findings of the study. First, early childhood educators and psychologists need to be mindful of the potential for over-referral of Mandarin-speaking children based on the PLS-5 Screening Test. Though the majority of the children in this study did not pass the PLS-5 Screening Test, interpretation of typical errors indicates that the problems were mainly associated with interference by their first language Mandarin. Second, it is recommended that early childhood educators and psychologists using the PLS-5 Screening Test with children from a Mandarin-speaking background need to check error patterns and consider whether they are consistent with the typical errors reported here when interpreting the test results. If referral is made for additional speech and language assessment, it is recommended that the full test results, not just the Screening Summary (which only shows a pass or a fail) be provided. The full test form makes it possible to check in detail the child's performance on individual items and look for typical errors. Ideally, information on time spent in an English speaking childcare context should also be included. Third, we observed that some children were shy and needed their educators' presence during testing. This was in contrast to many Euro-Australian children who can sit alone for a language assessment. We recommend additional time for building rapport when using the PLS-5 Screening Test with Mandarin-speaking children.

Although the present study provides useful evidence for developing a guideline on using the PLS-5 Screening Test when assessing Mandarin-speaking children's language skills, there are at least two limitations to be noted. First, the assessment was not recorded with a digital recorder or camera. Digital recording would provide more detailed data.

Nevertheless, our method of recording was consistent with standard PLS-5 Screening Test administration. Second, our sample was fairly small in size and homogeneous in socioeconomic background. Seventy-five percent of the parents had a bachelor degree or higher, which indicates that most children come from socioeconomically advantaged backgrounds. To provide more comprehensive data, future research should consider a larger participant population and recruit children from diverse socioeconomic backgrounds.

References

- Australian social trends. (2013). Retrieved 10 May, 2015, from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Main+Features30April+2013>
- Bedore, L. M., & Peña, E. D. (2008). Assessment of bilingual children for identification of language impairment: Current findings and implications for practice. *International Journal of Bilingual Education and Bilingualism*, 11(1), 1-29. doi: 10.2167/beb392.0
- Broselow, E., Chen, S.-I., & Wang, C. (1998). The emergence of the unmarked in second language phonology. *Studies in Second Language Acquisition*, 20(02), 261-280. doi: 10.1017/S0272263198002071
- Broselow, E., & Xu, Z. (2004). Differential difficulty in the acquisition of second language phonology. *International Journal of English Studies*, 4(2), 135-163.
- Brown, C. (1973). *A first language*. Cambridge, MA: Harvard University Press.
- Cooke, F. L., Zhang, J., & Wang, J. (2013). Chinese professional immigrants in Australia: A gendered pattern in (re)building their careers. *The International Journal of Human Resource Management*, 24(13), 2628-2645. doi: 10.1080/09585192.2012.750615
- En, L. G. W., Brebner, C., & McCormack, P. (2014). A preliminary report on the English phonology of typically developing English–Mandarin bilingual preschool Singaporean children. *International journal of language & communication disorders*, 49(3), 317-332. doi: 10.1111/1460-6984.12075

- Hansen, J. (2001). Linguistic constraints on the acquisition of English syllable codas by native speakers of Mandarin Chinese. *Applied Linguistics*, 22(3), 338-365. doi: 10.1093/applin/22.3.338
- Hua, Z., & Dood, B. (2000). The phonological acquisition of Putonghua (Modern Standard Chinese). *Journal of Child Language*, 27(01), 3-42. doi: 10.1017/S030500099900402X
- Huang, R., Jian, X., Zhu, L., & Lu, L. (2010). *Receptive and expressive vocabulary test*. Taipei: Psychological Publishing Company.
- Huxley, R. (1970). The development of the correct use of subject personal pronouns in two children. . In G. B. Flores D'Arcais & W. J. M. Levelt (Eds.), *Advances in psycholinguistics* (pp. 141-165). Amsterdam North-Holland.
- Jia, G. (2003). The acquisition of the English plural morpheme by native Mandarin Chinese-speaking children. *Journal of Speech, Language, and Hearing Research*, 46(6), 1297-1311. doi: 10.1044/1092-4388(2003/101)
- Jia, G., Aaronson, D., & Wu, Y. (2002). Long-term language attainment of bilingual immigrants: Predictive variables and language group differences. *Applied Psycholinguistics*, 23(04), 599-621. doi: 10.1017/S0142716402004058
- Keller, H., Abels, M., Borke, J., Lamm, B., Yanjie Su, Yifang Wang, & Lo, W. (2007). Socialization environments of Chinese and Euro-American middle-class babies: Parenting behaviors, verbal discourses and ethnotheories. *International Journal of Behavioral Development*, 31(3), 210-217. doi: 10.1177/0165025407074633
- Kim, M., Thompson, N., & Penm, J. (2010). Recent trends in Australia's food trade. *Australian Commodities*, 17(2), 347-359.

- Kirk, C. (2008). Substitution errors in the production of word-initial and word-final consonant clusters. *Journal of Speech, Language, and Hearing Research*, 51(1), 35-48. doi: 10.1044/1092-4388(2008/003)
- Lahey, M., Liebergott, J., Chesnick, M., Menyuk, P., & Adams, J. (1992). Variability in children's use of grammatical morphemes. *Applied Psycholinguistics*, 13(03), 373-398. doi: 10.1017/S0142716400005683
- Lin, L., & Johnson, C. J. (2010). Phonological patterns in Mandarin-English bilingual children. *Clinical Linguistics & Phonetics*, 24(4-5), 369-386. doi: 10.3109/02699200903532482
- Liu, M., Chen, X., Rubin, K. H., Zheng, S., Cui, L., Li, D., . . . Wang, L. (2005). Autonomy- vs. connectedness-oriented parenting behaviours in Chinese and Canadian mothers. *International Journal of Behavioral Development*, 29(6), 489-495. doi: 10.1080/01650250500147063
- Lu, Y., Samaratunge, R., & Härtel, C. E. J. (2012). The relationship between acculturation strategy and job satisfaction for professional Chinese immigrants in the Australian workplace. *International Journal of Intercultural Relations*, 36(5), 669-681. doi: 10.1016/j.ijintrel.2012.04.003
- Luo, R., Tamis-LeMonda, C. S., & Song, L. (2013). Chinese parents' goals and practices in early childhood. *Early Childhood Research Quarterly*, 28(4), 843-857. doi: 10.1016/j.ecresq.2013.08.001
- McIntosh, B., & Dodd, B. J. (2008). Two-year-olds' phonological acquisition: Normative data. *International Journal of Speech-Language Pathology*, 10(6), 460-469. doi: 10.1080/17549500802149683

- Qi, R. (2010). Pronoun acquisition in a Mandarin— English bilingual child. *International Journal of Bilingualism*, 14(1), 37-64. doi: 10.1177/1367006909356649
- Ren, Y., Wyver, S., Xu Rattanasone, N., & Demuth, K. (2015). Social competence and language skills in Mandarin–English bilingual preschoolers: The moderation effect of emotion regulation. *Early Education and Development*, 1-15. doi: 10.1080/10409289.2015.1066639
- Scholes, R. J. (1981). Developmental comprehension of third person personal pronouns in English. *Language & Speech*, 24(1), 91-98.
- Verdon, S., McLeod, S., & Winsler, A. (2014). Language maintenance and loss in a population study of young Australian children. *Early Childhood Research Quarterly*, 29(2), 168-181. doi: 10.1016/j.ecresq.2013.12.003
- Zimmerman, I. L., Steiner, V. G., & Pond, R. E. (2012). *Preschool language scales, fifth edition – Australian and New Zealand language adapted edition (PLS-5)*. Camberwell VIC, Australia: Pearson Australia Group.

Chapter 8 Relationships between proficiency with grammatical morphemes and emotion regulation: A study of Mandarin-English preschoolers

This paper is in preparation for submission as a research note to the journal *Bilingualism: Language and Cognition* for consideration of publication

Relationships between proficiency with grammatical morphemes and emotion
regulation: A study of Mandarin-English preschoolers

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Abstract

This study examined how proficient Mandarin-English bilingual preschoolers were in grammatical morphemes of plurals, third person singular present tense and regular past tense and whether emotion regulation was positively associated with proficiency in these morphemes. Eighteen Mandarin-English bilingual children aged 48-64 months participated. The grammatical morphemes were measured with elicitation and emotion regulation with the Emotion Regulation Checklist and the Disappointing Gift task. As expected, children had difficulties with grammatical morphemes. Grammatical morpheme proficiency was positively associated with emotion regulation. The findings indicate importance of considering emotion regulation when helping bilingual children acquire grammatical morphemes.

English morphemes of plurals and tense tend to be challenging for Mandarin-English bilingual school-aged children (Jia, 2003; Jia & Fuse, 2007; Li, 2012; Nicoladis, Song, & Marentette, 2012). It is important to extend such research to preschoolers. The majority of children in English speaking countries are involved in educational instruction through child care and an important role of early education is to facilitate language development, particularly in preparation for school (Cabell, DeCoster, LoCasale-Crouch, Hamre, & Pianta, 2013). Currently, there is limited information to support development of language instruction for Mandarin-English bilingual preschoolers and there is no research which has examined differences in children to determine whether individual characteristics may play a role in responsiveness to opportunities to learn English in an educational context. The present study examined Mandarin-English bilingual preschoolers' proficiency in English morphemes of plurals and tense with elicitation tasks and investigated whether an individual characteristic, emotion regulation, is positively associated with proficiency in the morphemes.

Emotion regulation is “the process of initiating, maintaining, modulating, or changing the occurrence, intensity, or duration of internal feeling states and emotion-related physiological processes, often in the service of accomplishing one’s goals” (Eisenberg, Fabes, Guthrie, & Reiser, 2002, p. 48). Saarni (1999) points out that language is important to emotional competence because language provides a means of representing emotional experience. With access to mental representations of emotional experience, children can “further elaborate on them, integrate them across contexts, and compare them with others’ representations about emotional experience” (Saarni, 1999, p. 131). This elaboration, integration and comparison contribute to better emotional understanding.

Children who have better emotional understanding are more likely to regulate emotions effectively (Denham et al., 2003). In addition, language also makes it possible for children to participate in child-adult interactions which help develop children's emotion regulation abilities (Fujiki, Spackman, Brinton, & Hall, 2004). Through adults sharing of emotional experience and modelling of emotion regulation, children build their own repertoire of emotion regulation strategies suitable for various social contexts.

Nevertheless, it seems emotion regulation also contributes to language development. Children with better emotion regulation abilities may benefit from social interactions and elicit more complex language from peers and adults (Eisenberg, Sadovsky, & Spinrad, 2005). By contrast, children with poorer emotion regulation abilities may have reduced quantity and quality of language exchange (Fujiki et al., 2004). Children who cannot calm emotions or easily become frustrated may often be difficult conversational partners. They are likely to be rejected by peers and lose opportunities to develop language skills.

There is empirical evidence showing that emotion regulation is positively associated with language skills. African American preschoolers aged 42-65 months who have lower emotion regulation abilities also have poorer vocabulary scores but those who can refrain from overexcitement have higher vocabulary scores (Mendez, Fantuzzo, & Cicchetti, 2002). Similarly, children aged 33-70 months from economically disadvantaged families have higher vocabulary scores when they display higher emotion regulation abilities (Cohen & Mendez, 2009). Among Spanish-English bilingual children aged 4-5 years, emotion regulation is positively associated with English oral language (Oades-Sese, Esquivel, Kaliski, & Maniatis, 2011).

All these studies focus on vocabulary or oral language skills and emotion regulation. However, to our knowledge there is no study focusing on the relationships between proficiency in English grammatical morphemes (e.g., plurals and tense) and emotion regulation. Based on previous research, it seems likely that emerging or difficult areas of language development will be positively associated with emotion regulation. In the present study, the aspect of language development we were interested in was morpheme use which is likely to be difficult for Mandarin-English bilingual children.

According to Eisenberg et al. (2005), both language skills and emotion regulation contribute to social competence and it is useful to consider social competence when examining relationships between language skills and emotion regulation. Our previous study with Mandarin-English bilingual preschoolers indicates that English skills are positively associated with social competence and emotion regulation changes the strength of the associations between the two factors (Ren, Wyver, Xu Rattanasone, & Demuth, 2016). This suggests that it is important to check levels of social competence when investigating relationships between language skills and emotion regulation.

Methods

Participants

Twenty-four children who spoke Mandarin at home were recruited from seven childcare centres located in northwest Sydney. All the children were required to be at least four years old and have attended childcare at least one year for the purpose that they had appropriate exposure to English environment. However, six children were excluded because their English score (see *English proficiency test* below) was below 70% and it seemed likely they did not have sufficient English to understand the instructions for other

tests presented, including testing of morpheme proficiency. This left eight girls and 10 boys, aged 48 to 64 months ($M = 56.17$, $SD = 4.60$). Their parents all came from mainland China. Six children were first generation (born in China) and 12 second generation (born in Australia but their parents were born in China). The primary caregivers were mother and father ($n = 8$), mother ($n = 6$), grandparents ($n = 2$), and mother and grandparent ($n = 2$). Seventeen primary caregivers had a bachelor degree or higher.

Measures

Test of inflectional morphemes. At present, there are no standardised tests designed specifically for plurals, third person singular present tense and regular past tense. The second, third and fourth authors of this paper developed a test of inflectional morphology (TIM) measuring plurals, third person singular present tense and regular past tense. A total of 30 real words, 10 in each type, familiar to preschoolers were selected. For the full list of the 30 words tested, please see Table 1. For the plurals, half the items were segmental plurals realised as /s/ (e.g., *cats*) and /z/ (e.g., *dogs*) and half syllabic plurals /əz/ (e.g., *horses*). Present tense also contained half segmental -s realised as /s/ (e.g., *hops*) and /z/ (e.g., *hugs*) and half syllabic past tense /əs/ (e.g., *washes*). All items in the past tense condition ended in /əd/ (e.g., *knocked*).

Table 1

Words Included in Test of Inflectional Morphemes

Plurals	Present tense	Past tense
dogs	hugs	hooted
bags	races	washed
horses	hops	batted
cats	wishes	guarded
roses	teaches	hopped
hats	digs	waited
noses	reads	hugged
houses	washes	knocked
beds	sits	wished
buses	watches	potted

Test pictures stored in a laptop were used as stimuli. A typical task testing a plural form is that the tester pointed to a picture of a dog in the laptop and said “*Here is a dog*” and then asked “*These are ...*” while pointing to the next picture containing several dogs. The child was scored correct when the plural form was articulated. A typical task testing present tense is that the tester pointed to a picture and questioned “*She likes to jog. She does it every day. What does she do every day?*” The child was scored correct when the answer contained “jogs” such as *She **jogs** (every day)* or *(The) woman/person **jogs** (every day)*. A typical task testing past tense is that the tester pointed to a picture and asked “*She likes to wave. She does it every day. What did she do yesterday?*” The child was scored correct when the answer contained “waved” such as *She **waved** (yesterday)* or *(The) child **waved** (yesterday)*. Cronbach’s alpha score for the TIM was .88. The TIM was administered by the fourth author of this paper when she finished administering the

Preschool Language Scales (5th edition) Screening Test (see *English proficiency test* below).

Emotion Regulation. The Emotion Regulation Checklist (ERC) (Shields & Cicchetti, 1997) and the Disappointing Gift (DG) task (Saarni, 1984) were used to measure emotion regulation. The childcare educators were asked to rate the ERC. The scale has two subscales: Emotion Regulation and Lability/Negativity. This study used the subscale of Emotion Regulation, which assess empathy, equanimity and emotional understanding. Cronbach's alpha for this subscale was .83.

The first author conducted the DG task in Mandarin as the language was the children's preferred language. Prior to administration of the Mandarin proficiency test (see below) in childcare center, the child was told s/he would receive “很酷的礼物” (*a very cool gift*) as a reward for completing the test. After the test, the child was offered a box containing a scrap of wood and asked to open it to get the gift. One minute after exposure to the undesired gift, the assessor pretended to realize that he brought a wrong gift and then presented a package of desirable gifts and asked the child to choose one. The whole procedure was video-recorded for 3-5 minutes. The first author coded the DG task into three categories: positive, negative, and neutral according to the coding system developed by Saarni (1984). The coding began when the child saw the scrap of wood and finished 30-40 seconds later when the child had no more response to the wood. A Mandarin speaking PhD candidate who was blind of the first author's coding coded the data after training. Inter-coder reliability (i.e., Cohen's kappa) ranged from .63 to .82. Coding disagreement was resolved through discussion. Cronbach's alpha score for the DG

was .79. This present study only used the DG positive category, which measures emotion regulation.

English proficiency test. The Preschool Language Scales (5th edition) Screening Test (PLS-5 Screening Test) (Zimmerman, Steiner, & Pond, 2012) was used to assess English proficiency. It is a standardised screening criterion developed to assess auditory comprehension and expressive communication in English for children from birth to seven years. It is individually administered and each child takes about 6-10 minutes. The test has different forms for different age groups and the present study used two forms (four and five years). Cronbach's alpha was .83. The PLS-5 Screening Test was administered in quiet places in childcare centres by an English native speaker who has a master degree in linguistics.

Mandarin proficiency. The Receptive and Expressive Vocabulary Test (REVT) (Huang, Jian, Zhu, & Lu, 2010) is a standardised measure assessing Mandarin proficiency of children aged 3-6 years. The test has different test forms for different age groups and the present study used two forms (i.e., four and five years). The test is individually administered and each child takes 20-25 minutes to finish. Cronbach's alphas were .91 in the present study. The REVT was administered in the childcare centers by the first author who is a native Mandarin speaker with extensive language testing experience.

Social competence. The Teacher Rating Scales of the Behaviour Assessment System for Children-2 (BASC-2) (Reynolds & Kamphaus, 2004) for 2-5 year olds was used to measure social competence. The BASC-2 is a standardised measure and assesses both adaptive and maladaptive behaviours. It has four composites measuring 11 behaviours: Externalizing (hyperactivity and aggression), Internalizing (anxiety, depression, and

somatization), Behavioural Symptoms (hyperactivity, aggression, atypicality, withdrawal, and attention problems), and Adaptive Skills (adaptability, social skills and functional communication). Cronbach's alpha score for the BASC-2 was .92 in this study.

Procedures

The first author contacted the childcare directors and explained the purposes of the present study and intention to recruit children who spoke Mandarin at home. After parents and childcare educators gave written consent, demographic questionnaires were forwarded to parents to complete. At the same time, the REVT was administered in the childcare centres. A week later, the PLS-5 Screening Test and the TIM were administered in the childcare centres. Nine educators from the seven centres were involved in rating the ERC and the BASC-2. All the educators were female and spoke English and one educator had a basic functional use of Mandarin. All the educators had experience of working with children from immigrant backgrounds and had at least a certificate in early childhood education required as the minimal qualification by the state government. All the educators reported they only spoke English in the childcare centres. According to educators' reports, the proportion of Mandarin-speaking children ranged 25-40% across the seven centres. The educators were compensated twenty Australian dollars per child rated.

Results

As can be seen from Table 2, the participants were within the normal range or better for English and social competence (Externalizing, Internalizing, Behavioural Symptoms, Adaptive Skills). One child scored two standard deviations below the mean in the Mandarin proficiency test but was included because she was confident in use of Mandarin when interacting with the first author. The mean score was below 30% (3/10) for each

morpheme with the median score being zero for past and present tense. Further examination shows that 38.9%, 66.7% and 66.7% of the participants scored zero correct in plurals, third personal singular tense and regular past tense respectively. The children's ratings on ERC Emotion Regulation were higher than those on DG positive category. The mean score of the former (i.e., 26.22) was close to the maximum score of 32 but the mean score of the latter (i.e., 2.06) is distant from the maximum score of 5.

Table 2

Descriptive Statistics of English Scores, Mandarin Scores, the Four Composites of the Social Competence Questionnaire, Plurals, Present Tense, Past Tense, ERC and DG.

	<i>M</i>	<i>SD</i>	Median	Minimum	Maximum
Length of time in childcare (months)	27.00	11.76	24.00	12.00	48.00
English	87.78	10.09	88.00	74.00	100.00
Mandarin	87.61	10.92	87.50	66.00	111.00
Externalizing	51.06	7.38	50.00	41.00	68.00
Internalizing	51.44	7.81	52.50	39.00	71.00
Behavioural Symptoms	49.94	7.37	48.50	41.00	70.00
Adaptive Skills	52.94	5.45	55.00	43.00	64.00
Plurals	2.72	2.80	2.50	.00	9.00
Present tense	1.44	2.73	.00	.00	9.00
Past tense	1.06	2.15	.00	.00	8.00
ERC^ Emotion Regulation	26.22	3.56	26.00	20.00	32.00
DG^^ positive category	2.06	1.59	2.00	.00	5.00

Note. ERC^= Emotion Regulation Checklist; DG^^= Disappointing Gift; *N* = 18

The associations between children's performance on plurals and tense with emotion regulation was tested using a series of Pearson correlations as can be seen in Table 3. The results indicate that ERC Emotion Regulation was positively correlated with present tense

and past tense. ERC Emotion Regulation was not correlated with plurals and DG positive category was not correlated with any of the three morphemes.

Table 3

Pearson Correlations between Morphemes and Emotion Regulation

	ERC^ Emotion Regulation	DG^^ positive category
Plurals	.125	-.432
Present tense	.523*	-.169
Past tense	.489*	-.207

Note. ERC^= Emotion Regulation Checklist, DG^^= Disappointing Gift,

* $p < .05$.

We grouped participants according to the number of conditions from the TIM (i.e., plurals, third person singular present tense and regular past tense) for which they had at least one correct response. There were four categories: no correct scores, at least one correct score in one condition, at least one correct score in two conditions, at least one correct score in three conditions (see Figure 1). While it appears that children who had a correct response in all three categories had higher ERC Emotion Regulation scores, the difference did not reach significance - oneway ANOVA [$df(3,14)$ $F = 3.309$, $p = .051$].

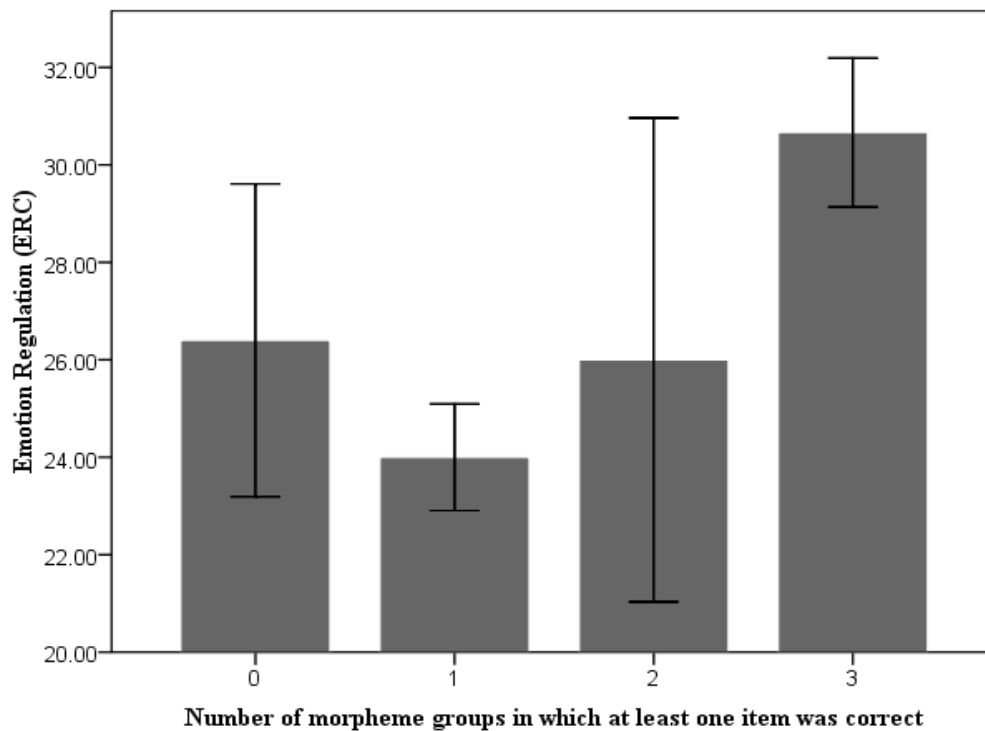


Figure 1. Mean scores of ERC Emotion Regulation of four morpheme categories.

Error bars represent standard deviations.

Discussion

The purpose of the present study was twofold: to examine how proficient Mandarin-English bilingual preschoolers were in plurals and tense and whether emotion regulation was positively associated with proficiency in the interested morphemes. All three morphemes of plurals, present and past tense presented significant challenges to the Mandarin-English bilingual children. This is especially the case with present and past tense, in which two thirds of the children scored zero correct out of 10 question items. The findings are consistent with previous studies with older Chinese children (Jia & Aaronson, 2003; Jia & Fuse, 2007; Li, 2012). Difficulties in these morphemes are very likely due to interference from first language Mandarin, in which nouns are not inflected for plurality

and verbs are not inflected for tense (Jia & Fuse, 2007; Nicoladis et al., 2012; Paradis, 2005).

Our findings suggest that the Mandarin-English bilingual preschoolers' performed better on plurals than on present and past tense as indicated by higher mean and median scores in the plural group. This is consistent with previous studies which found more Mandarin-speaking children mastered the use of plurals but fewer children could use present and tense correctly even after five years of English exposure (Jia, 2003; Jia & Fuse, 2007). Data from both longitudinal and cross-sectional studies with monolingual English-speaking children also suggest that plurals are one of the first morphemes but 3rd person singular present tense and regular past tense are one of the last morphemes acquired (Brown, 1973; de Villiers & de Villiers, 1973).

Proficiency in past and present tense was significantly and positively associated with educators' ratings of emotion regulation, but not assessor's direct behavioural observation of emotion regulation. This may be due to the differences between two methods. Educators' ratings (i.e., the ERC) covered a broader range of effective regulation including flexibility, self-control, empathy and emotional understanding (Shields et al., 2001), but direct behavioural observation (i.e., the DG task) measured a narrower range of emotion regulation: masking negative emotions when facing a disappointing situation (Johnson, Walden, Conture, & Karrass, 2010). A positive association between emotion regulation and plurals was not found, but plurals are acquired earlier than tense and plurals were easier than tense for the participants. Analysis of the differences in emotion regulation based on number of morpheme categories in which children scored also

indicated that children who had at least one correct response in all categories were better at regulating emotion, although the comparison did not reach statistical significance.

Regarding positive associations between morpheme proficiency and emotion regulation, it is likely that children with correct use of morpheme may engage in positive social interactions, which in turn may help children develop and implement appropriate strategies to deal with emotions (Fujiki et al., 2004). Nevertheless, an explanation from the other way around may also be true. That is, emotion regulation may benefit morpheme learning. As Eisenberg et al. (2005) point out, children with better emotion regulation abilities may be able to elicit more complex conversations from social environments. More complex conversations may provide children more opportunities to perceive grammatical forms and semantic meaning of morphemes and hence help them master their use. It is also possible that additional factors, such as children's personality traits, may be involved in the relationship between morpheme proficiency and emotion regulation. For instance, children with more positive personality traits may make more friends, be exposed to richer language environments, and thus have more chances to develop emotion regulation abilities.

Some limitations of this study include a small sample. The sample size may have limited statistical power and resulted in fewer significant findings (e.g., plurals were not found to be associated with emotion regulation and none of the morphemes was found to be associated with emotion regulation as measured by the DG). The findings need to be replicated with a larger sample size. A large sample size makes it possible to enter all predicting variables into one equation and investigate possible interaction effects between all these predicting variables and demographic factors. Future research may also need to

consider direct classroom observations to investigate how morpheme learning and emotion regulation happen in educational settings and how the factors may mutually affect one another.

Though only providing preliminary data, the present study indicates that emotion regulation may play an important role in second language acquisition. Learning of grammatical morphemes, which do not appear in first language, may take immigrant children extra efforts. Educators can consider emotion regulation in future language and intervention programmes to facilitate immigrant children's morpheme learning.

References

- Brown, C. (1973). *A first language*. Cambridge, MA: Harvard University Press.
- Cabell, S. Q., DeCoster, J., LoCasale-Crouch, J., Hamre, B. K., & Pianta, R. C. (2013). Variation in the effectiveness of instructional interactions across preschool classroom settings and learning activities. *Early Childhood Research Quarterly*, 28(4), 820-830. doi: 10.1016/j.ecresq.2013.07.007
- Cohen, J. S., & Mendez, J. L. (2009). Emotion regulation, language ability, and the stability of preschool children's peer play behavior. *Early Education & Development*, 20(6), 1016-1037. doi: 10.1080/10409280903305716
- de Villiers, J. G., & de Villiers, P. A. (1973). A cross-sectional study of the acquisition of grammatical morphemes in child speech. *Journal of Psycholinguistic Research*, 2(3), 267-278. doi: 10.1007/BF01067106
- Denham, S. A., Blair, K. A., DeMulder, E., Levitas, J., Sawyer, K., Auerbach-Major, S., & Queenan, P. (2003). Preschool emotional competence: Pathway to social competence? *Child Development*, 74(1), 238-256. doi: 10.1111/1467-8624.00533
- Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2002). The role of emotionality and regulation in children's social competence and adjustment. In L. Pulkkinen & A. Caspi (Eds.), *Paths to successful development: Personality in the life course* (pp. 46-70). New York: Cambridge University Press.
- Eisenberg, N., Sadovsky, A., & Spinrad, T. L. (2005). Associations of emotion-related regulation with language skills, emotion knowledge, and academic outcomes. *New Directions for Child and Adolescent Development*, 109, 109-118.

- Fujiki, M., Spackman, M. P., Brinton, B., & Hall, A. (2004). The relationship of language and emotion regulation skills to reticence in children with specific language impairmen. *Journal of Speech, Language, and Hearing Research*, 47, 637-646.
- Huang, R., Jian, X., Zhu, L., & Lu, L. (2010). *Receptive and expressive vocabulary test*. Taipei: Psychological Publishing Company.
- Jia, G. (2003). The acquisition of the English plural morpheme by native Mandarin Chinese-speaking children. *Journal of Speech, Language, and Hearing Research*, 46(6), 1297-1311. doi: 10.1044/1092-4388(2003/101)
- Jia, G., & Aaronson, D. (2003). A longitudinal study of Chinese children and adolescents learning English in the United States. *Applied Psycholinguistics*, 24(01), 131-161. doi: 10.1017/S0142716403000079
- Jia, G., & Fuse, A. (2007). Acquisition of English grammatical morphology by native Mandarin-speaking children and adolescents: Age-related differences. *Journal of Speech, Language, and Hearing Research*, 50(5), 1280-1299. doi: 10.1044/1092-4388(2007/090)
- Johnson, K. N., Walden, T. A., Conture, E. G., & Karrass, J. (2010). Spontaneous regulation of emotions in preschool children who stutter: Preliminary findings. *Journal of Speech, Language and Hearing Research*, 53(6), 1478-1495.
- Li, M.-C. (2012). *The acquisition of tense and agreement by early child second language learners*. (Doctor of Philosophy), University of Illinois at Urbana-Champaign, Urbana, Illinois. (3600696)

- Mendez, J. L., Fantuzzo, J., & Cicchetti, D. (2002). Profiles of social competence among low-income African American preschool children. *Child Development, 73*(4), 1085-1100. doi: 10.2307/3696272
- Nicoladis, E., Song, J., & Marentette, P. (2012). Do young bilinguals acquire past tense morphology like monolinguals, only later? Evidence from French–English and Chinese–English bilinguals. *Applied Psycholinguistics, 33*(03), 457-479. doi: 10.1017/S0142716411000439
- Oades-Sese, G. V., Esquivel, G. B., Kaliski, P. K., & Maniatis, L. (2011). A longitudinal study of the social and academic competence of economically disadvantaged bilingual preschool children. *Developmental Psychology, 47*(3), 747-764. doi: 10.1037/a0021380
- Paradis, J. (2005). Grammatical morphology in children learning English as a second language: Implications of similarities with specific language impairment. *Language, speech, and hearing services in schools, 36*(3), 172-187. doi: 10.1044/0161-1461(2005/019)
- Ren, Y., Wyver, S., Xu Rattanasone, N., & Demuth, K. (2016). Social competence and language skills in Mandarin–English bilingual preschoolers: The moderation effect of emotion regulation. *Early Education and Development, 27*(3), 303-317. doi: 10.1080/10409289.2015.1066639
- Reynolds, C. R., & Kamphaus, R. W. (2004). *Behavior assessment system for children second edition*. Bloomington, MN: Pearson Education, Inc.
- Saarni, C. (1984). An observational study of children's attempts to monitor their expressive behavior. *Child Development, 55*(4), 1504-1513. doi: 10.2307/1130020

- Saarni, C. (1999). *The development of emotional competence*. New York: Guilford Press.
- Shields, A., & Cicchetti, D. (1997). Emotion regulation among school-age children: The development and validation of a new criterion Q-sort scale. *Developmental Psychology*, 33(6), 906-916.
- Shields, A., Dickstein, S., Seifer, R., Giusti, L., Dodge Magee, K., & Spritz, B. (2001). Emotional competence and early school adjustment: A study of preschoolers at risk. *Early Education and Development*, 12(1), 73-96. doi: 10.1207/s15566935eed1201_5
- Zimmerman, I. L., Steiner, V. G., & Pond, R. E. (2012). *Preschool language scales, fifth edition – Australian and New Zealand language adapted edition (PLS-5)*. Camberwell VIC, Australia: Pearson Australia Group.

Chapter 9 Conclusion

The aim of this series of studies was to investigate associations between social competence, emotion regulation, language abilities and cultural orientations among Mandarin-English bilingual preschoolers. The project was motivated by the importance of social competence in social interactions and peer relationships in childcare and a large number of Mandarin-speaking people who migrate to western countries like Australia (Blair, Denham, Kochanoff, & Whipple, 2004; Samaratunge, Lu, & Härtel, 2015; Taborsky & Oliveira, 2012). The project consists of one major study (Study 1, $N = 96$) and one smaller-scale study (Study 2, $N = 18$).

Based on the heuristic model proposed by Eisenberg, Sadovsky, and Spinrad (2005) (see Chapter 1) and previous studies, I raised a series of research questions about associations between emotion regulation, language skills, cultural orientation and social competence. Study 1 was divided into two smaller studies because there were many variables (i.e., positive emotion regulation, emotion dysregulation, English proficiency, Mandarin proficiency, host cultural orientation, heritage language orientation and demographic variables) and the sample size was not large enough to include all the variables. The first smaller study (see Chapter 5) investigated the relationships between emotion regulation, language skills and social competence and the moderation effect of emotion regulation. The second smaller study (see Chapter 6) examined the relationship between cultural orientations and social competence and gender differences.

In addition to the two smaller studies, there is a third part of this PhD project which investigated Mandarin-English bilingual preschoolers' typical errors when tested on the Preschool Language Scales, 5th edition, Screening Test (PLS-5 Screening Test) (see

Chapter 7). This was done for the purpose of providing preliminary evidence of establishing guidelines for later users of the PLS-5 Screening Test with Mandarin-English bilingual children. Study 2 was designed to investigate children's proficiency in the morphemes of plurals and tense and associations between positive emotion regulation and proficiency in the morphemes (see Chapter 8).

In the following sections, I will first discuss the key findings and then present the implications and limitations of this project. Finally I will make suggestions for future research.

Discussion of key findings

Emotion regulation, language skills and social competence

The main findings contribute evidence of the important role emotion regulation plays in the associations between language skills and social competence among children from immigrant backgrounds. Previous studies have found lower levels of English skills are associated with lower social competence among English language learners (Chen & Tse, 2010; Goldfeld & Goldfeld, 2014; Han, 2010; Han & Huang, 2010; Oades-Sese, Esquivel, Kaliski, & Maniatis, 2011), but my findings show that social difficulties may result from the intertwining of deficient host language skills and poor abilities to regulate emotions. Therefore it is important to consider emotion regulation when investigating associations between language skills and social competence. Without including emotion regulation in investigations, the social difficulties immigrant children encounter may not be correctly understood.

The main findings of this study are consistent with the heuristic model proposed by Eisenberg et al. (2005). That is, language skills and emotion regulation make important

contributions to the development of social competence. Nevertheless, my findings suggest that it may be more appropriate to test the moderation rather than the mediation effect of emotion regulation. According to Mackinnon (2011), a moderator is a variable that changes the strength of an association between an independent variable and a dependent variable. My findings suggest that emotion regulation is such a variable. Children with lower emotion regulation abilities tended to rely more on language skills in social competence development than children with higher emotion regulation abilities.

My findings also show that Mandarin proficiency was negatively associated with social competence as demonstrated by its positive association with internalizing behaviours. Given that previous studies found that immigrant children's heritage language proficiency is positively associated with their social competence (Chang et al., 2007; Chen et al., 2014; Oades-Sese et al., 2011; Tannenbaum & Howie, 2002), my findings need to be interpreted with caution and should not be taken as evidence to suppress any effort to boost heritage language education at preschools or schools. The negative association between heritage language proficiency and social competence is likely to be a transitional phenomenon when Mandarin-speaking children first enter educational contexts where English is the instruction language.

Cultural orientations, social competence and gender differences

The General Ethnicity Questionnaires (Tsai, Ying, & Lee, 2000), which were developed for adult self-assessment of cultural orientation, were modified in my study and parents were asked to rate their children's cultural orientation. The key findings demonstrate that host cultural orientation was a significant factor related to social competence among Mandarin-English bilingual preschoolers. The findings are largely

consistent with research conducted with school-aged Chinese children and adolescents (Chen et al., 2014; Chen & Tse, 2010; Juang & Nguyen, 2009) and research conducted with preschoolers from other ethnic backgrounds (Farver & Shin, 1997).

Gender differences were detected in the associations between host cultural orientation and social competence. Host cultural orientation was negatively associated with externalizing behaviours and overall behavioural problems in girls but not in boys. Previous studies with children in preschool years focus on gender differences in problem behaviours. For instance, girls display less externalizing behaviours than boys (Baillargeon et al., 2007; Hay et al., 2011; Lussier, Corrado, & Tzoumakis, 2012). My findings contribute to the existing literature by providing evidence that gender tends to be a factor that modifies the relationship between cultural orientations and social competence, with girls' social competence being more sensitive to their host cultural orientation.

Heritage cultural orientation was not found to be associated with social competence. This is not consistent with previous research with older Chinese children and adolescents which showed that heritage cultural orientation was positively associated with social competence (Chen et al., 2014; Chen & Tse, 2010; Costigan & Dokis, 2006; Juang & Nguyen, 2009). Nevertheless, the finding is comparable with some studies conducted with young immigrants from other ethnic backgrounds, which show that host cultural orientation is a better predictor of sociocultural adjustment than heritage cultural orientation (Oppedal, Røysamb, & Sam, 2004; Ward, Bochner, & Furnham, 2001).

Difficulties Mandarin-speaking children had on particular language aspects in English and associations with positive emotion regulation

The children's performance on the PLS-5 Screening Test in Study 1 and the TIM in Study 2 shows that word final consonants, plurals, tense and personal pronouns presented difficulties to Mandarin-English bilingual preschoolers. These difficulties are very likely due to cross-linguistic interference. Mandarin does not have a consonant at a word final position except for the phonemes /n/ and /ng/ (similar to English words *sin* and *sing*), nouns are not inflected for plurality, verbs are not inflected for tense, and personal pronouns have a much simpler system (Jia, 2003; Lin & Johnson, 2010; Qi, 2010). The analysis of the PLS-5 Screening Test also indicates that language tasks embedded with autonomy were challenging to the Mandarin-speaking children. This finding is interesting as it is generally believed that Chinese parents are less encouraging of autonomy than western parents (Keller et al., 2007; Luo, Tamis-LeMonda, & Song, 2013), but limited research has been conducted to investigate how parenting practices are reflected in child performance on language tests. My finding may be stimulating and has the potential to start a body of research investigating associations between parenting practices and child language acquisition.

Study 2 also indicates that positive emotion regulation was positively associated with proficiency in morphemes, particularly in tense. A possible explanation is that positive emotion regulation may help children be more engaged in childcare educators' instructions and peer interactions, which benefit their language acquisition, including morpheme learning. Nevertheless, a causal relationship cannot be established. Language learning may also contribute to the development of the ability to regulate emotions, as

Eisenberg et al. (2005) claim. Although the study was conducted with a small sample of participants ($N = 18$), the finding is likely to be motivating and may open up a new body of research focusing on associations between emotion regulation and morpheme learning.

The PLS-5 Screening Test was used in this PhD project because it is a standardised language proficiency test and administration takes a brief period of time. Consistent with previous studies (Jia, 2003; Jia & Fuse, 2007; Lin & Johnson, 2010; Qi, 2010), the test well reflects difficult language areas (e.g., a consonant at a word final position, plurals and personal pronouns) Mandarin-English bilingual preschoolers have. However, the test fails to measure some other specific difficulties that Mandarin-English bilingual children have, such as present and past tense. Study 2 with the TIM (i.e., test of inflectional morphemes) shows the preschoolers displayed great difficulties in present and past tense as well as English plurals. Therefore, a combination of the TIM with a standardised language test such as PLS-5 Screening Test may have a more accurate assessment of Mandarin-English bilingual children's English proficiency and difficulties. Study 2 may be able to start a new line of research exploring with a combination of language measures how language skills are associated with social competence.

Study 2 also shows that the children's performance on present and past tense was positively associated with their emotion regulation abilities. This seems to support Eisenberg et al's (2005) heuristic model that language skills and emotion regulation benefit each other. However the model does not specify what particular aspects "language skills" refer to. My finding suggests tense may be one of such linguistic aspects. It may be interesting for future research to replicate my study and expand to other linguistic aspects. Given language skills and emotion regulation are mutually beneficial, the findings may be

useful for planning intervention programs for preschoolers who have difficulties either in emotion regulation or particular linguistic aspects.

Implications

While specific implications have been offered previously (see Chapters 5, 6, and 7), this section will offer some general implications. Recent years have seen an increasing recognition of social and emotion learning (SEL) in preschool years (Ashdown & Bernard, 2012; Gunter, Caldarella, Korth, & Young, 2012; Ocasio, Alst, Koivunen, Huang, & Allegra, 2014). SEL is important for helping preschoolers establish healthy interpersonal relationships, make responsible decisions and prevent bullying and violent behaviours (Parlakian, 2003; Whitcomb, 2009). My research underscores the importance of including SEL in early childhood education contexts.

SEL-based intervention programmes have implications not only for mental health, but also for children's academic success and overall school performance (Merrell, 2010; Merrell & Gueldner, 2010; Upshur, Wenz-Gross, & Reed, 2013). However, what seems to be lacking now is effective SEL-based intervention programmes designed to address the behavioural and emotional problems of children who come from immigrant backgrounds and have difficulties with host languages. Childcare educators may not be able to speak the heritage languages of these children, but they may be able to use their knowledge of emotional development and SEL-based intervention programmes to intervene from an emotion regulation perspective. Nevertheless, more research is needed so that SEL-based intervention programmes designed for ethnic children can be based on evidence and impact childcare education in a positive way.

The finding that English proficiency was associated with decreased behavioural problems and increased adaptive skills has important implications for Australian educational agencies and Mandarin-speaking parents. Educational agencies should try hard to improve English skills of Mandarin-speaking children once they are recruited. Difficulties in English will place these children in a disadvantaged position and are likely to impair adjustment in childcare settings. Chinese parents should also be involved in improving their children's English skills. Many children from immigrant backgrounds have little English competence prior to entering childcare centres (Soltero-González, 2009). This is possibly because their parents assume that children can naturally pick up English once they enter educational institutions or teaching English is the responsibilities of educators (Janssen, Bakker, Bosman, Rosenberg, & Leseman, 2012). Parents may not be fully competent in English, but teaching basic English words or simple sentences may still make a big difference for their children adjustment in educational institutions.

The series of studies in this PhD project were conducted in Australian childcare contexts, but the findings may have practical implications in other English speaking countries as well. In the United States and Canada, Chinese people also constitute one of the largest proportions of the whole immigrant population (Gryn & Gambino, 2012; Li, 2010). Professionals in these countries can also consider suggestions made in this series of studies to improve social and emotional skills of young Mandarin-English bilingual children. For instance, while it may be difficult to improve immigrant children's English skills in a short period of time, educators may consider intervention programs designed from an emotion regulation perspective to improve children's social adjustment and resilience at educational settings.

Limitations

There are three main limitations to the current study. First, the sample size of Study 1 was fairly small, and the sample size of Study 2 was even smaller. Nevertheless, in order to conduct detailed measurement of all constructs involved and train research assistants for testing English proficiency and coding the Disappointing Gift task for reliability, it was necessary to limit the number of participants. All the participants were recruited from the northwest of Sydney (the largest metropolitan city in Australia), and they shared a homogenous socioeconomic background (as indicated by the fact that 76% and 94% of parents in Study 1 and Study 2 respectively held a bachelor degree or higher). Therefore, the findings may not be generalised to Mandarin-speaking children from rural areas and disadvantaged socioeconomic backgrounds.

Second, detailed information regarding how many days per week each participating child attended childcare was not collected, although information about the overall length of time attending childcare was gathered with the demographic questionnaire (see Appendix 3). The figures for overall length of time attending childcare were only rough calculations. The fact that a child has attended a childcare centre over a longer period of time may not necessarily mean that he or she has spent more time there in total. For example, a child who attends a long day care centre five days a week for half a year actually spends more time in childcare than another child who attends a long day care centre two days a week for an entire year. The importance of this issue was largely neglected when I designed the demographic questionnaire and was not recognised until I began the data analysis. Given that amount of time (i.e., number of days) spent in

childcare predicts social adjustment (Allhusen et al., 2003; Huston, Bobbitt, & Bentley, 2015), it is indeed unfortunate to miss this piece of demographic information.

Third, childcare educators were involved in completing the social competence questionnaire (i.e., the BASC-2), but their demographic details were not collected. All educators had at least the certificate III required by the NSW state government as the minimum qualification for early childhood education, but their highest educational levels were not collected. In addition, the number of years they had worked in childcare and their ethnicities were unavailable. Educators who have more working experience in childcare or who share the same cultural background as the children may rate children's behaviours differently from those who have less experience or do not share the same cultural backgrounds. The importance of the educators' detailed demographic information was not recognised until I began the data analysis.

Directions for future research

Future research would benefit from the use of a larger sample with more statistical power (Knofczynski & Mundfrom, 2008; VanVoorhis & Morgan, 2007). As I mentioned at the beginning of this chapter, Study 1 was divided into two smaller studies due to insufficient sample size for inclusion of all the variables. With a larger sample size, future research can investigate the associations of all the variables of linguistic, cultural and emotional factors and social competence in one study.

Eisenberg et al. (2005) point out in the heuristic model (see Chapter 1) that the factors that contribute to social competence include language, emotion regulation, and academic skills. My investigation did not include academic skills. It may be interesting for future research to consider this factor and investigate how language skills and emotion

regulation contribute to academic skills and how social competence and academic skills mutually facilitate each other, as described by Eisenberg et al. (2005). As academic skills may be of greater research interest with children in their school years, future research could consider longitudinal designs by investigating how language skills and emotion regulation during preschool years contribute to social competence and academic skills in school years.

My findings show various types of association (i.e., positive, negative and no associations) between emotion regulation, language skills, cultural orientations and social competence in Mandarin-speaking children in an Australian childcare context.

Nevertheless, it is still unknown how these constructs affect each other and how English-speaking childcare centres benefit the development of social competence. It may be interesting for future research to investigate this. Possibly, with increasing proficiency in English and familiarity with host cultural orientation, children with higher emotion regulation abilities may become more engaged in social interactions and further develop their social competence, which in turn helps these children to access more opportunities to facilitate language skills, cultural orientations and emotion regulation abilities. Therefore, these constructs may be mutually beneficial and interdependent. It is recommended that future research use direct classroom observation and longitudinal designs to investigate the influence between these constructs. It may be also interesting for future research to use direct classroom observation to investigate the circumstances under which children use Mandarin for social interactions in childcare centres and how such use predicts social competence.

Last, it may be important for future research to consider immigrant parenting practices when investigating children's development of social competence. There is evidence showing that Chinese immigrant parents' childrearing styles affect the developmental trajectories of emotions, language, cultural orientations, and social behaviours and that parenting practices mediate the relationship between language proficiency and behavioural problems (Chen et al., 2014; Keller et al., 2007; Ren & Pope, 2014; Tannenbaum & Howie, 2002; Tao, Zhou, Lau, & Liu, 2013). Thus, it would be timely to consider parenting practices when investigating associations between emotion regulation, language skills, cultural orientations and social competence among Mandarin-English bilingual preschoolers.

References

- Allhusen, V., Belsky, J., Booth, C., Bradley, R., Brownell, C., Burchinal, M., et al. (2003). Does amount of time spent in child care predict socioemotional adjustment during the transition to kindergarten? *Child Development, 74*(4), 976-1005.
doi:10.1111/1467-8624.00582
- Ashdown, D., & Bernard, M. (2012). Can explicit instruction in social and emotional learning skills benefit the social-emotional development, well-being, and academic achievement of young children? *Early Childhood Education Journal, 39*, 397-405.
doi:10.1007/s10643-011-0481-x
- Baillargeon, R. H., Zoccolillo, M., Keenan, K., Cote, S., Perusse, D., Wu, H. X., et al. (2007). Gender differences in physical aggression: A prospective population-based survey of children before and after 2 years of age. *Developmental Psychology, 43*(1), 13-26. doi:10.1037/0012-1649.43.1.13
- Blair, K. A., Denham, S. A., Kochanoff, A., & Whipple, B. (2004). Playing it cool: temperament, emotion regulation, and social behavior in preschoolers. *Journal of School Psychology, 42*(6), 419-443. doi:10.1016/j.jsp.2004.10.002
- Chang, F., Crawford, G., Early, D., Bryant, D., Howes, C., Burchinal, M., et al. (2007). Spanish-speaking children's social and language development in pre-kindergarten classrooms. *Early Education and Development, 18*(2), 243-269.
doi:10.1080/10409280701282959
- Chen, S. H., Hua, M., Zhou, Q., Tao, A., Lee, E. H., Ly, J., et al. (2014). Parent-child cultural orientations and child adjustment in Chinese American immigrant families. *Developmental Psychology, 50*(1), 189-201. doi:10.1037/a0032473

- Chen, X., & Tse, H. (2010). Social and psychological adjustment of Chinese Canadian children. *International Journal of Behavioral Development*, 34(4), 330-338.
doi:10.1177/0165025409337546
- Costigan, C. L., & Dokis, D. P. (2006). Relations between parent-child acculturation differences and adjustment within immigrant Chinese families. *Child Development*, 77(5), 1252-1267. doi:10.2307/3878430
- Eisenberg, N., Sadovsky, A., & Spinrad, T. L. (2005). Associations of emotion-related regulation with language skills, emotion knowledge, and academic outcomes. *New Directions for Child and Adolescent Development*, 109, 109-118.
- Farver, J. M., & Shin, Y. L. (1997). Social pretend play in Korean- and Anglo-American preschoolers. *Child Development*, 68(3), 544-556. doi:10.1111/1467-8624.ep9709050633
- Goldfeld, S., & Goldfeld, S. (2014). Early development of emerging and English-proficient bilingual children at school entry in an Australian population cohort. *International Journal of Behavioral Development*, 38(1), 42-51.
doi:10.1177/0165025413505945
- Gryn, T., & Gambino, C. (2012). The foreign born from Asia: 2011. Retrieved from www.census.gov/prod/2012pubs/acsbr11-06.pdf
- Gunter, L., Caldarella, P., Korth, B., & Young, K. (2012). Promoting social and emotional learning in preschool students: A study of Strong Start Pre- K. *Early Childhood Education Journal*, 40(3), 151-159. doi:10.1007/s10643-012-0507-z
- Han, W.-J. (2010). Bilingualism and socioemotional well-being. *Children and Youth Services Review*, 32(5), 720-731. doi: 10.1016/j.childyouth.2010.01.009

- Han, W.-J., & Huang, C.-C. (2010). The forgotten treasure: bilingualism and Asian children's emotional and behavioral health. *American Journal of Public Health, 100*(5), 831-838. doi: 10.2105/AJPH.2009.174219
- Hay, D. F., Nash, A., Caplan, M., Swartzentruber, J., Ishikawa, F., & Vespo, J. E. (2011). The emergence of gender differences in physical aggression in the context of conflict between young peers. *British Journal of Developmental Psychology, 29*(2), 158-175. doi:10.1111/j.2044-835X.2011.02028.x
- Huston, A. C., Bobbitt, K. C., & Bentley, A. (2015). Time spent in child care: How and why does it affect social development? *Developmental Psychology*. doi:10.1037/a0038951.supp
- Janssen, M., Bakker, J. T. A., Bosman, A. M. T., Rosenberg, K., & Leseman, P. P. M. (2012). Differential trust between parents and teachers of children from low-income and immigrant backgrounds. *Educational Studies, 38*(4), 383-396. doi:10.1080/03055698.2011.643103
- Jia, G. (2003). The acquisition of the English plural morpheme by native Mandarin Chinese-speaking children. *Journal of Speech, Language, and Hearing Research, 46*(6), 1297-1211.
- Jia, G., & Fuse, A. (2007). Acquisition of English grammatical morphology by native Mandarin-speaking children and adolescents: Age-related differences. *Journal of Speech & Hearing Research, 50*, 1280-1299.
- Juang, L. P., & Nguyen, H. H. (2009). Misconduct among Chinese American adolescents: The role of acculturation, family obligation, and autonomy expectations. *Journal of Cross-Cultural Psychology, 40*(4), 649-666. doi:10.1177/0022022109335185

- Keller, H., Abels, M., Borke, J., Lamm, B., Yanjie Su, Yifang Wang, et al. (2007). Socialization environments of Chinese and Euro-American middle-class babies: Parenting behaviors, verbal discourses and ethnotheories. *International Journal of Behavioral Development*, 31(3), 210-217. doi:10.1177/0165025407074633
- Knofczynski, G. T., & Mundfrom, D. (2008). Sample sizes when using multiple linear regression for prediction. *Educational and Psychological Measurement*, 68(3), 431-442. doi:10.1177/0013164407310131
- Li, P. (2010). Immigrants from China to Canada: Issues of demand and supply of human capital. Retrieved from <http://www.opencanada.org/wp-content/uploads/2011/05/Immigrants-from-China-to-Canada-Peter-S.-Li.pdf>
- Lin, L., & Johnson, C. J. (2010). Phonological patterns in Mandarin-English bilingual children. *Clinical Linguistics & Phonetics*, 24(4-5), 369-386. doi:10.3109/02699200903532482
- Luo, R., Tamis-LeMonda, C. S., & Song, L. (2013). Chinese parents' goals and practices in early childhood. *Early Childhood Research Quarterly*, 28(4), 843-857. doi:10.1016/j.ecresq.2013.08.001
- Lussier, P., Corrado, R., & Tzoumakis, S. (2012). Gender differences in physical aggression and associated developmental correlates in a sample of Canadian preschoolers. *Behavioral Sciences & the Law*, 30(5), 643-671. doi:10.1002/bsl.2035
- Mackinnon, D. P. (2011). Integrating mediators and moderators in research design. *Research on Social Work Practice*, 21(6), 675-681. doi:10.1177/1049731511414148

- Merrell, K. W. (2010). Linking prevention science and social and emotional learning: The Oregon Resiliency Project. *Psychology in the Schools*, 47(1), 55-70.
doi:10.1002/pits.20451
- Merrell, K. W., & Gueldner, B. A. (2010). *Social and emotional learning in the classroom: Promoting mental health and academic success*. New York: Guilford Press.
- Oades-Sese, G. V., Esquivel, G. B., Kaliski, P. K., & Maniatis, L. (2011). A longitudinal study of the social and academic competence of economically disadvantaged bilingual preschool children. *Developmental Psychology*, 47(3), 747-764.
doi:10.1037/a0021380
- Ocasio, K., Alst, D., Koivunen, J., Huang, C.-C., & Allegra, C. (2014). Promoting preschool mental health: Results of a 3 year primary prevention strategy. *Journal of Child and Family Studies*, 24(6), 1800-1808. doi:10.1007/s10826-014-9983-7
- Oppedal, B., Røysamb, E., & Sam, D. L. (2004). The effect of acculturation and social support on change in mental health among young immigrants. *International Journal of Behavioral Development*, 28(6), 481-494.
doi:10.1080/01650250444000126
- Parlakian, R. (2003). Before the ABCs: Promoting school readiness in infants and toddlers. Washington, DC: Zero to Three. .
- Qi, R. (2010). Pronoun acquisition in a Mandarin—English bilingual child. *International Journal of Bilingualism*, 14(1), 37-64. doi:10.1177/1367006909356649
- Ren, L., & Pope, E. C. (2014). Pathways of influence: Chinese parents' expectations, parenting styles, and child social competence. *Early Child Development and Care*, 259

185(4), 614-630. doi:10.1080/03004430.2014.944908

Samaratunge, R., Lu, Y., & Härtel, P. C. (2015). *Skilled migration, expectation and reality: Chinese professionals and the global labour market*. Burlington, VT: Gower Publishing Company.

Soltero-González, L. (2009). Preschool Latino immigrant children: Using the home language as a resource for literacy learning. *Theory Into Practice*, 48(4), 283-289. doi:10.1080/00405840903192771

Taborsky, B., & Oliveira, R. F. (2012). Social competence: an evolutionary approach. *Trends in Ecology & Evolution*, 27(12), 679-688. doi:10.1016/j.tree.2012.09.003

Tannenbaum, M., & Howie, P. (2002). The Association between Language Maintenance and Family Relations: Chinese Immigrant Children in Australia. *Journal of Multilingual and Multicultural Development*, 23(5), 408-424. doi:10.1080/01434630208666477

Tao, A., Zhou, Q., Lau, N., & Liu, H. (2013). Chinese American immigrant mothers' discussion of emotion with children: Relations to cultural orientations. *Journal of Cross-Cultural Psychology*, 44(3), 478-501. doi:10.1177/0022022112453318

Tsai, J., Ying, Y., & Lee, P. (2000). The meaning of "being Chinese" and "being American", validation among Chinese American young youths. *Journal of Cross-Cultural Psychology*, 31(3), 302-332. doi:10.1177/0022022100031003002

Upshur, C., Wenz-Gross, M., & Reed, G. (2013). A pilot study of a primary prevention curriculum to address preschool behavior problems. *The Journal of Primary Prevention*, 34(5), 309-327. doi:10.1007/s10935-013-0316-1

VanVoorhis, C. R., & Morgan, B. L. (2007). Understanding power and rules of thumb for

determining sample sizes. *Tutorials in Quantitative Methods for Psychology*, 3(2), 43-50.

Ward, C., Bochner, S., & Furnham, A. (2001). *The psychology of culture shock*. Hove: Routledge.

Whitcomb, S. A. (2009). *Strong Start: Impact of direct teaching of a social emotional learning curriculum and infusion of skills on emotion knowledge of first grade students*. (Doctor of Philosophy), University of Oregon, Eugene. Retrieved from <http://strongkids.uoregon.edu/research.html>.

Appendices

Appendix 1 (Teacher Consent Form, Study 1)

Institute of Early Childhood
Faculty of Human Sciences
MACQUARIE UNIVERSITY NSW 2109
Phone: +0435 490 530
Email: yonggang.ren@mq.edu.au

Name of Project: Social-emotional Competence of Mandarin Speaking Immigrant Children in Australian Childcare

I am currently conducting a study of Mandarin-speaking children's adjustment at the childcare centre. The purpose of the study is to find the relationships between Mandarin level, English level, social skills, emotion competence and cultural orientations. To achieve this purpose, 80-100 preschoolers aged between 3 to 6 years old who speak Mandarin at home are invited to participate. Standardized language tests will be employed to measure children's skills in Mandarin and English. A combination of parent report and teacher report will be used to measure social competence and cultural orientations. Teachers' report and direct observation will be used to assess children's emotion regulation.

The project is being conducted by Yonggang Ren to meet the requirements of Doctor of Philosophy of Early Childhood under the supervision of Dr. Shirley Wyver (telephone (02) 9850 9859; email shirley.wyver@mq.edu.au) of the Institute of Early Childhood, Faculty of Human Sciences, Macquarie University.

If you decide to participate, you will be asked to complete questionnaires assessing behavioural adjustment and emotion regulation of children. Estimated time for completion is 25 and your centre has been offered \$10 per questionnaire to compensate for time taken to complete the questionnaires.

Any information or personal details gathered in the course of the study are confidential. A summary of the results of the data can be made available to you on request by email or any other means you prefer. The information obtained in the study may be published in professional journals or presented at professional meetings and conferences, but your identity will be kept confidential because all participants will be replaced by a number or a letter. Data will be stored for 7 years in the researcher's office in a locked filing cabinet and password protected computer. Access will be strictly monitored by the researchers,

and no information identifying participants will be released without the explicit consent of the participants concerned.

Participation in this study is entirely voluntary: you and your child are not obliged to participate and if you and your child decide to participate, you and your child are free to withdraw at any time without having to give a reason and without consequence.

I, _____ (*Teacher's name*) have read (*or, where appropriate, have had read to me*) and understand the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this research, knowing that I can withdraw from further participation in the research at any time without consequence. I have been given a copy of this form to keep.

Participant's Name: _____
(Block letters)

Participant's Signature: _____ Date: _____

Investigator's Name: YONGGANG REN (Block letters)

Investigator's Signature: _____ Date: September 20, 2013

Please indicate your fluency in Mandarin and the percentage of Chinese-speaking children in your centre (circle the most appropriate for you):

	Please tick (✓)
I never speak Mandarin	
I use a few words of Mandarin	
I use basic sentences in Mandarin	
I am a competent speaker of Mandarin	
I am a fluent speaker of Mandarin	
Percentage of Chinese-speaking children in your centre	Around _____%

The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Research Ethics (telephone (02) 9850 7854; email ethics@mq.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

(INVESTIGATOR'S [OR PARTICIPANT'S] COPY)

Appendix 2 (Parent and Child Information and Consent Form, Study 1)

Institute of Early Childhood
Faculty of Human Sciences
MACQUARIE UNIVERSITY NSW 2109
Phone: +0435 490 530
Email: yonggang.ren@mq.edu.au

Name of Project: Social-emotional Competence of Mandarin Speaking Immigrant Children in Australian Childcare

I am currently conducting a study of Mandarin-speaking children's adjustment at the childcare centre and kindergartens. You and your child are invited to participate if your child is between 3 to 6 years old and speaks Mandarin at home. The purpose of the study is to find the relationships between Mandarin level, English level, social skills, emotion competence and cultural orientations. I will assess your child's understanding and use of Mandarin and my colleague Miss Amber Hinton who is a native speaker of English will assess your child's understanding and use of English.

The project is being conducted by Yonggang Ren to meet the requirements of Doctor of Philosophy of Early Childhood under the supervision of Dr. Shirley Wyver (telephone (02) 9850 9859; email shirley.wyver@mq.edu.au) of the Institute of Early Childhood, Faculty of Human Sciences, Macquarie University.

If you and your child decide to participate you will be asked to:

- Complete a set of questionnaire regarding some basic information including your child's age, residency length in Australia and Chinese and Australian cultural orientations. The completion of the questionnaire takes about 15 minutes.

Your child will be asked to take tests of English and Mandarin language in two playful and interactive sessions. Details are as follows:

- The English test will take 5-10 minutes;
- The Mandarin test will take around 20 minutes.
- After Mandarin assessment, direct observation will be conducted to measure your child's emotion regulation. The observation lasts 5 minutes at most and will be recorded with a digital video camera.
- The language assessment place will be an office or a quiet place in the childcare centre.
- When all assessments are completed, your child will be offered a small gift like a teddy bear or a toy jet.

Your child's teacher will be asked to:

- Complete two questionnaires assessing behavioural adjustment and emotion regulation of your child. A small amount of payment will be provided to compensate for the teacher's time.

Any information or personal details gathered in the course of the study are confidential. A summary of the results of the data will be sent to the centre your child attends and can also be made available to you on request by email or any other means you prefer. Your child's individual results can also be discussed with you on request. The information obtained in the study may be published in professional journals or presented at professional meetings and conferences, but your child's identity will be kept confidential. Data will be stored for 7 years in a locked filing cabinet and password protected computer. Access will be strictly monitored by the researchers, and no information identifying participants will be released without the explicit consent of the participants concerned.

Participation in this study is entirely voluntary: you and your child are not obliged to participate and if you and your child decide to participate, you and your child are free to withdraw at any time without having to give a reason and without consequence.

I, _____ (*parent's name*), have read (*or, where appropriate, have had read to me*) and understand the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this research knowing that I can withdraw from further participation in the research at any time without consequence. I have been given a copy of this form to keep.

Participant's Name: _____

(Block letters)

Participant's Signature: _____ Date: _____

Child's name and date of birth: _____

Investigator's Name: YONGGANG REN (Block letters)

Investigator's Signature: _____ Date: 16 September, 2013

The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Research Ethics (telephone (02) 9850 7854; email ethics@mq.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

(INVESTIGATOR'S [OR PARTICIPANT'S] COPY)

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家长儿童知情同意书

研究项目名称：澳洲中文儿童学前双语地位、社交能力、情绪调控以及文化适应关系研究

本人现从事一项旨在探究澳洲中文儿童在幼儿园适应情况的研究。如果您孩子的年龄介于三到六岁并且能够说一些中文，本人诚挚邀请您和您的孩子参加此研究项目。研究主要目的在于探索孩子中文水平、英文水平、社交、情绪发展以及文化适应能力之间的关系。本人将使用标准化中文测试评估您孩子的中文水平，而本人的一位以英语为母语的同事将使用标准化英语测试评估孩子的英文水平。

此研究项目主要负责人为麦考瑞大学儿童研究中心博士生候选人任永刚，导师为麦考瑞大学人文科学系儿童研究中心讲师雪莉·维沃，电话(02) 9850 9859，电邮为 shirley.wyver@mq.edu.au

如果您和您的孩子愿意并决定参加此研究项目，您需要：

- 完成一组调查问卷，内容涉及您孩子的一些个人信息如年龄、来澳时间等（不含任何敏感信息），及孩子的中澳文化适应情况。填写该组问卷大约需要 15 分钟。

您的孩子需要参加中英文语言水平测试，测试过程轻松、互动。具体信息如下：

- 英文测试需要 5 至 10 分钟
- 中文测试需要大约 20 分钟
- 语言测试结束后，测试人员会根据测试方案目测您孩子的情绪调控能力。目测时间最长 5 分钟。情绪调控观察需要录像。
- 所有测试及观察将在您孩子所在幼儿园办公室或幼儿园其它安静场所进行。
- 所有测试结束后，您的孩子将会收到一份礼物，如玩具熊或玩具飞机等。

您孩子的幼儿园老师需要：

- 填写两组调查问卷，一组问卷评估您孩子的社交行为，另外一组问卷评估孩子的情绪调控。老师的时间付出将会给予小额度的经济补偿。

研究过程中采集的任何数据将予以严格保密，您和孩子的任何信息将不对外公布。如果您需要数据或研究成果用以参考，研究人员将以电邮或文书形式向您呈送。研究数据或研究成果可能会发表在相关学术期刊或学术会议上，但任何涉及您和孩子的个人信息将严格保密，不会对外公布。研究数据将在研究人员办公室密码保存 7 年。任何第三方使用数据都将会严格审查，未经参与者同意禁止使用。

您是否参与该研究项目完全自愿，您和您的孩子没有任何责任和义务必须参加此研究。另外如果在研究中途，您不打算继续参与可自由退出，无需向研究人员给出理由，也无需承担任何后果。

我, _____ (家长姓名), 已经仔细阅读此家长儿童知情同意书, 以及就此书有疑问的地方已向研究人员进一步询问并得到满意答复。我同意参加此研究, 并且清楚我在研究过程中可于任何时间自由退出。另外, 本人另持此知情同意书一份

参与者姓名: _____

参与者签名: _____ 日期: _____

儿童姓名: _____ 出生日期: _____ 年 _____ 月

研究者姓名: **任永刚**

研究者签名: _____ 日期: 2013年9月16号

麦考瑞大学人类研究伦理委员会已经审核并且批准此研究。任何有关此研究涉及伦理的疑问、异议以及保留意见, 您可以直接联系伦理委员会主任, 电话 02 9850 7854, 或电邮 ethics@mq.edu.au。您的任何异议、意见将不会对外公开, 并且会将我们对您异议、意见的处理结果及时转告您。

(INVESTIGATOR'S [OR PARTICIPANT'S] COPY)

Appendix 3 (Demographic questionnaire, Study 1)

Demographic Information about Your Child

第一部分：您的孩子个人信息统计

Please note:

1. 'Your child' or 'my child' in the following statements refers to the child in the childcare centre aged between 3 to 6 years old who will receive/has received language tests.

- 2 The term “中文” in the following statements denotes 普通话、国语、汉语 and 华语.

温馨提示：

1. 下列表述中，‘您孩子’或‘我的孩子’指现在幼儿园年龄3到6岁将要接受或已接受语言测试的儿童。
2. 下列表述中，以“中文”统称普通话、国语、汉语及华语。

Your child's Chinese name (您孩子的中文名):

Your child's English name (您孩子的英文名):

Age(年龄) : ____ years (岁) ____ months(月) Gender (性别) : boy(男) ☐ girl(女) ☐

Immigration status of your child (您孩子是第几代移民) : 1st (第一代) ☐ 2nd (第二代) ☐

Your child's residence length in Australia(您孩子在澳洲居住时间共计) :

____ years (年) ____ months (月)

The original country you came from (您的原国籍是): _____

Primary caregiver at home (您孩子在家时的主要照看人):

Mother(妈妈) ☐ Father(爸爸) ☐

Grandparent (祖父母/外祖父母) ☐ Others (其他) ☐

Highest educational level of the primary caregiver (主要照看人最高学历) :

Less than primary school(小学以下) ☐ Primary School (小学) ☐

Secondary School (中学) ☐ TAFE or equivalent(中专或同等学力) ☐

Undergraduate university(大学本科) ☐

Postgraduate university or above(硕士及以上) ☐

Number of Siblings of your child (您孩子共有几个兄弟姐妹): _____

Birth Order of your child (您孩子出生排行): _____

How long has your child been in the centre (您孩子在幼儿园的时间共计):

____ years (年) ____ months (月)

Appendix 4 (General Ethnicity Questionnaires)

General Ethnicity Questionnaires-Chinese Version

中澳文化影响问卷-中国文化

Please use the following scale to indicate how much you agree with the following statements. Circle your response.

请就下列表述在最能反映您孩子情况的数字上画圈。

例如，您要选“赞同”，则在4上画圈，如：1 2 3 ④ 5

1	2	3	4	5
Strongly Disagree 完全不赞同	Disagree 不赞同	Neutral 中立	Agree 赞同	Strongly Agree 完全赞同

1. I approve of Chinese value and beliefs of raising a child. 1. 我认同中国文化中教育子女的价值观念。	1 2 3 4 5
2. I raise my child in the Chinese values and beliefs. 2. 我以中国文化教育观念抚养孩子。	1 2 3 4 5
3. My child is always exposed to Chinese culture when growing up. 3. 我的孩子在成长过程中经常接触中国文化。	1 2 3 4 5
4. Chinese culture has had a positive impact on my child's life. 4. 中国文化对我的孩子成长有积极的影响。	1 2 3 4 5
5. My child likes to be called by his Chinese name. 5. 我的孩子喜欢别人以中文名字叫她/他。	1 2 3 4 5
6. My child likes to address his/her friends with their Chinese names. 6. 我的孩子喜欢用中文名字叫他/她的朋友。	1 2 3 4 5
7. My child likes the family members speaking Mandarin to him/her. 7. 我的孩子喜欢家人给他/她说中文。	1 2 3 4 5
8. My child likes to listen to stories in Mandarin. 8. 我的孩子喜欢听中文故事。	1 2 3 4 5
9. My child likes to look at pictorial books written in Chinese. 9. 我的孩子喜欢看中文画册。	1 2 3 4 5
10. My child likes to listen to Chinese music. 10. 我的孩子喜欢听中国音乐。	1 2 3 4 5
11. My child likes to perform Chinese style dance. 11. 我的孩子喜欢跳中国式舞蹈。	1 2 3 4 5
12. My child always celebrates Chinese holidays. 12. 我的孩子经常庆祝中国节日。	1 2 3 4 5
13. My child can name Chinese cultural practices and customs. 13. 我的孩子能说出与中国文化相关的习俗和生活方式。	1 2 3 4 5

Table continued

14. My child likes to go back to my home country. 14. 我的孩子喜欢回国。	1 2 3 4 5
16. My child likes to be around with people who speak Mandarin when outside. 16. 在外面时, 我的孩子喜欢与说中文的人在一起。	1 2 3 4 5
17. My child feels uneasy when being around with Mandarin-speaking people. 17. 我的孩子与说中文的人一起时会显得不自在。	1 2 3 4 5
18. At home, my child always eats Chinese food. 18. 在家我的孩子常吃中餐。	1 2 3 4 5
19. At restaurants or other places, my child always eats Chinese food. 19. 在餐馆或其它室外地方我的孩子常吃中餐。	1 2 3 4 5
20. Most of my child's friends speak Mandarin. 20. 我孩子的朋友多数讲中文。	1 2 3 4 5
21. My child prefers the childcare teachers speak Mandarin or more Mandarin. 21. 我的孩子希望幼儿园老师说中文或说更多中文。	1 2 3 4 5
22. Overall, my child is a Chinese. 22. 整体说来, 我的孩子就是一个中国人。	1 2 3 4 5

Please use the following scale to answer the following questions. Circle your response.

请就下列表述在最能反映您孩子情况的数字上画圈

1	2	3	4	5
Not at all 几乎没有	A little 很少	Somewhat 一般	Much 比较多	Very much 非常多

温馨提示：请您看清1,2,3,4,5所对应的表述，再就下列问题做出选择。

Please read carefully the corresponding meanings of 1,2,3,4 and 5, and then make your choice.

1. How much does your child understand Mandarin? 1. 您孩子能听懂多少中文？	1 2 3 4 5
2. How much does your child speak Mandarin at home? 2. 您孩子在家说多少中文？	1 2 3 4 5
3. How much does your child speak Mandarin at childcare? 3. 您孩子在幼儿园说多少中文？	1 2 3 4 5
4. How much does your child speak Mandarin with friends? 4. 您孩子和朋友在一起时说多少中文？	1 2 3 4 5
5. How much does your child watch Chinese TV programs? 5. 您孩子看多少中文电视节目？	1 2 3 4 5
6. How much does your child listen to Chinese CD or radio? 6. 您孩子听多少中文光盘或广播？	1 2 3 4 5
7. Do you read stories written in Chinese to your child? 7. 您给孩子讲中文故事吗？	1 2 3 4 5

Table continued

8. How fluently does your child speak Mandarin? 8. 您孩子中文说得有多流利？	1 2 3 4 5
9. How fluently does your child read in Mandarin? 9. 您孩子中文读得有多通顺？	1 2 3 4 5
10. How competently does your child write in Chinese? 10. 您孩子中文写得有多流畅？	1 2 3 4 5
11. On average, how many days does your child stay at your home country per year? 11. 您孩子平均每年回国多长时间？	
0 day (0天) ☐ 1-5 days (1-5天) ☐ 6-10 days (6-10天) ☐	
11-20 days (11-20天) ☐ more than 20 days (多于20天) ☐	
12. How many languages does your child speak? 12. 您的孩子会说几种语言？	
one (一) ☐ two (二) ☐ three (三) ☐ four (四) ☐ more than four (四种以上) ☐	

General Ethnicity Questionnaire-Australian Version

第三部分：中澳文化影响问卷-澳洲文化

Please use the following scale to indicate how much you agree with the following statements. Circle your response.

请就下列表述在最能反映您孩子情况的数字上画圈。

1	2	3	4	5
Strongly Disagree 完全不赞同	Disagree 不赞同	Neutral 中立	Agree 赞同	Strongly Agree 完全赞同

1. I approve of western value and beliefs of raising a child. 1. 我认同西方文化中教育子女的价值观念。	1 2 3 4 5
2. I raise my child in the western values and beliefs. 2. 我以西方教育观念抚养孩子。	1 2 3 4 5
3. My child is always exposed to western culture when growing up. 3. 我的孩子在成长过程中经常接触西方文化。	1 2 3 4 5
4. Western culture has had a positive impact on my child's life. 4. 西方文化对我的孩子成长有积极的影响。	1 2 3 4 5
5. My child likes to be called by his English name. 5. 我的孩子喜欢别人以英文名字叫她/他。	1 2 3 4 5
6. My child likes to address his/her friends with their English names. 6. 我的孩子喜欢用英文名字叫他/她的朋友。	1 2 3 4 5
7. My child likes the family members speaking English to him/her. 7. 我的孩子喜欢家人给他/她说英文。	1 2 3 4 5
8. My child likes to listen to stories in English. 8. 我的孩子喜欢听英文故事。	1 2 3 4 5

Table continued

9. My child likes to look at pictorial books written in English. 9. 我的孩子喜欢看英文画册。	1 2 3 4 5
10. My child likes to listen to English music. 10. 我的孩子喜欢听英文音乐。	1 2 3 4 5
11. My child likes to perform western style dance. 11. 我的孩子喜欢跳西式舞蹈。	1 2 3 4 5
12. My child always celebrates Australian holidays. 12. 我的孩子经常庆祝澳洲节日。	1 2 3 4 5
13. My child can name Australian cultural practices and customs. 13. 我的孩子能说出与澳洲文化相关的习俗和生活方式。	1 2 3 4 5
14. My child likes to engage in recreation in English language. 14. 我的孩子喜欢参加以英文交流的娱乐活动。	1 2 3 4 5
15. My child likes to be around with people who speak English when outside. 15. 在外面时，我的孩子喜欢与说英文的人在一起。	1 2 3 4 5
16. My child feels uneasy when being around with Caucasian people. 16. 我的孩子与白人在一起时会显得不自在。	1 2 3 4 5
17. At home, my child always eats western food. 17. 在家我的孩子常吃西餐。	1 2 3 4 5
18. At restaurants or other places, my child always eats Western food. 18. 在餐馆或其它室外地方我的孩子常吃西餐。	1 2 3 4 5
19. Most of my child's friends speak English. 19. 我孩子的朋友多数讲英文。	1 2 3 4 5
20. My child prefers the childcare teachers speak English or more English. 20. 我的孩子希望幼儿园老师说英文或更多英文。	1 2 3 4 5
21. Overall, my child is an Australian. 21. 整体说来，我的孩子就是一个澳洲人。	1 2 3 4 5

Please use the following scale to answer the following questions. Circle your response.
请就下列表述在最能反映您孩子情况的数字上画圈

1	2	3	4	5
Not at all 几乎没有	A little 很少	Somewhat 一般	Much 比较多	Very much 非常多

温馨提示：请您看清1,2,3,4,5所对应的表述，再就下列问题做出选择。

Please read carefully the corresponding meanings of 1,2,3,4 and 5, and then make your choice.

1. How much does your child understand English? 1. 您孩子能听懂多少英文？	1 2 3 4 5
2. How much does your child speak English at home? 2. 您孩子在家说多少英文？	1 2 3 4 5
3. How much does your child speak English at childcare? 3. 您孩子在幼儿园说多少英文？	1 2 3 4 5
4. How much does your child speak English with friends? 4. 您孩子和朋友在一起时说多少英文？	1 2 3 4 5
5. How much does your child watch English TV programs? 5. 您孩子看多少英文电视节目？	1 2 3 4 5
6. How much does your child listen to English CD or radio? 6. 您孩子听多少英文光盘或广播？	1 2 3 4 5
7. Do you read stories written in English to your Child? 7. 您给孩子讲英文故事吗？	1 2 3 4 5
8. How fluently does your child speak English? 8. 您孩子英文说得有多流利？	1 2 3 4 5
9. How fluently does your child read in English? 9. 您孩子英文读得有多通顺？	1 2 3 4 5
10. How competently does your child write in English? 10. 您孩子英文写得有多顺畅？	1 2 3 4 5

Appendix 5 (Teacher Consent Form, Study 2)

Institute of Early Childhood
Faculty of Human Sciences
MACQUARIE UNIVERSITY NSW 2109
Phone: +0435 490 530
Email: yonggang.ren@mq.edu.au

Name of Project: Social-emotional Competence of Mandarin Speaking Immigrant Children in Australian Childcare

Thank you very much for helping me contact parents and filling in the questionnaires for my research project over a year ago. I am now very interested to follow up the Mandarin-English speaking children who participated in Phase 1 data collection and are still in childcare now. The aim of Phase 2 data collection is to investigate whether their English skills and Mandarin skills have changed over a year and how changes of language skills are linked with their social competence in childcare. I am also very interested to know whether these children's emotion regulation abilities and cultural values have changed over a year and how the change is related to their social competence in childcare. If there are insufficient participants from Phase 1 for me to follow up, I am seeking possibilities of recruiting other children in your centre who were not in Phase 1 but speak Mandarin at home and aged 4 years 6 months to 5 years 6 months. Standardized language tests will be employed to measure children's skills in Mandarin and English. Teachers' report will be used to measure social competence. Teachers' report and direct observation will be used to assess children's emotion regulation. The research has implications for Mandarin-speaking children attending Australian childcare.

The project is being conducted by Yonggang Ren to provide new understanding with respect to the changes of English skills, Mandarin skills, and emotion regulation abilities and how these changes are related to changes of social competence. The project is under the supervision of Dr. Shirley Wyver (telephone (02) 9850 9859; email shirley.wyver@mq.edu.au) of the Institute of Early Childhood, Faculty of Human Sciences, Macquarie University.

If you decide to participate, you will be invited to contact parents whose children participated in the first phase data collection and are still in your childcare. If these children do not want to participate, you will be invited to contact other Mandarin-speaking children aged 4 years 6 months and 5 years and 6 months who did not participate in Phase 1. You will also be invited to complete questionnaires assessing social competence and emotion regulation of children. Estimated time for completion is 25 minutes and your centre will be offered \$20 for each child rated. Your centre will also be

offered book gifts valued around 50 dollars for your cooperation of contacting parents and completing questionnaires.

Any information or personal details gathered in the course of the study are confidential. If you want to obtain any information regarding children's performance or a copy of the results of this follow-up data, please contact me by mobile phone 0435 490 530 or by email: yonggang.ren@mq.edu.au. The information obtained in the study may be published in professional journals or presented at professional meetings and conferences, but your identity will be kept confidential because all participants will be replaced by a number or a letter. Data will be stored for 5 years in the researcher's office in a locked filing cabinet and password protected computer. Access will be strictly monitored by the researchers, and no information identifying participants will be released without the explicit consent of the participants concerned.

Participation in this study is entirely voluntary: you and your child are not obliged to participate and if you and your child decide to participate, you and your child are free to withdraw at any time without having to give a reason and without consequence.

I, _____ (*Teacher's name*) have read (*or, where appropriate, have had read to me*) and understand the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this research, knowing that I can withdraw from further participation in the research at any time without consequence. I have been given a copy of this form to keep.

Participant's Name: _____
(Block letters)

Participant's Signature: _____ Date: _____

Investigator's Name: YONGGANG REN (Block letters)

Investigator's Signature: _____ Date: 1 June, 2015

The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Research Ethics (telephone (02) 9850 7854; email ethics@mq.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

(INVESTIGATOR'S [OR PARTICIPANT'S] COPY)

Appendix 6 (Parent and Child Information and Consent Form, Study 2)

Institute of Early Childhood
Faculty of Human Sciences
MACQUARIE UNIVERSITY NSW 2109
Phone: +0435 490 530
Email: yonggang.ren@mq.edu.au

Name of Project: Social-emotional Competence of Mandarin Speaking Immigrant Children in Australian Childcare

I am currently conducting a study of Mandarin-speaking children's adjustment at the childcare centre and kindergartens. You and your child are invited to participate if your child is between 4 years 0 month to 5 years 6 month old, speaks Mandarin at home and has been in childcare for at least one year. The purpose of the study is to find the relationships between Mandarin level, English level, emotion regulation abilities and behavioural adjustment in childcare. I will assess your child's understanding and use of Mandarin and my colleague who is a native speaker of English will assess your child's understanding and use of English.

The project is being conducted by Yonggang Ren to provide understanding whether English skills, Mandarin skills, emotion regulation abilities, and culture are related to behavioural adjustment in childcare. The project is under the supervision of Dr. Shirley Wyver (telephone (02) 9850 9859; email shirley.wyver@mq.edu.au), Institute of Early Childhood, Faculty of Human Sciences, Macquarie University.

If you and your child decide to participate you will be asked to:

Complete a set of questionnaire regarding some basic information including your child's age, residency length in Australia. The completion of the questionnaire takes about 10 minutes.

Your child will be asked to take tests of English and Mandarin language in two playful and interactive sessions. Details are as follows:

- The test of English will take 30 minutes, and the testing will be recorded with a digital audio recorder;
- The test of Mandarin will take around 30 minutes, and the testing will be recorded with a digital audio recorder;
- After Mandarin assessment, direct observation will be conducted to measure your child's emotion regulation. The observation lasts 5 minutes at most and will be recorded with a digital video camera. After this task, your child will also receive a small gift, a teddy bear or a toy jet, valued around 10 dollars.
- The language assessment place will be an office or a quiet place in the childcare centre.
- When all assessments are completed, you will be compensated 20 dollars for allowing your children to participate in this research. How the compensation of the money to be

forwarded to you will be negotiated with you or the childcare centre if you are not available.

Your child's teacher will be asked to:

- Complete two questionnaires assessing behavioural adjustment and emotion regulation of your child at childcare. 20-dollars cash will be provided to the childcare centres for compensating for the teacher's time.

Any information or personal details gathered in the course of the study are confidential. If you want to obtain any information regarding your child or a copy of the results of this follow-up data, please contact me by mobile phone 0435 490 530 or by email: yonggang.ren@mq.edu.au. The information obtained in the study may be published in professional journals or presented at professional meetings and conferences, but your child's identity will be kept confidential. Data will be stored for 5 years in a locked filing cabinet and password protected computer. Access will be strictly monitored by the researchers, and no information identifying participants will be released without the explicit consent of the participants concerned.

Participation in this study is entirely voluntary: you and your child are not obliged to participate and if you and your child decide to participate, you and your child are free to withdraw at any time without having to give a reason and without consequence.

I, _____ (*parent's name*), have read (*or, where appropriate, have had read to me*) and understand the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this research knowing that I can withdraw from further participation in the research at any time without consequence. I have been given a copy of this form to keep.

Participant's Name: _____
(Block letters)

Participant's Signature: _____ Date: _____

Child's name and date of birth: _____

Investigator's Name: YONGGANG REN (Block letters)

Investigator's Signature: _____ Date: 1 June, 2015

The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Research Ethics (telephone (02) 9850 7854; email ethics@mq.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

(INVESTIGATOR'S [OR PARTICIPANT'S] COPY)

家长儿童知情同意书

研究项目名称：澳洲中文儿童学前双语地位、社交能力、情绪调控以及文化适应关系研究

本人现从事一项旨在探究澳洲中文儿童在幼儿园适应情况的研究。如果您孩子的年龄介于四岁0个月到五岁6个月,在家说中文,在幼儿园不少于一年, 本人诚挚邀请您和您的孩子参加此研究项目。研究主要目的在于探索孩子中文水平、英文水平、社交、情绪发展以及适应能力之间的关系。本人将使用标准化中文测试评估您孩子的中文水平, 而本人的一位以英语为母语的同事将使用标准化英语测试评估孩子的英文水平。

此研究项目主要负责人为麦考瑞大学儿童研究中心博士生任永刚, 项目导师为麦考瑞大学人文科学系儿童研究中心讲师雪莉·维沃, 电话(02) 9850 9859, 电邮为 shirley.wyver@mq.edu.au。

如果您和您的孩子愿意并决定参加此研究项目, 您需要:

- 完成一组调查问卷, 内容涉及您孩子的一些个人信息如年龄、来澳时间等(不含任何敏感信息)。填写该组问卷大约需要 10 分钟。

您的孩子需要参加中英文语言水平测试, 测试过程轻松、互动。具体信息如下:

- 英文测试需要 30 分钟。测试过程要语音录音。
- 中文测试需要大约 30 分钟。测试过程要语音录音。
- 语言测试结束后, 测试人员会根据测试方案目测您孩子的情绪调控能力。目测时间最长 5 分钟。情绪调控观察需要录像。
- 所有测试及观察将在您孩子所在幼儿园办公室或幼儿园其它安静场所进行。
- 所有测试结束后, 您将收到 20 澳元作为感谢, 以现金形式还是购物卡我们可以商量。您的孩子将会收到一份价值 10 元左右的礼物, 如玩具熊或玩具飞机等。

您孩子的老师需要:

- 填写两组调查问卷, 一组问卷评估您孩子的社交行为, 另外一组问卷评估孩子的情绪调控。老师的时间付出将会给予 20 元现金的经济补偿。

研究过程中采集的任何数据将予以严格保密, 您和孩子的任何信息将不对外公布。如果您需要数据或研究结果用以参考, 研究人员将以电邮或文书形式向您呈送。研究数据或研究结果可能会发表在相关学术期刊或学术会议上, 但任何涉及您和孩子的个人信息将严格保密, 不会对外公布。研究数据将在研究人员办公室密码保存 7 年。任何第三方使用数据都将会严格审查, 未经参与者同意禁止使用。

您是否参与该研究项目完全自愿, 您和您的孩子没有任何责任和义务必须参加此研究。另外如果在研究中途, 您不打算继续参与可自由退出, 无需向研究人员给出理由, 也无需承担任何后果。

我, _____ (家长姓名), 已经仔细阅读此家长儿童知情同意书, 以及就此书有疑问的地方已向研究人员进一步询问并得到满意答复。我同意参加此研究, 并且清楚我在研究过程中可于任何时间自由退出。另外, 本人另持此知情同意书一份

参与者姓名: _____

参与者签名: _____ 日期: _____

儿童姓名: _____ 出生日期: _____ 年 _____ 月

研究者姓名: 任永刚

研究者签名: _____ 日期: 2015 年 7 月 1 号

麦考瑞大学人类研究伦理委员会已经审核并且批准此研究。任何有关此研究涉及伦理的疑问、异议以及保留意见, 您可以直接联系伦理委员会主任, 电话 02 9850 7854, 或电邮 ethics@mq.edu.au。您的任何异议、意见将不会对外公开, 并且会将我们对您异议、意见的处理结果及时转告您。

(INVESTIGATOR'S [OR PARTICIPANT'S] COPY)

Appendix 7 (Demographic questionnaire, Study 2)

Demographic Information about Your Child

第一部分：您的孩子个人信息统计

Please note:

2. 'Your child' or 'my child' in the following statements refers to the child in the childcare centre aged between 3 to 6 years old who will receive/has received language tests.

3 The term “中文” in the following statements denotes 普通话、国语、汉语 and 华语.

温馨提示：

3. 下列表述中，‘您孩子’或‘我的孩子’指现在幼儿园年龄3到6岁将要接受或已接受语言测试的儿童。

4. 下列表述中，以“中文”统称普通话、国语、汉语及华语。

Your child's Chinese name (您孩子的中文名):

Your child's English name (您孩子的英文名):

Age(年龄) : ____years (岁) ____ months(月) Gender (性别) : boy(男) ☐ girl(女) ☐

Immigration status of your child (您孩子是第几代移民) : 1st (第一代) ☐ 2nd(第二代) ☐

Your child's residence length in Australia(您孩子在澳洲居住时间共计) :

____years (年)____ months (月)

The original country you came from (您的原国籍是): _____

Primary caregiver at home (您孩子在家时的主要照看人):

Mother (妈妈) ☐ Father(爸爸) ☐

Grandparent (祖父母/外祖父母) ☐ Others (其他) ☐

Highest educational level of the primary caregiver (主要照看人最高学历) :

Less than primary school(小学以下) ☐ Primary School (小学) ☐

Secondary School (中学) ☐ TAFE or equivalent(中专或同等学力) ☐

Undergraduate university(大学本科) ☐

Postgraduate university or above(硕士及以上) ☐

Number of Siblings of your child (您孩子共有几个兄弟姐妹): _____

Birth Order of your child (您孩子出生排行): _____

How long has your child been in the centre (您孩子在幼儿园的时间共计):

____ years (年)____ months (月)

Appendix 8 Ethics Approval Letter-Study 1



YONGGANG REN <yonggang.ren@students.mq.edu.au>

RE: HS Ethics Application - Approved (5201300508)(Con/Met)

Fhs Ethics<fhs.ethics@mq.edu.au>

Thu, Jul 25, 2013 at 3:21 PM

To: Dr Shirley Wyver <shirley.wyver@mq.edu.au>

Cc: Professor Katherine Demuth <katherine.demuth@mq.edu.au>, Dr Nan Xu <nan.xu@mq.edu.au>, Mr Yonggang Ren <yonggang.ren@students.mq.edu.au>

Dear Dr Wyver,

Re: "Social-emotional Competence of mandarin Speaking Immigrant Children in Australian Childcare"(5201300508)

Thank you for your recent correspondence. Your response has addressed the issues raised by the Faculty of Human Sciences Human Research Ethics Sub-Committee and approval has been granted, effective 25th July 2013. This email constitutes ethical approval only.

This research meets the requirements of the National Statement on Ethical Conduct in Human Research (2007). The National Statement is available at the following web site:

http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/e72.pdf.

The following personnel are authorised to conduct this research:

Dr Nan Xu

Dr Shirley Wyver

Mr Yonggang Ren

Professor Katherine Demuth

Please note the following standard requirements of approval:

1. The approval of this project is conditional upon your continuing compliance with the National Statement on Ethical Conduct in Human Research (2007).

2. Approval will be for a period of five (5) years subject to the provision of annual reports.

Progress Report 1 Due: 25th July 2014

Progress Report 2 Due: 25th July 2015

Progress Report 3 Due: 25th July 2016

Progress Report 4 Due: 25th July 2017

Final Report Due: 25th July 2018

NB. If you complete the work earlier than you had planned you must submit a Final Report as soon as the work is completed. If the project has been discontinued or not commenced for any reason, you are also required to submit a Final Report for the project.

Progress reports and Final Reports are available at the following website:

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics/forms

3. If the project has run for more than five (5) years you cannot renew approval for the project. You will need to complete and submit a Final Report and submit a new application for the project. (The five year limit on renewal of approvals allows the Sub-Committee to fully re-review research in an environment where legislation, guidelines and requirements are continually changing, for example, new child protection and privacy laws).

4. All amendments to the project must be reviewed and approved by the Sub-Committee before implementation. Please complete and submit a Request for Amendment Form available at the following website:

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics/forms

5. Please notify the Sub-Committee immediately in the event of any adverse effects on participants or of any unforeseen events that affect the continued ethical acceptability of the project.

6. At all times you are responsible for the ethical conduct of your research in accordance with the guidelines established by the University. This information is available at the following websites:

<http://www.mq.edu.au/policy>

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/

[human_research_ethics/policy](http://www.research.mq.edu.au/human_research_ethics/policy)

If you will be applying for or have applied for internal or external funding for the above project it is your responsibility to provide the Macquarie University's Research Grants Management Assistant with a copy of this email as soon as possible. Internal and External funding agencies will not be informed that you have approval for your project and funds will not be released until the Research Grants Management Assistant has received a copy of this email.

If you need to provide a hard copy letter of approval to an external organisation as evidence that you have approval, please do not hesitate to contact the Ethics Secretariat at the address below.

Please retain a copy of this email as this is your official notification of ethics approval.

Yours sincerely,

Dr Peter Roger

Chair

Faculty of Human Sciences Ethics Review Sub-Committee Human Research Ethics Committee

Faculty of Human Sciences - Ethics

Research Office

Level 3, Research HUB, Building C5C

Macquarie University NSW 2109

Ph: +61 2 9850 4197

Fax: +61 2 9850 4465

Email: fhs.ethics@mq.edu.au <http://www.research.mq.edu.au/>

Appendix 9 Ethics Amendment Approval Letter-Study 1



MACQUARIE
University

YONGGANG REN <yonggang.ren@students.mq.edu.au>

RE: Ethics Amendment 1 - Approved (Ref No. 5201300508)

Fhs Ethics <fhs.ethics@mq.edu.au>

Mon, Aug 19, 2013 at 1:46 PM

To: Dr Shirley Wyver <shirley.wyver@mq.edu.au>

Cc: Professor Katherine Demuth <katherine.demuth@mq.edu.au>, Dr Nan Xu <nan.xu@mq.edu.au>, Miss Amber Hinton <amber.hinton@mq.edu.au>, Mr Yonggang Ren <yonggang.ren@students.mq.edu.au>

Dear Dr Wyver,

RE: 'Social-emotional Competence of mandarin Speaking Immigrant Children in Australian Childcare ' (Ref: 5201300508)

Thank you for your recent correspondence regarding the amendment request. The amendments have been reviewed and we are pleased to advise you that the amendments have been approved.

This approval applies to the following amendments:

1. Change in Personnel - Miss Amber Hinton added as Research Assistant for the project;
2. Changes in assessment time - English, from 45-60 minutes to 20-25 minutes; Mandarin, from 30 minutes to 20-25 minutes;
3. To record Mandarin assessment with a digital video camera;
4. Assessments will be conducted at the Institute of Early Childhood if the childcare centres cannot provide a test place. Parents will then receive

A\$30 to cover parking and transport costs;

5. Revised Information and Consent forms in English and Chinese.

Please accept this email as formal notification that the amendments have been approved.

Please do not hesitate to contact us in case of any further queries.

All the best with your research.

Kind regards,

FHS Ethics

Faculty of Human Sciences - Ethics

Research Office

Level 3, Research HUB, Building C5C

Macquarie University NSW 2109

Ph: +61 2 9850 4197

Fax: +61 2 9850 4465 Email: fhs.ethics@mq.edu.au <http://www.research.mq.edu.au/>

Appendix 10 Ethics Approval Letter-Study 2



MACQUARIE
University

YONGGANG REN <yonggang.ren@students.mq.edu.au>

RE: HS Ethics Application - Approved (5201500491)(Con/Met)(RA)

Fhs Ethics <fhs.ethics@mq.edu.au>

Wed, Jul 22, 2015 at 2:39 PM

To: Dr Shirley Wyver <shirley.wyver@mq.edu.au>

Cc: Professor Katherine Demuth <katherine.demuth@mq.edu.au>, Dr Nan Xu <nan.xu@mq.edu.au>, Mr Yonggang Ren <yonggang.ren@students.mq.edu.au>, Ms Fabia Gabriella Andronos <fabia.andronos@mq.edu.au>

Dear Dr Wyver,

Re: "Social-emotional Competence of Mandarin Speaking Immigrant Children in Australian Childcare Phase 2"(5201500491)

Thank you very much for your response. Your response has addressed the issues raised by the Faculty of Human Sciences Human Research Ethics Sub-Committee and approval has been granted, effective 7th July 2015. This email constitutes ethical approval only.

This research meets the requirements of the National Statement on Ethical Conduct in Human Research (2007). The National Statement is available at the following web site:

http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/e72.pdf.

The following personnel are authorised to conduct this research:

Dr Nan Xu

Dr Shirley Wyver

Mr Yonggang Ren

Ms Fabia Gabriella Andronos Professor Katherine Demuth

Please note the following standard requirements of approval:

1. The approval of this project is conditional upon your continuing compliance with the National Statement on Ethical Conduct in Human Research (2007).

2. Approval will be for a period of five (5) years subject to the provision of annual reports.

Progress Report 1 Due: 7th July 2016

Progress Report 2 Due: 7th July 2017

Progress Report 3 Due: 7th July 2018

Progress Report 4 Due: 7th July 2019

Final Report Due: 7th July 2020

NB. If you complete the work earlier than you had planned you must submit a Final Report as soon as the work is completed. If the project has been discontinued or not commenced for any reason, you are also required to submit a Final Report for the project.

Progress reports and Final Reports are available at the following website:

http://www.research.mq.edu.au/current_research_staff/human_research_ethics/application_resources

3. If the project has run for more than five (5) years you cannot renew approval for the project. You will need to complete and submit a Final Report and submit a new application for the project. (The five year limit on renewal of approvals allows the Sub-Committee to fully re-review research in an environment where legislation, guidelines and requirements are continually changing, for example, new child protection and privacy laws).

4. All amendments to the project must be reviewed and approved by the Sub-Committee before implementation. Please complete and submit a Request for Amendment Form available at the following website:

http://www.research.mq.edu.au/current_research_staff/human_research_ethics/managing_approved_research_projects

5. Please notify the Sub-Committee immediately in the event of any adverse effects on participants or of any unforeseen events that affect the continued ethical acceptability of the project.

6. At all times you are responsible for the ethical conduct of your research in accordance with the guidelines established by the University. This information is available at the following websites:

<http://www.mq.edu.au/policy>

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/

[human_research_ethics/policy](http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics/policy)

If you will be applying for or have applied for internal or external funding for the above project it is your responsibility to provide the Macquarie University's Research Grants Management Assistant with a copy of this email as soon as possible. Internal and External funding agencies will not be informed that you have approval for your project and funds will not be released until the Research Grants Management Assistant has received a copy of this email.

If you need to provide a hard copy letter of approval to an external organisation as evidence that you have approval, please do not hesitate to contact the Ethics Secretariat at the address below.

Please retain a copy of this email as this is your official notification of ethics approval.

Yours sincerely,

Dr Anthony Miller

Chair

Faculty of Human Sciences

Human Research Ethics Sub-Committee

Faculty of Human Sciences - Ethics

Research Office

Level 3, Research HUB, Building C5C

Macquarie University NSW 2109

Ph: +61 2 9850 4197 Email: fhs.ethics@mq.edu.au <http://www.research.mq.edu.a>