THE ROLE OF ETHNIC IDENTITY IN CHILDREN'S SELECTIVE TRUST IN OTHERS

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Abstract

The present research examined the roles of informant ethnicity and early ethnic identity development in guiding children's selective trust across scenarios, comparing White and Chinese Canadian children with children adopted from China by White parents. Experiments 1 and 2 investigated children's *selective learning* from two contrasting sources that differed in race (White versus Chinese) and spoken accent (native versus foreign accent). Experiment 1 (White experimenter) indicated that the White children preferred to learn from White informants when race was the only cue to ethnic group status; no preference was observed when race was pitted against accent. The Chinese and adopted children showed no learning preference. Children's social preference for same-race peers was associated with a preference to learn from same-race informants. Experiment 2 (Chinese experimenter) had similar findings, except that there was no relationship between children's racial preference and selective learning. Experiment 3 explored children's *selective credulity* toward misinformation from a single source. The Chinese children were credulous toward both Chinese and White (native- or foreign-accented) informants but the White and adopted children were not credulous or skeptical, regardless of the informant's race and accent. The present findings contribute to our understanding of how ethnic intergroup attitudes develop in children of different ethnic and social-status backgrounds, including minority-status children that reside with majority-status parents, and provide practical implications for real-world issues related to children's eyewitness testimony in forensic contexts.

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Dedication

To tomorrow's children: I hope you live in a world where intergroup differences are celebrated and appreciated, devoid of prejudicial views and discriminatory violence.

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Chapter 1

General Introduction

“For transracially-adopted children, the obvious physical nature of adoption places them at unique intersection of race and ethnicity (Wilkinson, 1995).”

For cultural transmission to take place, young children must rely on the testimony of others in order to learn about the world around them (e.g., Harris, 2007; Koenig & Harris, 2005). Credulity toward others can often serve as an adaptive learning mechanism, enabling young children to absorb new knowledge from a variety of sources. It is possible, that with an overreliance on the testimony of others, young children will encounter information and sources that are not always so accurate (e.g., interviewer misinformation in eye-witness testimony; Ceci & Huffman, 1997). As such, along with demonstrating *credulity* in some instances, successful learning can only take place when children can act *skeptically* to differentiate between reliable and unreliable sources.

Research suggests that children, like adults, are capable of making inferences about how reliable others might be as sources of new information (e.g., Koenig, Clément, & Harris, 2004). For instance, young White children demonstrate *selective* trust in others based on perceptions made about informant ethnicity or group membership (e.g., Chen, Corriveau, & Harris, 2013; Kinzler, Corriveau, & Harris, 2011). Interestingly, however, children of minority status do not always demonstrate such systematic learning preferences based on ethnic group membership (Gaither, Chen, Corriveau, & Harris, 2014). Thus, it is important to further understand how ethnic identity development might contribute to children’s selective trust based on informant ethnicity.

The Construct of Selective Trust

From early in development, children rely on others in order to learn about domains such as social conventions, technology, language, food, culture, and other relevant survival skills (Csibra & Gergely, 2011). On the one hand, children might be presented with conflicting knowledge from more than one source and have to choose which source is most likely to provide accurate information (*selective social learning*). On the other hand, children might encounter information that directly conflicts with their firsthand experiences or existing knowledge and have to decide whether to rely on that source, or believe in what they know to be true (*selective credulity*). For example, in one scenario, a child might be presented with a novel object and told from one source that it is a juice reamer and from another source that it is a garlic peeler—the child has no prior knowledge about the target item. Alternatively, in another scenario, a child might be told from one source that a tomato is a fruit, when the child actually knows that a tomato is a vegetable—the child has prior knowledge about the target item. Despite the different contexts, in each scenario children are required to make important decisions about whom to trust: choosing one informant over the other in the former case, or choosing one’s own knowledge over an informant’s testimony in the latter case. Although research has shown that children rely on both epistemic cues (i.e., cues indicative of knowledge such as an informant’s previous accuracy) and non-epistemic cues (i.e., cues not indicative of knowledge such as an informant’s physical attractiveness) when deciding whom to trust for new information (Harris & Corriveau, 2011; Shafto et al., 2012), it is less clear whether children weigh such cues similarly across various scenarios involving trust.

It is possible that certain social-cognitive mechanisms underlie both processes of selective trust. For instance, some children demonstrate *selective credulity* based on speaker

characteristics, only acting with skepticism when provided with a false testimony from an ethnic outgroup member (McDonald & Ma, 2016). That is, they weigh their own observations or knowledge as more accurate than the information being presented to them. This selectivity falls in line with the literature on children's early *selective social learning* based on the past reliability or social category of informants; when presented with two sources, children choose to learn from informants of their own gender (e.g., Ma & Woolley, 2013), race (e.g., Shutts, Banaji, & Spelke, 2010), and spoken accent (Corriveau et al., 2013; Kinzler et al., 2011).

However, it is also possible that each trust scenario involves theoretically different processes. From a social perspective, there might be different costs (or risks) associated with obtaining the accurate information across contexts. For instance, young children and adults place greater weight on decisions in which they have more to lose (see Reyna & Brainerd, 2011 for a review). That is, although the reward might be the same—obtaining knowledge—there may be greater risk in acting with credulity when faced with information that conflicts with children's direct observations. In such cases, children must abandon previous knowledge in favour of informant testimony (i.e., the potential exists to *lose* accurate information). Alternatively, there may be lower perceived risk in children's *selective social learning*, as the knowledge was unknown in the first place (i.e., no information to *lose*).

Moreover, it is possible that there are different cognitive mechanisms involved in each trust scenario. For instance, when children are weighing unknown information from more than one source, they may have the resources available to focus more deeply on informant characteristics that may or may not suggest some form of credibility such as informant ethnic group membership. In contrast, children might find it more challenging to focus on potential cues to informant reliability when their cognitive resources are overloaded, such as when they

are trying to remember what they actually know and potentially inhibit a false testimony. At the same time, it is likely that social and cognitive processes are not mutually exclusive. For instance, more complex (and advantageous) decision-making is associated with the use of greater cognitive resources (Kerr & Zelazo, 2004).

In summary, although there may be similar factors contributing to both *selective social learning* and *selective credulity* in young children, it is also possible that there are subtle differences such as the social and cognitive mechanisms involved in each process. For instance, children likely place greater weight on decisions that involve abandoning previous knowledge (*selective credulity*) as compared to decisions in which the information to be learned was unknown in the first place (*selective social learning*). In addition, selective credulity might require greater use of certain executive functions (e.g., inhibiting an informant's false testimony while retaining prior knowledge) than selective social learning. Thus, in the scenario of selective credulity, children's cognitive abilities might be compromised to a greater extent, reducing their sensitivity to certain cues in assessing the informant's credibility. Therefore, it is important to further investigate the construct of selective trust from multiple angles (two sources versus a single source, and unknown versus known information). The following section will review relevant literature and discuss factors that may be especially important in children's *selective social learning* and *selective credulity*.

Selective Social Learning

Young children demonstrate *selective social learning* when presented with two contrasting sources. For instance, preschoolers prefer to learn from others that have been reliable in the past (e.g., Koenig & Harris, 2005; Koenig et al., 2004), and from speakers with positive traits, such as attractiveness (Bascandziev & Harris, 2014) honesty (Lane, Wellman, & Gelman,

2013), and friendliness (Landrum, Mills, & Johnson, 2013; Mascaro & Sperber, 2009). They also prefer to learn new knowledge from ingroup others (e.g., Chen et al., 2013; Corriveau et al., 2013; Kinzler et al., 2011). To date, it is presumed that most of these studies focused on non-adopted children that are raised with their biological parents, although participant demographics do not generally provide enough details to confirm this assumption. However, we can be quite certain that most studies are conducted with majority-status children. Due to findings that White preschoolers demonstrate learning preferences for ethnic ingroup others, it is important to examine how children from other ethnic backgrounds also make decisions based on cues to informant ethnicity. For example, it is possible that young transracially-adopted children (e.g., Chinese children adopted by White parents) might display a unique pattern of selective trust related to individual differences in familial upbringing and the formation of ethnic identity (i.e., racial minority children living with majority-status parents). Understanding the social preferences of transracially-adopted children, in particular, can provide special insight into the development of intergroup biases in children with heightened exposure to multiple ethnic groups differing in social status. Thus, prior to hypothesizing about how minority and transracially-adopted children might selectively learn from others, the following sections will describe the various factors that have been shown to impact children's selective social learning.

Epistemic reasoning. Whether or not it is the intention of the informant (e.g., supernatural entities or mistaken directions), young children can often be provided with false information. Thus, when learning from others, preschoolers must take a “critical stance” in order to avoid learning inaccurate knowledge (i.e., Mills, 2013). This may involve engaging in epistemic trust or vigilance and reasoning about how the informant obtained the information in the first place (e.g., Nurmsoo & Robinson, 2009), considering the informant's past reliability or

competence (e.g. Clement, Koenig, & Harris, 2004; Corriveau & Harris, 2009a; Fusaro & Harris, 2008; Pasquini, Corriveau, Koenig, & Harris, 2007; Sperber et al., 2010) and weighing the informant's intentions (Mascaro & Sperber, 2009; Shafto, Eaves, Navarro, & Perfors, 2012).

An abundance of research has demonstrated that young children are able to monitor the past transgressions of an informant and use this knowledge upon future encounters (e.g., Corriveau & Harris, 2009a; Jaswal & Neely, 2006; Koenig & Harris, 2005; Pasquini et al., 2007). For instance, Koenig and Harris (2005) showed that when learning about new objects, young children considered the informant's past accuracy when making decisions about whom to trust in a future situation. In their study, 4-year-olds but not 3-year-olds identified the accurate informant, predicted the informant's future accuracy, and preferred to endorse the testimony of, and to direct questions to, the previously accurate informant. Moreover, when the informant's past accuracy was pitted against age (adult versus child; Jaswal & Neely, 2006) or familiarity (a familiar figure versus a stranger, Corriveau & Harris, 2009b), 4- and 5-year-olds' learning preferences were strongly dependent upon the informant's past accuracy.

Desirable traits. Despite the importance of the previous studies, in the real world children do not always have the opportunity to reason with epistemic care (e.g., they might not have access to the informant's knowledge state or past reliability), in which case they may instead choose to rely on other biases and characteristics of the messenger that are not necessarily systematic or indicative of reliability, such as the informant's physical appearance (e.g., Bascandziev & Harris, 2014, 2016; Jaffer & Ma, 2015; McDonald & Ma, 2015) or relative confidence levels (Birch, Akmal, & Frampton, 2010; Brosseau-Liard, Cassels, & Birch, 2014). For example, Bascandziev and Harris (2014) demonstrated that when 3- to 5-year-olds had no background information about the informant's reliability (e.g., past accuracy or intentions), they

favoured information provided by more physically attractive speakers over that provided by less attractive speakers. Further, a second study revealed that children preferred to learn from more versus less attractive informants, despite past instances of unreliability (Bascandziev & Harris, 2016). Moreover, studies show that children prefer to learn from able-bodied individuals rather than from those that are disabled or obese (Jaffer & Ma, 2015), and from those dressed professionally rather than casually (McDonald & Ma, 2015).

In addition to displaying selective learning based on physical appearance, studies reveal that children prefer to learn from informants that exude a greater level of confidence or certainty through both verbal and nonverbal means (e.g., Birch et al., 2010; Brosseau-Liard et al., 2014; Jaswal & Malone, 2007; Sabbagh and Baldwin, 2001). For instance, children as young as 2- and 3 years old preferred to learn from informants that demonstrated certainty through nonverbal means (e.g., upright posture, chin high, positive facial expressions) to those that appeared relatively less certain. Moreover, 4- and 5-year-olds were also more likely to believe information presented by a confident over a hesitant informant (Brosseau-Liard et al., 2014). However, in these situations, when children were provided with information about the informant's past accuracy, indicators of confidence appeared less important toward inferences about trustworthiness. That is, regardless of whether or not the informant appeared hesitant, older children continued to prefer informants that were previously accurate.

Group membership. Along with selectively learning from others based on physical characteristics or confidence, strong evidence suggests that preschoolers selectively learn from others based upon perceived group membership. That is, young children place more trust in others that are supported by group consensus (Corriveau, Fusaro, & Harris, 2009; Chen et al., 2013; Fusaro & Harris, 2008), and in those that belong to their own social group. Moreover,

young children prefer to learn from informants that share ingroup characteristics including their gender (Ma & Woolley, 2012; Taylor, 2013), race (e.g., Chen et al., 2013), and language or spoken accent (Corriveau et al., 2013; Kinzler et al., 2011). In these contexts, it is unclear whether children are reasoning based on epistemic grounds. Group membership does not necessarily provide information about past accuracy; however, some researchers feel that young children prefer to learn from ingroup others because they view these individuals as more capable of providing culturally accurate and relevant information (e.g., Kinzler et al., 2011). As such, it is possible that young children are reasoning with some level of epistemic prudence when placing their selective trust toward ingroup others, particularly in situations where the knowledge in question has specific ties to ethnic group membership (e.g., learning culturally-specific information about history, traditions, and languages).

To summarize, young children engage in both epistemic and non-epistemic reasoning when learning from others. In doing so, they take into account the past reliability, physical and personality traits, and group membership of informants when engaging in *selective social learning*. Moreover, there appear to be improvements in children's ability to reason with epistemic vigilance over the preschool years.

Selective Credulity

Although there are various factors that influence children's *selective social learning*, children may use different social and cognitive mechanisms when demonstrating trust in testimony that conflicts with their own firsthand observations or existing knowledge (i.e., *selective credulity*). Moreover, some studies suggest that when children are presented with information from only one source, they do not always follow the same patterns of reasoning as when they are presented with conflicting information from two sources (e.g., Heyman,

Sritanyaratana, & Vanderbilt, 2013; Jaswal, 2010; Ma & Ganea, 2010; Vanderbilt, Heyman, & Liu, 2014). For example, they do not always demonstrate selective trust based on speaker past reliability (Vanderbilt et al., 2014). In addition, 3-year-olds are typically credulous toward the false testimony of a single source, despite direct observations of the truth (Ma & Ganea, 2010). However, 4- and 5-year-olds are not always credulous, suggesting that there might be other social-cognitive mechanisms involved in children's ability to demonstrate selective trust when faced with information that conflicts with their direct observations. The following section will review the literature on children's *selective credulity* and the factors that may be especially important to children's trust in these contexts.

Epistemic reasoning. Research generally demonstrates that when young children are presented with conflicting claims from two contrasting sources, they demonstrate epistemic reasoning and prefer to learn from the previously reliable informant. However, Vanderbilt et al. (2014) demonstrated that 3- and 4-year-old children continued to trust a previously unreliable source when the source was presented without a contrasting alternative. In contrast, Ma and Ganea (2010) showed that when 3-year-olds were provided with an instance of speaker unreliability, they were no longer credulous toward the speaker's false testimony in a subsequent search task. It is possible that the apparent differences between these two studies are due to the fact that in the former the information was unknown, whereas in the latter children had direct access to the truth, which may implicitly provide an alternative source (one's own observations).

In their model of epistemic trust, Shafto and colleagues (2012) suggested that epistemic reasoning involves consideration of the informant's *intentions*. That is, whether or not the informant is knowledgeable does not necessarily always predict whether he or she will provide accurate information. For example, imagine planning to seek assistance from a very intelligent

individual whom you are confident is capable of providing the correct answers. However, that individual may have conflicting interests in your success (e.g., you are competing for the same scholarship). In the present mock situation, there lies the possibility that although the informant can likely provide the answers you are seeking, he or she may not intend to relay the most truthful information. As adults, this is a possibility that is considered readily when making choices about sources and assessing others' reliability. Mascaro and Sperber (2009) demonstrated that preschoolers also reason about others' intentions when seeking new information. In their study, children's ability to consider an informant's intentions improved across development: Four-year-olds, but only some 3-year-olds, avoided trusting a single informant identified as a *liar*. Furthermore, in Heyman et al. (2013) when 4-year-olds were provided with advice from a storybook character with typically "bad" intentions (i.e., The Big Bad Wolf), they were less likely to be credulous toward the misleading information. On the other hand, 3-year-olds still remained relatively credulous almost half of the time. Thus, there appears to be a *developmental transition* in the ability to engage in epistemic reasoning and demonstrate skepticism when faced with conflicting information and unreliable informants.

Group membership. As reviewed earlier, young children demonstrate *selective social learning* based on messenger characteristics such as informant ethnicity (e.g., Gaither et al., 2014). This finding has additionally been supported in the limited *selective credulity* literature. For instance, young children are credulous toward a single ethnic ingroup member's false testimony that conflicts with their direct observations. For example, McDonald and Ma (2016) indicated that 4-year-old White English monolinguals were credulous toward the false testimony of an ethnic ingroup (White, native English speaker) but displayed skepticism of an ethnic outgroup member (Asian, foreign accented English speaker). However, when the speaker's race

was pitted against the speaker's accent in a second experiment, only half of the 4-year-olds were credulous toward the false testimony of a same-race speaker with a foreign accent or a same-accent speaker of a different race. Thus, it is possible that the combination of both ingroup speaker race and accent is needed to initiate instances of selective credulity in 4-year-olds. This finding also suggests that children may weigh certain cues to ethnicity (e.g., race, accent) or to ingroup versus outgroup status differently when demonstrating selective trust based on speaker group membership.

To summarize thus far, there appears to be a developmental progression over the preschool years in children's ability to assess informant intentions and reason with epistemic vigilance when demonstrating selective credulity. For instance, majority-status 4-year-olds (but not 3-year-olds) demonstrate selective credulity toward informants based on informant ethnic group membership and their history of previous accuracy. However, it is less clear how children of other ethnic backgrounds and familial compositions, such as minority children that live with majority-status parents, selectively trust in others. Of particular interest, due to individual differences in familial upbringing and the formation of ethnic identity, it is possible that young transracially-adopted children (i.e., children of a racial minority who are adopted by parents of the racial majority) might display a unique pattern of selective trust in both their *selective social learning* and *credulity*. However, prior to exploring this question, it is important to examine both non-adopted and transracially-adopted children's early development of ethnic identity.

Ethnic Identity Development

For children and adults, fully understanding the construct of *ethnicity* or developing an ethnic identity is a complicated process. For one, the terms ethnicity and race are sometimes used interchangeably (Phinney, 1996a; Quintana, 1998). However, despite the interrelations

between race and ethnicity, there are also clear differences between the two. Race is often used with reference to biological or physical features, and although ethnicity can include race, it can also be used to describe a group of people that share social features from a similar geographical area or ancestral background (e.g., religion, language, and cultural traditions) (Quintana, 1998). Nevertheless, ethnic and racial groups may overlap a great deal, and can even be further divided into different cultural or national groups (e.g., Greek Canadians). In this dissertation, the term ethnicity is primarily used to encompass race, along with other shared features that contribute to ethnic identity, such as spoken language or accent (Hollingsworth, 1997; Phinney, 1996a).

Feeling a sense of belonging to a particular ethnic group, and experiencing specific perceptions, behaviours, and attitudes as a result of this group identification or membership is often referred to as having an ethnic identity (Hollingsworth, 1997; Phinney, 1990; Phinney, 1996a; Rotheram-Borus & Phinney, 1990). In adult and adolescent minority and immigrant populations, identifying strongly with an ethnicity is related to positive mental and physical health, successful acculturation, a sense of belonging, and high self-esteem (Brown et al., 2000; Liebkind, 2001; Phinney & Chavira, 1992; Phinney, Cantu, Lou, & Kurtz, 1997). Moreover, researchers suggest that identifying with an ethnic group can protect oneself from prejudice, allowing individuals to feel a sense of togetherness with others that are perceived similarly (Chavez & Guido-DiBrito, 1999). Even young children that are provided with information about their ethnicity demonstrate positive indicators of mental-health. For instance, preschoolers that were made more aware of their minority culture (e.g., African Americans in America) had more advanced problem-solving skills and less behavioural issues (Caughy, O'Campo, Randolph, & Nickerson, 2002). Thus, the early components of ethnic identity are important to social-emotional functioning and positive mental-health in even the youngest children.

Studies demonstrate that for several reasons related to the adoption process, transracially adopted children, such as children adopted from China by White parents, are at a greater risk for psychological adjustment problems with respect to ethnic identity development (e.g., Feigelman, 2000; Hollingsworth, 1997; Keyes, Sharma, Elkins, Iacono, & McGue, 2008). For instance, later in development, young adoptees may endure simultaneous feelings of loss and gratitude, as they may have lived very different lives had they not been adopted (e.g., spoken other languages, worn different clothes, had a different social status) (Friedlander, 1999; Kim, Sueymoto, & Turner, 2010). On the one hand, children may become “assimilated” to the majority culture/ethnicity and have very limited social ties to their birth country. On the other hand, children may identify more favorably with their birth country and develop a “separated” ethnic identity (e.g., changing name, language, religion, traditions). There is also the possibility that adoptees will associate with neither culture very positively, or develop a “bicultural” identity in which a sense of ingroup pride is linked equally with both ethnicities (Freidlander, 1999; Phinney, 1990). Nevertheless, *transracially*-adopted children (children that are adopted by parents of a different race) demonstrate no significant differences in self-esteem and school performance, despite the fact that they are predicted to experience greater psychological problems than same-race adoptees (Hamilton, Samek, Keyes, McGue, & Iacono, 2015; Keyes et al., 2008; Vroegh, 1997).

According to researchers (Phinney, 1996a; Phinney & Ong, 2007), there are 4 major components of ethnic identity development: ethnic awareness, ethnic attitudes or preferences, ethnic behaviours, and ethnic self-identification. Quintana’s 5-level model of ethnic identity development (see Quintana, 1994; 1998, for a review) outlines the transition from a perceptual (level 0; 0- to 6-years) to a literal (level 1; 6-10 years) understanding of ethnicity, and toward a

higher-order understanding (e.g., social status) in the later school years and into adolescence/adulthood. For example, most 3- and 4-year-olds have developed an *ethnic awareness* of the differences (i.e., race and/or language) that exist between racial groups and themselves; however, the ability to correctly classify those groups by race becomes more consistent between the ages of 4 to 6 years (Byrd, 2011; Quintana, 1998). Thus, prior to children fully understanding the meaning behind ethnic group membership, they are aware of the ethnic differences that exist between groups. As a result, children may demonstrate early *ethnic attitudes or preferences* for certain ethnic groups and ethnic behaviours. At this time, however, children are not always capable of classifying others by ethnicity or understanding the meaning of ethnic group membership.

These early stages of ethnic identity development may then contribute to ethnic group *self-identification* in adolescence (e.g., Phinney, 1996a; Phinney & Ong, 2007; Quintana, 1998). In addition, children may demonstrate *ethnic behaviours* that are consistent with certain ethnic groups, such as speaking a dominant language or eating specific foods, though it does not necessarily suggest that they self-identify as being a member of an ethnic group. Nevertheless, there are individual differences in the dynamic process of ethnic identity development, and even adults may re-evaluate aspects of their ethnic group membership in the later years (e.g., attitudes, behaviours, self-identification) (Parham, 1989). The present section focuses on aspects of ethnic identity that develop during the early school years, such as ethnic awareness and ethnic attitudes (e.g., preferences).

Ethnic awareness. Early awareness of ethnicity begins during infancy with the ability to recognize that perceptual differences exist between racial groups (e.g., Kelly et al., 2007). The task most often used to measure this phenomenon is the Visual Preference task, in which

children are presented with paired faces that differ in racial background and are then recorded as to the length of time they spend looking toward each face. In addition, recent work has merged perceptual awareness and ethnic preference measures to create a paradigm traditionally used with adult populations: the ‘angry-outgroup’ paradigm (Dunham, 2011; Hugenberg & Bodenhausen, 2004; Hutchings & Haddock, 2008). In this task, children are asked to categorize racially ambiguous faces that vary in facial expression by race. This measure is reliably associated with the Implicit Association Test (IAT) that assesses implicit ingroup preferences (Dunham, 2011). Individuals that categorize outgroup faces as angry are typically more likely to have negative outgroup attitudes on the IAT. Collectively, the present measures assess children’s early awareness of ethnicity and preferences for ingroup and outgroup others.

Non-adopted children. With regard to early *ethnic awareness*, 3-month-old White (Kelly et al., 2005), African American (Bar-Haim, Ziv, Lamy, & Hodes, 2006), and Chinese (Kelly et al., 2007) non-adopted infants are more likely to attend to the faces of others that share the same race as their caregivers. Similarly, newborn infants spend longer listening to others that speak in their mother’s native language, than to those that do not, or to those that do so with a foreign accent (Kinzler, Dupoux, & Spelke, 2007; Moon, Cooper, & Fifer, 1993; Nazzi, Bertoncini, & Mehler, 1998; Vouloumanos & Werker, 2007). Thus, it appears that in the first few months of life, infants begin to show an implicit awareness that perceptual differences exist between ethnic groups, though the capacity to successfully categorize faces by race is not typically observed until the early preschool years (Aboud, 2003).

More complex levels of ethnic awareness were originally thought to develop much later in the process of ethnic identity development, such as the awareness that some ethnicities are associated with higher social statuses than others (e.g., minority versus majority racial groups)

(Phinney, 1996b). For minority status individuals, this may involve becoming aware that one is categorized lower in social-status and may have been historically subjected to prejudice.

However, recent evidence indicates that “social-status enculturation” (e.g., Brewer, 1999; Dunham et al., 2013) emerges early in development and might override even the most inherent ingroup preferences.

Adopted children. In terms of early ethnic awareness, prior to fully understanding the matter of adoption, young transracially-adopted children recognize that there are physical differences between themselves and their adopted parents. Moreover, they recognize that physical differences exist between the majority of individuals in society and themselves. Thus, early in the preschool years, adoptees begin to make categorical distinctions between themselves and others based on physical features such as race (Bernal et al., 1990). For instance, parents indicate that young adoptees’ awareness of the physical differences to others in society begins very early in development, focusing on others’ skin, eye, and hair colour (Friedlander et al., 2000). Although, similar to non-adopted children (Quintana, 1998; Byrd, 2011), preschool adoptees’ literal understanding of “ethnicity” and ethnic identification develops later in the school years (Huh & Reid, 2000; Phinney, 1996a).

Past literature has revealed that *domestic* transracial adoptees (typically Black or Mexican children) are more likely to become acculturated with the majority ethnicity (see Hollingsworth, 1997, for a meta-analysis; Lee, 2003) and experience fewer difficulties in developing an ethnic identity as compared to *international* adoptees (Brooks & Barth, 1999). In particular, internationally adopted Asian individuals have been shown to demonstrate significant challenges when developing an ethnic awareness (e.g., Lee & Quintana, 2005; Westhues & Cohen, 1998; Yoon, 2004). For instance, Westhues and Cohen (1998) revealed that 14% of international

adoptees (Korean, Bangladesh, and Haiti) interviewed during late childhood/early adolescence (average age of 17 years) were unable to identify their race, and 10% identified themselves as White. However, in general, children's difficulties appear to be mitigated by parental support of bicultural ethnic identity development (Fong & Wang, 2001; Yoon, 2004).

Ethnic preferences. During the preschool years, the most commonly used method in the literature to assess ethnic preferences (specific to race) is the classic Clark and Clark (1947) doll test and several adaptations of this task (Byrd, 2011). In this measure, children are asked to categorize others by race and indicate whether they prefer a same-race or other-race doll (e.g., which doll: is nice/bad; would you prefer to play with; is a nice color; looks like you). Variations of this paradigm have included photographs, drawings, and cartoon representations of children from various racial backgrounds. Similar paradigms have been used to examine other aspects of ethnic attitudes, such as preferences for others based on language or speaker accent (Kinzler, Shutts, DeJesus, & Spelke, 2009).

Non-adopted children. With regard to *ethnic preferences* measured through certain behavioural measures (Kinzler, Shutts, & Correll, 2010; Shutts et al., 2010), at first glance it seems that young children show limited racial ingroup preferences during the toddler years when accepting toys from or giving toys to same-race and other-race individuals (Kinzler & Spelke, 2011; Shutts et al., 2010). In contrast, ingroup preferences based on language appear quite robust very early in development. For example, 10-month-olds prefer to accept toys offered by native-language over foreign-language speakers (Kinzler et al., 2007), and 14-month-olds are more likely to imitate the behaviours of native- rather than foreign-language speakers (Buttelmann, Zmyj, Daum, & Carpenter, 2013). However, there are many factors that might contribute to children's social preferences based on speaker accent, such as whether the accent

has particular ties to social status or knowledge state (e.g., the perception that individuals that speak with Southeastern US accents sound less intelligent; Campbell-Kibler, 2007), the strength of the accent, the context in which the accent was introduced (social learning versus explicit preference task), and how often children are exposed to other individuals in their community that speak with the accent in question (Creel, 2016). There also appears to be a discrepancy in the development of accent detection compared to children's social biases based on accent *per se*. Indeed, 5-year-old children have a preference for same-accented to foreign-accented individuals (Kinzler et al., 2009), despite sometimes demonstrating difficulties recognizing that a foreign accent exists (Wagner, Clopper, & Pate, 2014).

Nevertheless, it is possible that the general finding for children to have early language but not racial ingroup preferences may be related to the powerful social ties associated with spoken language or accent that are not necessarily so obvious based on race (e.g., Giles & Billings, 2004; Gluszek & Dovidio, 2010; Labov, 2006; Riches & Foddy, 1989). For example, although both race and spoken language or accent can instantly suggest information about one's ethnicity, nationality, or even social status (e.g., Gluszek & Dovidio, 2010; Labov, 2006), spoken language or accent may be a more reliable indicator of ethnic group membership in a racially diverse society (e.g., Kinzler et al., 2009; Pietraszewski & Schwartz, 2014; Riches & Foddy, 1989). Supporting this hypothesis, accent appears to trump race in explicit ingroup preference tasks; children prefer to be friends with other-race children that share their native accent to same-race children that speak a foreign accent (Kinzler et al., 2009).

Same-race preferences do, however, become apparent between preschool and the early school years (Aboud, 2003; Bigler & Liben, 1993; Aboud & Doyle, 1995; Dunham et al., 2013; Kinzler & Spelke, 2011; Krieger, Möller, Zmyj, & Aschersleben, 2016; Nesdale, 2001; Qian et

al., 2016; Renno & Shutts, 2015; Xiao et al., 2015), likely connected to children's developing perceptual and social cognitive abilities and the inferences that they begin to make about race beyond physical observations. This is observed on tasks measuring both implicit (e.g., Dunham et al., 2013; Xiao et al., 2015) and explicit (e.g., Qian et al., 2016) ingroup biases, and appears to differ in presentation from adult participants. For example, 3- to 5-year-olds from China and Cameroon demonstrated stable implicit (using an adaption of the IAT task; Implicit Racial Bias test) and explicit ingroup preferences, despite the social status of the other-race comparison groups (Qian et al., 2016). These results contrasted adult participants in two ways: unlike children, 1) adults were influenced by the social status of the other racial groups, and 2) they did not show explicit ingroup biases. These results support theories that social-status sensitivity might emerge later in development and that children are less influenced by social desirability factors on measures of explicit ingroup attitudes (e.g., Crowne & Marlowe, 1960).

With regard to children from other ethnic backgrounds, those from ethnic minority groups do not appear to demonstrate explicit or implicit ingroup favoritism, or outgroup biases against children identified as the "majority" (e.g., Dunham et al., 2013; Newheiser, Dunham, Merrill, Hoosain, & Olson, 2014; Shutts, Kinzler, Katz, Tredoux, & Spelke, 2011; Xiao et al., 2015). For example, young children in South Africa attending English-speaking schools preferred English speakers over those that spoke in their native tongue (i.e., Xhosa) (Kinzler, Shutts, & Spelke, 2012). Moreover, using the previously described "angry = outgroup" paradigm, Dunham and colleagues (2013) demonstrated that Black American children were no more likely to categorize angry faces as White than Black, suggesting no implicit ingroup biases. This pattern of results contrasts majority status children that demonstrate a clear preference to associate ingroup others with more positive traits (e.g., happy faces). It is possible that an early

awareness of racial differences between groups may involve feelings of privilege in majority status children in accordance with developing ingroup biases. Conversely, apparent differences in social status might be more salient for minority-status children and override the basic tendency to hold ingroup biases.

Therefore, children's ingroup favoritism based on literal markers of ethnicity may diminish when pitted against other preferences, such as when the outgroup members are perceived to be higher in social status. For example, in one study, 4- and 5-year-olds designated to a mock "wealthy" group demonstrated ingroup preferences; however, children placed in the "less wealthy" group did not demonstrate such ingroup preferences (Horowitz, Shutts, & Olsen, 2014). In addition, both multiracial and Black children demonstrate social preferences for other multiracial individuals and associate them with more wealth-related stereotypes over Black individuals (Dunham, Newheiser, Hoosain, Merrill, & Olsen, 2014). Thus, it appears that young children's ethnic biases, particularly those in minority status groups, may also be driven by perceptions about social status that are tied to race or spoken language.

Adopted children. With respect to early ethnic preferences, studies suggest that young school-aged Chinese adoptees do not have social preferences for other Chinese children (Adams, Tessler, & Gamache, 2005). Moreover, adoptees with greater exposure to other ethnicities (Chinese in particular) in the school system are even less likely to show a Chinese preference. Researchers hypothesize that this finding is due to the link between ethnicity and social status, such that most parents of transracial adoptees are White and due to the costs associated with international adoption, they are typically higher in social status (Friedlander, 1999; Friedlander et al., 2000). Thus, Chinese adoptees (with White parents) might make inferences that White individuals are higher in social status as compared to Chinese individuals, leading to greater

racial outgroup preferences. This finding is also consistent with research demonstrating that some minority status children hold preferences for majority status individuals over ethnic ingroup members (see Olson, Shutts, Kinzler, & Weisman, 2012). Other studies suggest that parental and community support of biculturation in adoptees can support positive ethnic identity development and balance attitudes toward the Chinese culture (Fong & Wang, 2001; Tan & Nukkula, 2004). However, less research has directly explored early ethnic identity development in Chinese preschool adoptees (using both race and language), and no studies have examined the link between these attitudes and selective trust.

In summary, it appears that various mechanisms contribute to the development of intergroup attitudes. For one, it seems that more pronounced ingroup preferences are observed in non-adopted children that are better at characterizing faces by race. In addition, once majority-status children are capable of classifying faces by race, they often demonstrate distinct preferences for ingroup others. However, these effects can be reduced through individuation training with faces; thus suggesting a distinct link between the perceptual awareness of racial groups and implicit ingroup attitudes. Moreover, the concept of social-status appears to play an important role in both majority and minority (including adoptees) children's development of ethnic identity. That is, in the early preschool and school years, young children demonstrate an awareness of, and preferences for, those within their ethnic ingroups or those perceived as higher in social status despite ethnic ingroup versus outgroup biases. However, because biracial children demonstrate flexible early ethnic preferences specific to race (Gaither et al., 2014), it is also possible that transracially-adopted children might have unique ethnic preferences in the early school years and thus show different patterns of selective trust as compared to non-adopted children.

The Present Studies

The present dissertation has two main objectives. The first goal is to expand on the construct of *selective trust* by exploring the adaptive process of cultural transmission from two angles (*selective social learning* from contrasting sources and *selective credulity* toward one source when children have access to the truth). The second goal is to examine transracially-adopted and minority children's early awareness and attitudes toward different ethnic groups in relation to their selective trust in others.

Three separate studies are reported to investigate these questions. Experiments 1 and 2 examined young transracially-adopted and nonadopted children's *selective social learning* from two contrasting sources that differed in markers of ethnic group membership (i.e., race and spoken accent). Across experiments, we also considered the role of experimenter ethnicity by examining whether children's preferences changed as a function of the experimenter's race (i.e., White versus Chinese). Experiment 3 explored children's *selective credulity* toward the false testimony of one single source when children were provided with direct access to the truth. In all experiments, children were given a racial awareness and preference task, in which they were presented with questions about other children that differed in race (White versus Chinese). In addition, parents were provided with questionnaires surrounding children's Chinese cultural competence, exposure to various ethnicities, and their own attitudes toward their child's bicultural ethnic identity development.

The specific questions examined were: (1) whether transracially-adopted children differed from non-adopted children in the individuals they selectively trusted, and (2) what role the early development of ethnic identity served in predicting whom children were more likely to trust. For the purpose of the present dissertation, we classified children into three different social

groups, although these groups may overlap with respect to ethnicity including language and racial backgrounds and other related factors: (1) children born in China who were adopted by White Canadian parents, (2) non-adopted White Canadian children, and (3) non-adopted Chinese Canadian children. This research adds novel contributions to the literature and highlights the role of early ethnic identity development in transracially-adopted and non-adopted preschoolers' selective trust in others.

Chapter 2

The Role of Ethnicity in Children's Selective Social Learning

Previous research reveals that non-adopted preschoolers demonstrate *selective social learning* when presented with contrasting information from ingroup versus outgroup sources (e.g., Kinzler et al., 2011; Gaither et al., 2014). Young children prefer to learn from informants that share their gender (Ma & Woolley, 2013; Taylor, 2013), race (e.g., Chen et al., 2013), and language or spoken accent (Corriveau et al., 2013; Kinzler et al., 2011). Moreover, young children demonstrate learning preferences for ingroup others even when group membership is assigned through rather arbitrary means (Elashi & Mills, 2014), or when the ingroup informant displays past instances of unreliability (MacDonald, Schug, Chase, & Barth, 2013).

Of particular relevance, children of minority-status do not always demonstrate systematic selective learning biases. For instance, Gaither and colleagues (2014) showed that when racial identity was primed by asking children to colour in a picture of a Black, White, or Asian child (see Ambady, Shih, Kim, & Attinsky, 2001), although White 3- to 8-year-olds preferred to learn from racial ingroup members about novel object functions, Black and Asian children did not demonstrate racial ingroup preferences. Researchers suggest that minority-status children experience greater struggle when developing a racial identity, as they may feel conflicted about whether to hold preferences for their racial ingroup or society's dominant ingroup (e.g., Bernal et al., 1990; Spencer & Markstrom-Adams, 1990). Interestingly, biracial Black/White and Asian/White children were flexible in their learning preferences, in that they preferred to learn from whichever racial ingroup informant was primed. Researchers attribute this finding to biracial children's cognitive flexibility and openness to multiple racial identities (Gaither et al., 2014; Morrison, 1995).

It is less clear how children from other minority ethnic backgrounds, such as transracially-adopted children whose adoptive parents have majority-status ethnic backgrounds, reason about different ethnic groups as information sources. In particular, there are no studies to date that examine how young transracially-adopted children, particularly children adopted from China by White parents, selectively learn from others. Approximately, 53% of Canadian international adoptions are from China (Statistics Canada, 2010). This large number is partially due to the *one-child policy* (although currently in reform) and the fact that there are children from China available for adoption fairly early in their development (Selman, 2002). As a result, Chinese adoptees often have favourable pre- and post-adoption health and developmental outcomes (Cohen, Lojkasek, Zadeh, Pugliese, & Kiefer, 2008; Gauthier & Genesee, 2011). For example, by the end of the second year of adoption, young adoptees are typically functioning at a level comparable to same-age non-adopted peers in most cognitive and socio-emotional domains. That said, adoptees still tend to be slightly behind same-aged peers in some language areas (particularly expressive language) in their toddler years (Cohen et al., 2008) and into the school years (Deltcenserie, Genesee, & Gauthier, 2014).

Despite Chinese adoptees' comparable cognitive outcomes (to normative means), transracially adopted children generally experience challenges in their ethnic identity development (Adams et al., 2005; Lee & Quintana, 2005; Westhues & Cohen, 1998; Yoon, 2004), which in turn may impact how they weigh new information presented by ethnic ingroups versus outgroups. A combination of factors impact adopted children's unique ethnic identity development, such as their attitudes toward the adoption, and their curiosity about their birth country and birth parents (Godon, Green, & Ramsey, 2014; Sarrubbi, Block-Lerner, Moon, & Williams, 2012). In contrast to non-adopted children living with same-race parents,

transracially-adopted children may follow different paths on the road to developing an ethnic identity, which in turn might impact their selective social learning (Berry, Trimble, & Olmedo, 1986; Friedlander, 1999; Phinney, 1990). The present study sought to explore this question.

During the study, children from three ethnic groups (Canadians that are Chinese, White, or adopted from China) received a selective learning task, in which they learned about nonlinguistic, novel information from two contrasting sources (Gaither et al., 2014; Kinzler et al., 2011). More specifically, children were provided with a novel object and asked from whom they would prefer to *seek information* about the object's function. Then the two sources demonstrated different functions of the object, and children were asked which source they would like to *endorse*.

As reviewed earlier, non-adopted young children prefer to learn from informants that share ingroup markers of ethnicity (e.g., accent) (Kinzler et al., 2011), and have social preferences for same-race and native-accented others (Kinzler et al., 2009). However, when informant race is pitted against informant language/accent, young children's preferences for same-race others are less obvious, and they may be more likely to favour same-accented over same-race individuals (Kinzler et al., 2009; Kinzler et al., 2011). Based on these findings, the selective learning task included two trial types. On the *Race* trials, children chose between a White informant and a Chinese informant. On the *Race-Accent* trials, children chose between a White foreign-accented informant and a Chinese native-accented informant. The *Race* trials aimed to assess whether children would display a racial ingroup preference in selective learning, whereas the *Race-Accent* trials aimed to explore the robustness of such racial ingroup preference when informant race and accent were pitted against each other.

In addition to the selective learning task, children also received a task to assess their early development of ethnic identity in terms of racial awareness and preferences (e.g., Gaither et al., 2014; Guerro, Enesco, Lago, & Rodriguez, 2010). Parents of all ethnicity groups were provided with measures of general demographics (e.g., exposure to different ethnicities) and early indicators of bicultural ethnic identity development: *Parental Importance of Chinese Socialization* (Tessler, Gamache, & Liu, 1999; Thomas & Tessler, 2007) and children's *Chinese Cultural Competence* (Thomas & Tessler, 2007).

Research indicates that White children, minority-status children, and Chinese adoptees ethnically identify with White individuals through their early ethnic awareness and preferences (Adams et al., 2005; Kinzler et al., 2011; Shutts et al., 2011). Thus, it was hypothesized that there would be no apparent between-group differences in the early ethnic identification measure. Due to this early ethnic identification, on the *Race* trials of the selective learning task, it was similarly hypothesized that adoptees (and all children) would generally prefer to learn from and endorse the novel information presented by White rather than Chinese informants. However, on the *Race-Accent* trials, this effect was expected to disappear in all children when informant race was pitted against other cues to potential ethnic outgroup membership (i.e., a foreign accent; Kinzler et al., 2009).

With respect to the parental questionnaires, based on previous research, it was expected that parents who placed more importance on children's Chinese socialization would also have children with greater competence about the Chinese culture (see Thomas & Tessler, 2007). Moreover, it was hypothesized that Chinese children with greater cultural competence and with parents who placed more importance on Chinese socialization, would also be more likely to demonstrate ingroup racial preferences. As a result, these children might have relatively equal preferences toward White and Chinese peers, instead of favouring White majority-status individuals.

Method

Participants

The final sample consisted of 83 children from three different ethnic groups: 32 White Canadians ($M = 59.8$ months, range = 48.1–71.3 months, 18 females), 32 Chinese Canadians ($M = 60.2$ months, range = 47.3–70.6 months, 16 females), and 19 Chinese children adopted by White Canadian parents ($M = 66.3$ months, range = 42.0–103.5 months, 14 females). Of the adopted group, 16 children were adopted in the first two years after they were born and 3 were adopted within the first four years. Determination of ethnicity was done through a questionnaire. In total, 29 children were excluded from the final sample: 23 were excluded because they came from a different ethnicity, and 6 were excluded due to lack of attention (3), difficulty with instructions (2), or parental interference (1). The non-adopted children were recruited through the Ryerson Infant and Child Database (RICD), the Ontario Science Centre, and some local preschools. The adopted children were recruited through Children's Bridge, Adoption Council of Ontario, and Open Arms. The Research Ethics Board at Ryerson University approved this study.

The three groups of participants were comparable in terms of several socio-demographic characteristics (see Appendix A1). In addition, all groups were typically exposed to different ethnicities *Very often* or *Often* (see Appendix A2). However, the parents of the White children were more likely to report that their child was *Rarely* exposed to different ethnicities as compared to the Chinese and the adopted children. Furthermore, the parents of the White and the adopted children reported lower exposure to Asian Canadians that speak in only Chinese dialects than the parents of the Chinese children. Moreover, the Chinese parents rated children's daily exposure to White native-English speakers lower compared to the parents of the White and the adopted children. Finally, the parents of the White children reported lower exposure to Asian native-English speakers than the

Chinese parents. No further differences emerged between the Chinese and the adopted children, and all groups reported similarly low exposure to Asian and White non-native (but not Chinese) English speakers.

It is additionally important to acknowledge that although the children adopted from China were tested in the same manner as their peers in the other two groups, this group was recruited using different approaches than the Chinese and the White participants, through extensive efforts with several international adoption organizations. This involved attending adoption events (e.g., holiday parties, summer picnics, skating days), using several methods of contact (e.g., in person meetings, phone-calls, email correspondence), and travelling throughout Canada to test participants (e.g., Greater Toronto Area, Ottawa, Vancouver). However, despite these efforts, we had considerable difficulties recruiting adoptees in our target age range (i.e., preschool children adopted from China)¹. Nevertheless, this sample size falls in line with the standard commonly used in the literature to address similar questions (e.g., Kinzler et al., 2011; Koenig & Harris, 2005) and exceeds the sample size in recent work with Chinese adoptees and their parents (Bian, Blachford, & Durst, 2015, e.g., 14 Chinese adoptees; Hwa-Froelich, Matsuo, & Jacobs, 2017, e.g., 16 Chinese adoptees).

Materials and Stimuli

Each child completed two tasks on a laptop computer using Microsoft PowerPoint Presentations: the selective learning task and the task measuring early development of ethnicity in terms of racial awareness and preferences. Each parent completed three self-report measures. A total of eight novel objects were used in the selective learning task (see Figure 1).

¹ Recruitment challenges were likely due to recent changes in China's one-child policy and the fact that there have been relatively few successful adoptions over the past 5 years; the Ministry of Children and Youth Services indicated 87 successful adoptions in 2010 and only 4 in 2016 (Children's Bridge Adoption Agency, personal communication, April 14, 2017; see also Zhang, 2017).

Figure 1. Novel objects and their functions (Gaither et al., 2014). Upper panel: Knee pad (snap like a slingshot or pat on head/use as hat), plastic funnel (look through or hold to mouth), garlic peeler (squeeze it or twist it), plunger piece (spin it or squish it); Lower panel: metal sprinkler attachment (use as eye patch or fly like a plane), toiler topper (spin end piece or flap up/down), juicer (roll on hands or hammer on hands), and pool pipe (put to ear or shake back/forth).

Selective learning task. The selective learning task was modeled after Kinzler et al. (2011) and Gaither et al. (2014). A total of eight informants were videotaped, including four White adults that spoke English with a Russian accent (two male and two female) and four Chinese adults that were native-English speakers (two male and two female). Each test trial involved the pairing of a White informant and a Chinese informant of the same gender (both sitting at a table facing forward). To avoid biases related to informant clothing colour, both female informants wore the same green t-shirt and both male informants wore the same orange t-shirt. The same four pairings used for the four *Race* trials were used again for the four *Race-Accent* trials (see Figure 2). On each *Race* trial, the two informants *silently* demonstrated a novel object's function in contrasting manners. On each *Race-Accent* trial, each of the two informants first read a short passage from one of four different children's books (following Kinzler et al., 2011; see Appendix D), and then provided conflicting demonstrations of a novel object's function.

Ratings from a separate group of 4- to 9-year-old Canadian children ($N = 61$; White, $n = 17$; Chinese, $n = 19$; Other ethnicity, $n = 25$) indicated that children could successfully identify the native versus the foreign accent. All raters spoke native English. Among them, 21 were

monolinguals ($M = 81.25$ months, range = 53.8–105.2 months, 14 females), 27 were bilinguals ($M = 85.0$ months, range = 51.4–117.7 months, 14 females; 13/27 English-Mandarin/Cantonese bilinguals), and 13 spoke a second language less than 25% of the time. None of the raters spoke the target foreign accent (i.e., Russian). Across four trials, children judged that the native-accented speakers sounded more familiar to themselves, $t(60) = 18.09, p < .001$, and that the accented speakers sounded different, $t(60) = 19.01, p < .001$ (one-sample t -tests in comparison to chance responding). Monolingual and bilingual children responded similarly, $t(46) = -.20, p = .84$ (“who sounded familiar”), and $t(46) = 0.6, p = .95$ (“who sounded different”).

Figure 2. Informants used for the four *Race* and four *Race-Accent* trials.

Measures of racial awareness and preference. The racial awareness and preference measures were adapted from Gaither et al. (2014) and Guerro et al. (2010). A total of eight children’s faces were used (see Figure 3). On each of the four test trials, a White child’s face was paired with a Chinese child’s face of the same gender, and participants were asked two questions about racial awareness and two questions about racial preference (see details below).

Figure 3. Child stimuli used for the racial awareness and preference task. Gender-matched pairs were created based on similar ratings of physical attractiveness and age (see Gaither et al., 2014).

Parental measures. Parents completed three self-report measures (see Appendices E—G), including a demographics form about children’s language proficiency, number of siblings, and exposure to different ethnicities, the *Chinese Cultural Competence* scale on children’s knowledge about the Chinese culture (Thomas & Tessler, 2007; 5 Yes or No questions), and *Parental Importance of Chinese Socialization* about parents’ attitudes toward the Chinese culture (Tessler et al., 1999; Thomas & Tessler, 2007).

Procedure

After parental consent (and child assent when applicable) was obtained, the child and the parent were directed to a quiet room/area where the experimental procedure began. The parent completed the three self-report measures while the two tasks were administered to the child.

The selective learning task was administered first. All children completed all four *Race* trials and all four *Race-Accent* trials. In each of the *Race* trials, a real-life novel object was presented to children. They were then asked the information-seeking question, “Do you know what this object is for? I bet one of these people can help us. *Which person would you like to ask, this one or this one?*” After children made a clear choice either verbally and/or by pointing, each informant silently demonstrated the function of the novel object. Children were then provided with the object again and

asked the endorsement question, “How do you think the object is used?” Children were handed the object but told they could point to an informant if they did not want to demonstrate the object function themselves. In each of the *Race-Accent* trials, during the accent-familiarization phase, children watched a video of each informant reading a short passage from one of four different children’s books. The test phase was then conducted in the same way as in each *Race* trial.

Next, the child received the task assessing their racial awareness and racial preference. In each of the four trials, the two faces appeared on the screen side-by-side and the experimenter asked children four questions in the following sequence, “What do you see here?” (Awareness Question 1)², “Please point to the child that you would like to be friends with” (Preference Question 1), “Please point to the child that you think is most like you” and why (Awareness Question 2)³, and “Please point to the child that you would be most likely to share a secret with” (Preference Question 2).

The child completed the above-mentioned two tasks in one of eight orders, counterbalancing the object function demonstrated by each informant in the selective learning task (2), whether each informant/child’s face appeared on the left or right side of the computer screen (2), and the order in which the presentation slides were presented (2; a predetermined, randomized order and its reverse).

² Following Guerro et al. (2010), children’s responses to the question “*What do you see?*” were coded as they pertained to six categories: a) *gender*, stating a girl or a boy; b) *ethnicity*, reporting a concept related to ethnicity (e.g., the child’s race, spoken language, and/or specific ethnicity phenotypic qualities such as skin colour); c) *physical features*, reporting ambiguous physical features (e.g., a kid, eyes, hair); d) *emotion or feelings*, describing the child’s feelings (e.g., a happy kid, a nice boy); e) *difference*, simply mentioning that there were two different children on the screen; and f) *other*, any other response that could not be reliably interpreted or coded (e.g., a hair tie). Reliability between two coders was established at 90% and any discrepancies were discussed until an agreement was reached.

³ Children’s responses to the question “*Why do you think that child is most like you?*” were coded as they pertained to three categories: a) *physical looks or ethnicity*, describing the physical comparisons between the child onscreen and the participant’s own physical qualities (e.g., that child has black hair like me); b) *personality*, reporting that the child on screen has comparable personality traits to themselves (e.g., that child seems nice like me); and c) *other*, reporting an ambiguous response. Reliability was established at 94% between two coders and disagreements were further discussed to consensus.

In every instance, during the selective learning task, the informant on the left side was shown or demonstrated the object function first.

Results

Preliminary analyses showed that children's performance did not differ significantly across the child's gender, presentation order, experimenter, testing location, religious background, or location of residence. Thus, these variables were excluded from the main analyses reported here. In addition, children's choices did not differ significantly across question type on the selective learning task (information seeking versus endorsement) or the racial preference task (friend selection versus secret sharing), so data were collapsed across question type for the corresponding dependent variables. Due to variability in the ages of children recruited across groups, we categorized all children as younger (< 5 years) or older (≥ 5 years). No significant differences were found between older and younger children's performance. Further, there was no association observed between children's age in months and selective learning across trial types. Therefore, data were collapsed across age groups for the main analyses. See Appendix A3 for the described preliminary analyses. All reported p values are two-tailed.

Demographics and Exposure to Different Ethnicities

Children's demographic characteristics and exposure to different ethnicities are described in Appendices A1 and A2. Of interest, the parents of the Chinese and the adopted children responded similarly on the Chinese Cultural Competence Scale and the Parental Importance of Chinese Socialization questionnaire (see Table 1). In particular, these parents rated their children higher in Chinese cultural competence and placed more importance on children's Chinese socialization than the parents of the White children ($p < .001$ for both comparisons). In addition, the Chinese children spoke English less often than the White or the adopted children.

Table 1

Parental Responses to Ethnicity-Specific Questionnaires and Language Spoken Daily

Ethnic Group	Chinese	White	Adopted	<i>H</i>	<i>p</i>
Chinese Cultural Competence					
Mean prop. (SD)	.86 (.26)	.04 (.10)	.63 (.33)	53.25	< .001
Parental Importance of Chinese Socialization					
Mean prop. (SD)	.76 (.18)	.33 (.18)	.89 (.06)	50.91	< .001
English Language					
Mean % (SD)	74% (21.1)	91% (15.5)	96% (9.1)	16.91	< .001

Note. Chinese Cultural Competence = proportion scores were calculated out of a total score of 5; Parental Importance of Chinese Socialization = proportion scores were calculated out of a total score of 40; English Language = percentages were calculated by subtracting “other languages” percentage from 100 (if applicable). When non-parametric Kruskal-Wallis Independent Samples test revealed significance ($p < .05$), Bonferroni post-hoc tests corrected for multiple comparisons.

Selective Social Learning

For each trial type, each child received a proportion score of choosing to learn from a racial ingroup about novel object functions across four trials (out of 8; collapsed across question type). First, we compared children’s overall performance to chance responding (.50) by ethnic group and trial type. Second, we examined the main effects of ethnic group and trial type on children’s responses. See Figure 4 for a summary of the means by ethnic group and trial type.

Comparisons to chance responding. The Chinese children demonstrated no preference for their racial ingroups on the *Race* trials ($M = .45$, $SD = .25$), $t(31) = -1.14$, $p = .26$, $r = .20$, or on the *Race-Accent* trials ($M = .46$, $SD = .21$), $t(31) = -1.07$, $p = .29$, $r = .19$. The White children were more likely to learn from racial ingroups on the *Race* trials ($M = .62$, $SD = .23$), $t(30) = 3.13$, $p = .004$, $r = .50$, but not on the *Race-Accent* trials ($M = .48$, $SD = .23$), $t(31) = -.48$, $p = .63$, $r = .09$. The adopted children’s performance was similar to that of the Chinese participants; they did not show a preference for their racial ingroups on the *Race* trials ($M = .48$,

$SD = .22$) or on the *Race-Accent* trials ($M = .51, SD = .24, t(18) = -.40, p = .70, r = .09$, and $t(18) = .11, p = .91, r = .03$, respectively).

Figure 4. Mean proportion of choosing racial ingroup by children's ethnic group and trial type. Numbers above .50 indicate a greater tendency to choose a racial ingroup member. Error bars denote standard errors. * $p < .05$, ** $p < .01$; Δ = paired-samples t -test.

Group and trial type comparisons. To collectively explore the impact of group and trial type, scores were submitted to a 2 (trial type: *Race* and *Race-Accent*) x 3 (ethnicity group: Chinese, White, and Adopted) mixed design, with trial type as the within-subjects factor and group as the between-subjects factor. There was no significant main effect of trial type or children's ethnic group, $F(1, 79) = 1.01, p = .32, \eta_p^2 = .01$ and $F(2, 79) = 2.83, p = .07, \eta_p^2 = .07$, respectively. The interaction between ethnic group and trial type was not statistically significant, $F(2, 79) = 2.73, p = .07, \eta_p^2 = .07$, but a closer look at the data suggested that the White children might be more likely to demonstrate preferences for racial ingroups on the *Race* trials ($M = .63, SD = .23$) than on the *Race-Accent* trials ($M = .50, SD = .22, t(30) = 2.69, p = .01$).

Early Development of Ethnic Identity

To explore children's emerging ethnic identity development, early understanding of racial awareness was examined with the question "Who is most like you?". Each child received a proportion score of choosing a racial-ingroup peer (out of 4 trials). In addition, to provide more insight into children's responses to the open-ended awareness question (i.e., "What do you see?" "Why is that child most like you?"), explanations were coded and submitted to Chi-square analyses. Similarly, to examine early racial preferences, each child received a proportion score of choosing a racial-ingroup peer on the preference questions across four trials (out of 8; collapsed across question type).

Racial awareness. When shown pictures of a White versus a Chinese child and asked what they saw, children most often described gender-related (e.g., girls, boys) or physical (e.g., people, kids) constructs (see Table 2), although the White children were more likely than the Chinese and the adopted children to report reasons related to emotions or feelings (e.g., two *happy* children). In all other respects, the three groups were comparable and rarely described what they saw using ethnicity-related language.

When asked "who is most like you?", children of all three groups chose the racial-ingroup peer significantly more often than would be expected by chance (Chinese: $M = .62$, $SD = .28$; White: $M = .65$, $SD = .34$; Adopted: $M = .75$, $SD = .28$); $t(28) = 2.40$, $p = .02$, $r = .41$; $t(31) = 2.46$, $p = .02$, $r = .40$; and; $t(17) = 3.73$, $p = .002$, $r = .67$, respectively (compared to chance responding .50; see Figure 5). When asked to justify their response to this question, the White and the adopted children predominately drew on physical or ethnicity-related features to compare themselves to chosen children (e.g., we have the same hair colour) (see Table 2). In contrast, the

Chinese children appeared to have more difficulties with this question, often choosing not to answer or reporting something ambiguous.

Table 2
Children's Responses to the Racial Awareness Questions by Ethnic Group (Experiment 1)

	Chinese	White	Adopted	χ^2	<i>p</i>
What do you see?					
Gender	41% (53/128)	42% (54/128)	36% (27/76)	0.86	.65
Ethnicity	7% (8/128)	5% (7/128)	5% (4/76)	0.50	.78
Physical	26% (33/128)	28% (36/128)	32% (24/76)	0.63	.63
Emotion	4% (6/128)	9% (11/128)	1% (1/76)	7.34	.03*
Different	9% (11/128)	3% (4/128)	3% (2/76)	5.05	.08
Other/No answer	13% (17/128)	13% (16/128)	23% (18/76)	4.88	.09
Why is that child most like you?					
Physical or ethnicity	32% (41/128)	53% (68/128)	60% (46/76)	17.01	.00**
Personality	9% (12/128)	5% (7/128)	3% (2/76)	3.50	.17
Other/ No answer	59% (76/128)	42% (54/128)	37% (28/76)	10.71	.00**

Note. * $p < .05$; ** $p < .01$

Racial preference. In response to the two racial preference questions, the Chinese children chose the racial-ingroup peer at a level significantly below chance ($M = .41$, $SD = .21$), $t(28) = -2.31$, $p = .03$, $r = .40$. That is, they demonstrated a preference for the racial-outgroup peer (i.e., the White child). In contrast, the White children demonstrated a significant ingroup preference ($M = .68$, $SD = .22$), $t(31) = 4.78$, $p < .01$, $r = 0.65$. The adopted children showed no significant preference ($M = .49$, $SD = .27$), $t(18) = -0.11$, $p = .92$, $r = .02$.

Group comparisons. There was no significant main effect of ethnic group on children's early awareness of ethnicity, $F(2, 76) = 1.00$, $p = .37$, $\eta_p^2 = .03$. With respect to children's racial preferences, a significant main effect of ethnic group was observed, $F(2, 77) = 11.47$, $p < .01$, $\eta_p^2 = .23$. Bonferroni post-hoc comparisons revealed that the White children were more likely to demonstrate a preference for racial ingroups compared to the Chinese ($p < .01$) and the adopted

children ($p < .05$). No significant difference was observed between the Chinese and the adopted children's racial preferences.

Figure 5. Mean proportion of choosing racial ingroup by children's ethnic group and ethnic identity question. Numbers above .50 indicate a greater tendency to choose racial ingroup. Error bars denote standard error. * $p < .05$, ** $p < .01$, Δ denotes Bonferroni post-hoc comparisons.

Correlations. Table 3 shows the correlations between children's racial awareness, racial preference, and parental measures. As a group, children's racial preference was significantly correlated with Chinese cultural competence⁴, $r(48) = -.48, p = .001$, parental importance of Chinese socialization, $r(75) = -.38, p = .001$, and percentage of English language spoken daily, $r(80) = .24, p = .03$. That is, children with higher Chinese cultural competence or with parents

⁴ This correlational analysis included the Chinese and the adopted children only. Most parents of the White children (24/32) indicated that their child had no Chinese cultural competence at all (see also Table 1), so data from the White children were excluded from this analysis. Note that on Parental Importance of Chinese Socialization, some parents of the White children indicated that it was important for their child to socialize with Chinese peers ($M = .33, SD = .18$; range: 0 to .65), so data from the White children were included for the corresponding analysis.

that placed more importance on Chinese socialization were less likely to have preferences for racial ingroups, and children that spoke English more often were more likely to have preferences for racial ingroups. No variable was significantly related to children's racial awareness. When examined by ethnic group, there was a significant correlation between the adopted children's Chinese cultural competence and their preference for racial ingroup peers, such that children with higher Chinese cultural competence were less likely to have racial ingroup preferences, $r(18) = -.64, p = .003$.

Table 3
Correlations Between Children's Racial Awareness, Racial Preference, and Parental Measures

Ethnic Group	Variables	1	2	3	4	5
Overall (<i>N</i> = 83)	1. Racial Preference	-				
	2. Racial Awareness	.08	-			
	3. Cultural Competence	-.48**	-.16	-		
	4. Parental Importance	-.38**	-.04	-.00	-	
	5. Percentage of English	.24*	.12	-.44**	-.11	-
Chinese (<i>N</i> = 32)	1. Racial Preference	-				
	2. Racial Awareness	.09	-			
	3. Cultural Competence	-.22	-.14	-		
	4. Parental Importance	-.13	-.28	.21	-	
	5. Percentage of English	.06	-.03	-.34	-.17	-
White (<i>N</i> = 32)	1. Racial Preference	-				
	2. Racial Awareness	.17	-			
	3. Cultural Competence	-	-	-		
	4. Parental Importance	-.16	-.18	-	-	
	5. Percentage of English	.11	.27	-	.24	-
Adopted (<i>N</i> = 19)	1. Racial Preference	-				
	2. Racial Awareness	-.05	-			
	3. Cultural Competence	-.64**	.00	-		
	4. Parental Importance	.24	.04	.14	-	
	5. Percentage of English	.29	-.29	-.38	-.23	-

Note. * $p < .05$; ** $p < .01$.

Selective Learning in Relation to Ethnic Identity Development and Parental Measures

Overall correlations. Overall, there was no significant correlation between children's racial awareness and selective social learning. A significant correlation emerged between children's racial

preference and selective learning on the *Race* trials: As a group, the greater children's ingroup racial preference was, the more likely they would choose to learn from racial ingroup informants on the *Race* trials, $r(79) = .32, p = .004$. There was no significant correlation between children's racial preference and selective learning on the *Race-Accent* trials (see Table 4).

With respect to the parental measures, there was no significant correlation between children's selective social learning and parental importance of Chinese socialization, percentage of English spoken daily, or children's Chinese cultural competence⁵ on the *Race* trials or the *Race-Accent* trials (see Table 4).

Table 4

Correlations Between Selective Learning and (1) Measures of Ethnic Identity Development and (2) Parental Measures (Experiment 1)

Ethnic Group	Trial Type	Racial Awareness	Racial Preference	Chinese Cultural Competence	Importance of Chinese Socialization	Percentage of English Spoken Daily
Overall	Race	-.05	.32**	-.08	-.15	-.08
	Race-Accent	.10	.16	.04	-.04	-.08
Chinese	Race	-.17	.07	.04	-.23	-.28
	Race-Accent	-.04	.39*	.06	-.34	.02
White	Race	-.07	.06	-	.21	-.24
	Race-Accent	.10	-.10	-	.10	-.41*
Adopted	Race	.15	.56*	-.22	.07	.07
	Race-Accent	.19	.28	.10	.11	.04

Note. * $p < .05$; ** $p < .01$

Correlations by ethnic group. Further analyses were conducted to examine the correlations by children's ethnic group (see Table 4). For children of all three groups, there was no significant correlation between children's racial awareness and selective social learning. With regard to the correlations between racial preference and selective social learning, a significant association was found in the Chinese children on the *Race-Accent* trials: The greater their ingroup racial preference was, the more likely they would favour the native-accented Chinese informants over the Russian-

⁵ The White children were excluded from this analysis.

accented White informants, $r(29) = .39, p = .04$. In addition, a significant correlation was observed in the adopted children: The greater their ingroup racial preference was, the more likely they would choose to learn from racial ingroup informants on the *Race* trials, $r(19) = .56, p = .01$.

With respect to the parental measures by children's ethnic group, there was no significant correlation between children's selective social learning and their Chinese cultural competence or parental importance of Chinese socialization. However, a significant association was found between the White children's selective learning on the *Race* trials and percentage of English language spoken daily: The less often children spoke English on a daily basis, the more likely they were to favour the Russian-accented White informants over the native-accented Chinese informants, $r(32) = -.41, p = .02$. No other significant correlations were observed across groups.

Discussion

The present experiment examined whether young children of different ethnic groups demonstrate selective social learning based on speaker ethnicity (race and spoken accent). We first examined children's demographic background and exposure to different ethnicities. Overall, children were generally comparable across indices of socioeconomic status (e.g., number of parents, parental education, and location of residence), despite subtle differences with respect to children's exposure to and familiarity with specific ethnicities. For example, White children had the most instances of "rare" exposure to different ethnic groups and relatively concentrated exposure to specific ethnicities (i.e., native and non-native speaking White Canadians). In contrast, the Chinese and the adopted children seemed to have more variability in their exposure to different ethnicities and parents placed greater importance on Chinese cultural competence and socialization. With respect to children's selective social learning, three main findings emerged. First, the White children demonstrated ingroup learning preferences on the *Race* trials only, but not on the *Race-Accent* trials. Second, the

Chinese children demonstrated no learning preference on both trial types. Third, the adopted children performed similarly to the Chinese children, such that they also demonstrated no learning preference on either *Race* or *Race-Accent* trials. These findings will be discussed in turn.

Consistent with previous studies, White majority-status children had an overall preference to learn novel non-linguistic information from same-race informants on the *Race* trials (e.g., Gaither et al., 2014). However, they did not demonstrate preferences on *Race-Accent* trials for the native-English speaking Chinese informants, which is inconsistent with previous findings suggesting that accent trumps race in guiding children's social preferences (see Kinzler et al., 2009; Kinzler et al., 2011). This finding might relate to the diversity in our participant's language environments and their exposure to different ethnicities compared to the participants in previous studies. For instance, Kinzler et al. (2009) demonstrated that young monolingual English-speaking children from a relatively homogenous population (i.e., Boston area where 95% of individuals were White) preferred peers that were racial outgroups (Black) yet accent ingroups (i.e., native English speakers) to peers that were racial ingroups (White) but accent outgroups (i.e., non-native English speakers). In contrast, most children from the present study resided in a relatively heterogeneous community and had high exposure to multiple ethnicities, which might have played a role in their relatively equal preferences based on accent. That is, research suggests that ethnic ingroup biases may be less pronounced in societies that are ethnically heterogeneous compared to homogenous (e.g., McGlothlin & Killen, 2006).

Supporting this general *exposure* hypothesis, studies with adults (e.g., Lebrecht, Pierce, Tarr, & Tanaka, 2009; Meissner & Brigham, 2001) and adolescents (Binder et al., 2009) led researchers to propose a link between exposure to ethnicities, perceptual individuation of other-race faces, and the development of social preferences (i.e., *the social-perceptual linkage hypothesis*; Lee, Quinn, &

Heyman, 2017); increased processing of person-specific characteristics across racial groups might serve to reduce *implicit* ingroup biases. In line with this hypothesis, 3- to 5-year-olds residing in racially diverse areas demonstrate less *explicit* ingroup biases (e.g., McGlothlin & Killen, 2006; Rutland, Cameron, Bennett, & Ferrell, 2005). In addition, recent investigations indicate that children's *implicit* biases might be subject to change through perceptual individuation training with different faces. For instance, Xiao and colleagues (2015) successfully reduced Chinese 4- to 6-year-olds' implicit ingroup biases (using the angry outgroup procedure; Dunham, 2011) by training children to learn the names of novel African children's faces. Thus, it is possible that children in the present study experienced relatively lower ingroup biases for same-accented others due to their high exposure to and increased processing of multiple languages and accents in their communities.

Nevertheless, although children had no learning preference for native-accented speakers, they also had no learning preferences for same-race informants on *Race-Accent* trials. It is possible that White children might have viewed both the foreign-accented White speaker and the native-accented Chinese speaker as partially "outgroup". Alternatively, it is also possible that these children had an initial bias toward the same-race speakers, but the foreign accent signaled potential outgroup status and thus cancelled out the effect of shared race (McDonald & Ma, 2016). Taken together, the present findings suggest that White children, in particular, have preferences to learn from same-race informants when no cues to outgroup status are present.

A second interesting finding indicated that Chinese Canadian children were no more likely to learn from ingroup than outgroup others across trial types. This is inconsistent with our hypothesis that minority-status children would be more likely to learn from the White informants on the *Race* trials due to their early ethnic identification. That is, previous studies indicate that Black and Asian children do not generally have preferences for racial ingroups due to conflicts they may feel about

holding preferences for their racial ingroup or society's dominant ingroup (Bernal et al., 1990; Gaither et al., 2014; Spencer & Markstrom-Adams, 1990). Instead, minority-status children tend to have preferences for others of majority status which may conflict with their own racial ingroup (e.g., Dunham et al., 2013; Newheiser et al., 2014; Shutts et al., 2011; Xiao et al., 2015).

It is possible that Chinese children in the present study did not necessarily view themselves as the *minority*, regardless of whether or not they were able to categorize themselves as Chinese. For instance, in Canada, particularly in Ontario and British Columbia, Chinese individuals make up one of the largest visible minority groups in the country (Statistics Canada, 2011). Thus, Chinese children might not have viewed Chinese adults as the minority or might not have been influenced by their social status per se with respect to selective learning, though social status might still play a role in more “direct” social preference scenarios (e.g., choosing a friend or secret sharing). This supports the suggestion that more pronounced preferences related to social status might emerge in later years, connected to children's developing perceptual and social cognitive abilities and the inferences they begin to make beyond physical observations (e.g., Qian et al., 2016). Moreover, given Chinese children's high exposure to both Chinese and White adult individuals, ingroup or outgroup preferences based on race or accent might not have been as strong as what might be observed in minority-status children from communities with less ethnic diversity (e.g., McGlothlin & Killen, 2006; Xiao et al., 2015).

Our selective learning data gleaned an additional third novel finding: the adopted children's learning preferences were more similar to Chinese than White children, such that they demonstrated relatively equal preferences for White and Chinese informants on both the *Race* and the *Race-Accent* trials. This finding might be explained in a similar manner as for Chinese children's learning preferences. For instance, like Chinese children, adoptees have high exposure to Chinese individuals,

some Chinese cultural competence, and parents that place great emphasis on their Chinese socialization. Thus, the adoptees might not view Chinese individuals as the minority or lower in social status due to the positive manner in which they are presented by parents (e.g., stories about adoption, importance on learning about Chinese culture, and often interactions with other children adopted from China). Thus, it is possible that a combination of factors contribute to adopted children's learning preferences, such that this group of children had high exposure to both ethnicities, as well as parental and community support of biculturation, potentially influencing more balanced attitudes toward Chinese and White individuals (Fong & Wang, 2001; Ta & Nukkula, 2004).

Regarding children's early development of ethnic identity, namely early awareness, all three ethnic groups accurately identified with children of their corresponding racial background, notwithstanding difficulties using ethnicity-related terminology to justify their choices (e.g., Byrd, 2011; Quintana, 1998). Thus, in line with previous research, children were generally aware that physical differences existed between themselves and children of other racial backgrounds (e.g., Aboud, 1998). Moreover, adoptees were particularly accurate at self-identifying with their own race, indicating that early racial awareness might be especially salient for this group of children (see Friedlander et al., 2000).

Findings from the present study suggest that children's learning (and racial) preferences were likely not the result of failures to self-identify or classify their own race. In some ways, this contrasts with research that suggests the ability to accurately categorize faces by race is closely linked to the emergence of ingroup preferences. For instance, a recent study with majority-status White children and Chinese children living in Taiwan revealed that implicit ingroup biases were more pronounced in participants who could successfully classify faces by race (Dunham et al., 2013). That is, 4- to 12-year-old White Americans that were skilled at categorizing faces by racial group were more likely to

classify White faces as happy and Black and Asian faces as angry. Similarly, a different group of young Taiwanese children who were good at categorizing faces by race were more likely to identify angry faces as White than Asian. Thus, across two cultures, Dunham et al. (2013) demonstrated that early ethnic awareness was strongly linked to children's ingroup social preferences. Our results reinforce that there are various mechanisms that work together to contribute to the development of intergroup attitudes beyond the ability to simply categorize different ethnicities, such as exposure to multiple ethnicities in daily interactions (e.g., school, friends, community) (McGlothlin & Killen, 2006) or specific individuation training (Xiao et al., 2015).

In terms of racial preferences for peers, the Chinese and the White children had preferences for White peers. In contrast, the adopted children demonstrated no preference for same-race or White majority-status children. It is possible that these results can be explained by children's social-status enculturation (Dunham et al., 2013) and their perceptual exposure to different ethnicities (Lee et al., 2017). For instance, the Chinese children in the present study demonstrated out-group preferences for White majority-status peers, regardless of their own ethnicity. This finding is consistent with previous research that minority-status children do not always demonstrate same-race preferences or biases against majority-status others (e.g., Dunham et al., 2013). It is also possible that having an awareness of the physical racial differences that exist between White and Chinese groups naturally evokes associations with social status, and might have been particularly prominent for minority-status children in our study (e.g., Kinzler et al., 2012).

Moreover, it is also possible that minority-status participants, particularly the Chinese children, were influenced by the underrepresentation of minority-status individuals in the media, such as in advertisements, popular television series, or movies (e.g., Tukachinsky, Mastro, & Yarchi, 2015). The Chinese children might have associated White peers (in the racial preference task) more

often with trusted White child characters portrayed in the media (e.g., around the time of testing, “Frozen” was documented as the number one animated film involving popular character, “Elsa”, a White native English speaking child; McClintok, 2014). Further, research indicates that children demonstrate social preferences for familiar media characters even when those characters have been unreliable in the past (Danovitch & Mills, 2014). In contrast, the adopted children’s tendency to demonstrate no distinct social preferences for White or Chinese peers falls in line with theories related to the social-perceptual linkage hypothesis (Lee et al., 2017). That is, adoptees had high exposure to both majority- and minority-status groups (i.e., White and Chinese children), though social status per se might not have been as relevant due to the fact that children resided with majority-status parents. Moreover, parents of adoptees actively reinforced children’s exposure to the Chinese culture on a regular basis, possibly diminishing any apparent social-status differences between groups (Fong & Wang, 2001; Tan & Nukkula 2004).

As expected, early ethnic identity development, particularly racial preferences, was associated with selective social learning in minority-status groups (Chinese and adopted children). Although we are unable to tease apart the causal relationships, it is likely that children’s preferences contributed to whom they were more likely to seek information from in learning (or trust) contexts. That is, due to having initial assumptions about social status, or heightened familiarity with certain groups (i.e., parents, family, friends, majority-status others, etc.; Corriveau & Harris, 2009b), children might develop preferences for ingroup or outgroup others fairly early in development. These preferences might then initiate children’s epistemic reasoning in social learning contexts (e.g., Kinzler et al., 2011).

Results from the present study support the role of children’s early ethnic identity development in their selective social learning from others. Moreover, results highlight that White majority-status

children in particular demonstrate ingroup learning and social preferences for informants/peers of the same race. However, we did not observe ingroup learning preferences by informant race amongst minority-status groups, and Chinese children demonstrated social preferences for White peers, despite living in an area that is culturally diverse. These findings fall in line with the Clarks' original studies demonstrating Black children's outgroup preferences for White dolls (Clark & Clark 1939; 1940; 1947). However, during that time period, it was assumed (and politically contested) that Black children's preferences for White dolls were a result of a desegregated society and a "separate but equal" education system (Cherry, 2004). Thus, it is important to examine unique ethnic groups, such as transracially-adopted children, to further tease apart why outgroup preferences continue to be observed in minority-status groups that are living in a seemingly desegregated society. For instance, the adopted children's early preferences and patterns of social learning appeared to fall somewhere in between that of Chinese and White children, demonstrating no ingroup or outgroup biases. Thus, it is possible that the adopted children's early exposure to ethnicities and bicultural identity development served to protect against "out-group" biases, and at the same time did not initiate ingroup preferences. That is, in one sense, these children were quite aware of their Chinese racial background. However, they also lived with White majority-status parents who seemed to make extensive efforts to support children's dual-ethnic identity development. This early exposure to the Chinese ethnicity, and parental support, might have cancelled out any biases associated with being a "racial" minority.

In summary, the White children in the present study were the only ethnic group to demonstrate selective social learning and racial preferences for ingroup others. However, when accent was a cue to ethnic group membership, the White children no longer had preferences for same-race individuals. Conversely, cues to informant accent did not necessitate preferences for same-accented informants. In terms of early ethnic identity, the Chinese children demonstrated outgroup

preferences for White peers, and adoptees demonstrated no social preferences by race. Finally, notable associations were identified between children's selective social learning and their early ethnic identity, namely, racial preferences for peers. Nevertheless, despite the interesting results, it is possible that potential confounding factors existed in the present study, specifically, the lead experimenter's race. For instance, considerable research suggests that experimenter race can reinforce stereotypes that exist, particularly in minority-status groups (Marx, Brown, & Steele, 1999; Steele, 1997). In particular, it is unclear how the White experimenter influenced the White and Chinese children's preferences for ingroup and outgroup others, respectively. Chapter 3 sought to further explore this possibility.

Chapter 3

Does the Experimenter's Race Influence Children's Selective Learning from Racial Ingroups Versus Outgroups?

It is well known that various factors (e.g., participant motivation, the nature of the task itself, rumors about hypotheses) can influence participant behaviour in psychological experiments (Ferguson & Bargh, 2004; Orne, 1959). One factor, in particular, involves the influence exerted by the experimenter's characteristics or expectations (i.e., the experimenter effect). Past research with adult participants in test-taking scenarios has demonstrated that experimenter effects are especially salient for women, individuals of lower social status, and ethnic minority groups (Baratz, 1967; Nguyen & Ryan, 2008; Spencer, Steele, & Quinn, 1999; Steele, 1999). For example, women's performance improved on a mathematics test when tested by a female rather than a male experimenter (Spencer et al., 1999), and Black participants reported less anxiety when tested by a Black rather than a White experimenter (Baratz, 1967). Moreover, similar findings are observed in studies examining the effect of the experimenter's race on children's learning. For instance, Black children's performance improved on a verbal learning task (e.g., remembering pairs of words) when tested by a Black rather than a White experimenter (Katz, Henchy, & Allen, 1968).

These findings are generally understood through the "stereotype threat" hypothesis; that individuals may feel threatened by the belief that others' opinions may reflect negative stereotypes that surround their group membership (Marx et al., 1999; Steele, 1997). Moreover, individuals may feel anxiety about confirming negative stereotypes, influencing them to implicitly fall in line with stereotypes associated with their group in situations where a certain threat has become especially salient (e.g., highlighting the stereotype that women underperform in mathematics before giving female participants a math test) (Spencer et al., 1999; Steele & Aronson, 1995). Although the

validity of stereotype threat as an explanation for group differences in adults' performance has recently been challenged on statistical grounds (e.g., Stoet & Geary, 2012), these studies demonstrate that the experimenter, or the experimenter's gender or ethnicity per se, might influence children's performance in some scenarios (Marx & Goff, 2005).

In addition to the effects of stereotype threat information—particularly the experimenter's race—on minority-status groups in testing scenarios, research suggests that majority-status participants' academic or intellectual performance can also be influenced by similar factors (Aronson et al., 1999; Brown & Josephs, 1999; Danso & Esses, 2001). For instance, White participants' performance decreased on a mathematics test when they were primed on stereotypes that Asians are more competent in math than White individuals (Aronson et al., 1999). This pattern of results falls in line with minority-status participants' performance when undesirable stereotypes are activated regarding their group membership (Spencer et al., 1999; Steele & Aronson, 1995). However, with respect to experimenter race, one study revealed that White participants with strong social dominance perspectives (i.e., the belief that one's ethnic group is superior to other ethnic groups in domains such as intelligence) received higher scores on a cognitive assessment when tested by a Black rather than a White experimenter (Danso & Esses, 2001), which can be explained by *social dominance theory* and the concept of perceived threat from ethnic outgroup individuals (e.g., Danso & Esses; Sidanius, Levin, & Pratto, 1996). That is, majority-status participants (that demonstrated entitlement) might have felt threatened when tested by minority-status individuals, such that they become highly motivated to prove themselves in order to remain *superior*, resulting in better test performance (Danso & Esses, 2001). Thus, the experimenter's ethnicity may influence minority- and majority-status groups differently in experimental contexts, depending on participants' implicit biases.

In addition to the stereotype threat hypothesis, construct accessibility theory indicates that specific cues, such as the experimenter's race, can highlight related constructs and make them easier for children to make sense of or process (Higgins & King, 1981). Earlier research supports this theory and demonstrates the impact of the experimenter's race on young children's early ethnic identification and preferences. For example, in a study that took place in a school where the majority of individuals were White, both Native Indian and White children were more accurate at self-identifying their own race when assessed by a Native Indian than by a White experimenter (Corenblum & Annis, 1987). Moreover, another study revealed that although 4- to 6-year-old Native Indian and White children were more likely to demonstrate preferences for White children (by pointing to pictures), children showed more own-race preferences when they were tested in their native language (i.e., Ojibwa) (Annis & Correnblum, 1986).

Thus, it is possible that the results of Experiment 1 (Chapter 2) were confounded in some way by the experimenters' race. More specifically, children might have perceived the experimenter in general (regardless of race) as an authority figure, similar to a teacher in a classroom setting, or a majority-status individual in their community. Due to the fact that the experimenter was a White majority-status individual, it is possible that, in line with the stereotype threat hypothesis (Marx & Goff, 2005), Chinese Canadian and adopted children were hesitant to demonstrate racial ingroup preferences in selective learning. Further, Chinese children may have felt pressured to select White peers in terms of their racial preferences. Nevertheless, both majority- and minority-status children had no difficulty in self-identifying with their own race in Experiment 1, contrasting the notion that an other-race, majority-status experimenter might make it difficult for minority-status children to process or identify their own race (i.e., construct accessibility theory; Higgins & King, 1981).

Thus, the current experiment sought to examine whether the experimenter's race (i.e., White versus Chinese) influences children's selective social learning and racial preferences. The stimuli and procedure were the same as in Experiment 1, with the exception being the female experimenter that guided the procedure along. In particular, the influence of *stereotype threat* (i.e., Black individuals have lower intelligence) was reduced for Black participants when they were administered a verbal test by a Black as opposed to a White experimenter. Moreover, in line with *construct accessibility theory*, Native Indian children were better at categorizing their own race when tested by a same-race experimenter (Corenblum & Annis, 1987) and showed less outgroup preferences when tested in their native language (Annis & Correnblum, 1986). Thus, it is possible that due to the aforementioned theories, minority children might demonstrate different patterns of selective learning and racial preferences when tested by a same-race experimenter versus a majority-status experimenter. Specifically, it was hypothesized that Chinese children would be more likely to identify with or prefer same-race others when tested by a Chinese experimenter, rather than a White experimenter. In addition, the concept of race might become more salient for White children when tested by a Chinese experimenter (as it did for White children when tested by a Native Indian; Correnblum & Annis, 1987), which would result in similar or perhaps greater ingroup preferences for White individuals as observed in Experiment 1.

Method

Participants

The final sample consisted of 41 children from two different ethnic groups: 21 White Canadians ($M = 57.56$ months, range = 49.1–69.7 months, 16 females) and 20 Chinese Canadians ($M = 58.27$ months, range = 48.4–70.4 months, 9 females). In total 8 children were excluded from the final sample: 6 were excluded because they came from a different ethnicity and 2 were excluded due

to having difficulties with instructions. Children were recruited through RICD, the Ontario Science Centre, and some local preschools. It is important to note that we also found the snowball method⁶ to be quite successful with Chinese Canadian participants. As a result, many of these participants were tested at their home ($n = 15$), although all children came from the Greater Toronto Area.

The two groups of participants were comparable in terms of several socio-demographic characteristics (see Appendix B1). Moreover, both the Chinese and the White children were exposed to different ethnicities *Very often* or *Often* (see Appendix B2). However, the parents of the White children reported lower exposure to Asian Canadians speaking in only Chinese dialects and Asian non-native English speakers, than the parents of the Chinese children. In contrast, the parents of the Chinese children rated their children's daily exposure to White native- and non-native English speakers as lower compared to the parents of the White children. No further differences emerged between groups in their exposure to certain ethnicities.

Materials, Stimuli, and Procedure

The materials, stimuli, and procedure were the same as in Experiment 1, with the exception that the lead female experimenter was Chinese with a native English accent as opposed to White.

Results

Preliminary analyses showed that children's performance did not differ significantly across the child's gender, presentation order, experimenter, religious background, or location of residence. Thus, these variables were excluded from the main analyses reported here. Moreover, children's choices did not differ significantly across question type on the selective learning task (information seeking versus endorsement) or the racial preference task (friend selection versus secret sharing), so

⁶ Snowball recruitment strategies involve finding one individual (the "seed") within a sample and asking that individual to reach out to their own personal networks to discuss and garner interest in a study (Wasserman, Pattison, & Steiney, 2005). Then, any participants recruited following this method are subsequently asked to reach out to individuals within their own community circles.

data were collapsed across question type for the corresponding dependent variables. In addition, there were no significant differences in 4- and 5-year-olds' performance. Therefore, data were collapsed across age groups for the main analyses. See Appendix B3 for the described preliminary results. All reported p values are two-tailed.

Demographic and Exposure to Different Ethnicities

Children's demographic characteristics and exposure to different ethnicities are described in Appendices B1 and B2. The parents of the Chinese children rated their children higher in Chinese cultural competence and placed more importance on their children's Chinese socialization than the parents of the White children. In addition, Chinese children spoke English less often than the White children ($p < .001$ for all comparisons; see Table 5).

Table 5
Parental Responses to Ethnicity-Specific Questionnaires and Language Spoken Daily (Experiment 2)

Ethnic Group	Chinese	White	<i>U</i>	<i>p</i>
Chinese Cultural Competence				
Mean prop. (SD)	.88 (.20)	.02 (.06)	- 5.46	< .001
Parental Importance of Chinese Socialization				
Mean prop. (SD)	.84 (.12)	.38 (.16)	- 4.93	< .001
English Language				
Mean % (SD)	64% (18.5)	94% (13.6)	4.63	< .001

Note. Chinese Cultural Competence = proportion scores were calculated out of a total score of 5; Parental Importance of Chinese Socialization = proportion scores were calculated out of a total score of 40; English Language = percentages were calculated by subtracting "other languages" percentage from 100 (if applicable). Non-parametric Mann-Whitney U tests analyzed mean differences between groups; U denotes standardized test statistic.

Selective Social Learning

As in Experiment 1, we compared children's choice of racial-ingroup informants per trial type (out of 8; collapsed across question-type) to chance responding, and then examined their performance across ethnic groups and trial types. See Figure 6 for a summary of the data.

Comparisons to chance responding. The Chinese children demonstrated no preference for their racial ingroups on the *Race* trials ($M = .48$, $SD = .19$), $t(19) = -.44$, $p = .66$, $r = .10$ or on the *Race-Accent* trials ($M = .48$, $SD = .22$), $t(19) = -.52$, $p = .61$, $r = .12$. The White children were more likely to learn from racial ingroups on the *Race* trials ($M = .62$, $SD = .21$), $t(20) = 2.59$, $p = .02$, $r = .50$, but not on the *Race-Accent* trials ($M = .53$, $SD = .26$), $t(20) = .52$, $p = .61$, $r = .12$.

Figure 6. Mean proportion of choosing racial ingroup by children's ethnic group and trial type (Experiment 2). Numbers above .50 indicate a greater tendency to choose a racial ingroup member. Error bars denote standard error. * $p < .05$ in comparison to chance responding (.50).

Group and trial type comparisons. To explore the main effects of child's ethnic group and trial type, scores were submitted to a 2 (trial type: *Race* and *Race-Accent*) x 2 (child's ethnicity: Chinese and White) mixed design, with trial type as the within-subjects factor and the child's ethnicity as the between-subjects factor. There was no significant main effect of trial type or interaction between ethnic group and trial type, $F(1, 39) = 1.36$, $p = .25$, $\eta_p^2 = .03$, $F(1, 39) = 1.03$, $p = .32$, $\eta_p^2 = .03$, respectively; overall children performed similarly across trial types. The effect of the child's ethnicity was not statistically significant, either, $F(1, 39) = 2.91$,

$p = .10$, $\eta_p^2 = .07$, but it appeared that the White children were more likely to have a racial-ingroup learning preference across trials.

Early Development of Ethnic Identity

As in Experiment 1, early racial awareness was examined with a proportion score of choosing a racial-ingroup peer on the question “Who is most like you?” across four trials. In addition, children’s responses to the open-ended awareness questions (i.e., “What do you see?” “Why is that child most like you?”) were coded and submitted to Chi-square tests⁷. Similarly, each child received a proportion score of choosing a racial-ingroup peer on the preference questions across four trials (out of 8; collapsed across question type).

Table 6
Children’s Responses to the Racial Awareness Questions by Ethnic Group (Experiment 2)

	Chinese	White	χ^2	<i>p</i>
What do you see?				
Gender	48% (38/80)	30% (25/84)	5.45	.02*
Ethnicity	1% (1/80)	5% (4/84)	1.71	.19
Physical	21% (17/80)	31% (26/84)	2.00	.16
Emotion	5% (4/80)	12% (10/84)	2.5	.11
Other/No answer	25% (20/80)	22% (19/84)	.13	.72
Why is that child most like you?				
Physical or ethnicity	43% (35/80)	54% (45/84)	1.58	.21
Personality	1% (1/80)	1% (1/84)	0.00	.97
Other/ No answer	55% (44/80)	45% (38/84)	1.56	.21

Racial awareness. When shown pictures of a White versus a Chinese child’s face and asked what they saw, children most often described gender-related (e.g., girls, boys) or physical (e.g., people, kids) constructs (see Table 6), though the Chinese children were more likely than

⁷ Reliability for the open-ended awareness questions, “*What do you see*” and “*Why do you think that child is most like you*” was established at 82% and 95%, respectively. Any disagreements were further discussed with a third rater to consensus.

the White children to provide gender-related responses. Many children chose not to respond to this question (e.g., I don't know) or provided ambiguous responses. The two groups were otherwise comparable and rarely described what they saw using ethnicity-related language.

When asked “Who is most like you?”, White children chose racial-ingroup peers significantly more often than would be expected by chance ($M = .71$, $SD = .24$), $t(20) = 4.00$, $p = .001$, $r = .67$) (see Figure 7). However, Chinese children responded at chance ($M = .55$, $SD = .29$), $t(18) = .79$, $p = .18$, $r = .18$. Some children had difficulty justifying their response to this question (choosing not to answer or reporting something unrelated), and several others drew on physical or ethnicity-related features to compare themselves to the chosen children (e.g., we both have *blue* eyes and *blonde* hair; see Table 6).

Figure 7. Mean proportion of choosing racial ingroup by children's ethnic group and ethnic identity question (Experiment 2). Numbers above .50 indicate a greater tendency to choose racial ingroup. Error bars denote standard error. * $p < .05$; ** $p < .01$ as compared to chance.

Racial preference. In response to the two racial preference questions, both the Chinese ($M = .58$, $SD = .17$) and the White children ($M = .66$, $SD = .20$) chose racial-ingroup peers at a

rate significantly above chance, $t(17) = 2.13, p = .05, r = .46$ and $t(20) = 3.54, p = .002, r = .62$, respectively (see Figure 7).

Group comparisons. There was no significant main effect of ethnic group on children's early awareness of ethnicity or racial preferences, $t(38) = -1.88, p = .07$, and $t(37) = -1.23, p = .23$, respectively. Both groups of children demonstrated a preference for racial ingroup peers.

Correlations. Table 8 shows the correlations between children's racial awareness, racial preference, and parental measures. No significant relationships were observed between children's racial awareness and preferences. Moreover, there were no significant associations amongst children's development of ethnic identity and parental measures of the importance of Chinese socialization or how often children spoke the English language⁸.

Table 7
Correlations Between Racial Awareness, Racial Preference, and Parental Measures (Experiment 2)

Ethnic Group	Variables	1	2	3	4	5
Overall ($N = 41$)	1. Racial Preference	-				
	2. Racial Awareness	.30	-			
	3. Cultural Competence	-	-	-		
	4. Parental Importance	-.22	-.20	-	-	
	5. Percentage of English	.09	.24	-	-.68**	-
Chinese ($N = 20$)	1. Racial Preference	-				
	2. Racial Awareness	.55*	-			
	3. Cultural Competence	.05	-.34	-		
	4. Parental Importance	.06	.07	.56*	-	
	5. Percentage of English	-.15	.12	.05	-.02	-
White ($N = 21$)	1. Racial Preference	-				
	2. Racial Awareness	.02	-			
	3. Cultural Competence	-	-	-		
	4. Parental Importance	-.31	-.09	.23	-	
	5. Percentage of English	.05	.01	.15	-.21	-

Note. * $p < .05$; ** $p < .01$

⁸ We did not conduct overall correlational analyses with the Chinese Cultural Competence measure due to very limited variability in the White children (i.e., 17/21 parents indicated that their child had no Chinese cultural competence at all).

Correlations by ethnic group. Further analyses were conducted to examine the correlations by children's ethnic group (see Table 7). A positive correlation was observed between the Chinese children's early racial awareness and their racial preferences, $r(18) = .55, p = .02$: Chinese children that identified with peers of the same-race were more likely to have ingroup racial preferences. Measure of Chinese cultural competence correlated with parental importance of Chinese socialization in this group, $r(17) = .56, p = .02$, such that Chinese parents that placed more importance on Chinese socialization also rated children higher in Chinese cultural competence. No significant correlations were observed in the White children.

Selective Learning in Relation to Ethnic Identity Development

Overall, there were no significant associations between children's early development of ethnic identity and their selective learning from racial ingroups versus outgroups. When examined separately by ethnic group, there were also no significant correlations observed (see Table 8).

Table 8
Correlations Between Selective Learning and Ethnic Identity Development (Experiment 2)

Ethnic Group	Trial Type	Racial Awareness	Racial Preference
Overall	Race	.28	.05
	Race-Accent	.02	.02
Chinese	Race	-.00	-.12
	Race-Accent	.25	-.11
White	Race	.40	.06
	Race-Accent	-.25	.07

Note. Missing data exists across variables ($N = 39$ — 41). $*p < .05$; $**p < .01$

The Effect of Experimenter Race: Comparisons Across Experiments

Selective social learning. For exploratory purposes, we compared children's performance across Experiments 1 and 2 to examine the influence of experimenter race. Children's scores of choosing racial-ingroup informants were submitted to a 2 (trial type: *Race* and *Race-Accent*) $\times$ 2

(child's ethnicity: Chinese and White) x 2 (experimenter race: Chinese and White) mixed design, with trial type as the within-subjects factor, and the child's ethnicity and the experimenter's race as the between-subjects factors. There was no significant main effect of experimenter race or significant interactions between experimenter race and the other two factors, $F(1, 100) = .28, p = .60, \eta_p^2 = .003$, $F(1, 100) = .02, p = .90, \eta_p^2 = .00$, and $F(1, 100) = .07, p = .80, \eta_p^2 = .00$ respectively; overall, children performed similarly when tested by a Chinese versus a White experimenter.

Racial Awareness. As a group, children demonstrated similar racial awareness when tested by a White ($M = .64, SD = .31$) versus a Chinese ($M = .64, SD = .27$) experimenter, $t(99) = .02, p = .98$. Further, the Chinese children were no more likely to identify with racial-ingroup peers when tested by a White ($M = .62, SD = .28$) than a Chinese ($M = .55, SD = .29$) experimenter, $t(46) = .85, p = .40$. The White children also demonstrated comparable racial awareness when tested by a White ($M = .65, SD = .34$) versus a Chinese ($M = .71, SD = .24$) experimenter, $t(51) = -.72, p = .47$.

Racial preference. Overall, children's preference for racial ingroups was not significantly different when tested by a White ($M = .55, SD = .25$) versus a Chinese ($M = .63, SD = .19$) experimenter, $t(98) = -1.48, p = .14$. However, the Chinese children were more likely to demonstrate a preference for racial ingroup peers when tested by a Chinese ($M = .58, SD = .17$) than a White ($M = .41, SD = .21$) individual, $t(45) = -2.97, p = .005, r = .40$. The White children's ingroup preference remained similar with a White ($M = .68, SD = .21$) versus a Chinese ($M = .66, SD = .20$) experimenter, $t(51) = .45, p = .67$.

Discussion

The present experiment examined the role of experimenter race in young children's selective social learning from racial ingroups versus outgroups. The same tasks as in Experiment 1 were administered to Chinese and White children, with the only difference being that the experimenter was Chinese instead of White. With respect to selective social learning, children exhibited the same response patterns as observed in Experiment 1. Chinese children demonstrated no racial ingroup preference on *Race* or *Race-Accent* trials, regardless of the experimenter's race. However, White children were more likely to learn from racial ingroup informants on the *Race* trials but not on the *Race-Accent* trials. Thus, when tested by a Chinese experimenter, White majority-status children continued to demonstrate an overall preference to learn novel non-linguistic information from same-race informants on the *Race* trials.

In terms of measures of ethnic identity development, Chinese children demonstrated uncertainty in their racial awareness when asked which child was most like them, choosing randomly between Chinese and White peers. White children, however, were more likely to choose children of the corresponding racial background as most like them. Nevertheless, both Chinese and White children demonstrated racial preferences for ingroup peers (friend selection or secret sharing), despite observable differences with respect to racial awareness. No significant associations were noted between children's selective social learning and their development of ethnic identity. Interestingly, however, a relationship emerged between Chinese children's racial awareness and their racial preferences, supporting research that suggests racial ingroup preferences might emerge in line with racial self-identification (Dunham et al., 2013). That is, Chinese children that accurately identified with children of their corresponding racial background were more likely to demonstrate a racial preference for ingroup peers.

With respect to the present study's hypotheses, particularly the stereotype threat hypothesis, it was predicted that young children of minority-status might feel more comfortable demonstrating preferences for racial ingroup informants when tested by a Chinese as opposed to a White experimenter (Marx et al., 1999). Instead, it was observed that Chinese children demonstrated no learning preferences. However, consistent with previous literature, White children preferred to learn from same-race informants (e.g., Gaither et al., 2014), despite the experimenter's contrasting race. In terms of the construct accessibility theory, it was suggested that having the same race as the experimenter might make it easier for participants, specifically Chinese children, to process their own race (Higgins & King, 1981). In contrast, Chinese children in the present study had difficulties self-identifying with their own racial group on racial awareness tasks. For example, many Chinese children chose randomly when asked which child was most like them and provided vague justifications for their choices (e.g., indicating a response that was difficult to interpret or that they *didn't know why*).

For exploratory purposes, we compared children's responses across Experiments 1 (White experimenter) and 2 (Chinese experimenter). With respect to children's selective social learning, we observed virtually identical results across experiments: The Chinese children displayed no learning preferences and the White children preferred to learn from racial ingroups. However, slightly different findings were noted with respect to the presentation of children's early ethnic identity, namely, racial preferences. Specifically, the Chinese children were more likely to demonstrate an ingroup preference on the racial preference task when tested by a Chinese individual. Thus, it is possible that when the experimenter was Chinese, the construct of race became more salient and children felt greater comfort in expressing same-race preferences. Alternatively, it is possible that the concept of race and/or social status actually became more prominent when a White compared to a

Chinese experimenter tested Chinese children, thus priming children's minority-status ethnic identity and leading to outgroup preferences. This might also explain why the Chinese participants were more likely to demonstrate greater racial awareness when tested by a White compared to a Chinese experimenter, though results between experiments were not statistically different. Moreover, the correlations observed between components of children's ethnic identity (racial awareness and preferences) were only apparent when a Chinese experimenter tested children. Thus, it is possible that there is an important connection between minority-status children's racial awareness and racial preferences that may be diminished in tasks administered by majority-status experimenters. For instance, the concept of race may be less noticeable for minority-status participants when tested by a Chinese experimenter, reducing children's racial self-awareness yet simultaneously allowing them to express greater ingroup social preferences.

In conclusion, although similarities were noted in children's selective social learning across Experiments 1 and 2, there were also subtle differences that existed with respect to Chinese children's responses on the ethnic identity measures. Thus, it is important to consider experimenter characteristics specific to race in research that examines minority-status children's social preferences. This finding will be briefly revisited in the general discussion.

Chapter 4

The Role of Ethnicity in Children's Selective Credulity Toward Misinformation

The two experiments presented in previous chapters have examined children's selective social learning when they are presented with contrasting information from racial ingroups versus outgroups. However, there are situations in which children are provided with testimony from a single source that contradicts their firsthand experiences, previous knowledge, or intuitive beliefs (e.g., a child thinks dolphins are fish but is told that dolphins are mammals). Research in laboratory contexts has shown that young children can be credulous toward such testimony that is clearly inaccurate (e.g., Heyman et al., 2013; Jaswal, 2010; Ma & Ganea, 2010; McDonald & Ma, 2016). For instance, young children are sometimes credulous toward false testimony that conflicts with general notions or intuition, such as believing in claims that defy the natural logic of gravity (Jaswal, 2010), or trusting in misleading advice from sources that are infamously unreliable (i.e., the Big Bad Wolf) (Heyman et al., 2013). Moreover, studies show that preschoolers even trust in false testimony that conflicts with their firsthand observations (Ma & Ganea, 2010; McDonald & Ma, 2016).

Research in forensic contexts has studied children's suggestibility to false testimony. Suggestibility is synonymous with credulity, and both terms describe the tendency to believe in untrue claims through real alterations in memory (e.g., mixing up the interviewer's false testimony with one's own memories), or to acquiesce to untrue claims due to social pressures (e.g., interpreting interviewers or experimenters as more reliable than one's own experiences or memories) (Bruck & Melnyk, 2004; Ceci & Bruck, 1993; Tobey & Goodman, 1992). Extensive literature has demonstrated that preschoolers are particularly suggestible to false testimony in forensic investigative interviews (see Ceci & Bruck, 1993, for a review).

Why do some children believe in misinformation, despite what they know to be true? For one, children are naturally credulous in order to be open to various sources in the acquisition of new knowledge (e.g., Csibra & Gergely, 2011; Dawkins, 1995; Harris et al., 2012). From early in development, children are provided with not only extensive lexical and academic information, but also culturally relevant facts about food, weather, and traditions. On the one hand, it is necessary to accept the majority of given information without question, as selectivity might slow down the accumulation of one's knowledge. On the other hand, children sometimes receive information that is not accurate (i.e., misinformation, misleading testimony), slowing down rather than progressing the accumulation of new knowledge or even leading to detrimental outcomes (e.g., inaccurate eyewitness testimony in legal proceedings).

Therefore, along with acting with credulity to enhance cultural learning, it is equally essential that children learn to take a “skeptical stance” when encountering testimony from others (see Mills, 2013). That is, children must gain the ability to monitor cues to source trustworthiness. Fortunately, it appears that throughout development children begin to reason with epistemic vigilance when encountering sources that have demonstrated past unreliability (e.g., Koenig et al., 2004; Pasquini, et al., 2007). This progression toward skepticism appears to be associated with the development of various abilities in early years, such as language (Imhoff & Baker-ward, 1999; Roebbers & Schneider, 2005), executive function (Doebel, Rowell, & Koenig, 2016; Jaswal et al., 2014; Karpinski & Scullin, 2009) and theory of mind (Brosseau-Liard, Penney, & Poulin-Dubois, 2015).

However, despite the fact that preschoolers are generally more credulous (Ma & Ganea, 2010) and suggestible (Ceci & Bruck, 1993) than older children, previous studies have demonstrated considerable individual variations that cannot be explained by age or differences in cognitive abilities alone. For example, research has demonstrated that young children are more likely to agree with

misleading suggestions provided by forensic interviewers with greater perceived “authority status” (e.g., child versus an adult; Ceci et al., 1987). Moreover, both majority- and minority-status children monitor cues to ethnicity or group membership in guiding their selective trust in others (e.g., Gaither et al., 2014; Kinzler et al., 2011; McDonald & Ma, 2016). Of particular relevance, White native-English speaking children demonstrate selective credulity toward misinformation from ethnic ingroups versus outgroups. For example, although 3-year-olds remained credulous regardless of the informant’s ethnic background, 4-year-olds were only credulous toward ethnic-ingroup informants that shared their race and spoken accent (McDonald & Ma, 2016). However, it is unclear whether children from minority-status groups would also demonstrate selective credulity when presented with misinformation from informants that differ across dimensions of ethnicity (i.e., accent and race). Not only does this research further our understanding of how early ethnic identity development contributes to young children’s selective trust in others, but it also has considerable practical significance in forensic settings (i.e., eyewitness testimony).

Thus, the present experiment aimed to examine the development of selective trust from a different perspective: credulity toward misinformation from a single ingroup versus outgroup member when children had access to the truth. During each of the six test trials, Canadian children of three ethnic groups (White, Chinese, and Chinese transracially adopted) were shown a video in which an adult provided false testimony about a hidden toy’s location that conflicted with children’s direct observations of where the toy was actually hidden. Children then decided whether to rely on their own observations or defer to the false testimony in order to find the hidden toy. The ethnicity of the informant varied across trials (i.e., within-subjects factor): White and native-English speaking on the two White trials, Chinese and native-English speaking on the two Chinese trials, and White with a noticeable foreign accent on the two White-Accent trials.

Previous research demonstrates that majority-status children have social preferences for their racial ingroups (e.g., Kinzler et al., 2012; Shutts et al., 2011), and that when the ingroup status is marked by both shared race and shared accent, White native-English speaking 4-year-olds are credulous toward misinformation from ethnic ingroup but not outgroup speakers (McDonald & Ma, 2016). Thus, it was hypothesized that, in the present study, the White children would demonstrate greater credulity toward the false testimony of the White native-English speakers than the Chinese or the White accented speakers.

Research also shows that Chinese children (adopted and non-adopted) are more likely to have social preferences for majority-status others (Adams et al., 2005; Gaither et al., 2014). However, as revealed in Experiment 2, Chinese children show greater racial ingroup preferences when tested by a same-race compared to a White Experimenter. Thus, minority-status children's preference for majority-status individuals might be impacted by experimenter characteristics such as race. Nevertheless, the main experimenter in the present study was White, so it was expected that the response patterns of the Chinese and the adopted children would be similar to that of the White children.

However, it is also possible that adoptees with greater Chinese cultural competence and greater parental importance of Chinese socialization would demonstrate a similar level of credulity toward both the White and the Chinese native-English speakers. Early in development, these children often hear stories about their adoption, attend classes or groups with other Chinese children, and learn about the Chinese culture (e.g., Friedlander, 1999). As such, these activities might have provided adoptees with a deeper level of trust in Chinese individuals, regardless of minority/majority-status perceptions, and in turn influenced them to act with a similar amount of credulity as they would toward a White native-English speaker.

Method

Participants

The final sample consisted of 79 children from three different ethnic groups: 31 Chinese Canadians ($M = 59.56$ months, range = 46.3–71.4 months, 15 females), 31 White Canadians ($M = 59.07$ months, range = 48.0–69.3 months, 18 females) and 17 children adopted from China with White parents ($M = 69.8$ months, range = 46.2–92.5 months, 12 females). In total, 19 children were excluded from the final sample: 12 were excluded because they were from a different ethnicity and 7 were excluded due to lack of attention (6) or memory issues (1). Children were recruited through the same means as in the previous experiments. None of the White or Chinese children participated in the previous experiments. However, the adopted children participated in Experiment 1 and were tested again for the present study approximately 7 months afterwards ($M = 7.15$, $SD = 3.5$), due to recruitment difficulties specific to this population (see Chapter 2 for details).

The three groups of participants were comparable in terms of several socio-demographic characteristics, excluding mean age in months; the adoptees were slightly older than the Chinese and the White children as a result of the recruitment process (see Appendix C1). All groups were typically exposed to different ethnicities *Very often* or *Often*. However, the parents of the White and the adopted children reported lower exposure to Asian Canadians that speak in Chinese dialects than the parents of the Chinese children. The parents of the White children additionally reported lower exposure to Chinese accented English speakers than the parents of the other two groups. Moreover, the Chinese parents reported lower exposure to White native-English speakers than the parents of the other two groups. No further differences emerged across groups in exposure to ethnicities (see Appendix C2).

Materials and Stimuli

Each child completed two tasks on a laptop computer using Microsoft PowerPoint Presentations: the credulity task and the task measuring early development of ethnic identity in terms of racial awareness and preference. The ethnic identity task and parental measures were the same as in the previous two experiments. Please see previous chapters for relevant stimuli and procedure descriptions.

Credulity task. The credulity task was modeled after Ma and Ganea (2010) to explore young children's credulity toward misinformation, except that the events were shown through a *video presentation* instead of live. This modification was necessary because of the within-subjects design (i.e., multiple informants) and in order to control for extraneous variables (e.g., experimenter error, testing location, recruitment difficulties). For instance, most children were tested at a science centre and/or in their home; thus, the experimental procedure needed to be portable via laptop for logistical reasons. Studies indicate that the differences between live and video presentation are limited with respect to the *misinformation effect* in both children and adults (e.g., Jaswal, Carrington Croft, Setia, & Cole, 2010; Lindsay, Allen, Chan, & Dahl, 2004; Roebbers, Gelhaar, & Schneider, 2004; Roebbers & Schneider, 2005). For instance, Roebbers and colleagues (2004) demonstrated that the presence of the misinformation effect in 5- and 6-year-olds was similar across various presentation modalities (i.e., a magic show was presented live, on video, or through slide-show), despite the fact that children seemed to remember slightly more details in the live condition. However, Jaswal and colleagues (2010) demonstrated that 3-year-olds were more likely to be credulous toward false testimony when it was live or on video than when it was presented in audio format. Thus, although there may be slight variations across

different mediums, it generally seems that video format is comparable to live demonstration to explore children's credulity toward misinformation.

The video presentation consisted of three phases (see Figure 8 for an example) and a post-test interview. There were 34 scenes total, one for the Identification phase, one for the Orientation phase, five for each of the six test trials (30 scenes in total), and two for the post-test interview and debriefing.

The scene for the Identification phase showed pictures of two children side by side (either two girls or two boys), one White and one Chinese (see Figure 8). All children wore a white t-shirt. The scene for the Orientation phase showed a video of an informant from the neck below (i.e., no face) reaching into and opening three different containers that were all empty (i.e., blue bucket, pink bowl, yellow box).

Figure 8. Example of the credulity procedure. From left: A. Identification: The child chooses to identify with a Chinese or a White child (male or female depending on the child's gender). B. Orientation: The child is shown the containers. C. Test trial: The child watches through a window as an informant hides a toy in one of the containers before providing a false testimony.

The scenes for the Test phase showed videos of six adult informants, including two White native-English speakers (one male and one female), two Chinese native-English speakers

(one male and one female), and two White speakers with a Russian accent (one male and one female) (see Figure 9). All informants wore a black shirt. Each test trial involved children examining the three containers again as a reminder that they were empty (scene 1), an introduction to one of the six informants (picture of the informant alone on the screen; scene 2), the informant placing a toy in one of the three containers (scene 3), and afterwards providing a false testimony about the toy's location (scene 4). Finally, a scene showed the three containers to aid children in responding to the main test question described below (scene 5).

Figure 9. The informants used in the credulity task. From left: White informants, Chinese informants, and White informants with a Russian accent. Upper panel: Male informants; Lower panel: Female informants.

Procedure

After parental consent (and child assent when applicable) was obtained, the child and the parent were directed to a quiet room/area where the experimental procedure began. The parent completed the three self-report measures while the two tasks were administered to the child.

The credulity task was administered first. Each child sat directly in front of the laptop computer, and a female researcher (E1) sat beside him or her. During the *Identification* phase, children were presented with two same-gendered peers of different racial backgrounds (Chinese and White). E1 then asked the question “Who do you think is most like you?” We chose to include this introductory identification question to further explore whether children’s racial awareness was related to their credulity, and to discern whether children’s ability to relate to the child in the presentation impacted their ultimate credulity. After children made a clear choice, E1 told them that the chosen child’s name is Lorie/Nixon and that they were going to help Lorie/Nixon solve some problems.

The *Orientation* phase followed. Children watched the video in which an informant showed that three different containers were all empty (i.e., blue bucket, pink bowl, yellow box). E1 also described the scene for children. At the end of this phase, E1 asked children to describe what Lorie/Nixon saw in each container. All children confirmed that there was nothing in each of the three containers.

The *Test* phase then began. In each trial, children were first introduced to an informant, and were told that the informant had a toy and that Lorie/Nixon was going to watch from behind a window as the informant placed the toy in a container, “Guess what! Lorie/Nixon is going to watch from behind a window as this person (picture of the informant shown on screen) puts a toy in one of the containers you just saw”. Next, the informant placed a toy in a container (C). E1 then asked children where Lorie/Nixon saw the informant place the toy (memory-check question 1). Immediately following this question, the informant provided a false testimony about the location of the hidden toy, claiming that it was placed in a different container (F), “Hi there! Guess what? I have a toy! I just put the toy in the (false container, described by colour and

identity)". E1 then asked children where the person told Lorie/Nixon the toy was (memory-check question 2). Finally, after a brief delay to mimic the real-life version of the experiment (approximately 5 seconds; E1 organized her notes and/or briefly paused), E1 said, "Lorie/Nixon is going to find the toy. Where do you think she/he is going to find it?" Children were told to point to the container on the screen if they did not respond right away. After children made a clear response, the next trial followed.

At the end of the Test phase, children received the *post-test interview*. In the last test trial, after children pointed to the container of their choice, E1 told them to watch the hiding event again (i.e., scene 3) ("Let's watch again just to make sure!"), and were asked two final memory-check questions (3a: "Where did Lorie/Nixon see the person put the toy?" 3b: "Where did the person tell Lorie/Nixon the toy was")⁹. E1 either confirmed that the toy was in the identified container, or asked children to try another container if they responded incorrectly. Following the question 3b, E1 said, "Yes, he/she told Lorie/Nixon that the toy was in (F) but it was actually in (C). So why do you think he/she said it was in (F)?" If children did not answer right away, the experimenter prompted, "Do you think he/she tricked Nixon/Lori, or did the person make a mistake?" The *debriefing* followed immediately afterwards, during which children were shown the last scene with a video in which the informant for the last test trial provided an apology, "I'm so sorry! I must have made a mistake but you found it!"

⁹ We excluded the trials in which children failed either memory-check question 1 (where did Lorie/Nixon see the person put the toy?) or question 2 (where did the person tell Lorie/Nixon the toy was?). All children passed memory-check question 3a (where did Lorie/Nixon see the person put the toy?). Only four children failed question 3b (where did the person tell Lorie/Nixon the toy was?). Of these children, two were credulous toward the false testimony and two were not (in the last test trial). These four children were included in the final results because they passed memory-check questions 1 and 2 prior to the last trial, suggesting that they comprehended the hiding event as well as the false testimony. This final memory-check question (3b) might have been confusing for some children because they watched the video a second time about the toy's correct hiding location and were then asked to recall what E1 had told them.

The child completed the above mentioned two tasks (credulity task followed by measures for the development of ethnic identity) in one of six orders, counterbalancing the correct/false location of the toy (3), the order in which the PowerPoint slides were presented (2; a predetermined, randomized order and its reverse), and whether each child's face in the racial preference and awareness task appeared on the left or right side of the computer screen. For every scene or trial, the containers remained in the same positions from left to right (blue bucket, pink bowl, yellow box).

Results

Preliminary analyses showed that children's performance did not differ significantly across the child's gender, age, identification choice, presentation order, experimenter, testing location, religious background, or location of residence. Thus, these variables were excluded from the main analyses reported here. In addition, children's performance did not differ significantly across question type on the racial preference task (friend selection versus secret sharing), so data were collapsed across question type for this dependent variable. Data were also collapsed across age groups for the main analyses, although we chose to include children's age in months in correlational analyses due to trending results and difficulties categorizing children as older or younger (i.e., there were only four younger children in the adopted group). In terms of presentation sequence by ethnic group, children were no more likely to be credulous on the last three trials (Block 2) as compared to the first three trials (Block 1). See Appendix C3 for the described preliminary analyses. All reported *p* values are two-tailed.

Demographics and Exposure to Different Ethnicities

Children's demographic characteristics by group and specific exposure to the ethnicities of interest are described in Appendices C1 and C2. The parents of the Chinese and the adopted children

responded similarly on the Chinese Cultural Competence Scale and the Parental Importance of Chinese Socialization questionnaire (see Table 9). In particular, these parents rated their children higher in Chinese cultural competence and placed more importance on children's Chinese socialization than the parents of the White children ($p < .001$ for both comparisons). In addition, the Chinese children spoke English less often than the White or the adopted children.

Table 9
Parental Responses to the Ethnicity-Specific Questionnaires and Language Spoken Daily (Experiment 3)

Ethnic Group	Chinese	White	Adopted	<i>H</i>	<i>p</i>
Chinese Cultural Competence					
Mean prop. (SD)	.86 (.31)	.04 (.12)	.71 (.33)	49.19	< .001
Parental Importance of Chinese Socialization					
Mean prop. (SD)	.78 (.19)	.38 (.22)	.88 (.06)	47.13	< .001
English Language					
Mean % (SD)	62% (24.4)	93% (15.4)	96% (5.8)	37.33	< .001

Note. Chinese Cultural Competence = proportion scores were calculated out of a total score of 5; Parental Importance of Chinese Socialization = proportion scores were calculated out of a total score of 40; English Language = percentages were calculated by subtracting “other languages” percentage from 100 (if applicable). When non-parametric Kruskal-Wallis Independent Samples test revealed significance ($p < .05$), Bonferroni post-hoc tests corrected for multiple comparisons.

Credulity Toward Misinformation

Children were coded as being credulous if they indicated that Lorie/Nixon would search for the hidden toy in F first, or being skeptical if they chose C first. We removed trials in which children chose the neutral container first¹⁰. For each trial type, each child received a credulity score by calculating the proportion of trials (out of 2; collapsed across male and female informants) on which he or she was credulous. See Figure 10 for a summary of the data.

¹⁰ Unexpectedly, on a few trials some children chose the neutral container instead of the correct container (C) or the one referenced in the false testimony (F). We chose to remove these trials from credulity analyses because it was unclear whether children chose the neutral container because they were influenced by the false testimony (believing or acting with credulity) or because the safest choice was to avoid both containers altogether. In total, the neutral container was chosen only 4% of the time (21/474): Chinese (9 neutral), White (7 neutral), and White-Accent (5 neutral).

Comparisons to chance responding. We first compared children's credulity score to chance responding (.50) by ethnic group and trial type. The Chinese children were credulous at a level greater than would be expected by chance across trial types: $M = .69$, $SD = .40$, $t(30) = 2.68$, $p = .01$ (White trials), $M = .73$, $SD = .36$, $t(30) = 3.48$, $p = .002$ (Chinese trials), and $M = .72$, $SD = .34$, $t(28) = 3.52$, $p = .001$ (White-Accent trials). In contrast, the White children responded at chance across trial types: $M = .44$, $SD = .44$, $t(30) = -.81$, $p = .42$ (White trials), $M = .48$, $SD = .46$, $t(29) = -.20$, $p = .85$ (Chinese trials), and $M = .48$, $SD = .42$, $t(30) = -.22$, $p = .83$ (White-Accent trials); so did the adopted children, $M = .41$, $SD = .40$, $t(16) = -.90$, $p = .38$; $M = .53$, $SD = .37$, $t(16) = .32$, $p = .75$, and $M = .53$, $SD = .41$, $t(16) = .29$, $p = .77$, respectively (see Figure 10).

Figure 10. Mean credulity score by children's ethnic group and trial type. Numbers above .50 indicate greater credulity. Errors bars denote standard error. * $p < .05$, ** $p < .01$, Δ denotes parameter estimates for overall credulity score using Wald's Chi-square statistic.

A further examination of children's individual response patterns revealed converging results (see Table 10). Among the Chinese children, the number of participants who were "always credulous" was significantly greater than would be expected by chance across all trial types [White trials: $\chi^2(2) = 8.58, p = .01$; Chinese trials: $\chi^2(2) = 9.74, p = .01$; White-Accent trials: $\chi^2(2) = 8.76, p = .01$]. Among the White and the adopted children, the distributions of children by individual response pattern were not significantly different from chance expectations.

Table 10

Number of children by individual response pattern (by ethnic group and trial type)

Ethnic Group	Trial Type	Proportion of Trials Credulous			χ^2	<i>p</i>
		0	0.5	1		
Chinese (<i>N</i> = 29-31)	White	6	7	18	8.58	.01
	Chinese	4	9	18	9.74	.01
	White-Accent	3	10	16	8.76	.01
White (<i>N</i> = 30-31)	White	14	7	10	2.39	.30
	Chinese	13	5	12	3.80	.15
	White-Accent	11	10	10	.007	.97
Adopted (<i>N</i> = 17)	White	7	6	4	0.82	.67
	Chinese	4	8	5	1.53	.47
	White-Accent	5	6	6	0.12	.94

Note. 0 = always skeptical; 0.5 = half time credulous/skeptical; 1 = always credulous

Group and trial type comparisons. In line with the recommendation of Jaeger (2008) and our previous research with categorical responses that have multinomial distributions (McDonald & Ma, 2015), children's credulity scores across trial types were submitted to a repeated-measures Generalized Linear Model with Generalized Estimating Equations (GEE) to examine the main effects of ethnic group and trial type, with trial type (3: White, Chinese, and White-Accent) as the within-subjects factor, and children's ethnic group as the between-subjects factor (3: Chinese, White, and Adopted). The results indicated that there was no significant main effect of trial type or significant interaction between trial type and ethnic group, Wald $\chi^2(2) =$

1.89, $p = .39$ and Wald $\chi^2 (4) = 0.55$, $p = .97$, respectively. However, there was a significant main effect of ethnic group, Wald $\chi^2 (2) = 9.25$, $p = .01$. Parameter estimates indicated that overall, the Chinese children were more credulous than the White and the adopted children, Wald $\chi^2 (1) = 5.63$, $p = .02$.

Correlations with age in months. As a group, no significant correlation emerged between children's age in months and overall credulity, $r (79) = -.18$, $p = .11$. In addition, further analyses revealed no significant correlation by ethnic group in the adopted children, $r (17) = .02$, $p = .93$, although this association was trending in the Chinese and the White children, $r (31) = -.31$, $p = .09$, and, $r (31) = -.30$, $p = .10$, respectively: Older children were generally less credulous than younger children.

Explanations. With respect to children's explanations of why the informant provided the false testimony, Fisher's exact test of independence indicated there was no significant main effect of children's ethnic group, $\chi^2 (2) = 3.81$, $p = .19$. Overall, the percentage of children that explained the false testimony as a "trick" (83%, 60/73; 6 children did not respond) was significantly greater than would be expected by chance (50%), $p < .001$ (one-sample binomial test). Children's explanations were not significantly associated with the likelihood of them being credulous, $r (73) = .15$, $p = .20$.

Early Development of Ethnic Identity

As in Experiments 1 and 2, each child received a proportion score of choosing a racial-ingroup peer in response to the racial awareness question "Who is most like you?" (out of 4 trials). In addition, children's responses to the open-ended awareness questions (i.e., "What do

you see?” “Why is that child most like you?”) were coded¹¹ and submitted to Chi-square analyses. Each child also received a proportion score of choosing a racial-ingroup peer across the four racial-preference trials (out of 8; collapsed across question type).

Racial awareness. When shown pictures of a White versus a Chinese child and asked what they saw, children most often described gender-related (e.g., girls, boys) or physical (e.g., people, kids) constructs (see Table 11), although the adopted children were more likely to respond with “I don’t know” or with an ambiguous response than the White and the Chinese children. The three groups were otherwise comparable and rarely described what they saw using ethnicity-related language.

When asked “Who is most like you?”, the White and the adopted children chose the racial-ingroup peer significantly more often than would be expected by chance (White: $M = .68$, $SD = .33$; adopted: $M = .84$, $SD = .22$); $t(29) = 3.02$, $p = .005$, $r = .49$; and; $t(16) = 6.47$, $p < .01$, $r = .85$, respectively (see Figure 11), whereas the Chinese children only chose the racial-ingroup peer marginally above chance expectations ($M = .62$, $SD = .33$), $t(29) = 1.92$, $p = .06$, $r = .36$. When asked to justify their response to this question, children predominately drew on physical or ethnicity-related features to compare themselves to the chosen children (e.g., we have the same eye colour). In general, the Chinese children had the greatest difficulties with this question and responded less often than the White and the adopted children. As in the previous experiments, many children had difficulties justifying their choice (i.e., choosing not to answer or reporting something unrelated; see Table 11).

¹¹ Reliability for the open-ended awareness questions “*What do you see?*” and “*Why do you think that child is most like you?*” was established at 88% and 95%, respectively. Any disagreements were further discussed with a third rater to consensus.

Table 11

Children's Responses to the Racial Awareness Questions by Ethnic Group (Experiment 3)

	Chinese	White	Adopted	χ^2	<i>p</i>
What do you see?					
Gender	62% (71/114)	44% (52/117)	51% (34/67)	7.50	.02*
Ethnicity	0%	1% (1/117)	2% (3/67)	--	--
Physical	33% (38/114)	50% (58/117)	18% (27/67)	6.32	.04*
Emotion	0%	3% (4/117)	0%	--	--
Different	1% (1/114)	2% (2/117)	2% (1/67)	--	--
Other/No answer	4% (4/114)	0%	16% (11/67)	--	--
Why is that child most like you?					
Physical or ethnicity	32% (59/124)	60% (75/124)	65% (44/68)	6.67	.04*
Personality	2% (3/124)	3% (4/124)	3% (1/68)	--	--
Other/ No answer	50% (62/124)	36% (54/128)	32% (22/68)	5.56	.06

Note. Some group comparisons were not performed due to small cell counts; * $p < .05$

Racial preference. In response to the two racial preference questions, both the Chinese ($M = .55$, $SD = .25$) and the adopted ($M = .50$, $SD = .29$) children demonstrated no preference for Chinese or White peers, $t(29) = 1.92$, $p = .07$, $r = .34$; and $t(16) = 0.00$, $p = 1.00$, $r = .00$, respectively. In contrast, the White children chose the racial-ingroup peer at a level significantly above chance ($M = .72$, $SD = .31$), $t(29) = 3.87$, $p = .001$, $r = .58$ (see Figure 11).

Group comparisons. The main effect of ethnic group on children's early racial awareness was marginally significant, $F(2, 74) = 2.81$, $p = .07$, $\eta_p^2 = .07$; the Chinese children were less likely than the adoptees to choose peers of the same race ($p = .06$). With respect to racial preference, a significant main effect of ethnic group was observed, $F(2, 73) = 4.09$, $p = .02$, $\eta_p^2 = .11$. Bonferroni post-hoc comparisons revealed marginally significant findings: the White children demonstrated relatively greater racial ingroup biases compared to the Chinese ($p = .07$) and the adopted ($p = .05$) children. No significant differences in racial preference emerged between the Chinese and the adopted children.

Figure 11. Mean proportion of choosing racial ingroups by children's ethnic group and ethnic identity question. Numbers above .50 indicate a greater tendency to choose a racial ingroup. Error bars denote standard error. ** $p < .01$.

Correlations. Table 12 shows the correlations between children's racial awareness, racial preference, and parental measures¹². As a group, children's racial preference was significantly correlated with parental importance of Chinese socialization, $r(65) = -.39, p = .001$. Children with parents that placed more importance on Chinese socialization were less likely to have preferences for racial ingroups. Chinese cultural competence was negatively associated with percentage of English language spoken daily, $r(41) = -.41, p = .008$; children with higher Chinese cultural competence spoke English less often. No variables were significantly related to children's early awareness of ethnicity. When examined by ethnic group, there was a significant correlation between the White children's parental importance of Chinese socialization and their

¹² For the overall correlational analysis, we excluded the data on Chinese Cultural Competence from the White children (25/29 of the parents indicated that their child had "0" Chinese cultural competence).

preference for racial ingroup peers, such that children with higher scores were less likely to have racial ingroup preferences, $r(27) = -.43, p = .03$.

Table 12
Correlations Between Racial Awareness, Racial Preference, and Parental Measures (Experiment 3)

Ethnic Group	Variables	1	2	3	4	5
Overall ($N = 77$)	1. Racial Preference	-				
	2. Racial Awareness	.12	-			
	3. Cultural Competence	.04	-.08	-		
	4. Parental Importance	-.39**	.11	.30*	-	
	5. Percentage of English	.12	.07	-.41**	-.33**	-
Chinese ($N = 30$)	1. Racial Preference	-				
	2. Racial Awareness	.30	-			
	3. Cultural Competence	-.16	-.10	-		
	4. Parental Importance	-.16	-.15	.53**	-	
	5. Percentage of English	-.02	-.0	-.36	-.07	-
White ($N = 30$)	1. Racial Preference	-				
	2. Racial Awareness	.11	-			
	3. Cultural Competence	-	-	-		
	4. Parental Importance	-.43*	.06	-	-	
	5. Percentage of English	.07	-.19	-	-.38	-
Adopted ($N = 17$)	1. Racial Preference	-				
	2. Racial Awareness	-.11	-			
	3. Cultural Competence	.22	.21	-		
	4. Parental Importance	.03	.28	.17	-	
	5. Percentage of English	.47	-.30	-.31	-.13	-

Note. * $p < .05$; ** $p < .01$

Credulity in Relation to Ethnic Identity Development and Parental Measures

Due to the ordinal nature of the credulity scores, we used Spearman's correlation coefficient to examine the relationships by trial type¹³. Overall, there was no significant correlation between children's credulity and their racial awareness or racial preference (see Table 13). In addition, there was no significant correlation between children's credulity with their parental measures of Chinese

¹³ Spearman's correlation coefficient (r_s) is used on non-parametric ranked data where the assumption of normality has been violated (e.g., Fields, 2013). In this study, we used two questions to calculate the proportion score per trial type, resulting in only three meaningful categories that are ordinal: 0, 0.5, 1. Therefore, r_s is more appropriate than Pearson's r for the correlational analyses reported here.

cultural competence¹⁴ or parental importance of Chinese socialization. However, a significant negative correlation emerged **between** children's credulity and their percentage of English language spoken daily on the Chinese and the White-Accent trials, $r_s(74) = -.24, p = .04$, and, $r_s(73) = -.30, p = .01$, respectively. That is, children that spoke English more often on a daily basis were less likely to demonstrate credulity toward the Chinese and the White non-native English speakers. When examined by ethnic group, no significant correlations were observed.

Table 13

Correlations Between Selective Credulity and (1) Measures of Ethnic Identity Development and (2) Parental Measures (Experiment 3)

Ethnic Group	Trial Type	Racial Awareness	Racial Preference	Chinese Cultural Competence	Importance of Chinese Socialization	Percentage of English Spoken Daily
Overall	White	-.13	.03	.12	.07	-.20
	Chinese	-.13	-.10	.09	.17	-.24*
	White-Accent	-.06	.05	.16	.10	-.30**
Chinese	White	.20	.14	-.04	.18	.01
	Chinese	-.09	.11	.03	.11	.16
	White-Accent	-.08	.13	.06	-.17	.20
White	White	-.26	-.01	-	-.14	.11
	Chinese	-.22	-.30	-	.12	-.32
	White-Accent	-.15	.03	-	-.01	-.28
Adopted	White	-.19	.32	.15	-.10	-.13
	Chinese	.26	.41	-.16	.06	.25
	White-Accent	.40	.27	.04	.21	-.36

Note. * $p < .05$; ** $p < .01$

Discussion

The present chapter examined whether young children of different ethnic groups demonstrate selective credulity based on speaker ethnicity (race and spoken accent). Four main findings were observed. First, as a group, the White children were generally not credulous toward, nor skeptical, of the misinformation presented by all informants. Second, the Chinese children were

¹⁴ The White children's data on Chinese cultural competence were not included in the overall correlations or correlations by ethnic group.

generally credulous across all trial types, demonstrating greater credulity than the White and the adopted children. Third, the response pattern of the children adopted from China was similar to that of the White participants. Finally, ethnic identity development was not related to selective credulity, suggesting that other child factors including languages spoken and cognitive abilities may play a more important role. These findings are briefly explored in turn, followed by a more in-depth general discussion on children's selective trust in relation to ethnic identity development.

To begin, the White children were not particularly credulous toward nor skeptical of the Chinese native-accented informants (race outgroups, yet accent ingroups) and the White Russian-accented informants (race ingroups, yet accent outgroups), which is in line with our previous research (McDonald & Ma, 2016, Experiment 2). However, inconsistent with McDonald and Ma (2016, Experiment 1), these children did not demonstrate “blind-trust” in the White native-accented informants (race and accent ingroups) either: they were sometimes credulous and sometimes skeptical toward the misinformation. Why did this inconsistent finding arise? For one, although participants in both studies had high exposure to different ethnicities and were from the same culturally-diverse area, the White participants in McDonald and Ma (2016) were all English monolinguals (i.e., spoke only English or spoke English at least 75% of the time; Bosch, Figueras, Teixidó, & Ramon-Casas, 2013), whereas only 71% of the White children (22/31) in the present study were English monolinguals. Therefore, it is possible that the differences observed across studies are due, in part, to the participants' language background. Supporting this explanation, children in the present study that spoke English more often, typically the White and the adopted children, were also relatively less credulous toward the Chinese and the White non-native English informants. Thus, it is possible that greater exposure to, or more experiences with, multiple

languages contributed to a lower level of credulity in the White children toward their race and accent ingroups.

Differences in research paradigm and design might have also contributed to the inconsistent finding. McDonald and Ma (2016) employed a between-subjects research design, where children completed the task in a real-life setting. In contrast, the present study employed a within-subjects design and children received the task through video demonstrations. While research suggests that there are limited differences in children's responses to live versus video demonstrations of tasks (e.g., Jaswal et al., 2010; Roebbers et al., 2004), it is possible that the White children in McDonald and Ma (2016, Experiment 1) acted with greater credulity toward race-and-accent ingroup informants due to the live nature of the false testimony (e.g., greater in-person pressure, real-life scenario, and more noticeable characteristics of informant ethnicity) and the fact that they were responding for themselves rather than on behalf of another child.

The second main finding revealed that the Chinese children were credulous toward all informants, demonstrating greater credulity than the White and the adopted children. It is possible that this finding can be attributed to differences in children's ethnic background including language exposure and/or bilingualism—a predominant characteristic that clearly differentiated the Chinese group from both the White and the adopted children. For instance, the Chinese children in our study spoke English relatively less often than the adopted and the White children. Moreover, the majority of the Chinese children spoke another language (e.g., Mandarin, Cantonese) in addition to English; only three parents indicated that their children were English monolinguals). Although it was difficult to accurately determine children's level of bilingualism or linguistic competence in each language (Bialystok, 1988)—beyond how often children spoke the languages identified by parents on a daily basis—many of the Chinese children in our study (23/31, 74%) were considered

bilingual according to standards commonly noted in the literature (e.g., Bosch et al., 2013; Souza et al., 2013).

With respect to the potential link between bilingualism and credulity toward misinformation, the Chinese children might have been more open to the false testimony in line with theories that surround bilingualism and the mutual exclusivity principle (an object can only have one name; Markman, 1991). That is, bilingual children often suspend the use of the mutual exclusivity principle in order to learn multiple labels for words across languages (Au & Glusman, 1990), although they typically follow this principle within each specific language (Davidson, Jergovic, Imami, & Theodos, 1997). Nevertheless, it seems that bilingual children use the mutual exclusivity principle to a lesser extent within specific languages compared to monolingual peers, and that they are more likely to accept alternative common names (i.e., fork) for unfamiliar objects (Davidson, et al., 1997). There are both negative and positive benefits to this finding: bilingual children are potentially more flexible (or open) to learning new knowledge, but the process of considering multiple labels for one object may be cognitively taxing (Davidson et al., 1997; Davidson & Tell, 2005). Thus, it is possible that the bilingual Chinese children in the present study were generally more open to alternative opinions for where the toy was hidden, or that the label for one container was mistaken for another container.

In addition, although research suggests that the development of most cognitive abilities including false-belief understanding are universal and relatively stable across cultures (Avis & Harris, 1991), there appears to be subtle cross-cultural differences with respect to the exact timing children are able to pass certain measures. Of particular interest, studies suggest that there are links between selective trust, executive control, and aspects of theory of mind including false-belief understanding (i.e., understanding that others' beliefs may or may not correspond with reality;

Brosseau-Liard et al., 2015; Doebel, Koenig, & Rowell, 2016; Jaswal et al., 2014; Lucas et al., 2013). Similar associations are observed in the eyewitness testimony literature, such that children with better theory of mind skills demonstrate less suggestibility toward misleading information (e.g., Alexander, Goodman, Schaaf, Edelstein, Quas, & Shaver, 2002; Clarke- Stewart, Malloy, & Allhusen, 2004; Karpinski & Scullin, 2009; Melinder, Endestad, & Magnussen, 2006).

A meta-analysis revealed that Canadian children developed false-belief understanding earlier than children from the United States and Mainland China, and considerably before children from Hong Kong China (Liu, Wellman, Tardif, & Sabbagh, 2008). In their investigation, Canadian children exceeded chance expectations at just over 3 years, whereas children from Hong Kong began to pass tasks at 5 to 6 years. Thus, it is possible that some Chinese Canadian children in the present study with parents presumably from Hong Kong (5 Cantonese speaking) or Mainland China (15 Mandarin speaking) as per the description in Liu et al. (2008)¹⁵, might not yet have developed a false-belief understanding, thus contributing to greater credulity across trials. However, the Chinese children in the present study were Canadian, and therefore it is difficult to make accurate inferences about this relationship. Moreover, this potential explanation is purely speculative, as we did not administer any social-cognitive or executive function measures due to the testing environment and associated time constraints. Nevertheless, these studies bring forth the possibility that there were subtle cross-cultural differences with respect to children's social-cognitive abilities that contributed to ethnic group differences in credulity.

With that being said, research also indicates that there may be differences between White and Chinese participants' cultural upbringing with respect to their morals, values, and social

¹⁵ Five parents of the Chinese children indicated that children spoke "Chinese" and 3 parents did not provide any information. Thus, we were not able to hypothesize the possible locales of these Chinese children's parents.

views about the world (e.g., Fu, Lee, Cameron, & Xu, 2001; Fu, Xu, Cameron, Heyman, & Lee, 2007; Lee, Xu, Fu, Cameron, & Chen, 2001), which may have contributed to their greater credulity in general. For instance, Chinese children are more likely than Canadian children to rate *lying* positively when lies are told for good-natured reasons, such as when one is acting with modesty or attempting to maintain group cohesiveness (e.g., Lee, Cameron, Xu, Fu, & Bond, 1997; Wu, 2008). Therefore, the Chinese children in our study might have viewed that there was no purposeful reason for the informants to provide false testimony and thus acted with greater credulity across trials. In line with this explanation, there may also be group differences between East Asian and Western cultures with respect to parent-child interactions including parenting style, the emphasis placed on respect for adults, and child compliance. For instance, parents in East Asian cultures such as China generally demonstrate higher scores on parenting style scales of authoritarianism (Wu et al., 2002), and at the same time children tend to be more compliant toward adults as compared to children from Western cultures (Huang & Lamb, 2013). Moreover, recent work demonstrates a link between parenting style and children's trust in testimony: children with parents that score high in authoritarianism placed greater trust in ambiguous information (Tagar, Federico, Lyons, Ludeke, & Koenig, 2014). Thus, it is possible that the Chinese children in the present study, particularly those with immigrant parents from China (25/27, 93%), were more likely than the White and the adopted children to have parents with an authoritarian parenting style, contributing to their greater compliance toward the adult testimony despite direct observations.

The third main finding showed that the children adopted from China performed in a similar manner to the White but not the Chinese children, which might be related to children's language abilities. For instance, the majority of the adoptees, like the White children, were monolinguals;

about one third of the adopted children (5/17) had *some* daily exposure to another language (~less than 20 percent of the time): Mandarin (1 child, 5%) and French (3 children, less than 10%; 1 child, 20%). Thus, in line with our previous explanation for the Chinese children's greater credulity in relation to bilingualism, the adopted children might have been more inclined to follow the mutual exclusivity principle, thus, ignoring alternative opinions for where the toy was hidden (Davidson, et al., 1997). Moreover, the parents of the adopted and the White children provided comparable ratings of children's exposure to certain ethnicities, including White native and non-native English-speaking individuals, as well as Asian individuals that are native English speakers (i.e., the three trial types examined in the present study). Thus, it is possible that both the White and the adopted children demonstrated similar levels of credulity due to their equal exposure to individuals from the ethnic groups of interest. Moreover, although we did not observe any association between children's emerging ethnic identity and their credulity, it is interesting to note that the adopted children generally had equal preferences for racial ingroup and outgroups peers, and a heightened racial awareness. Thus it is possible that, given this group's ethnic background and experience with White and Chinese individuals, they may harbor positive feelings of likeability and trust toward both ethnicity groups. It would be interesting, however, to explore whether children adopted from China would demonstrate a different pattern of credulity toward individuals from another ethnic minority-status group.

Lastly, in terms of children's ethnic identity development, there was no association between children's credulity and their racial awareness or racial preference. It is possible that this finding reflects the nature of the task in general; the procedure might have been too difficult for children (especially those that were younger) to focus on cues to informants' potential reliability based on group membership in line with their own racial awareness and/or preferences. Instead, children

might have been more inclined to randomly act with credulity and/or skepticism regardless of informant characteristics, or their own ethnic identity. That is, the impact of children's emerging ethnic identity in their selective trust might be overridden in situations that are especially cognitively strenuous, such as in scenarios involving a conflict between an informant's false testimony and children's own knowledge. We will revisit this possibility in the general discussion.

Taken together, findings from this study support our original hypothesis that the construct of selective trust might differ from one paradigm to another. Specifically, the children in the present study did not demonstrate selective credulity toward misinformation based on informant ethnicity. Other factors related to children's individual characteristics, including language, cognitive abilities, and cultural upbringing, presumably played a more important role. These findings, along with the results identified in previous chapters, will be collectively explored in the general discussion.

Chapter 5

General Discussion

The present dissertation aimed to explore the role of ethnicity in children's *selective trust* from two perspectives: *selective social learning* from two contrasting sources, and *selective credulity* toward one source that provided false information. Findings from three experiments highlight the importance of informant ethnicity (e.g., race and accent), as well as early ethnic identity development and individual characteristics, in guiding non-adopted (White and Chinese) and transracially-adopted children's selective trust across scenarios.

Experiments 1 and 2 explored children's *selective social learning* from two contrasting sources that differed according to informant ethnicity (i.e., race and spoken accent). Results of Experiment 1 (White experimenter) indicated that the White children demonstrated an overall preference to learn from White informants rather than Chinese informants when race was the only cue to ethnic group status. No racial-ingroup preference was observed when race was pitted against accent. The Chinese and the adopted children showed no learning preference for racial ingroup or outgroup informants. With respect to emerging ethnic identity, overall an association was observed between children's same-race peer preferences with children's same-race learning preferences. Results of Experiment 2 (Chinese experimenter; White and Chinese children only) were virtually identical, except that there was no relationship between children's racial preference and selective learning. Experiment 3 explored children's *selective credulity* toward the false testimony of informants from different ethnic groups. Results indicated that as a group the White and the adopted children were generally neither credulous nor skeptical, regardless of the informant's race and accent. However, the Chinese children demonstrated significant

credulity toward all informants. Children's language background (i.e., percentage of English language spoken daily) seemed to contribute to these results.

The following section will describe these findings collectively and outline the contributions of the present studies to the literature, as well as suggest practical implications, limitations, and future directions for research.

The Construct of Selective Trust

To our knowledge, the present research is the first to explicate the construct of selective trust in children in relation to informant ethnicity and early ethnic identity development across two different scenarios: selective social learning from two contrasting sources when the information is novel, and selective credulity toward one source who provided obviously false information. Results from Experiments 1 and 2 were consistent with the social preference literature, such that children, particularly White children of majority-status groups, relied on cues to ethnicity such as race and accent when deciding whom to trust for new information (e.g., Gaither et al., 2014; Kinzler et al., 2011). However, when children encountered information that conflicted with their own knowledge in Experiment 3, they demonstrated less selectivity in their trust in others and did not seem to pay attention to the informant's ethnicity. It is possible that there are both unique and similar mechanisms that underlie children's selective trust in each of the present scenarios.

On the one hand, both scenarios presumably involved some comparable social-cognitive processes in order for children to solve problems and weigh information from multiple sources (i.e., two contrasting sources, or ones' own knowledge versus misinformation from others). For one, theory of mind (ToM) and executive function (EF) are associated with both selective learning (Brosseau-Liard et al., 2015; Doebel, Koenig, & Rowell, 2016; Lucas et al., 2013) and

selective credulity (Jaswal et al., 2014; Karpinski & Scullin, 2009; Melinder, Endestad, & Magnussen, 2006). Thus, it is possible that children in the present study with better EF or ToM abilities were more likely to consider informant ethnicity and reason from an epistemic stance in their selective learning, such that they were more capable of attending to, flexibly switching between, and appreciating the knowledge-state of each informant. This might have involved making inferences based on each informant's ethnic group status about his or her potential to provide both accurate and culturally relevant information (e.g., the functions of certain objects or *tools* might have been perceived as knowledge that is more reliable when provided by ethnic ingroup members). In a similar vein, it is also conceivable that children with better social-cognitive skills were less credulous and more likely to rely on their own observations in general when presented with false information—although not necessarily that they were more likely to demonstrate selective skepticism based on informant ethnicity.

On the other hand, there are also likely different mechanisms that underlie children's reasoning in each context. For instance, there may be greater cost involved (i.e., *losing* previous knowledge) in the credulity paradigm, where misinformation conflicts with children's firsthand observations, compared to the social learning paradigm, as children are not necessarily *losing* something but *gaining* new knowledge. For instance, research suggests that people are generally more motivated when the possibility exists that they will lose versus gain something due to a general negativity bias (Goldsmith & Dhar, 2013). Relatedly, tasks involving motivation are associated with relatively more complex cognitive processes, namely hot executive functions, and are especially difficult for younger children (Carlson, Davis, & Leach, 2005; Kerr & Zelazo, 2004; Muller, Zelazo, Hood, Leone, & Rohrer, 2004; Prencipe & Zelazo, 2005).

Therefore, it is possible that during the credulity task, children's cognitive abilities might have been compromised to a greater extent, presumably because of the task's higher executive control demands, including increased motivation (e.g., the protagonist might lose the toy), as well as taking another child's perspective, remembering correct information, and resisting an interviewer's false testimony. These complex cognitive processes involved in the task per se might have limited children's ability to engage in epistemic reasoning and attend to informant characteristics such as group membership in their selective trust (Brosseau-Liard et al., 2015; Doebel, Koenig, & Rowell, 2016). However, in our recent work (McDonald and Ma, 2016), 4-year-old monolingual White children showed selectivity in their credulity based on informant ethnicity, such that they were generally credulous toward ethnic ingroups but skeptical of ethnic outgroup informants. Thus, it is possible that the diversity in our participant sample (i.e., language background, ethnicity exposure) coupled with video rather than live demonstration, in addition to task demands (e.g., remembering the correct location and rejecting the false testimony), limited children's ability to pick up on or use cues to informant ethnicity in their credulity and/or skepticism. In contrast, in the selective learning measure, children were able to direct their cognitive resources toward the task in order to demonstrate learning preferences based on informant ethnicity.

Thus, when comparing the different scenarios, children's selective social learning might involve epistemic reasoning to a greater extent than is possible in situations with higher cognitive demands, i.e., when previous knowledge is in conflict with misinformation. Taken together, the present results suggest that both child (i.e., language, social-cognitive abilities, ethnic identity) and informant characteristics (i.e., accent and race) contribute to children's selective trust in others.

Selective Learning

In line with previous literature, overall findings indicated that majority-status White children were more likely to selectively learn from racial ingroup informants (e.g., Chen et al., 2013; Gaither et al., 2014). In contrast, the transracially adopted and Chinese children demonstrated no social learning preferences based on race. Furthermore, no selectivity was observed based on spoken accent across all ethnicity groups. This null finding, in and of itself, is novel to the present literature, and inconsistent with current theories that accent is a more important cue than race in guiding children's social preferences (see Kinzler et al., 2009; Kinzler et al., 2011).

It is possible that this discrepancy is related to our sample's relatively diverse language environments. For instance, children in the present study with greater exposure to multiple languages were also more likely to demonstrate preferences for White non-native English speakers in Experiment 1. This explanation is additionally supported by results that bilingual children from relatively diverse language environments (e.g., Montreal, Canada) have more nuanced social preferences for monolingual versus bilingual peers (Byers-Heinlein, Behrend, Said, Girgis, & Poulin-Dubois, 2017), though monolingual children from the same environment have preferences for other monolinguals. Nevertheless, the fact that children in the present study were from an ethnically heterogeneous community and had some exposure to other languages might have limited our interpretation with respect to the strength of accent versus race in guiding children's preferences. Relatedly, given this diversity in ethnicity exposure and likely language environments, children might not view a foreign accent as a strong a cue to outgroup status. The White children in Experiments 1 and 2 might have viewed both the accented White speaker and the native accented Asian speaker as partially "outgroup" and thus chose randomly. Alternatively, these children might

have an initial bias toward the same-race speaker, but the foreign accent indicated potential outgroup status and thus cancelled out the effect of shared race (McDonald & Ma, 2016).

One limitation of the present study was that children's selective learning based on accent alone was not assessed, such that informants with the same racial background yet differing spoken accents (native versus non-native) were never directly pitted against each other (as in Kinzler et al., 2011). We would expect that, in line with the literature, native English speaking children would demonstrate preferences for native English speaking informants. However, due to findings that ingroup biases are more distinct in societies that are ethnically homogenous compared to heterogeneous (McGlothlin & Killen, 2006), it is possible that the diversity in our participants' language environments might have diminished any ingroup preferences based on accent alone. This manipulation might have assisted to tease apart the impact of children's broad ethnicity exposure, with respect to society, in their selective learning based on distinct cues to ethnicity (i.e., race or accent).

Nevertheless, the present study yielded interesting findings with regard to minority children's selective social learning. Both the Chinese and transracially-adopted children demonstrated no learning preferences based on race (or accent). This contrasts previous literature that minority-status children typically have preferences for majority-status others (Dunham et al., 2013; Shutts et al., 2011; Xiao et al., 2015). It is possible that this result was due to the fact that children's minority-status identity was not primed prior to testing, as was done in previous investigations (i.e., Gaither et al. 2014). Moreover, Chinese minority-status children and adoptees might be exposed to individuals from each of the stimuli's ethnicity group more often than White children, such as individuals from their own familial background, friendship circles, or community groups (Chinese) and those within larger society and the media (White). This explanation is in line

with theories that differing levels of ethnicity exposure can reduce or reinforce children's social preferences (e.g., McGlothlin & Killen, 2006; Rutland et al., 2005).

In summary, the present results provide new insights into the role of informant ethnicity, particularly speaker accent, in children's learning preferences, such that speaker accent did not trump race in children's selective learning. Moreover, the present research provides new evidence regarding minority-status children's selective learning based on informant ethnicity. Chinese Canadian and children adopted from China by White parents did not demonstrate a racial-ingroup preference in their social learning based on informant ethnicity, regardless of experimenter race.

Selective Credulity

In order to more deeply understand the construct of selective trust and the role of ethnicity across contexts, Experiment 3 examined children's selective credulity toward a false testimony, despite direct observations of the truth. Results indicated that across ethnicity groups, children were not selectively credulous toward Chinese, White, and White foreign-accented speakers. However, the Chinese Canadian children were significantly more credulous toward all informants than the White and the children adopted from China. These results suggest that there are specific child factors involved in the process of selective trust outside of informant cues (e.g., ethnicity) to trustworthiness.

In particular, children differed with respect to their language experiences, such that the Chinese children in the present study were more likely to speak another language in addition to English. Results were interpreted within the context of the mutual exclusivity principle (Au & Glusman, 1991; Markman, 1991), and the suggestion that bilingual children (predominantly the Chinese children in our sample) might have been more open to receiving alternative suggestions for the toy's hiding location. Moreover, results indicated that older children were more likely

than younger children to demonstrate skepticism toward informants in general. One possible explanation for these results was that the task was potentially too difficult for younger children to demonstrate selective credulity based on informant ethnicity, or that older children were more likely to attend to informant characteristics when deciding whether to accept or reject the false testimony. This explanation is supported by research that indicates children's ability to critically evaluate testimony including speaker motives generally improves with age (Heyman & Legare, 2005; Heyman 2008). Nevertheless, researchers note that there are cross-cultural differences beyond age in the development of children's social-cognitive skills (Lucas et al., 2013; Sabbagh et al., 2006), including their ability to critically evaluate testimony (Heyman, Fu, & Lee, 2007).

This research brings forth the possibility that there may have been subtle differences between White and Chinese participants' cultures that contributed to their early social views about the world and ultimately impacted their selective trust in others. That is, although participants from the present study were Canadian, the majority of Chinese children's parents were from China. Thus, children's early upbringing was likely rooted in values and morals inherent to the Chinese culture. For example, research suggests that children in Western compared to non-Western cultures view certain moral dilemmas uniquely given the context, namely, the concept of lying (Fu et al., 2001; Fu et al., 2007; Lee et al., 2001). Indeed, Chinese children are more likely than Canadian children to rate others positively when they act with modesty and lie about doing good deeds, rather than when they are honest and tell the truth about such actions. These results indicate that there may be a tendency for cultural values, such as the propensity for Chinese individuals to generally act with greater modesty (i.e., make less positive self-evaluations; Lee et al., 1997; Wu, 2008) and/or to privilege group cohesiveness over personal goals, to contribute to children's early social perspectives and behaviours. Therefore, it

is possible that Chinese children in the present study might have assessed that there was no obvious reason (e.g., modesty or fulfilling group needs) for the informants to lie about the toy's hiding location; thus, they deduced that the informants were likely telling the truth and acted with greater credulity. In contrast, the White and the adopted children may have been more inclined to view the informant's intentions as self-serving (e.g., keeping the toy for themselves or playing a trick on the child), and therefore were sometimes skeptical of the false testimony.

Moreover, it is possible that subtle cross-cultural differences in terms of parenting style and child compliance contributed to the results. For instance, research suggests a link between authoritarianism in parenting and children's trust in ambiguous information (Tagar et al., 2014). Relatedly, East Asian parents typically score higher in authoritarianism, and their children tend to be more compliant compared to children from Western cultures (Huang & Lamb, 2013; Wu et al., 2002). Thus, it is possible that the Chinese as compared to the White and the adopted children were more likely to demonstrate credulity toward the adult informants due to potentially having parents that were higher in authoritarianism and generally acting with greater compliance in their everyday lives.

To summarize, young children did not demonstrate selective credulity based on informant ethnicity. However, young Chinese children were significantly more credulous than White and transracially adopted children. Results suggest that factors outside of informant ethnicity alone, including children's language background, social-cognitive abilities, or differences in cultural values and up-bringing including parenting style, might have also influenced children's credulity toward misinformation from others.

Ethnic Identity Development

In addition to the contributions mentioned above, the present studies provided evidence with respect to the role of ethnic identity development and experimenter race in children's selective learning and credulity. For instance, when the experimenter was White, children with social preferences for racial ingroup peers (sharing a secret and friend selection) were more likely to choose to learn from racial ingroup informants. However, this association between racial preferences and selective learning was not observed when the experimenter was Chinese, suggesting that experimenter race may contribute in some way to the relationship between children's early ethnic identity and their selective social learning (e.g., perhaps through priming or increasing/decreasing the saliency of ethnic identity). Moreover, children's ethnic identity was not related to their selective credulity, such that children's early racial awareness or preference for ingroup versus outgroup others did not impact whom they were more likely to be credulous toward. This finding points to the possibility that there are different mechanisms evoked, including early ethnic identity, across scenarios involving children's trust.

In regards to children's early ethnic identity development, across studies, young children were generally aware of their racial background, though for Chinese children this appeared more evident when the experimenter was White than Chinese. Moreover, results supported qualitative investigations that young adoptees, in particular, have somewhat of a "heightened" awareness of their racial background (Bernal et al., 1990; Friedlander et al., 2000). For instance, even the youngest adoptees in the present study were strongly aware that they were Chinese.

Nevertheless, with respect to racial preference, adoptees demonstrated relatively equal preferences for racial ingroups versus outgroups in their learning and peer selection across investigations. Results from the present study suggest that adopted children's consistent positive

experiences with more than one ethnic group might have reduced their intergroup biases or initiated balanced social preferences. For instance, the parents of the adoptees in the present study were open about their effort to highlight positive Chinese exemplars to their children through excitedly teaching them about the Chinese culture: reading stories that described children's adventure moving from China to Canada (e.g., discussing adoption sites, foster parents, historical landmarks, the potential to revisit country), enrolling children in Chinese dance/music classes, celebrating Chinese holidays, attending events with other children adopted from China, and generally discussing the fact that children were adopted from China in a positive light. In contrast, in line with previous literature (e.g., Aboud, 2003; Dunham et al., 2013), across studies White children consistently demonstrated racial ingroup biases for White peers, and when tested by a White experimenter, Chinese children demonstrated outgroup racial preferences for White peers.

In summary, there appears to be a relationship between White children's early racial preferences and their selective social learning based on informant ethnicity. However, this effect is not observed consistently across studies. Nor was it observed in the Chinese and the adopted groups. Racial awareness generally does not seem to play a role in children's selective trust. With respect to children's ethnic identity development (racial awareness and preference), minority- and majority-status children between the ages of 4 and 7 years appear to be aware that physical differences exist between certain racial groups, namely, Chinese and White ethnicities. However, this early awareness does not always necessitate ingroup social preferences. Previous studies have predominately focused on adolescent populations with respect to ethnic identity; thus, the present study contributes to our understanding of the early ethnic identity markers (awareness and preferences) in children that are transracially adopted, as well as children from

both minority- and majority-status cultures. Moreover, it is important to note that minority-status children's ingroup preferences may be reduced when tested by a majority-status White individual compared to an experimenter of the same race and/or social status.

Implications of the Present Research

Collectively, findings from the present studies provide new evidence into minority- and majority-status children's early ethnic identity development and their selective trust in others across various contexts (social learning and credulity toward misinformation). Moreover, the present study is the first to examine the development of selective trust in transracially-adopted children, and significantly adds to our understanding of ethnic identity development and intergroup attitudes in childhood.

Research has demonstrated that implicit racial biases can sometimes lead to prejudicial attitudes or the belief in stereotypes directed toward outgroup and often minority-status groups (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). However, increased exposure to outgroup members as well as positive exemplars of those individuals can diminish ingroup biases (e.g., Gonsalkorale, Allen, Sherman, & Klauer, 2010; Lai et al., 2014; Pettigrew & Tropp, 2006). To some extent, this suggestion is supported in our study, such that children adopted from China demonstrated relatively equal social preferences. This group, in particular, had significant exposure to both White and Chinese groups, in addition to heightened instruction surrounding their minority culture.

Practically, these findings highlight the need to introduce culture-specific curricula into children's early learning environments. Given the results that indicate exposure interventions are not necessarily as helpful for younger compared to older children due to their limited cognitive flexibility (Gonzalez, Steele, & Baron, 2016), it is important that this recommendation is

preventative (rather than used later as an intervention) and implemented as early as possible, even prior to the preschool years. For instance, instructors and/or parents should teach children about specific cultures using visuals, field trips, songs/stories, and perhaps even providing them with real-world opportunities to visit or interact with children from other cultures. This is a practice that may already be initiated in real-world classrooms or households and would be interesting to explore from a research perspective (i.e., examining social preferences in naturalistic settings such as in classrooms with heightened culture-specific curricula compared to those with limited discussion surrounding minority cultures).

Moreover, the present results also provide practical implications for real-world issues related to children's eyewitness testimony in forensic contexts. For instance, the Chinese children were generally more credulous than the White children or the children adopted from China. Regardless of what mechanisms were driving this effect (language abilities, social views, etc.), this finding should be carefully considered in the context of real-world settings involving children's suggestibility toward interviewer false testimony. That is, young Chinese Canadian children may be more likely to acquiesce or believe misinformation introduced during investigative interviews, though it is unclear what individual factors underlie this result. More work is clearly needed to further understand this finding in order to provide policy recommendations.

Limitations and Future Directions

The present study gleaned numerous interesting findings that will certainly inform literature on the development of children's ethnic identity and selective trust. However, as noted, there were several limitations or questions that require future exploration. In particular, the present study only focused on three ethnicity groups: White, Chinese, and children adopted

from China. However, there are several other ethnicity groups, some of which were tested but excluded from our studies (e.g., South Asian children) that encompass a large percentage of the Canadian population. Future work is needed to examine whether other minority-status children demonstrate similar ingroup versus outgroup biases in their selective trust in others.

Moreover, several of our explanations in Experiment 3 drew on individual child factors including children's language and social-cognitive abilities. Unfortunately, due to our testing environment (and limited time with each participant), we did not specifically assess children's language, executive function, or theory of mind abilities in addition to their selective trust. Thus, some of our interpretations of these results were purely speculative and require further investigation. In line with this suggestion, it would be interesting to directly examine the relationship between children's bilingualism and credulity toward interviewer false testimony. For instance, future studies might explore whether bilingual children from other ethnicity groups are more credulous on average than monolinguals. Results from such a study would assist in teasing apart the mechanisms underlying the Chinese children's notable credulity in the present study (e.g., bilingualism or cultural upbringing). Finally, due to recruitment difficulties, we were unable to obtain a large sample of children adopted from China and as a result had to test the same group of adopted children in Experiments 1 and 3. Thus, it is possible that there were subtle carry-over effects in the adopted group with respect to the ethnic identity measures that were not apparent in the Chinese and the White comparison groups. This limitation might be remedied in future studies by focusing on other transracially-adopted populations (e.g., Korean) to increase the sample size and avoid re-testing across experiments, as well as to explore whether other adopted children display similar patterns of selective trust.

Conclusions

The present dissertation expanded the construct of *selective trust* by exploring the adaptive process of cultural transmission from two angles (*selective social learning* from contrasting sources and *selective credulity* toward one source when children have access to the truth). With respect to selective learning, White majority-status children demonstrated an overall preference to learn novel non-linguistic information from same-race informants. In contrast, Chinese Canadian and adopted children were no more likely to learn from ingroup than outgroup others. Moreover, as a group, children did not demonstrate selective trust based on informant ethnicity when they were presented with information that conflicted with their direct observations, although Chinese children were significantly more credulous on average. In addition, children's early ethnic identity development in terms of racial preference was associated with selective social learning based on informant race, but did not impact selective credulity. Overall, results suggest that the construct of selective trust is multifaceted and involves the consideration of both informant cues to reliability including ethnic group membership, as well as characteristics that may be inherent to children's individual background such as language abilities, early social values, and ethnic identity development. The present research will add to our understanding of children's selective trust in others, and practically contribute to insights regarding the reduction of intergroup biases and eyewitness testimony.

Appendix A1

Experiment 1: Demographic Characteristics by Ethnic Group

Group analyses confirmed that children of all three ethnic groups were similar in terms of mean age in months, number of parents, parent's level of education, and location of residence (see Table A1.1). Most children lived with two parents. The parents typically had college degrees (or higher), and families often resided in urban or suburban areas. However, the groups differed with respect to total siblings and religious affiliations: The White children had more siblings on average (more than one) and fewer Chinese children had religious affiliations than the White or the adopted groups. In terms of ethnic background, more Chinese children had parents that were born outside of Canada.

Table A1. 1

Demographic Characteristics by Ethnic Group (Experiment 1)

	Chinese	White	Adopted	<i>F/χ²</i>	<i>p</i>
N	32	32	19		
Age in Months				2.49	.09
Mean (SD)	60.2 (7.94)	59.8 (6.52)	66.3 (18.45)		
Range	47.3-70.6	48.1-71.3	42.0-103.5		
Years	17 < 5-years 15 ≥ 5-years	15 < 5-years 17 ≥ 5-years	9 < 5-years 10 ≥ 5-years		
Age at Adoption (Months)					
Mean	--	--	22.5 (11.79)		
Range	--	--	11.00- 52.0		
Gender				2.78	.25
Male/Female	16/16	14/18	5/14		
Family					
Lives with two parents	88% (28/32)	94% (30/32)	95% (18/19)	1.13	.57
Parents born in Canada	22% (7/32)*	77% (23/30)	94% (17/18)	31.39	.00
Total siblings Mean (SD)	0.75 (0.72)	1.29 (0.69)*	0.79 (0.72)	5.34	.01
Parents Level of Education				4.38	.95
No Diploma	0%	3% (1/32)	0%		
Diploma	3% (1/31)	0%	0%		
College	13% (4/31)	19% (6/32)	16% (3/19)		
University	55% (17/31)	44% (14/32)	47% (9/32)		
Graduate	29% (9/31)	34% (11/32)	37% (7/32)		
Religious Affiliation				11.80	.00
Yes	31% (10/32)*	63% (19/30)	77% (14/18)		
Location of Residence				4.12	.38
Urban	57% (17/30)	63% (20/32)	47% (9/19)		
Suburban	40% (12/30)	28% (9/32)	53 (10/19)		
Rural	3% (1/30)	9% (3/32)	0%		

Note. Parent Level of Education = Group differences were analyzed with a Fisher's exact test due to an expected cell count of less than 5.

Appendix A2

Experiment 1: Children's Exposure to Different Ethnicities by Ethnic Group

All groups were typically exposed to different ethnicities *Very often* or *Often* (see Table A2.1).

However, the parents of the White children were more likely to report that their child was *Rarely* exposed to different ethnicities as compared to the Chinese and the adopted children. Furthermore, the parents of the White and the adopted children reported lower exposure to Asian Canadians that speak in only Chinese dialects than the parents of the Chinese children. Moreover, the Chinese parents rated children's daily exposure to White native-English speakers lower compared to the parents of the White ($p = .01$) and the adopted children ($p = 0.03$). Finally, the parents of the White children reported lower exposure to Asian native-English speakers than the Chinese parents ($p = .03$). No further differences emerged between the Chinese and the adopted children, and all groups reported similarly low exposure to Asian and White non-native (but not Chinese) English speakers.

Table A2.1

Ethnicity Specific Characteristics by Ethnic Group (Experiment 1)

	Chinese	White	Adopted		
				<i>H/χ²</i>	<i>p</i>
Exposure to Different Ethnicities				13.58	.05
Very Often	38% (12/32)	31% (10/32)	58% (11/19)		
Often	47% (15/32)	31% (10/32)	42% (8/19)		
Not Sure	6% (2/32)	10% (3/32)	0%		
Rarely	6% (2/32)	28% (9/32)	0%		
Never	3% (1/32)	0%	0%		
Exposure to Specific Ethnicities (Mean percentage estimate/SD)					
Asian (Chinese)	28% (23.93)	3% (4.14)	11% (21.34)	16.41	.00
Asian (Non-native)	17% (17.02)	7% (9.98)	17% (20.29)	4.55	.10
Asian (Other)	14% (25.65)	8% (15.56)	4% (5.50)	3.30	.19
Asian (English-only)	26% (23.71)	9% (11.23)	15% (19.73)	10.40	.01
White (English-only)	30% (26.15)	6% (27.51)	62% (26.45)	8.73	.01
White (Non-native)	11% (13.13)	20% (19.22)	22% (28.03)	1.26	.53

Note. Exposure to ethnicity = daily exposure to different ethnicity groups; Exposure to specific ethnicities = parents were asked to estimate, using percentages, children's average exposure to specific ethnicities; Asian (Chinese): Asian Canadians that speak Chinese dialects only; Asian (Non-native): Asian Canadians that are non-native English speakers and also speak other Chinese dialects; Asian (Other): Asian Canadians that are non-native English speakers and speak another language other than Chinese dialects; Asian (English-only): Asian Canadians that are native English speakers and speak English only; White (English-only): White Canadians that are native English speakers and speak English only; White (Non-native): White Canadians that are non-native English speakers and speak another language; Group differences were analyzed with a Fisher's exact test due to an expected cell count of less than 5.

Appendix A3

Experiment 1: Preliminary Analyses

Question type and presentation order

Selective social learning. A 2 (question type: Information seeking and Endorsement) x 3 (ethnicity group: Chinese, White, Adopted) mixed design, with question as the within-subjects factor and group as the between-subjects factor examined whether children's selective learning responses differed by the question type. No significant main effect of question type or interaction between group and question type were observed on *Race* ($F(1, 79) = 3.09, p = .08$ and $F(2, 79) = 1.43, p = 0.25$) and *Race-Accent* trials ($F(1, 80) = 1.69, p = .20$ and $F(2, 79) = .05, p = .95$), respectively. Kruskal- Wallis and Mann-Whitney U (standardized test statistic) tests revealed no significant effects of presentation order (*Race*, $H(7) = 4.50, p = .72$; *Race-Accent*, $H(7) = 12.96, p = .07$) or experimenter (*Race*, $U(82) = 1.14, p = .25$; *Race-Accent*, $U(82) = -.60, p = .55$) on children's selective learning across trial types, respectively.

Social preferences. To calculate an overall social preference score, we examined the impact of question type by group. Scores were submitted to a 2 (question type: friend and secret) x 3 (ethnicity group: Chinese, White, Adopted) mixed design, with question type as the within-subjects factor and group as the between-subjects factor. No significant main effect of question type or interaction between question type and group was observed, $F(1, 76) = 0.00, p = .99$ and $F(2, 76) = 2.79, p = .11$, respectively; thus social preference questions were collapsed for the purpose of analyses.

Demographic variables

Analyses were conducted to examine whether demographic factors, such as children's gender (*Race*, $t(80) = -.04, p = .97$; *Race-Accent*, $t(81) = -.86, p = .39$), religious background (H

(2) = 1.68, $p = .43$) and location of residence ($H(2) = .43$, $p = .80$) contributed to selective learning responses. Results were not significant.

Age group

Finally, due to the variability in the ages of the adopted children recruited, we categorized all children as younger (< 5 years) or older (≥ 5 years). Using separate one-way dependent t-tests by ethnicity group, we analyzed age as a factor in children's selective learning. No significant differences were found between older and younger children's responses by trial type and ethnicity groups (see Table A3.1). Further, as a group, no significant correlation emerged between children's age in months and selective learning on the *Race* and *Race-Accent* trials, $r(82) = -.13$, $p = .24$ and $r(83) = .11$, $p = .32$, respectively. Thus, age groups were collapsed for further analyses. All reported p values are two-tailed.

Table A3.1

Selective Learning Responses Across trial type by Ethnicity and Age Group (Experiment 1)

Group	Race		t	p	Race-Accent		t	p
	Younger $M(SD)$	Older $M(SD)$			Younger $M(SD)$	Older $M(SD)$		
Chinese	0.51 (.22)	0.38 (.28)	-1.41	.17	0.46 (.23)	0.46 (.18)	-.07	.95
White	0.63 (.25)	0.63 (.22)	-.11	.92	0.48 (.25)	0.48 (.21)	-.07	.95
Adopted	0.53 (.21)	0.44 (.22)	-.90	.38	0.50 (.25)	0.51 (.25)	.11	.91

Appendix B1

Experiment 2: Demographic Characteristics by Ethnic Group

Group analyses confirmed that the Chinese and the White children were similar in terms of mean age in months, number of parents, parent's level of education and location of residence (see Table B1.1). Most children lived with two parents, parents typically had university degrees or higher, and families often resided in urban or suburban areas. However, there were significantly more female children in the White group, and the Chinese children were more likely to have parents that were born outside of Canada.

Table B1.1

Demographic Characteristics by Ethnic Group (Experiment 2)

	Chinese	White		
N	20	21	<i>t</i> / χ^2	<i>p</i>
Age in Months			.36	.72
Mean (SD)	58.3 (7.18)	57.6 (5.59)		
Range	48.4-70.4	48.1-71.3		
Years	14 < 5-years	14 < 5-years		
	6 $\geq$ 5-years	7 $\geq$ 5-years		
Gender			4.19	.04
Male/Female	11/9	5/15		
Family				
Lives with two parents	100% (18/18)	90% (19/21)	0.92	1.00
Parents born in Canada	5% (1/17)*	78% (14/18)	18.45	.00
Total siblings Mean(SD)	1.17 (0.51)	1.15 (0.67)	0.09	.93
Parents Level of Education			2.12	.67
No Diploma	0%	5% (1/21)		
Diploma	0%	0%		
College	0%	24% (5/21)		
University	59% (10/17)	43% (9/21)		
Graduate	41% (7/17)	28% (6/21)		
Religious Affiliation			0.96	.33
Yes	59% (10/17)	43% (9/21)		
Location of Residence			0.96	.33
Urban	57% (7/17)	57% (12/21)		
Suburban	40% (10/17)	43% (9/21)		
Rural	0%	0%		

Note. Parent level of Education = Group differences were analyzed with a Fisher's exact test due to an expected cell count of less than 5.

Appendix B2

Experiment 2: Children's Exposure to Different Ethnicities by Ethnic Group

Both the Chinese and the White children were exposed to different ethnicities *Very often* or *Often* (see Table B2.1). However, the parents of the White children reported lower exposure to Asian Canadians speaking in only Chinese dialects and Asian non-native English speakers, than the parents of the Chinese children ($p < .01$). In contrast, the parents of the Chinese children rated their children's daily exposure to White native- and non-native English speakers as lower compared to the parents of the White children ($p < .05$). No further differences emerged between groups in their exposure to certain ethnicities.

Table B2.1

Ethnicity Specific Characteristics by Ethnic Group (Experiment 2)

	Chinese	White		
Exposure to Different Ethnicities			<i>U/χ²</i>	<i>p</i>
			3.77	.49
Very Often	33% (6/18)	50% (10/20)		
Often	44% (8/18)	45% (9/20)		
Not Sure	6% (1/18)	5% (1/20)		
Rarely	11% (2/18)	0%		
Never	6% (1/18)	0%		
Exposure to Specific Ethnicities (Mean percentage estimate/SD)				
Asian (Chinese)	20% (17.17)	5% (17.13)	-3.91	.00
Asian (Non-native)	33% (27.05)	5% (11.18)	-3.36	.00
Asian (Other)	10% (22.21)	4% (7.99)	0.38	.71
Asian (English-only)	14% (18.31)	17% (20.99)	0.44	.68
White (English-only)	25% (19.45)	62% (25.05)	3.91	.00
White (Non-native)	6% (13.05)	14% (17.10)	2.16	.04

Note. Exposure to ethnicity = daily exposure to different ethnicity groups; Exposure to specific ethnicities = parents were asked to estimate, using percentages, children's average exposure to specific ethnicities; Asian (Chinese): Asian Canadians that speak Chinese dialects only; Asian (Non-native): Asian Canadians that are non-native English speakers and also speak other Chinese dialects; Asian (Other): Asian Canadians that are non-native English speakers and speak another language other than Chinese dialects; Asian (English-only): Asian Canadians that are native English speakers and speak English only; White (English-only): White Canadians that are native English speakers and speak English only; White (Non-native): White Canadians that are non-native English speakers and speak another language; Group differences were analyzed with a Fisher's exact test due to an expected cell count of less than 5.

Appendix B3

Experiment 2: Preliminary Analyses

Question type and presentation order

Selective social learning. A 2 (question type: Information seeking and Endorsement) x 2 (ethnicity group: Chinese and White) mixed design, with question type as the within-subjects factor and group as the between-subjects factor examined whether children's selective learning differed by question type. No significant main effect of question type or interaction between group and question type were observed on *Race* ($F(1, 39) = 1.47, p = .23$) and ($F(1, 39) = .01, p = 0.94$) and *Race-Accent* trials ($F(1, 38) = .30, p = .59$ and ($F(1, 38) = 1.10, p = .30$), respectively. There was also no significant effect of presentation order on children's selective learning across trial types, (*Race*, $H(7) = 4.36, p = .74$; *Race-Accent*, $H(7) = 7.06, p = .42$).

Social preferences. In order to calculate an overall social preference score, we examined the impact of question type by group. A paired-samples *t* test revealed no significant differences in children's responses to the social preference questions, sharing a secret ($M = .60, SD = .23$) and friend selection ($M = .64, SD = .23$), $t(38) = -.96, p = .34$; thus, social preference questions were collapsed to create a total social preference score for the purpose of analyses.

Demographic variables

Independent *t*-tests and Mann-Whitney *U* comparisons were conducted to examine whether demographic factors, such as children's gender (*Race*, $t(39) = -.12, p = .91$; *Race-Accent*, $t(39) = -.39, p = .70$), religious background (*Race*, $U = 162, p = .60$; *Race-Accent*, $U = 153.50, p = .44$) and location of residence (*Race*, $U = 155.50, p = .47$; *Race-Accent*, $U = 176.50, p = .91$) contributed to children's selective learning. Results were not significant.

Age group. Finally, we collapsed ethnicity groups (due to small sample sizes) to examine whether 4- and 5-year-olds differed by age group in their selective learning. No significant differences were found in children's responses by trial type (See Table B3.1). In addition, as a group, no significant correlation emerged between children's age in months and selective learning on the *Race* and *Race-Accent* trials, $r(41) = .06, p = .70$ and $r(41) = .05, p = .74$, respectively. Thus, age groups were collapsed for further analyses. All reported p values are two-tailed.

Table B3.1
Selective Learning Responses Across trial type by Age Group (Experiment 2)

Race				Race-Accent			
<i>M (SD)</i>				<i>M (SD)</i>			
4-years	5-years	<i>t</i>	<i>p</i>	4-years	5-years	<i>t</i>	<i>p</i>
0.55 (.19)	0.38 (.28)	-.11	.92	0.50 (.23)	0.51 (.27)	-.12	.91

Appendix C1

Experiment 3: Demographic Characteristics by Ethnic Group

Group analyses confirmed that the Chinese, the White, and the children adopted from China were similar in terms of number of parents, parent's level of education, and location of residence (see Table C1.1). Most children lived with two parents, parents typically had college degrees (or higher), and families often resided in urban or suburban areas. However, the groups differed with respect to mean age in months, religious affiliations, and parents born outside of Canada; the adopted children were older than both groups, and the Chinese children were less likely to have religious affiliations and more likely to have parents that were born outside of Canada than the White and the adopted groups.

Table C1.1

Demographic Characteristics by Ethnic Group (Experiment 3)

	Chinese	White	Adopted	<i>F/χ²</i>	<i>p</i>
N	31	31	17		
Age in Months				8.58	.00
Mean (SD)	59.6 (6.79)	59.1 (6.55)	69.8 (15.43)*		
Range	46.3-71.4	48.0-69.3	46.2-92.5		
Years	16 < 5-years 15 ≥ 5-years	15 < 5-years 16 ≥ 5-years	4 < 5-years 13 ≥ 5-years		
Age at Adoption (Months)					
Mean	--	--	22.5 (11.79)		
Range	--	--	11.00- 52.0		
Gender				2.23	.33
Male/Female	16/15	13/18	5/12		
Family					
Lives with two parents	83% (24/29)	84% (26/31)	94% (16/17)	1.27	.59
Parents born in Canada	7% (2/27)	76% (19/25)	92% (12/13)	35.65	.00
Total siblings Mean (SD)	0.54 (0.65)	0.77 (0.63)	0.71 (0.47)	1.04	.36
Parents Level of Education				5.84	.47Δ
No Diploma	0%	0%	0%		
Diploma	7% (2/27)	13% (4/31)	0%		
College	7% (2/27)	19% (6/31)	24% (4/17)		
University	56% (15/27)	36% (11/31)	41% (7/17)		
Graduate	30% (8/27)	32% (10/31)	35% (6/17)		
Religious Affiliation				7.49	.02
Yes	36% (8/22)	40% (12/30)	76% (13/17)		
Location of Residence				5.46	.36Δ
Urban	56% (14/25)	61% (19/31)	53% (9/17)		
Suburban	44% (11/25)	29% (9/31)	47% (8/19)		
Rural	0%	10% (3/31)	0%		

Note. Bonferroni post hoc tests indicate that *Adopted children are significantly older than Chinese and White children, $p < .01$; *More Chinese parents were born outside of Canada than White and Adopted children $p < .01$; *More White children are religious than Chinese and Adopted children $p < .01$; Δ = Fisher's exact test used due to an expected cell count of less than 5.

Appendix C2

Experiment 3: Children's Exposure to Different Ethnicities by Ethnic Group

All groups were typically exposed to different ethnicities *Very often* or *Often* (see Table C2.1). However, the parents of the White and the adopted children reported lower exposure to Asian Canadians that speak in Chinese dialects than the parents of the Chinese children (Bonferroni corrections for multiple comparisons; $p < .01$ for the White parents only). The parents of the White children additionally reported lower exposure to Chinese accented English speakers than the parents of the other two groups ($p < .05$, both groups). Moreover, the Chinese parents reported lower exposure to White native-English speakers than the parents of the other two groups ($p < .01$, both groups). No further differences emerged across groups in exposure to ethnicities.

Table C2.1

Ethnicity Specific Characteristics by Ethnic Group (Experiment 3)

	Chinese	White	Adopted		
				<i>H/χ²</i>	<i>p</i>
Exposure to Different Ethnicities				12.09	.06
Very Often	24% (7/29)	58% (18/31)	47% (8/17)		
Often	52% (15/29)	26% (8/31)	53% (9/17)		
Not Sure	10% (3/29)	3% (1/31)	0%		
Rarely	14% (4/29)	13% (4/31)	0%		
Never	0%	0%	0%		
Exposure to Specific Ethnicities (Mean percentage estimate/SD)					
Asian (Chinese)	18% (23.31)	2% (3.89)	6% (8.38)	11.16	.00
Asian (Non-native)	14% (12.56)	5% (6.07)	11% (9.34)	6.40	.04
Asian (Other)	9% (19.75)	5% (10.41)	2% (4.96)	2.03	.36
Asian (English-only)	20% (21.21)	13% (19.33)	13% (17.76)	2.53	.28
White (English-only)	32% (24.39)	53% (29.85)	64% (22.27)	13.02	.00
White (Non-native)	6% (11.92)	14% (19.53)	14% (20.02)	5.31	.07

Note. Exposure to ethnicity = daily exposure to different ethnicity groups; Exposure to specific ethnicities = parents were asked to estimate, using percentages, children's average exposure to specific ethnicities; Asian (Chinese): Asian Canadians that speak Chinese dialects only; Asian (Non-native): Asian Canadians that are non-native English speakers and also speak other Chinese dialects; Asian (Other): Asian Canadians that are non-native English speakers and speak another language other than Chinese dialects; Asian (English-only): Asian Canadians that are native English speakers and speak English only; White (English-only): White Canadians that are native English speakers and speak English only; White (Non-native): White Canadians that are non-native English speakers and speak another language; Group differences were analyzed with a Fisher's exact test due to an expected cell count of less than 5.

Appendix C3

Experiment 3: Preliminary Analyses

Selective credulity. Preliminary analyses confirmed that children responded similarly across the 6 different presentation orders, $H(5) = 4.60, p = .47$. In addition, children were no more likely to be credulous on the last three trials (Block 2) compared to the first three trials (Block 1): Chinese: $t(29) = -1.33, p = .20$; White $t(27) = -.45, p = .66$; Adopted: $t(14) = -1.84, p = .09$. There was no effect of informant gender (Male: $M = .56, SD = .40$; Female: $M = .56, SD = .37$) on children's credulity, $t(76) = -1.67, p = .87$. We also found no effect of identification choice (same-race: $M = .56, SD = .35$; other-race: $M = .56, SD = .37$), $t(75) = .09, p = .93$. Moreover, this variable was highly correlated with children's response to the social awareness question, "Who is most like you", ($r(75) = .29, p = .01$) and was thus excluded from further analyses.

Social preferences. In order to calculate an overall social preference score, we examined the impact of question type by group. Scores were submitted to a 2 (question type: friend and secret) x 3 (ethnicity group: Chinese, White, Adopted) mixed design, with question type as the within-subjects factor and group as the between-subjects factor. No significant main effect of question type or interaction between question type and group was observed, $F(1, 70) = 1.48, p = .29$ and $F(2, 70) = 1.65, p = .20$, respectively; thus social preference questions were collapsed for the purpose of analyses.

Demographic variables. We examined the impact of demographic variables on children's credulity. Results demonstrated no effect of gender (Male: $M = .57, SD = .37$; Female: $M = .57, SD = .35, t(77) = .07, p = .95$), religious background (Yes: $M = .57, SD = .36$; No: $M = .52, SD = .36, t(67) = .49, p = .63$) and location of residence (Urban: $M = .53, SD = .39$; Suburban: $M = .63, SD = .30$; Rural: $M = .44, SD = .42, H(2) = 1.67, p = .44$).

Age group. Following previous chapters, children were categorized as younger (< 5 years) or older (≥ 5 years). Independent t-tests indicated that the effect of children's age was trending (Younger: $M = .65$, $SD = .31$; Older: $M = .51$, $SD = .38$, $t(77) = -1.76$, $p = .08$). Further analyses explored this effect by children's ethnicity group, demonstrating that the White younger compared to the White older children were significantly more credulous (see Table C3.1). However, due to variability in children's ages across groups (e.g., only 4 "younger" adoptees), we included "age in months" as a continuous variable in correlational investigations rather than as a factor in our main analyses.

Table C3.1
Selective Credulity by Age Group (Experiment 3)

Credulity					
	Younger	Older			
Group	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>df</i>	<i>t</i>	<i>p</i>
Chinese	0.73 (.33)	0.71 (.34)	29	-1.5	.89
White	0.61 (.30)	0.33 (.36)	29	-2.40	.02*
Adopted	0.46 (.16)	0.50 (.35)	15	.23	.82

* $p < .05$

Appendix D

Experiments 1 and 2: Accent stories

Merino, G. (2015). *The cow who climbed a tree*. London, United Kingdom: Macmillan Publishers Limited. Tina was a very curious cow. She had a thirst for discovery. Her mind was full of wonderful things, all of which her sisters found very silly.

Kennedy, J. (2000). *The teddy bear's picnic*. New York, U.S.A: Aladdin Paperbacks. If you go down in the woods today, you're sure of a big surprise. If you go down in the woods today, you'd better go in disguise.

Dumoulin, N. (2015). *Caillou: Lights Out!* Quebec, Canada: Chouette Publishing Inc. and DHX Cookie Jar Inc. One evening, Caillou was playing in the living room. Daddy was watching TV, and Gilbert was looking out the window.

Astley, N., & Baker, M. (2014). *Peppa pig and the muddy puddles*. Massachusetts, U.S.A.: Candlewick Entertainment. "There's so much rain!" Peppa says. "That means there will be muddy puddles to jump in tomorrow," Mummy Pig says with a smile.

Appendix E

Demographic Questionnaire

THE ROLE OF ETHNIC IDENTITY IN CHILDREN'S SELECTIVE TRUST IN OTHERS

How many parent(s) does your child reside with? _____	
<i>Relationship status:</i> _____	
Is your child biologically related to you?	___ Yes ___ No
<i>If not biologically related:</i> Is your child adopted?	___ Yes ___ No
If Yes:	
What country and city was your child born? _____	
At what age was your child adopted (Year; months) _____	
What is your child 's gender identity? _____	
Does your child speak English at least 75% of the time?	___ Yes ___ No
If "no", how often does your child speak English?	_____ %
What other language(s) does your child speak and how often?	
Other language(s): _____ %	
How would you classify your child ? Feel free to choose more than one option.	
Is your child Canadian? ___ Yes ___ No	
___ Indigenous (please specify _____)	
___ Asian (please specify _____)	
___ Pacific Islander	
___ White (please specify _____)	
___ Black	
___ Latin American ___ Other ___ Would rather not say	
Was your child born in Canada? Yes _____ No _____	
If No: At what age did your child arrive in Canada? _____	

How would you classify **yourself**? Feel free to choose more than one option.

Are you Canadian? ___ Yes ___ No

___ Indigenous (please specify_____)

___ Asian (please specify_____)

___ Pacific Islander

___ White (please specify_____)

___ Black

___ Latin American ___ Other ___ Would rather not say

Were you born in Canada? Yes _____ No _____

If No: When did you arrive in Canada (i.e., how many years ago)? _____

How often do you feel **your child** is exposed to different ethnicities or ethnic groups? These might be groups of individuals that identify with each other based on heritage, social, cultural, or national experiences (e.g., languages, dialects/accents, regions, religions, rituals, dress, physical appearance).

___ Very often ___ Often ___ Not sure ___ Rarely ___ Never

If you are able to, please explain your choice using examples (friendships, schools children attend, teachers)?

In general, which ethnicities do you suppose **your child** is exposed to and how often?

____ % Asian Canadians that speak Mandarin/Cantonese or other Chinese dialects only

____ % Asian Canadians that are non-native English speakers and also speak Mandarin/Cantonese or other Chinese dialects

____ % Asian Canadians that are non-native English speakers and speak another language other than Mandarin/Cantonese or other Chinese dialects

____ % Asian Canadians that are native English speakers and speak English only

____ % White Canadians that are native English speakers and speak English only

____ % White Canadians that are non-native English speakers and speak another language

Please describe any other ethnicities your child is exposed to on a regular basis (e.g., at family gatherings, school, etc.).

Are you affiliated with any religion?

____ Yes

____ No

____ Would rather not say

If “yes”, could you tell us which one? _____

Does **your child** have any siblings?

____ Yes ____ No

If “yes”, could you tell us the gender identity, age, and ethnicity of each sibling and indicate whether the sibling is biologically related or adopted?

Sibling 1: Gender: _____ Age (years; months): _____ Ethnicity: _____

Check one: Biological ____ *Adopted* ____

Sibling 2: Gender: _____ Age (years; months): _____ Ethnicity: _____

Check one: Biological ____ *Adopted* ____

Sibling 3: Gender: _____ Age (years; months): _____ Ethnicity: _____

Check one: Biological ____ *Adopted* ____

Does **your child** attend daycare or preschool?

____ Yes ____ No

If “yes”, how many hours per week? _____

Which of the following best describes the area **you and your child** live in?

____ Urban

____ Suburban

____ Rural

What is the highest level of education **you** have completed?

____ No Diploma

____ Diploma

____ College

____ University

____ Graduate

Appendix F

Chinese Cultural Competence Scale

Chinese Cultural Competence (Thomas & Tessler, 2007)

This form is intended to assess children's Chinese cultural competence. Please check "Yes" or "No". However, if you feel the questions are not applicable to you or your child/you do not wish to answer, please check N/A.

Question	Yes	No	N/A
Has your child learned some Chinese words and phrases?			
Has your child learned to count in Chinese?			
Has your child learned any Chinese songs?			
Has your child learned to recognize some Chinese characters?			
Can your child speak some Chinese?			

Appendix G

Parental Importance of Chinese Socialization (Thomas & Tessler, 2007; Tessler et al., 1999)

This form addresses parent's attitudes toward the Chinese culture. Please check one of the appropriate ratings or N/A to indicate your response to the below statement.

How important is it to you that your child...

	Not at all important	A little important	Somewhat important	Very important	N/A
Learns some Chinese words and phrases/learns to count					
Is exposed to Chinese culture					
Likes Chinese food					
Celebrates the Chinese New Year					
Keeps Chinese name (indicate if N/A)					
Listens to Chinese music/watches Chinese movies or videos					
Becomes friends with other Chinese children					
Visits China					
Learns about Chinese values and traditions					
Is proud of Chinese heritage (indicate if N/A)					

Appendix H

Parent Consent Form

Informed Parental Consent Form

THE ROLE OF ETHNIC IDENTITY IN CHILDREN'S SELECTIVE TRUST IN OTHERS

Principal Investigators: Kyla McDonald, Graduate Student, Department of Psychology, Ryerson University, 416-979-5000 ext.2896; Lili Ma, Assistant Professor, Department of Psychology, Ryerson University, 416-979-5000 ext. 2694.

You are being asked to allow your child to participate in a research study at the Ontario Science Centre or at a local Daycare Centre. Please read the information below and ask any questions you might have before deciding whether or not to take part. Your participation is entirely voluntary. You can stop your participation at any time and your refusal will not impact current or future relationships with Ryerson University or participating sites. To do so simply tell the researcher you wish to stop participation.

The purpose of this study is to learn whether 4- to 5-year-old children place different levels of trust in adult informants based on speaker ethnicity.

If you agree to be in this study, we will ask your child to do the following things:

- Complete a short preference task where they will decide whom they would like to choose as a friend when presented with two children side-by-side
- Listen to information about the informant's ethnic group membership to become familiarized with the informant's spoken accent
- Complete 1 of 2 tasks as detailed below:
 - Task 1:
 - Your child will be shown unique items and asked about the objects function
 - Your child will be presented with two informants and asked whom they would prefer to learn from about the object's function
 - Your child will watch the selected informant demonstrate what the object is used for
 - Your child will then be asked to demonstrate what they think the object is used for
 - Task 2:
 - Your child will watch a video that demonstrates one of three possible informants placing a toy in one of three containers
 - Children will listen to the informant state a false location of the hidden toy is (i.e. misleading testimony)
 - Children will be asked to point to the location of the toy by deciding whether to reject the misleading testimony or rely on their own direct observations

Total estimated time to participate is 10-15 minutes.

Demographics Questionnaire and Self-report questionnaires: In addition to your child's participation, we would like to ask you to complete a demographics questionnaire that will tell us more about your child and his or her family environment. These questions will help researchers more fully understand the factors involved in children's early selective trust in others. As well, two to three self-report questionnaires will be administered to allow us to learn more about your child's early exposure to ethnicities and how this influences their trust in others. Any and all of your responses on the questionnaire are completely voluntary (i.e., you may choose to skip any or all questions).

Risks and Benefits of being in the study:

- There are no known risks in this study, although this procedure may involve risks that are currently unforeseeable. If you wish to discuss any other risks your child may experience, you may ask questions now or call the principal investigators listed at the top of this form.
- We cannot guarantee that you or your child will receive any benefit from participation in this study.
- Although there is no direct benefit to you from participating in this study, the information we get from this study will contribute to our understanding of how children learn from others.
- Some children may benefit from individual attention and the opportunity to express and explore their own thoughts and feelings.

Confidentiality and Privacy Protections:

Your responses, and those of your child, will be treated with strictest confidence and will only be available to personnel involved in this research project. All documents will be kept in a secure location (access granted to authorized research personnel only) in the Psychology Research and Training Centre at Ryerson University. Participants will not be identified by name in any reports of the findings.

Your child will be videotaped for the purpose of accurate data collection. Only authorized research personnel will review the video recordings. Your child's recording will be labeled so that no personally identifying information is visible on it, and it will be safely stored in a locked room in the researcher's suite. The video will only be shown in order to demonstrate the procedure if you provide us with permission to do so below. If the results of this research are published or presented at scientific meetings, your child's identity will not be disclosed.

Compensation:

Your child will receive a certificate of appreciation, regardless of whether your child completes the study.

Contacts and Questions:

If you have any questions about the study, please ask now. If you have questions later, want additional information, or wish to withdraw your child's participation, please contact Kyla

McDonald at 416-979-5000 ext.2896, kyla.mcdonald@ryerson.ca or Dr. Lili Ma at 416-979-5000 ext.2694, lilima@ryerson.ca.

If you have questions about your child's rights as a research participant, complaints, concerns, or questions about the research, please contact Ryerson University Research Ethics Board (416-979-5042 or rebchair@ryerson.ca). You may also wish to use the mailing address of the REB, c/o Office of the Vice President Research and Innovation (350 Victoria Street, Toronto M5B 2K3).

You may keep the copy of this consent form.

You are making a decision about allowing your child to participate in this study. **Your signature below indicates that you have read the information provided above and have decided to allow him or her to participate.** If you later decide that you wish to withdraw your permission for your child to participate in the study, simply tell me. You may discontinue his or her participation at any time.

Printed Name of Child

Child's Date of Birth

Signature of Parent or Legal Guardian

Date

Please sign below if you agree to have your child videotaped during the experimental session.

Signature of Parent or Legal Guardian

Date

We may wish to present some of the video recordings from this study at scientific conventions or in classrooms. If you would allow us to do so with your child's recording, your child's name would never be associated with any of these uses. For example, we would only show the procedure for demonstration purposes in order to further explain our study to an audience. We will continue to use your child's ID code and will re-contact you in the event that we plan to use this video to describe the location/audience we will be showing the video. In addition, if you wish, we can provide you with a copy of the video if we plan to use it. After you preview the video, you can always change your mind and we will not present the recording.

I hereby give permission for the video recording made for this research study to be also used for educational purposes.

Signature of Parent or Legal Guardian

Date

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