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Journal of Cross-Cultural Psychology published online 12 July 2012

DOI: 10.1177/0022022112453315

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Journal of Cross-Cultural Psychology
XX(X) 1–17
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DOI: 10.1177/0022022112453315
jccp.sagepub.com


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Abstract

Chinese, Chinese-Canadian, and Euro-Canadian children 7, 9, and 11 years of age were presented scenarios in which story characters either lied or told the truth to help themselves but harm a collective, or vice versa. Children classified, evaluated, and justified their evaluations of the truthful or untruthful statements in each scenario. Cultural differences emerged in the children's evaluations but were especially apparent in their justifications. Chinese children rated more positively statements that helped a collective and harmed an individual than vice versa, and they showed concerns for a group over the self when evaluating moral statements, thus reflecting collectivist inclinations. Euro-Canadian children did the reverse, demonstrating individualistic tendencies. Bicultural, Chinese-Canadian, children's judgments and justifications were situation specific, offering preliminary evidence for the possibility that bicultural individuals shift, at a relatively early age, between cultural frames in their interpretations and evaluations of moral dilemmas, depending upon the context.

Keywords

moral development, culture, deception, reasoning

Would you prepare a large feast for your family but refuse to take credit for it? In the authors' personal experience, people with a Euro-Canadian cultural background might consider this, though they might not feel very comfortable doing so, whereas a person with a Chinese cultural background would not only dissemble but also feel better about doing so than would the Euro-Canadian. Furthermore, if you ask both individuals whether they would lie to cover their

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affiliated group's use of an unfair means to get the championship in a competition, the Chinese person might (though with some reluctance) lie, whereas the Euro-Canadian would be less likely to consider lying in that case as well. How do these differences emerge?

From the perspective of cultural psychology, some researchers have suggested that such differences may reflect varying culturally influenced tendencies in the East and West, such as collectivism and individualism, respectively and differentially framed construals of self and consequently develop different grounds for defining and evaluating moral actions. According to Hofstede and Bond (1984), individualism is "a situation in which people are supposed to look after themselves and their immediate family only" (p. 419). Markus and Kitayama (1991) pointed out that the self-construals in cultures with individualistic tendencies are more independent, focusing on personal qualities and attributes. By contrast, collectivism is "a situation in which people belong to in-groups or collectivities which are supposed to look after them in exchange for loyalty" (Hofstede & Bond, 1984, p. 419). Cultures with collectivistic tendencies are more likely to nourish an interdependent view of the self, which implicates the use of affiliation and relationships to define the self (Markus & Kitayama).

Three decades of cross-cultural research have documented the fluidity of the East-West distinction. Other researchers identified a surge of individualistic tendencies in Mainland China after years of international exposure and urbanization. For example, Helwig, Arnold, Tan, and Boyd (2003) found that Chinese adolescents endorse individualistic concepts, including personal autonomy and individual rights, in decision-making processes under various social contexts. Chen, Cen, Li, and He (2005) and Fu et al. (2010) have suggested that urbanization erodes the importance of once-valued attributes in traditional Chinese culture, such as shyness and modest lie-telling in the respective cases.

Nevertheless the distinction between the two construals of the self may serve as a basis for different models of agency, which are implicit frameworks that define what counts as good actions and what constitutes the sources and consequences of good acts (Markus & Kitayama, 2003). Put simply, a *disjoint model of agency*, which is pervasive in such relatively individualistic societies as Canada, assumes that good acts are those that take personal interest, self-autonomy, self-control, and the unique quality of the self as a priority because they can express and affirm an independent self (Markus & Kitayama, 2003; Markus, Uchida, Omoregie, Townsend, & Kitayama, 2006). Individuals in the context of this cultural frame are more likely to work for a proactive, self-directed goal that aims at self-enhancement (Oyserman, Coon, & Kimmelmeier, 2002). This precise action, however, can be construed contrastively on the other side of the globe. Societies that emphasize collectivism, such as those observed in China, are more likely to subscribe to a *conjoint model of agency* that assumes moral actions to stem from group interest, collective identity, group harmony, and collective responsibility because they affirm the interdependent self and individual social position (Markus & Kitayama, 2003). With the notion of "my or our group" in mind, people with collectivistic orientations are more likely to reference others and work toward a collective goal even despite potential harm to the self (Oyserman et al., 2002).

Lee, Cameron, Xu, Fu, and Board (1997) were among the first investigators to address the impact of cultural and social context on children's moral evaluations of lie- and truth-telling, offering developmental evidence for the deployment of individualist versus collectivist tendencies in the realm of moral judgment. They found that while both Han-Chinese and Euro-Canadian children rated truth telling positively and lie telling negatively in anti-social settings, when a pro-social act is committed, Chinese children rated truth-telling less positively and lie-telling less negatively than Euro-Canadian children did. Such effects, which in this case were described as a "modesty effect," emerged between ages 7 and 9 and were even more profound with older children, providing direct evidence for the proposition that cultural variations, in particular the priority of groups over individuals, are well embedded in moral judgments relatively early in childhood.

Subsequent cross-cultural studies (Barron & Sackett, 2008; Cameron, Lau, Fu, & Lee, in press; Fu, Xu, Cameron, Heyman, & Lee, 2007; Heyman, Sweet, & Lee, 2009; Lee, Xu, Fu, Cameron, & Chen, 2001) have replicated the modesty effect and documented similar developmental trends with different samples and modified procedures, suggesting that with increased age Chinese children are more willing to evaluate modesty-related lie-telling vignettes more positively than North American children do. Not surprisingly, the modesty effect is directly linked to the cultural context in which the children are socialized (Fu et al., 2010). Fu et al. showed that both microcultural factors (such as the public and private distinctions in vignette settings) and macrocultural factors (such as parental collectivism tendencies) contributed to Chinese children's modest lie- and truth-telling evaluations. In other words, the presence of a modesty effect among Chinese children might be explained by their differential emphases on the group, which are associated with the cultural tendencies and hence the models of agency suggested in cultural psychology.

The seemingly dichotomous relationship between cultural individualism and collectivism has been subject to controversy, particularly on questions of where bicultural individuals should be located in an individualism-collectivism spectrum (Kagitçibasi, 1997). Bicultural individuals, such as immigrants and ethnic minority groups in North America, often acquire their relatively collectivistic heritage cultural practices in early childhood and assimilate, integrate, or alternatively neglect individualistic mainstream cultural practices after migration (Berry, 1997). The individualism-collectivism dichotomy can hardly account for this group that may be individualistic and collectivistic simultaneously or in close temporal proximity. Triandis (1995) offered insight into this problem by introducing the concept of communitarianism. Elaborating upon balancing priorities between personal and group needs, communitarianism combines certain attributes of both individualism and collectivism and may serve as a "middle ground" between individualism and collectivism.

Following this line of investigation, the present study aims to explore developmental data for a communitarian perspective in both mono- and bicultural individuals with the research paradigm developed by Fu et al. (2007). We conducted interviews with 7-, 9-, and 11-year-old children from a mono-cultural Han-Chinese community in China, a multicultural Canadian community in Western Canada with a strong representation of Chinese Canadians, and a mono-cultural Euro-Canadian community in Eastern Canada. The Chinese-Canadian participants are particularly important to this study because they are exposed to a mainstream Euro-Canadian culture in school, the media, and in the community, while first acquiring the knowledge of their Chinese heritage culture from their families at home.

Adopting both quantitative and qualitative approaches, we sought (a) to replicate cultural effects of previous research (Fu et al., 2007; Lee et al., 1997; Lee et al., 2001), but with the addition of the bicultural Chinese-Canadian participants, and (b) to examine more extensively and systematically the children's articulated justifications of truth and lie evaluations for consonance with previous findings. We hypothesize that if disjoint and conjoint tendencies are associated with Euro-Canadian and Han-Chinese acts, respectively, Chinese children will evaluate and justify collective-helping scenarios more positively than individual-helping scenarios. Euro-Canadian children will do the opposite, but Chinese-Canadian children will respond intermediately between the two extremes. Furthermore, the differences will become more salient with age.

Method

Participants

A total of 214 children, 72 from the People's Republic of China, 70 children from Western Canada, and 72 from Eastern Canada, participated in the study. Children in all locations were of

relatively comparable socioeconomic status. They were recruited from cooperating public schools serving largely working- and middle-income families. Although the Chinese and Canadian cities differ in population size, they are all considered medium-sized cities within their respective contexts and are all provincial industrial and economic centers. The communities involved are similar in that they are provincial industrial and economic centers, but information was not specifically obtained regarding each participant's parental education, occupation, or family income.

In China, 24 children were aged 7 years ($M = 7.55$ years, $SD = .23$; 12 boys), 24 were 9 years old ($M = 9.46$ years, $SD = .24$; 12 boys), and 24 were 11 years old ($M = 11.48$ years, $SD = .27$; 12 boys). Participants were Han Chinese from an eastern coastal province, with about half from families whose parents were professionals (e.g., teachers, civil servants) or merchants and the other half from families whose parents were nonprofessionals (e.g., farmers). In terms of parental education attainment, the median education level was middle school. All being Han Chinese (and referred to herein as simply "Chinese children"), they attended schools where parent reports indicated that 100% of the students spoke Mandarin as their home language and where Western influences are as yet not readily observable.

The Western Canadian sample comprised 24 children aged 7 years ($M = 7.51$ years, $SD = .41$; 12 boys), 22 9 years ($M = 9.50$ years, $SD = .47$; 10 boys), and 24 11 years ($M = 11.55$ years, $SD = .31$; 12 boys). All participants from a multicultural West Coast Canadian city were also Han Chinese. School district census data reveal that the majority of the working population is employed in the business sector (finance, management, retail, and wholesale). Approximately 60% of the population 15 years or older hold postsecondary certificates, diplomas, or degrees. These Chinese-Canadian children attended schools where parental reports reveal that in over 50% of the participating households Mandarin or Cantonese was spoken. Only data of Chinese-heritage children (recent immigrants: 31.4%; first generation: 61.4%; second generation: 7.1%) who speak Cantonese or Mandarin at home were selected for analysis in this study: They are herein referred to as "Chinese-Canadian children."

In Eastern Canada, the 72 children were 24 children aged 7 years ($M = 7.64$ years, $SD = .37$; 12 boys), 24 children aged 9 years ($M = 9.69$ years, $SD = .27$; 12 boys), and 24 children aged 11 years ($M = 11.59$ years, $SD = .39$; 12 boys). None of the student participants in the eastern maritime Canadian community were Han Chinese. Statistics Canada census data reveal that 71% of the workforce is in business, sales and service, trade, and management, and 48% of the population over 15 has earned a trade certificate, college, some university, or a university degree. All participants were Euro-Canadian and no parent reported their child spoke any form of Chinese as their home language. We refer to these children as "Euro-Canadian children."

Stimulus Materials

Book of Veracity. To support the interview process, the researchers developed a *Book of Veracity*. It presents pictorially illustrated verbal scenarios of four moral decisions identical to those used in Fu et al. (2007; please refer to the appendix for a complete set of scenarios). In each scenario, a story character faces a dilemma and tells either a lie or a truth that either helps that character while putting a group at risk or helps a group at the expense of the story character. The primary investigators in Canada and China had mutually and simultaneously developed the scenarios to ensure that the dilemmas and language used in them were culturally appropriate in all locations. Researchers in Canada first prepared the *Book* illustrations, and native Mandarin Chinese research assistants in Canada, who were equally fluent in English and Chinese, translated the *Book* from English into Mandarin. It was then back translated into English and modified slightly to accommodate local variations in verbal expression.

Procedure

Carefully trained research assistants from local universities in each location interviewed each child for 15 to 25 min. The ethnic background of our research assistants represented the population characteristics of the location where interviews were conducted. Interviews in China were conducted in Mandarin, while those in Canada were conducted in English. During the interview, each child was presented four judgment scenarios. Immediately after reading each story to the children, the interviewer asked the children to identify whether the character in the scenario had told a lie (or truth), to evaluate what the character said using a 7-point Likert-type scale, and to justify their evaluation in their own terms. For instance, in the story that involves the character lying to help the individual but harm the group, the interviewer first read out the following to the child:

Here is Susan. Susan's teacher was looking for volunteers to represent the class in a spelling competition at their school. Susan could not spell very well, but thought the competition would be a good chance to improve on her spelling skills. Susan thought to herself: (A) "If I volunteer, our class will not do well at the spelling competition, but if I don't volunteer, I will miss out on the chance to improve my spelling skills." (B) "If I don't volunteer, I will miss out on the chance to improve my spelling skills. But if I do volunteer, our class will not do well at the spelling competition." (Statement A and B were counter-balanced between participants.) When the teacher asked Susan, "Are you a good speller?" Susan decided to give herself a chance to improve her spelling skills so she said, "Yes, I am a good speller, I want to volunteer in the competition."

Then the interviewer asked participants, "Did (the character) tell a lie, the truth, or something else?" to *classify* what the character had said. If the child replied "not a lie," the interviewer asked the child a follow-up question, "Was (the character) telling the truth?" as a reliability-check, to ensure the child accurately applied conceptualizations of truth-telling and verbal deception. Following the *classification* question, the interviewer asked the child, "Is what (the character) said good or bad?" and "How good/bad was it?" The child responded to the *judgment* question using a large card with the Likert-type scale with stars representing positive ratings and Xs representing negative ratings. All children received prior training on the use of the scale so that they could use it readily to evaluate what the character said. In sum, possible ratings could range from three stars (*very very good*) to XXX (*very very bad*) and with a neutral midpoint • being not good/not bad. For the purpose of analysis, all ratings were converted into numerical scores ranging from +3 for *very very good* to -3 for *very very bad*. Finally, the child was asked, "Why do you think what (the character) said is (good/bad)?" and thus *justify* the evaluation of the character's speech act. The other scenarios involved playing in a basketball match, a singing competition for a choir, and a track and field running competition (as in Fu et al., 2007, study; see the appendix). The order of scenarios introduced to children followed a predetermined randomized assignment.

For each culture, two raters independently coded each child's justification to achieve interrater reliability ratings (Chinese judgments: $\kappa = .76$; Chinese-Canadian judgments: $\kappa = .79$; Euro-Canadian judgments: $\kappa = .77$). The coding scheme was developed in a grounded qualitative manner. All justification responses were coded. Some justifications involved more than one category so they were proportionately coded according to each category represented. The weight of the codings in each justification sums to 1, such that justifications with multiple codings would not be overrepresented in quantitative analysis. Similar codings were grouped together in order to construct cohesive central categories. Of 856 justifications, only 34 (4%) were removed from analysis because the respondent either did not provide any justification, apparently misunderstood

Table 1. Percentage of Chinese, Chinese-Canadian, and Euro-Canadian Children's Correct Classifications of Story Characters' Untruthful and Truthful Story Statements

Story and Culture	Age (Years)			Mean Percentage (by Culture)
	7	9	11	
Lie for individual				
Chinese	96	100	88	97
Chinese-Canadian	75	78	96	80
Euro-Canadian	79	96	100	92
Mean percentage (by age group)	83	91	94	
Lie for collective				
Chinese	100	100	100	100
Chinese-Canadian	100	95	96	97
Euro-Canadian	96	100	100	99
Mean percentage (by age group)	94	93	94	
Truth for individual				
Chinese	100	100	96	99
Chinese-Canadian	100	100	96	99
Euro-Canadian	100	100	100	100
Mean percentage (by age group)	100	100	97	
Truth for collective				
Chinese	100	100	96	99
Chinese-Canadian	88	100	83	90
Euro-Canadian	100	96	100	99
Mean percentage (by age group)	96	99	93	

a scenario, or provided a response that was unclassifiable (e.g., “[the character] was asked to sing, but he said yes”).

Parents from all three locations provided information about members of their families' birthplaces, and for the Chinese-Canadian children, the number of generation(s) in Canada and year(s) since they had moved to Canada (if applicable).

Results

Children's Classifications of Truthful and Untruthful Statements

Table 1 presents the percentages of children's classifications of story characters' truthful or untruthful statements that were identified as truths or lies. Classification rates were computed as the proportion of children who identified truthful statements as a truth and/or not a lie (and untruthful statements as lie and/or not a truth) to the total number of children. Although the classifications could be seen as story comprehension assessments, they were posed to verify whether in these complex situations the participants used conventional classifications when they represented statements that were within either desirable or undesirable contexts. Cultural differences were not expected. Classification rates (scenarios combined) for Chinese, Chinese-Canadian, and Euro-Canadian child participants were 98.3%, 91.4%, and 97.2%, respectively. As expected, chi-square analyses revealed no significant age effects on children's classifications in each story

Table 2. Means and Standard Deviations of Chinese, Chinese-Canadian, and Euro-Canadian Children's Judgment Ratings (Maximum = 3, Minimum = -3).

	Age (Years)					
	7		9		11	
	M	SD	M	SD	M	SD
Story and Culture						
Lie for individual						
Chinese	-1.33	1.46	-0.92	1.44	-0.13	1.08
Chinese-Canadian	0.33	1.95	0.14	1.36	0.00	1.14
Euro-Canadian	-0.50	1.79	-0.75	1.39	-0.92	0.93
Lie for collective						
Chinese	-1.46	1.62	-0.92	1.74	-0.12	1.87
Chinese-Canadian	-1.33	1.66	-0.82	1.47	-0.79	0.98
Euro-Canadian	-1.42	1.10	-1.42	1.38	-1.17	0.92
Truth for individual						
Chinese	1.62	1.66	1.08	1.47	1.54	1.47
Chinese-Canadian	1.58	1.72	1.59	0.96	1.50	1.41
Euro-Canadian	1.38	1.66	2.48	0.62	2.25	0.74
Truth for collective						
Chinese	2.62	0.88	2.12	1.39	2.33	1.31
Chinese-Canadian	1.79	1.53	1.05	1.29	1.17	1.55
Euro-Canadian	2.08	1.06	2.04	0.86	1.50	1.53

in any of the cultures (all p s > .368). In order to determine whether children from the three cultures classified truthful and untruthful statements differentially, we combined the data for all three ages and performed an additional chi-square test. Still no cultural variation between the children's classifications was identified, $\chi^2(6, N = 856) = 1.09, p = .982$.

Children's Judgment Ratings of Moral Dilemma Scenarios

Means and standard deviations of judgment ratings of each scenario are presented in Table 2. Given that earlier research has shown (Lee et al., 1997; Lee et al., 2001) that children respond differently to lie-telling and truth-telling scenarios, a 3 (Culture: Chinese, Chinese-Canadian, Euro-Canadian) \times 3 (Age: 7-, 9-, 11-Year-Olds) \times 2 (Beneficiary: Individual vs. Collective) ANOVA with repeated measures on the last factor was performed separately on children's ratings of story characters' statements in truth- and lie-telling scenarios.

For lie-telling scenarios, the effects of beneficiary and culture were significant, $F(1, 205) = 23.29, p < .001, \eta_p^2 = .10$, and $F(2, 205) = 5.50, p = .005, \eta_p^2 = .05$, respectively. These main effects were qualified by Culture \times Beneficiary and Culture \times Age interactions, $F(2, 205) = 6.52, p = .002, \eta_p^2 = .06$, and $F(4, 205) = 2.69, p = .032, \eta_p^2 = .05$, respectively. As revealed by post hoc LSD tests, the presence of a Culture \times Beneficiary interaction was influenced by the fact that in the collective-help scenario, Euro-Canadian children evaluated the story character's statements more negatively than Chinese children did (Euro-Canadian: $M = -1.33$; Chinese: $M = -.83$). Ratings of Chinese-Canadian children were intermediate ($M = -.98$), but they did not significantly differ from either counterpart. In the individual-help scenario, however, Chinese-Canadian children rated the story character's statement more positively ($M = .16$) than Chinese and Euro-Canadian children, whose ratings did not differ (Chinese: $M = -.79$; Euro-Canadian: $M = -.72$).

Chinese children, the oldest of whom were the most positive, primarily drive the Culture \times Age interaction. There appeared a decrease among Chinese-Canadian and Euro-Canadian children with increased age, but neither trend was significant.

For truth-telling scenarios, culture was the only significant main effect, $F(2, 205) = 10.80$, $p = .002$, $\eta_p^2 = .06$. Culture interacted with beneficiary, $F(2, 205) = 8.52$, $p < .001$, $\eta_p^2 = .08$, and marginally, with age, $F(4, 205) = 4.14$, $p = .051$, $\eta_p^2 = .05$. Beneficiary also interacted with age, $F(2, 205) = 5.62$, $p = .047$, $\eta_p^2 = .03$. Post hoc LSD tests of culture showed that the Beneficiary \times Culture interaction emerged because Euro-Canadian children rated more positively story character's statement in the individual help scenario ($M = 2.04$) than did Chinese-Canadian and Chinese children, the ratings of the latter children not differing (Chinese-Canadian: $M = 1.56$; Chinese: $M = 1.42$). However, Chinese children rated the character's statement in the collective help scenario more positively ($M = 2.36$) than Euro-Canadian children ($M = 1.88$), who were more positive than Chinese-Canadian children ($M = 1.34$). The 7-year-olds were responsible for the Beneficiary \times Age interaction, rating collective help more positively ($M = 2.17$) than 9- and 11-year-olds, and the latter two groups were comparably less positive (9-year-olds: $M = 1.74$; 11-year-olds: $M = 1.67$). By contrast, no age differences in ratings were observed in the individual help scenario (7-year-olds: $M = 1.53$; 9-year-olds: $M = 1.72$; 11-year-olds: $M = 1.76$).

Children's Justifications of Their Evaluative Ratings

Coded justifications were assigned to one of three central categories, namely *impact on self*, *impact on others*, and *veracity* (plus an *other* category). Table 3 lists the complete set of codes representing each category, and Table 4 presents the percentages (and frequencies) of justification type. Children's justifications that either highlighted concerns about likely consequences to the individual or demonstrated prioritization of benefits to the individual over others were categorized as *impact on self*-justifications. Justifications that emphasized the importance of the group, such as preservation of group benefits and commitment to the group, were categorized as *impact on others*. When the child appealed to moral concerns or a sense of "rightness" arising from the scenario characters' speech, the justification category was *veracity*. Alternative explanations that explained responses and yet did not fall into the above-mentioned categories, including ability, compliance to authority, evaluation of competition in general, and ambivalence between multiple perspectives, were grouped as *other*. This category, accounting for less than 5% of total justifications, was excluded from the subsequent analyses.

To examine whether culture and age are associated with children's justification types, a multinomial logistic regression analysis in which culture and age were entered as predictors and types of justifications (*impact on self*, *impact on others*, and *veracity*) were defined as the predicted was performed for each scenario. Each analysis was accompanied by a priori comparisons in which *veracity* was the reference for the predicted variable category, and Euro-Canadians and 7-year-olds were the reference for the predictor variable category. Here we only report the significant findings.

In the lie for the individual scenario, likelihood ratio chi-square analyses revealed significant age effects, $\chi^2(4, N = 214) = 11.19$, $p = .025$. The 11-year-olds showed more frequent uses of both the *impact on self* and *impact on others* justifications than did 7-year-olds, $\beta = 1.02$, Wald = 7.10, $p = .008$, odds ratio = 2.77, and $\beta = 1.86$, Wald = 4.96, $p = .026$, odds ratio = 6.41, respectively.

The lie for a collective scenario model was significant, $\chi^2(8, N = 214) = 21.94$, $p = .005$, Nagalkerke $R^2 = .13$. Both culture and age related to justification types, $\chi^2(4, N = 214) = 11.04$, $p = .026$; $\chi^2(4, N = 214) = 11.90$, $p = .018$, respectively. As hypothesized, Chinese children justified their ratings with the *impact on others* justifications more often than Euro-Canadian children did ($\beta = 1.10$, Wald = 6.15, $p = .013$, odds ratio = 2.99). On the other hand, Chinese-Canadian

Table 3. Coding Categories of Children's Justifications

Category	Subcategory (if any)	Code
<i>Impact on self</i>		1.1.1 Emphasis on impact on personal attributes (e.g., health)
		1.1.2 Improvement on personal attributes and skills
		1.1.3 Opportunity to build up experience
		1.1.4 Avoidance of negative impact to self (e.g., embarrassment, injury)
		1.1.5 Perceived recognition/award to the self (e.g., prize/credit)
		1.1.6 Consideration from the self-perspective (e.g., putting the self ahead of others/being selfish)
		1.1.7 Emphasis on future benefits to self
<i>Impact on others</i>		1.2.1 Emphasis on impact on group benefit (e.g., glory/reputation to group/opportunities for group members to improve or gain experience)
		1.2.2 Prioritization of group benefit (e.g., friends come before self, good chance for others to practice)
		1.2.3 Commitment to group (e.g., not to disappoint others)
		1.2.4 Avoidance of negative impact to group (e.g., group would lose if the injured character played)
<i>Veracity</i>	Lie/truth judgment	3.1.1 Nature of lie/truth (e.g., it was a lie)
		3.1.2 Perception of lie/truth (e.g., lying is bad, truth is good)
	Right/wrong judgment	3.2.1 Action evaluation (e.g., he did (not) do the right thing)
		3.2.2 Intention evaluation (e.g., had good intention)
<i>Others</i>	Ability performance	4.1.1 Good/poor ability (e.g., he can/cannot do well)
	Vertical collectivism	4.2.1 Compliance to authority figures
	Ambivalence judgment	4.3.1 Challenged by dilemma because someone will be disappointed by either decision (help self/help others)
		4.4.1 Winning is not everything
	Perception of competition	4.4.2 Competition is an important one
		4.4.3 Indifferent attitude toward competition (e.g., winning is not all his responsibility, team will do well without me)
		4.5.1 The character did not participate
Character's action / intention with no specified motivation	4.5.2 The character did not want to sing/play	

children used more *impact-on-self* justifications than Euro-Canadians ($\beta = 1.12$, Wald = 3.85, $p = .050$, odds ratio = 3.05). Eleven-year-olds and 9-year-olds justified ratings with *impact on others* more than 7-year-olds did ($\beta = 1.43$, Wald = 9.23, $p = .002$, odds ratio = 4.16, and $\beta = .98$, Wald = 4.13, $p = .042$, odds ratio = 2.67, respectively).

Table 4. Percentage (Frequency) of Justifications Representing Each Category by Ages and Cultures

Story, Category and Culture	Age (Years)			Age (Years)		
	7	9	11	7	9	11
	Lie for Individual			Lie for Collective		
Impact on self						
Chinese	21 (5)	58 (14)	83 (20)	4 (1)	25 (6)	25 (6)
Chinese-Canadian	58 (14)	59 (13)	75 (18)	25 (6)	41 (9)	33 (8)
Euro-Canadian	29 (7)	58 (14)	71 (17)	13 (3)	13 (3)	13 (3)
Impact on others						
Chinese	0 (0)	21 (5)	25 (6)	25 (6)	46 (11)	54 (13)
Chinese-Canadian	8 (2)	14 (3)	21 (5)	13 (3)	27 (6)	54 (13)
Euro-Canadian	4 (1)	13 (3)	25 (6)	13 (3)	21 (5)	50 (12)
Veracity						
Chinese	83 (20)	54 (13)	46 (11)	75 (18)	54 (13)	58 (14)
Chinese-Canadian	42 (10)	68 (15)	63 (15)	79 (19)	77 (17)	67 (16)
Euro-Canadian	58 (14)	50 (12)	63 (15)	83 (20)	79 (19)	88 (21)
Others						
Chinese	13 (3)	0 (0)	13 (3)	8 (2)	25 (6)	21 (5)
Chinese-Canadian	13 (3)	5 (1)	4 (1)	8 (2)	9 (2)	8 (2)
Euro-Canadian	13 (3)	4 (1)	21 (5)	17 (4)	17 (4)	21 (5)
Story, Category and Culture	Truth for Individual			Truth for Collective		
	7	9	11	7	9	11
	Truth for Individual			Truth for Collective		
Impact on self						
Chinese	67 (16)	50 (12)	75 (18)	4 (1)	13 (3)	13 (3)
Chinese-Canadian	54 (13)	55 (12)	83 (20)	13 (3)	9 (2)	4 (1)
Euro-Canadian	79 (19)	79 (19)	92 (22)	8 (2)	8 (2)	17 (4)
Impact on others						
Chinese	13 (3)	29 (7)	42 (10)	75 (18)	83 (20)	88 (21)
Chinese-Canadian	13 (3)	18 (4)	17 (4)	67 (16)	77 (17)	75 (18)
Euro-Canadian	8 (2)	13 (3)	8 (2)	54 (13)	83 (20)	67 (16)
Veracity						
Chinese	29 (7)	25 (6)	13 (3)	13 (3)	13 (3)	4 (1)
Chinese-Canadian	50 (12)	36 (8)	21 (5)	25 (6)	5 (1)	4 (1)
Euro-Canadian	29 (7)	33 (8)	25 (6)	29 (7)	21 (5)	29 (7)
Others						
Chinese	0 (0)	8 (2)	4 (1)	4 (1)	4 (1)	4 (1)
Chinese-Canadian	0 (0)	5 (1)	4 (1)	0 (0)	5 (1)	0 (0)
Euro-Canadian	0 (0)	4 (1)	13 (3)	8 (2)	4 (1)	8 (2)

Note. All percentages were calculated as proportion to the number of children per age group per culture (all $n_s = 24$, except 9-year-old Chinese-Canadians, whose $n = 22$).

The truth for individual model was significant, $\chi^2(8, N = 214) = 19.75, p = .011$, Negalkerke $R^2 = .11$: children's justifications differed across cultures, $\chi^2(4, N = 214) = 11.15, p = .025$. Consistent with our hypotheses, Chinese children more frequently justified their ratings with *impact on others* justifications than did Euro-Canadian children ($\beta = 1.56, \text{Wald} = 4.94, p = .026$, odds ratio = 4.74). Compared to 7-year-olds, 11-year-olds revealed more frequent use of both the

impact on self and the impact on others justifications ($\beta = 1.14$, Wald = 6.24, $p = .012$, odds ratio = 3.12, and $\beta = 1.43$, Wald = 4.60, $p = .032$, odds ratio = 4.17, respectively).

In the truth for collective scenario, Chinese children justified their ratings with significantly more *impact on others* than did Euro-Canadians ($\beta = 1.23$, Wald = 5.03, $p = .025$, odds ratio = 3.43). Interestingly, 9-year-olds but not 11-year-olds were more likely to use *impact on others* justifications than were 7-year-olds ($\beta = 1.14$, Wald = 4.41, $p = .036$, odds ratio = 3.13).

An additional two-step hierarchical regression analysis was conducted on each scenario to determine the relationship between children's ratings and their justifications of what the story characters said. Children's ratings were entered as the predicted. Culture and age were entered as the predictor, followed by the type of justifications, which was dummy coded as Predictor 1 (*impact on self* versus other two responses) and Predictor 2 (*impact on others* versus other two responses). Controlling the effects of culture and age, the type of justification was significantly related to children's ratings in all scenarios except the truth for individual scenarios, as follows: lie for individual scenarios, $F_{\text{change}}(2, 188) = 26.44$, $R^2_{\text{change}} = .22$, $p < .001$; lie for collective scenarios, $F_{\text{change}}(2, 183) = 26.95$, $R^2_{\text{change}} = .21$, $p < .001$; truth for individual scenarios, $F_{\text{change}}(2, 197) = 1.78$, $R^2_{\text{change}} = .02$, $p = .171$; truth for collective scenarios, $F_{\text{change}}(2, 188) = 4.08$, $R^2_{\text{change}} = .04$, $p = .018$.

Regardless of culture and age, children who emphasized *veracity* when justifying their ratings tended to give highly positive ratings to truth-telling scenarios and highly negative ratings to lie-telling scenarios. Children who used *impact on self* justifications of their ratings were more lenient when evaluating the lie for individuals scenarios and yet were slightly more critical when evaluating truth for collective scenarios. Conversely, children who justified their ratings with *impact on others* were more tolerant of lies for collective scenarios and by contrast were more judgmental about truths for individuals, showing justifications generally to cohere with judgments.

A logistic regression analysis was performed on the use of multiple justifications (i.e., justifications that receive more than one coding) that comprise 34.7% of our total responses. Location, age, truthfulness (lie- vs. truth-telling), and beneficiary (individual vs. collective) were entered as predictors and justification type (single vs. multiple justifications) as the predicted variable. The model was significant, $\chi^2(6, N = 856) = 119.7$, $p < .001$, Nagelkerke $R^2 = .18$. Age and scenario type were relevant to children's justification type, $\chi^2(2, N = 856) = 71.31$, $p < .001$; $\chi^2(1, N = 856) = 49.24$, $p < .001$, respectively. However, neither culture nor beneficiary was associated with justification type, $\chi^2(2, N = 856) = 2.22$, $p = .329$; $\chi^2(1, N = 856) = 1.34$, $p = .247$, respectively. Not surprisingly, multiple justifications were less common among 7-year-olds and 9-year-olds than 11-year-olds ($\beta = -1.60$, Wald = 64.30, $p < .001$, odds ratio = 0.20; $\beta = -0.66$, Wald = 13.77, $p < .001$, odds ratio = 0.52, respectively), suggesting a general developmental progression in children's moral reasoning abilities. Interestingly, lie-telling scenarios were more likely to prompt multiple justifications than truth-telling scenarios did ($\beta = 1.08$, Wald = 46.83, $p < .001$, odds ratio = 2.94). Further inspection of the combinations of multiple justifications suggested that the majority of multiple justifications involve a *veracity* justification and a beneficiary-dependent justification, such as "He wasn't lying to the coach. He hurts his arm even more if he plays the game" (7-year-old Chinese-Canadian, truth for individual scenario) and "He lied to the principal but he didn't want to let his class down" (11-year-old Euro-Canadian, lie for collective scenario).

Regardless of age groups and scenarios, Euro-Canadian children produced 20 of 28 mixed justifications for their "not good not bad" classifications (71%), while 34 of 51 mixed justifications of Chinese-Canadian children were associated with a "not good not bad" rating in their evaluation of characters' statement (67%). The Chinese children produced 32 of 65 mixed justifications for the "not good not bad" classification (proportionally, only 49%). As reflected in the justifications, the mixed judgments are ones that consider both the positive and negative aspects of the character's actions, such as "It's good to improve her spelling skills but it's bad to lie to the teacher"

(9-year-old Euro-Canadian, lie for individual scenario). This suggests that to these children, the “not good not bad” ratings are not truly neutral judgments but rather mixed judgments.

Discussion

In the present study, we examined Han-Chinese, Chinese-Canadian, and Euro-Canadian children's classifications, evaluations, and justifications of scenario characters' lie- and truth-telling statements that benefitted individuals or collectives. Taken together, the core findings are three-fold. First, results from participants' classifications replicated the Lee et al. (2001) and Fu et al. (2007) findings that children in Canada and China did not differ in most instances in their classification of truths and lies. Second, when children evaluate story characters' statements, both their ratings and their accompanied justifications revealed that whereas Euro-Canadian children responded in a more individualistic fashion, Chinese children's responses more frequently reflected collectivist values. Interestingly, Chinese-Canadian children did not always perform in the intermediate position between the other two groups, however. Instead, their responses more aligned with those of Chinese children in some situations, and in others, they responded even more individualistically than Euro-Canadian children did. Third, effects of age were largely absent in judgment-rating analyses, but they emerged in justification analyses. Although age did not consistently predict children's moral evaluation ratings across cultures, older children demonstrated more frequent use of social-conventional justifications, frames pertaining to social expectations and regularities (e.g., in their emphasis on self versus group).

Our moral judgment cultural effects are also consistent with previous research (e.g., Bussey, 1999; Fu et al., 2007; Lee et al., 2001; Wilson, Smith, & Ross, 2003) in that the sociocultural context in which children are socialized is an important indicator of children's moral evaluations of lie- and truth-telling. Euro-Canadian children not only rated story characters' statements that preserved individual interests more positively, but they also justified their ratings, reflecting a disjoint model of agency. This is in contrast to the responses of the Chinese children who made statements reflecting conjoint agency and these differences emerged as early as 9 years of age. These findings add to the existing literature and in particular to developmental perspectives on cultural differences between East Asian and Western societies. Furthermore, the present findings provide converging evidence for an argument that sociocultural context is related to independent/interdependent views of self that guide children's moral evaluations and moral decision-making processes (Markus & Kitayama, 2003; Morris, Menon, & Ames, 2001). It will be interesting to monitor and seek to replicate these findings in Chinese communities with more international exposure, as Chen et al. (2005) and Fu et al. (2007) have reported that international urbanization might elicit individualistic tendencies. Children socialized in a relatively individualist cultural context tended to endorse and construe a relatively independent view of self and use a disjoint model of agency to guide their moral evaluations and decision making, whereas children nurtured in a relatively collectivist cultural context are more inclined to favor and develop an interdependent view of self and evaluate situations and make decisions based on a conjoint model.

An important finding regarding cultural effects in the present study is the variable cultural orientations observed with Chinese-Canadian children. The finding raises the possibility that Chinese-Canadian children might have alternated between their heritage and mainstream cultural perspectives during interviews, referred as a frame-switching phenomenon (Hong, Morris, Chiu, & Benet-Martínez, 2000). Similar to the communitarian notion, the dynamic constructivist perspective on biculturalism theorizes that individuals are active participants in the acculturation process and bicultural individuals can acquire individualistic and collectivistic interpretive frameworks through socialization simultaneously (Bond, 1983; Hong et al., 2000). When relevant cognitive cues (e.g., language) are readily available in the social environment, bicultural

individuals choose flexibly between interpretive frameworks and respond according to what is perceived as a preferable orientation in the particular case (see Oyserman & Lee, 2008; Semin, 2000, for reviews).

The interviews with Chinese-Canadian children were conducted in English (primarily by Chinese-Canadian interviewers) at school, where they are presumably socialized in relatively individualistic educational values through peer interactions and implicit and formal instruction. They were also socialized at home, presumably with more collectivist familial ideals. Both of these cultural orientations are likely embedded in all the children's experiences and activities. Certain experiences could associate with a certain (say, familial) cultural orientation, depending on the children's evaluation of that experience, whereas a different experience could be embedded in an alternative (say a peer- or school-related) orientation. Thus, it is possible that contextual cues from the scenarios activated differently associated models of agency and thus fostered apparently unsystematic responses on some occasions.

It also is somewhat surprising that our evaluative judgment findings did not consistently replicate previous studies of the effects of age in moral decision-making, using similar procedures (see Fu et al., 2007; Lee et al., 1997; Lee et al., 2001). Given that previous studies did document significant developmental judgment changes, we speculate that population characteristics may be one potential candidate to account for the absence of age effects.

This is the first study to examine the moral judgment of bicultural children with this lie- and truth-telling paradigm. The complexity of acculturation strategies (see Berry, 1997; Tadmor & Tetlock, 2006), in addition to covariance between number of years and degree of exposure to heritage as well as mainstream cultures, might have masked the effects of age on the relatively intuitive evaluation judgments, more than on the relatively more deliberative, effortful, and reflective justifications, ultimately leading to this inconsistency. Replications are clearly called for to revisit the age effects and examine these further propositions.

As noted earlier, the complexity of bicultural children's moral judgments, potentially resulting from interactions between socialization and acculturation, may be compounded by contextually embedded stimulus-situational factors in cultural orientations revealed by dilemma explorations. The current study was not situated to identify and estimate each of their effects in bicultural Chinese-Canadian children's moral judgment processes. This limitation calls for a search for alternative methodological designs to provide targeted estimates of the effects over time of socialization from peers, formal and informal education, parents, media, as well as other acculturation effects on bicultural children. First, age, which is associated with both maturation and socialization/acculturation processes, is a confounding factor that might be controlled for through statistical means and a larger sample size so these variables can be partitioned. Second, there always remains a question of what the age effects can be interpreted to imply. One way to interpret age effects, drawing upon our findings, would be that as children mature, they acquire more cultural values they might use to endorse (conjoint agency models in particular, for Chinese children), which leads to a stronger heritage cultural flavor to their behaviors and responses when considering moral dilemmas. Alternatively, we can also view the effects as a typical cognitive developmental trajectory; that is, as cognitive abilities mature, they allow children to analyze the subject matter with their acquired cultural frame more systematically and to become more consistent in their justifications. Without larger participant numbers (particularly of bicultural participants, who are especially challenging to recruit), more refined statistical tools, and longitudinal studies, we are not yet able to deconstruct the composite effects of maturation, socialization, and acculturation in children's moral judgment. Parental values with respect to their heritage and mainstream cultures also deserve exploration (for example, using the Vancouver Index of Acculturation scale of Ryder, Alden, & Paulhus, 2000). Future investigations would additionally benefit from examinations of moral behaviors.

The study is also limited by a second issue that the effect of cultural orientation is confounded with the type of activities as presented in the scenarios. The role of context should not be overlooked in children's social and moral reasoning research (Helwig et al., 2003). As our analyses of justification data demonstrate, context plays an important part in children's evaluation of story characters' statements. However, the current study only focuses on competitive academic and sports contexts. Without the inclusion of wider contrasts, the current study is limited in disentangling the possible cultural differences in children's moral judgments of truthfulness in different situations. In addition, anecdotal and research evidence suggests that excelling in competition is a particularly valued attribute in Chinese culture (see Chua, 2011; Fu, Evans, Wang, & Lee, 2008). The current findings might correspond to characteristics specific to Chinese culture instead of the individualism/collectivism orientation. Other contexts in which cultural differences may emerge (such as lie/truth-telling evaluations in non-competitive contexts) or a replication of the study in other collectivist cultures should also be investigated to clarify this.

In conclusion, our study is the first to document bicultural Chinese-Canadian children's responses to moral dilemmas that involve lie/truth-telling to preserve either individual or collective interests while forgoing the other. As our results suggest, moral judgments become more socially conventional in nature with increasing age, and bicultural Chinese-Canadian children seem particularly sensitive to contextual cues about group norms and social expectations when making moral justifications. This study sheds light on the potential for examining this phenomenon through a developmental window to examine when, how, and why bicultural individuals might select certain models of agency over others in their justifications, as well as in making judgments in different moral contexts. Clearly, further investigation of the underlying mechanisms of bicultural socialization and their effects on moral development is needed. As our globalizing world tends toward more multicultural partnerships and intercultural contacts, it is increasingly important that the moral processing of bicultural individuals be explored, as they offer the possibility of providing new bridging insights into such cultural divides as those hypothesized to reside between more and less individualist and collectivist contexts.

Appendix

Moral Dilemma Scenarios

Story 1: Lying to Help the Individual, Harm the Collective

Here is Susan. Susan's teacher was looking for volunteers to represent the class in a spelling competition at their school. Susan could not spell very well, but thought the competition would be a good chance to improve on her spelling skills. Susan thought to herself:

- (A) "If I volunteer, our class will not do well at the spelling competition, but if I don't volunteer, I will miss out on the chance to improve my spelling skills."
- (B) "If I don't volunteer, I will miss out on the chance to improve my spelling skills. But if I do volunteer, our class will not do well at the spelling competition."

When the teacher asked Susan, "Are you a good speller?" Susan decided to give herself a chance to improve her spelling skills so she said, "Yes, I am a good speller, I want to volunteer in the competition."

Story 2: Lying to Help the Collective, Harm the Individual

Here is Collin. The school principal went to Collin's class and picked him and three other kids to represent the class in a singing competition at the school. Collin was excited to sing in the competition, but he could not sing very well, and he thought to himself:

- (A) "If I sing in the competition, our class will probably lose. But if I say I feel sick, I won't have to go in the competition. Then a good singer will take my place and the class will do better."
- (B) "If I say I feel sick, I won't have to go in the competition. Then a good singer will take my place and the class will do better. But if I sing in the competition, our class will probably lose."

When the principal asked Collin if he was ready for the singing competition, Collin decided to help his class. Although Collin was not sick, he told his principal, "I am sick today, I cannot sing in the competition."

Story 3: Telling the Truth to Help the Individual, Harm the Collective

Here is Joshua, who was a member of the school basketball team. Joshua was the team's star player and because of him the team always won their games. There was a very important basketball game one evening, but Joshua had hurt his arm and wasn't sure if he should play. Joshua thought to himself:

- (A) "If I don't play tonight, the basketball team may not win this very important game, but if I do play, I may hurt my arm even more."
- (B) "If I do play, I may hurt my arm even more. But if I don't play tonight, the basketball team may not win this very important game."

When the coach asked Joshua, "Are you okay to play tonight?" Joshua decided to take care of his arm and say, "No, I am not ok to play because I hurt my arm."

Story 4: Telling the Truth to Help the Collective, Harm the Individual

Here is Jimmy. It was track and field day at Jimmy's school and he was the best runner in the class. The class counted on Jimmy to help them win the running competitions. Before the first race, Jimmy was ready to run, but didn't feel like running because he wanted to go to the library to finish an exciting book he was reading. So he thought to himself:

- (A) "If I go to the library to read my book, the class will not do well at the races. But if I run in the races, I won't get to finish reading my exciting book today."
- (B) "If I run in the races, I won't get to finish reading my exciting book today. But if I go to the library to read my book, the class will not do well at the races."

When the teacher asked Jimmy if he was ready to run in the race, instead of telling her he was going to the library to finish his exciting book, Jimmy decided to help his class. So he said, "Yes, I'm ready to run in the race."

Acknowledgments

We are grateful to the children in China and Canada who participated in this study, the schools that encouraged and facilitated the research, and the numerous research assistants who collected the data.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was supported by grants from the US National Institutes for Health and the Social Sciences and Humanities Research Council of Canada.

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