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Children in Asian cultures say yes to yes–no questions: Common and cultural differences between Vietnamese and Japanese children

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Abstract

We investigated whether children's response tendency toward yes–no questions concerning objects is a common phenomenon regardless of languages and cultures. Vietnamese and Japanese 2- to 5-year-old (N = 108) were investigated. We also examined whether familiarity with the questioning issue has any effect on Asian children's yes bias. As the result, Asian children showed a yes bias to yes–no questions. The children's response tendency changes dramatically with their age: Vietnamese and Japanese 2- and 3-year-olds showed a yes bias, but 5-year-olds did not. However, Asian 4-year-olds also showed a yes bias only in the familiar condition. Also, Asian children showed a stronger yes bias in the familiar condition than the unfamiliar condition. These two findings in Asian children were different from the previous finding investigated North American children (Fritzley & Lee, 2003). Moreover, there was a within-Asian cross-cultural difference. Japanese children showed different response tendencies, which were rarely observed in Vietnamese children. Japanese 2-year-olds and some 3-year-olds showed a "no answer" response: they tended not to respond to an interviewer's questions. Japanese 4- and 5-year-olds also showed an "I don't know" response when they were asked about unfamiliar objects. Japanese children tended to avoid a binary decision. We discussed the cross-cultural differences.

Keywords

cross-culture; response tendency; within-Asian cultural differences; yes bias; yes–no questions

Questioning plays an important role in adult-child interaction. Adults often ask children questions in daily conversations and formal interviews. For example, parents ask their children if they like to eat dinner, teachers ask their students questions during classes, and lawyers ask children what they witnessed or experienced. Adults understand what children want, know, or believe throughout questionings. Questioning also plays an important role in experimental psychology experiments because developmental theories are often suggested by children's performance in tasks using questioning methods (Waterman, Blades, & Spencer, 2004). Fritzley and Lee (2003) reported that developmental studies involving preschoolers have used a high percentage of questionings, and yes–no questions were used most frequently of these questionings.

However, yes–no questions sometimes mislead children's answers. Recent studies which compared closed questions (i.e. yes–no questions) to open-ended questions (i.e. wh-questions) have reported that most errors are caused when children were asked yes–no questions in

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particular (e.g. Peterson & Biggs, 1997; Peterson, Dowden, & Tobin, 1999; Waterman, Blades, & Spencer, 2000, 2001; Waterman et al., 2004). Peterson et al. (1999) found that children provided more errors when they were asked yes–no questions than when they were asked wh-questions. As well, Waterman et al. (2004) reported that children tended to answer "yes" or "no" to yes–no questions even when they clearly did not know the answer (see also Waterman et al., 2000, 2001). The children were reluctant to use "I don't know" response to unanswerable yes–no questions while they were able to say so to unanswerable wh-questions. Moreover, young children are thought to have a strong yes bias which is to answer "yes" to yes–no questions (Friztley & Lee, 2003). In fact, some researchers have suggested that young children showed a yes bias (e.g. Gopnik, Sobel, Schulz, & Glymour, 2001; Wimmer & Hogrefe, 1988). As many developmental studies regarding children's cognitive abilities (e.g. false-belief task and appearance-reality distinction) have used yes–no questions or forced-choice questions, it is very important to understand effectiveness and inherent biases of questions.

Recent empirical studies supported the common belief of a yes bias (e.g. Fritzley & Lee, 2003; Peterson et al., 1999; Steffensen, 1978), but some of them did not support it (e.g. Brady, Poole, Warren, & Jones, 1999; Peterson & Biggs, 1997). For example, Peterson et al. (1999) reported that children tended to say "yes" when yes–no questions were asked. However, in a similar study, Peterson and Biggs (1997) found that children tended to say "no." Given the mixed results, Fritzley and Lee (2003) conducted a systematic study which controlled conditions strictly. According to Fritzley and Lee (2003), children might show a different tendency to questions concerning different entities (object, people, animal or event). Also, subject matters such as children's knowledge level or familiarity with the questioning issues might play an important role in their response tendency. Thus, Fritzley and Lee (2003) asked children about familiar and unfamiliar objects' properties and functions using a simple questioning format (e.g. Is this XX?) and found that 2-year-old children showed a consistent and strong yes bias throughout four experiments, but 4- and 5-year-olds did not show such a yes bias. Three-year-olds showed mixed results suggesting a transitional period. Four-and 5-year-olds showed a *nay-saying* bias when they were asked questions in non-sense words. Moreover, children showed a stronger yes bias when they were asked about unfamiliar objects than when they were asked about familiar objects.

Why do young children tend to answer "yes" to yes–no question? There are several social reasons regarding a yes bias. Brady et al. (1999) suggested that young children sometimes answer "yes" even when their memory tells them it is "no" because they think that adults prefer a yes response, or they assume that adults must not be wrong. Peterson and Biggs (1997) also explained that children say yes because they want to agree with adults or be liked by adults. In this way, social reasons are well considered; however, we have little evidence whether a yes bias occurs by cognitive or linguistic reasons although Fritzley and Lee (2003) suggested some cognitive reasons empirically (e.g. familiarity with the issue in questions, understanding level of questions, delay of interview, and chronological age). To address this issue, the present study focused on whether a yes bias is a common phenomenon among children speaking different languages and living in different cultures. If a yes bias is a linguistic problem for a particular language (i.e. European language), children speaking non-Western language would not show a yes bias. If a yes bias is a universal phenomenon regardless of languages or cultures and thus it is a cognitive problem, any child would show a yes bias. The present study approached a mechanism of a yes bias by testing non-Western language-speaking children living in two different cultures (Japan and Viet Nam).

There are two significant reasons why the present study investigated Japanese and Vietnamese children. First, Japanese and Vietnamese are non-Western languages and very different. Therefore, investigating Japanese-speaking and Vietnamese-speaking children would help to understand whether a yes bias is a linguistic problem. Second, it is important to investigate

children in non-Western cultures because most of the previous studies regarding a response tendency to yes–no questions were done in Western cultures (e.g. Brady et al., 1999; Fritzley & Lee, 2003; Peterson et al., 1999). Some young children's abilities develop universally, but some may not (Flavell, Zhang, Zoui, Dong, & Qi, 1983; Vinden, 1999; Vinden & Astington, 2000). Since developmental studies have been done in all over the world, and yes–no questions are a major questioning method which is used most frequently in developmental studies (Fritzley & Lee, 2003), it is very important to investigate the validity of a response bias in various cultures.

Moreover, although many researchers are interested in cultural differences and have done cross-cultural studies, the previous cultural studies were mostly focused comparing Eastern cultures (i.e. Japan, China, and Korea) to Western cultures (i.e. United States, Canada and European countries) (e.g. Gardner, Gabriel, & Lee, 1999; Kitayama, Snibbe, Markus, & Suzuki, 2004; Morling, Kitayama, & Miyamoto, 2002; Park, Killen, Crystal, & Watanabe, 2003). Park et al. (2003) reported within-Asian cultural differences, however, not many study focused on within-Asian cross-cultural differences. Some Asian countries have similar cultures, but some of them may not, and Park et al. (2003) insisted that all Asian countries should not be grouped as a collective culture. To investigate whether a yes bias occurs regardless of languages and cultures, we should not compare only Western to Eastern culture, but also need to compare within-Asian countries.

In this study, we examined the developmental pattern of a yes bias to yes–no questions in children from two Asian countries: Viet Nam and Japan. Our main purpose is to find whether a yes bias occurs regardless of culture and language. In other words, we investigated whether a yes bias is a phenomenon regarding cognitive abilities. We also investigated whether Asian children's response bias depended on an object's familiarity. We hypothesized that a yes bias is a cognitive problem and common phenomenon that any children have, and its developmental pattern and the effectiveness of object familiarity would be similar in North America and Asia.

Method

Participants

Participants were 108 Vietnamese and Japanese children. Vietnamese participants were 52 children: 10 two-year-olds (M = 26.20 months, SD = 2.78, range = 24 months to 33 months, 8 boys and 2 girls), 16 three-years-olds (M = 41.63 months, SD = 2.39, range = 37 months to 46 months, 9 boys and 7 boys), 15 four-years-olds (M = 55.47, SD = 1.85, range = 52 months to 59 months, 5 boys and 10 girls), and 11 five-year-olds (M = 67.20 months, SD = 3.21, range = 62 months to 70 months, 5 boys and 6 girls). Japanese participants were 56 children: 12 two-year-olds (M = 29.30 months, SD = 4.37, range = 24 months to 36 months, 7 boys and 5 girl), 13 three-year-olds (M = 42.54 months, SD = 3.62, range = 38 months to 47 months, 5 boys and 8 boys), 14 four-year-olds (M = 53.29 months, SD = 3.34, range = 49 months to 58 months, 6 boys and 8 girls), and 17 five-year-olds (M = 67.94 months, SD = 5.23, range = 60 months to 73 months, 8 boys and 9 girls). Two Vietnamese 2-year-olds (two boys) and two 3-year-olds (one boy and one girl) were dropped because they cried during the experiment and refused the experiment. Three Japanese two-year-olds were dropped because they answered nothing in most of questions (one boy and two girls). Thus, final participants were 101 Vietnamese and Japanese children.

The children in both countries participated in the experiment while they were in the kindergarten except the Japanese two-year-olds. Most Japanese two-year-olds came to our laboratory room and participated in the experiment with their mothers because they tended to refuse the experiment when they were separated from their mothers, their friends, and their teachers in the kindergarten.

Material and procedure

The procedure and materials were very similar to the procedure and materials used in Experiment 1 in Fritzley and Lee (2003). A pretest was conducted to select objects that were either familiar or unfamiliar to Vietnamese and Japanese children aged from two to five years. First, 10 Vietnamese children were asked about the names and the functions of 10 objects. The objects were selected based on the study of Fritzley and Lee (2003). As a result, three familiar (a blue plastic cup, a red apple, and a picture book) and three unfamiliar objects (a plastic coffee filter, a shoehorn, and a CPU) were selected.

Vietnamese children were interviewed individually in one room in the kindergarten. The children sat on a chair located in front of a table, and an experimenter and an interpreter sat in front of children. The children were randomly assigned to one of two orders of questions; familiar objects first or unfamiliar objects first. In the order of familiar objects first, the interpreter asked four questions about one of three familiar objects. Then he asked four questions about one of three unfamiliar objects, followed by again four questions about a familiar object and so on. In the order of unfamiliar objects first, the experimenter asked four questions about one of three unfamiliar objects first, and then asked four questions about one of three familiar objects. The experimenter randomly chose objects for questioning in both orders and questions for each object.

The same procedure took place for Japanese children. Ten 2- to 5-year-old Japanese children were asked 10 objects' names and the functions to determine whether the objects were either familiar or unfamiliar to Japanese children as to Vietnamese children. There are no difference between Japanese children's and Vietnamese children's knowledge about familiar objects; however, some Vietnamese children did not know the exact name of "apple" because it was an imported fruit, but all of them recognized it was for eating. Vietnamese children identified the function of a shoehorn more than the Japanese children. Other unfamiliar objects were the same for both Vietnamese and Japanese children.

Questions for each object were concerning its properties and functions (see appendix). Children did not have to know the name of objects to answer the questions correctly. Two of four questions were yes questions; the correct answer was yes, and the other two questions were no questions; the correct answer was no. The words used in the questions were chosen based on Fritzley and Lee (2003) that is easy to understand for 2-year-old children. Questioning words were transferred into Vietnamese and Japanese.

Results

The calculation method of a response bias score to examine whether children had a response bias was modified from the method of Fritzley and Lee (2003). We calculated a response bias scores based on proportion of correct and incorrect responses. First, a yes score and a no score were obtained. The yes score was obtained by assigning a score of 1 to any yes response to a yes question (a correct answer) and a score of −1 to any no response to a yes question (an incorrect answer). The no score was obtained by assigning a score of 1 to any no response to a no question (a correct score) and a score of −1 to any yes response (an incorrect answer) to a no question. An "I don't know" response and a "no answer" response (i.e. children were frozen and answered nothing) received no scores. The yes score was then divided by the total number of yes questions to derive a proportional yes score. The same was performed to derive a proportional no score. Next, the proportional no score was subtracted from the proportional yes score to derive a response bias score. Maximum response bias score was 1 and a minimum score was −1. The response bias score for a child who had no response bias should be zero. A positive response bias score meant a yes bias, and a negative response bias score meant a *nay*-

saying bias. According to Fritzley and Lee (2003), using of *nay-saying* bias instead of *no bias* was to avoid a potential confusion in describing the lack of such bias.

A 4 × 2 × 2 mixed-design ANOVA (Age: 2 years, 3 years, 4 years, 5 years; Familiarity: familiar, unfamiliar; Country: Vietnam, Japan) was conducted on children's response bias scores with the familiarity factor as the repeated measure. Results indicated that the main effect of age was significant, $F(3,93) = 5.71$, $p < .01$, but the main effect of country was not significant. Post hoc Tukey tests indicated that the response bias scores of 2-, 3-, and 4-year-olds were significantly higher than 5-year-olds. As age increased, the mean response bias scores decreased, and such decreasing is similar in two different Asian countries (Figure 1 & Figure 2). The main effect of familiarity was also significant, $F(1,93) = 12.75$, $p < .01$. The questions about the familiar objects urge higher yes bias than the questions about the unfamiliar objects.

To ascertain whether a yes bias existed and to examine these effects further, one sample *t* tests were conducted. The mean response bias score of each age group within each condition was compared to a score of zero, which means there is no response bias (Table 1). The mean response bias scores of 2-year-olds revealed a yes bias. Their response bias scores were significantly above zero in both the familiar and the unfamiliar condition. Three-year-olds showed a significant yes bias only in the familiar condition. Their response bias scores of the unfamiliar condition were marginally significant. Four-year-olds also showed a yes bias only in the familiar condition. Five-year-olds showed *nay-saying* bias only in the unfamiliar condition; their mean response bias scores were significantly below zero.

Fritzley and Lee (2003) reported that children in North America responded either yes or no to any questions and they never responded "no answer." However, as shown in Table 2, Japanese and Vietnamese younger children showed a "no answer" response. This response is characterized that the children were frozen and did not answer the question, but kept eye contact with the experimenter. For a total of 167 times "no answer" responses were observed in 2-year-olds in both countries and conditions. Japanese 2-year-olds showed 43.1% of "no answer" response in the familiar condition, and 52.1% in the unfamiliar condition. Vietnamese 2-year-olds showed 13.5% of "no answer" in the familiar condition and 17.7% in the unfamiliar condition. Moreover, North American children seldom responded "I don't know" even they instructed they can do so when they do not know answers (Fritzley & Lee, 2003). In their study, only four responses of "I don't know" were observed in Experiment 1 and all of them were responded by 5-year-olds; however, Japanese children in our study responded "I don't know" more than Vietnamese children. Twenty-six times of "I don't know" responses in Japanese 4- and 5-year-olds were observed in the unfamiliar condition.

To compare those two other responses between Vietnamese to Japanese in our study, the number of both the "no answer" and "I don't know" responses for each child were counted as an other responses score. The other responses score was obtained by assigning a score of 1 to any "no answer" or "I don't know" responses. Three Japanese 2-year-olds who did not answer most of the questions and dropped from the previous analysis were included in this time, thus 12 Japanese 2-year-olds children were examined. A 4 × 2 × 2 mixed-design ANOVA (Age: 2 years, 3 years, 4 years, 5 years; Familiarity: familiar, unfamiliar; Country: Vietnam, Japan) was conducted. The results indicated that the main effect of familiarity was significant, $F(1,96) = 14.96$, $p > .01$. The children tended to show the other responses more in the unfamiliar condition. The main effect of age was significant, $F(3,96) = 17.08$, $p > .01$. Post hoc Tukey tests indicated that 2-year-olds showed the highest "no answer" response in all age groups. The main effect of country was also significant, $F(1,96) = 11.94$, $p < .01$. Japanese children's other responses were observed more than Vietnamese children. The interaction between age and country was significant, $F(3,96) = 4.25$, $p > .01$. A simple effect analysis indicated that Japanese

2-year-olds showed the highest number of the “no answer” response, and Japanese 4- and 5-year-olds showed the highest number of the “I don’t know” response.

Discussion

In the present study, we investigated Asian children’s response tendency to yes–no questions to examine whether a yes bias occurs for cognitive or linguistic reasons. We also investigated whether Asian children’s familiarity with the questioning issue has any effect on the answer of yes–no questions.

In the rough context, and as the first important finding in the present study, the response tendency of the children in two Asian countries and its developmental pattern were very similar to those of children in North America. Vietnamese and Japanese 2- and 3-year-olds showed a strong yes bias. The children’s response tendency to yes–no questions changed dramatically with their age. Our results supported our first hypothesis that a yes bias might be a common phenomenon all over the world regardless of languages and cultures. Therefore, a yes bias would occur due to lack of some cognitive abilities.

However, we found cross-cultural differences between Viet Nam and Japan, and also North America and Asia: a specific response tendency to yes–no questions in Japanese children, difference on role of familiarity of the questioning issue, and different developmental speed. Therefore, our second hypothesis, developmental pattern of a yes bias and the effectiveness of object familiarity might be similar in different cultures, was rejected.

Japanese children tended to avoid answering “yes” or “no” to the adult’s yes–no questions because they showed the other responses more than Vietnamese children. The “no answer” and the “I don’t know” responses might be Japanese specific response biases. In the present study, Japanese 2-year-olds showed the “no answer” response more than Vietnamese children. This result may suugest that Japanese children are too shy to answer yes or no to strange interviewers. Similarly, Gardner, Harris, Ohmoto, and Hamazaki (1988) reported that Japanese preschoolers tended to say nothing to interviewers’ questions. They suggested one of the reasons is Japanese children’s shyness.

Moreover, Japanese 4- and 5-year-old children showed the “I don’t know” response significantly more than Vietnamese children. Although the interviewer did not instruct them to answer so when they have no idea about the questions, Japanese children spontaneously said “I don’t know.” A possible explanation is that the “I don’t know” response is Japanese attitude. Fritzley and Lee (2003) suggested that Chinese and Japanese children may be much more inclined to say “I don’t know” because these cultures emphasize modesty. Our result supported their idea. In addition, Japanese children might tend to avoid giving a wrong answer (Masuyama, 2004). Japanese children may be unsure what a correct answer was because the “I don’t know” response was found in the unfamiliar condition more than the familiar condition.

In contrast, North American children are likely to say “yes” or “no” in such situation because they may be unwilling to indicate that they are ignorant (Fritzley & Lee, 2003). Reluctant use of “I don’t know” in Western children was also reported in the researches investigating children’s response to nonsensical questions (Pratt, 1990; Waterman et al., 2000, 2001, 2004). Therefore, the “no answer” response found in the Japanese 2-year-old and the “I don’t know” response found in Japanese 4- and 5-year-olds suggested that Japanese children could have a specific response attitude to yes–no questions influenced by Japanese culture.

The third important finding in the present study is that we found some cultural differences between Western and Eastern cultures, or North America and Asia. Asian 3- and 4-year-old children showed stronger yes bias in the familiar condition than the unfamiliar condition

whereas, a yes bias occurs when children have less information about questions in Western culture (Fritzley & Lee, 2003; Krosnick & Fabrigar, in press). Asian 3- to 5-year-olds tended to say "I don't know," and Asian 2- to 3-year-old children tended to show the "no answer" response in the unfamiliar condition. The large numbers of the other responses in the unfamiliar condition could influence the result of lower yes bias scores. Japanese children thus seem to be careful: they have a tendency to answer neither yes nor no when they have less information about questions. Therefore, the familiarity with the questioning issue influences children's response tendency, but it might play different roles in North America and Japan.

Finally, we need to discuss developmental differences in Japanese or Asian children. We found that Asian children have a yes bias even at the age of four, and this development pattern is slightly slower than North American children. Four-year-old children in North American did not have any response bias when a target object was visible to them or when the questions were asked in regular words but not in nonsense words (Fritzley & Lee, 2003). The developmental speed difference in the response tendency toward yes–no questions was similar to that which was reported in the "Theory of Mind" study (Martin & Kikuno, 2005). Martin and Kikuno (2005) compared Japanese and Scottish children's theory of mind and found that Japanese children's theory of mind was delayed. Are these differences in this developmental pattern caused by a developmental delay or a different way of expression? In our opinion, it is not a developmental delay. We consider those different developmental patterns are due to Japanese specific expression style. One piece of evidences is the different response pattern, which was provided in this study, such as the "no answer" and the "I don't know" responses. Both on a theory of mind task and a yes–no question task, Japanese children do know the answers, but they may be unable to express them. We need further investigation into whether Japanese 2-year-old children know the correct answer or not.

The present study showed that a yes bias is a common phenomenon regardless of cultures and languages. Children living in non-Western cultures, and speaking non-Western languages showed a yes bias. We found that 2-year-old children showed a yes bias, and 5-year-old children did not have a yes bias in general. Given the results, we conclude that a yes bias is a cognitive problem every young child might have. Young children may know the answer of the questions, or they may understand the questions, but they are fond of saying "yes." The present study is also a new step for further developmental investigation in Asian children. In a future study, we need to find the mechanism of a response bias and why there are some cultural differences. Additional studies are needed to examine whether maternal attitude or environment make these cultural differences. It is also a very interesting issue to compare the "no answer" response in Japanese 2-year-old children to a response tendency in the children in other countries. We also need to investigate the relative contribution of a response bias and other factors such as inhibition or theory of mind.

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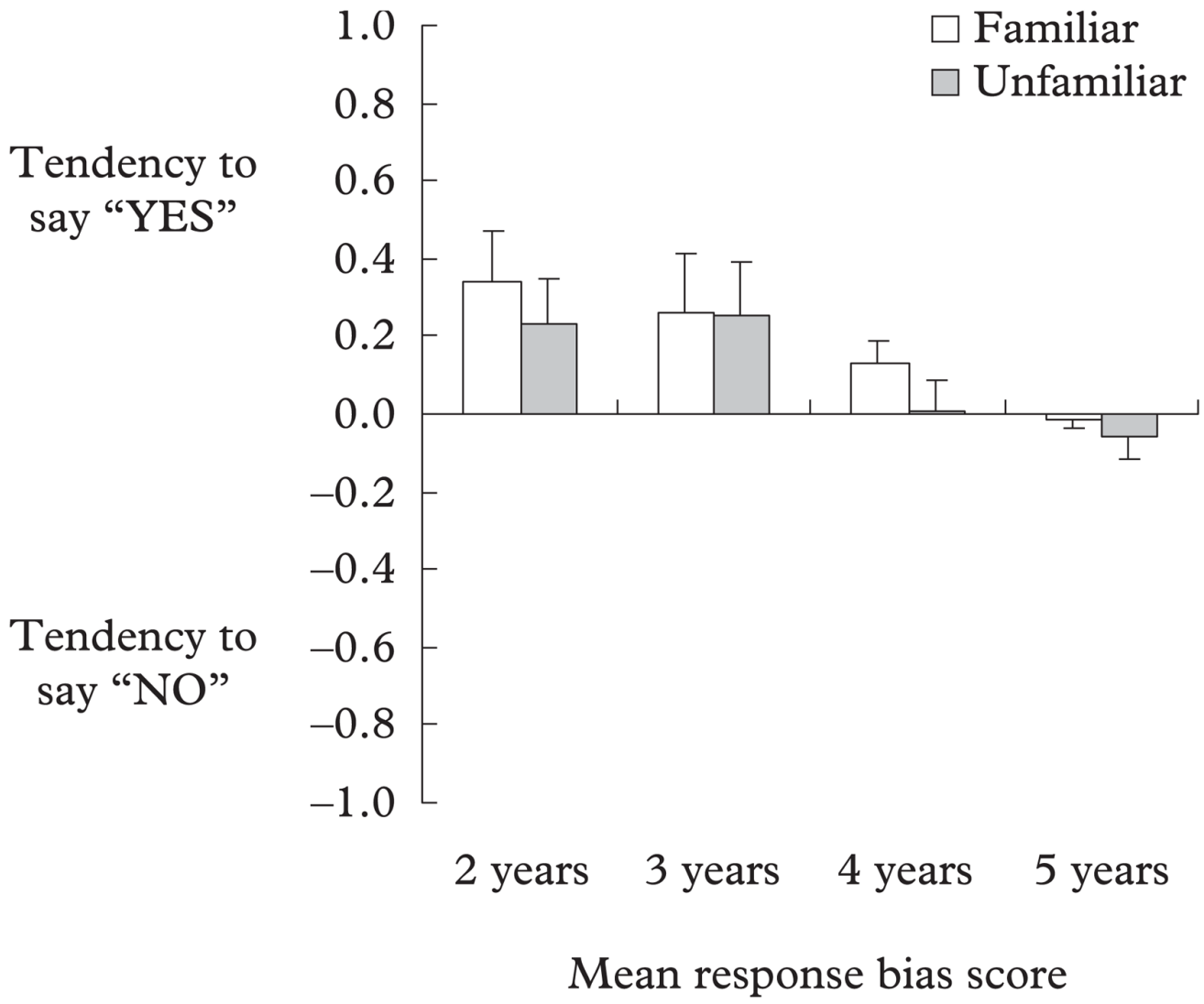

Figure 1.
Mean response bias scores in Japanese children.

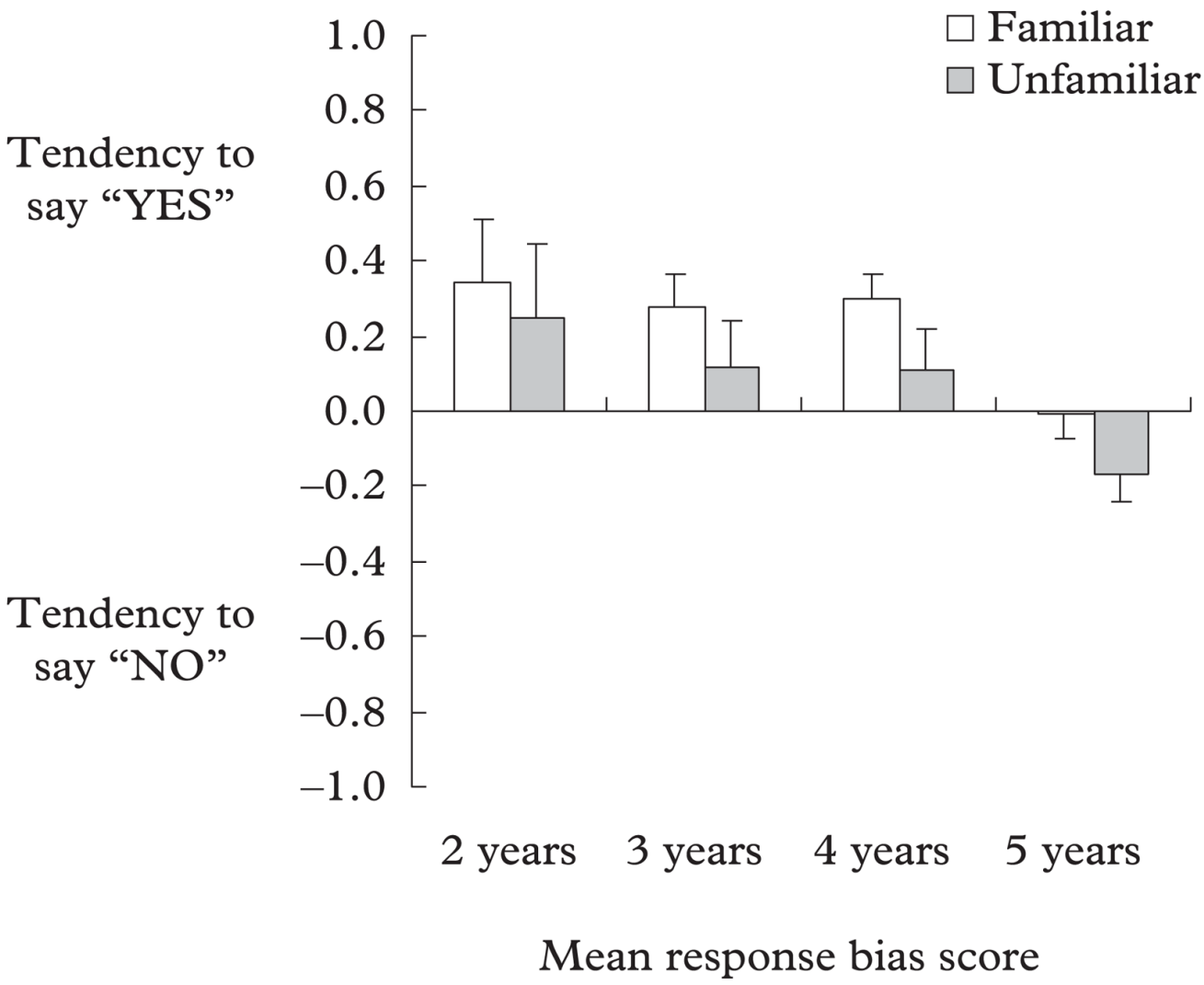

Figure 2.
Mean response bias scores in Vietnamese children.

Table 1

One sample *t*-test score and mean (*SD*) for each age group

	Age group			
Condition	**2 years**	**3 years**	**4 years**	**5 years**
Familiar	$t(16) = 3.41^{**}$	$t(26) = 3.15^{**}$	$t(31) = 4.85^{**}$	n.s.
	$M = .34$ (.41)	$M = .27$ (.44)	$M = .22$ (.25)	$M = -.00$(.15)
Unfamiliar	$t(16) = 2.23^{*}$	$t(26) = 2.04^{\dagger}$	n.s.	$t(24) = -2.99^{*}$
	$M = .24$ (.44)	$M = .18$ (.47)	$M = .10$ (.34)	$M = -.13$ (.23)

$^{**}p < .01$;

$^{*}p < .05$;

$^{\dagger}p < .10$.

Table 2

Summary of “I don’t know” and “No answer” response for each age group in Viet Nam and Japan

			Age group			
Response	**Country**	**Condition**	**2 years**	**3 years**	**4 years**	**5 years**
I don’t know	Viet Nam	Familiar	0	0	0	0
		Unfamiliar	0	2	0	2
	Japan	Familiar	0	0	4	3
		Unfamiliar	0	5	10	16
No answer	Viet Nam	Familiar	13	0	0	1
		Unfamiliar	17	4	4	2
	Japan	Familiar	62	7	0	1
		Unfamiliar	75	9	0	1

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Appendix table

Objects used and test questions

Familiar object condition		Unfamiliar object condition	
Object	**Questions**	**Object**	**Question**
Blue cup	Is this blue?	Coffee filter (plastic)	Is this for making coffee?
	Is this for drinking?		Is this empty?
	Is this made of glass?		Is this for making a cake?
	Is there water in this?		Is this made of paper?
Red apple	Is this hard?	Shoehorn	Is this for wearing shoes?
	Is this for eating?		Is this found in the entrance?
	Is this rotten?		Is this for wearing on the head?
	Is this green?		Is this soft?
Book	Is this full of pictures?	CPU	Is this square?
	Is this for reading?		Is this for using computer?
	Is this tiny?		Is this made of wood?
–	Is this round?		Is this circle?