

RESEARCH ARTICLE

Responses to interview questions: A cross-linguistic study of acquiescence tendency

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Recent theoretical accounts have assumed that children display an acquiescence tendency when answering yes–no questions. The present cross-linguistic study aimed to test this account via examination of the responses of children to various yes–no questions about 6 familiar and unfamiliar objects. The impacts of age and linguistic background on children's response tendencies were also investigated. The participants were 3 groups of 2- to 5-year-old children, including 98 Persian, 78 Kurdish, and 43 English speaking children. Results revealed that younger children, regardless of their linguistic background, demonstrate an acquiescence tendency. The findings suggest that acquiescence tendency is a universal phenomenon. However, children's level of acquiescence declines as age increases. Implications regarding the use of yes–no questions with children are discussed.

Highlights

- The effects of age, object familiarity and language on children's responses to yes–no questions were examined.
- Regardless of their language, all children displayed an acquiescence tendency, but younger children exhibited a stronger tendency.
- Children's acquiescence tendency is a universal phenomenon.

KEYWORDS

acquiescence tendency, cross-linguistic, preschoolers, yes bias, yes–no questions

1 | INTRODUCTION

Children's responses to adults' questions are frequently used in various contexts and for different purposes. For example, in forensic investigations, particularly in the case of children's sexual abuse, children's responses to interview questions are often the only source of information for subsequent decision-making (Ceci & Bruck, 1993). In educational contexts, children's responses to test items and oral questions serve as a platform for educational evaluation

and measurement (Bachman & Palmer, 1996, 2010). In addition, in social sciences, particularly in developmental and language studies, children's responses to adults' questions are considered to be a major data collection tool (Fritzley & Lee, 2003). However, recent developmental studies warn that young children's responses to certain types of questions may not be reliable and should be approached with caution (e.g., Behzadnia & Mehrani, 2017; Fritzley & Lee, 2003; Mehrani & Peterson, 2015, 2016, 2017). For example, there is a burgeoning body of research that suggests children's response to yes-no questions may be problematic because children tend to show a response bias (Fritzley, Lindsay, & Lee, 2013; Mehrani, 2011).

Yes-no questions are the most frequently used type of question in various contexts involving children. McGough and Warren (1994) analysed the types of questions that child protective service professionals asked in their interactions with young children and found that 64% of all questions were yes-no questions. Davies, Tarrant, and Flin (2000) found that in interviews in forensic investigations with suspected 4- to 7-year-old victims of sexual abuse, approximately 40% of all questions were either yes-no or forced-choice. Fritzley and Lee (2003) also reported that in about 70% of developmental studies dealing with young children, questioning is used as a primary data collection method, with yes-no questions as the most frequently used type of question, accounting for approximately half of all the questions asked.

During the last few decades, a spate of studies have focused on children's responses to yes-no questions. For example, Peterson and Biggs (1997) found that 2- to 5-year-old Canadian children were biased toward saying "no" when they were asked questions about a traumatic injury, particularly if there was uncertainty involved. They found that children tended to be accurate when answering "yes" but were significantly less so when answering "no." That is, they tended to say "no" indiscriminately to yes-no questions if they did not understand the questions. In a different study, Peterson, Dowden, and Tobin (1999) interviewed 3- to 5-year-old children after they participated in a craft-making session. The children were asked questions about the people involved, the actions of those people, and the environment that they were in during the session. Peterson, Dowden et al. (1999) found that children displayed a "yes" bias when question content involved people or actions but there was a "no" bias when content involved physical context. Peterson and Grant (2001) also examined 3- to 5-year-olds' response tendencies toward yes-no questions and found that the children were more inclined to respond "yes" than "no" in interviews. It was also found that, overall, children were the most inaccurate when responding to "no" questions. In addition, it was found that younger children made more incorrect responses than did older children.

Fritzley and Lee (2003) also conducted several experiments on 2- to 5-year-old English speaking children's response and reported a developmental transition in their study: 2-year-olds tended to display a "yes" bias, whereas older preschoolers did not demonstrate any bias unless they were faced with incomprehensible questions, to which they displayed a "no" bias. In a more recent study, Fritzley, Lindsay et al. (2013) investigated response tendencies of preschoolers toward yes-no questions about expected and unexpected actions. Overall, they found a tendency in children's responses toward saying "yes." They also reported that children's response bias was more pronounced for expected events than for unexpected ones.

Studies conducted by other researchers on English speaking children have resulted in further inconsistencies. For instance, Rocha (2003) investigated 4- to 12-year-old children's responses to yes-no questions regarding a dental procedure. It was found that children demonstrated a "yes" bias response and that their age influenced their suggestibility, with the younger children being more suggestible. Brady, Poole, Warren, and Jones (1999) interviewed 3- to 7-year-olds and asked them yes-no questions about a videotaped event. But, unlike other researchers, they found no clear response biases toward various yes-no questions. Klemfuss, Kulkofsky, and Ceci (2007) investigated 3- to 5-year-old children's ability to answer two-option forced choice questions and yes-no questions about a video in which an actor performed either intentional or accidental acts. Klemfuss et al. (2007) found that younger children (ages 3-4½) seemed to be biased toward saying "yes," but 4½- to 5-year-olds did not display a consistent bias.

In sum, as the above review shows, the literature concerning English speaking children's response tendencies to yes-no questions is mixed: some researchers have reported that children show a tendency to say "no" rather than "yes" when asked yes-no questions, whereas others have failed to find any type of bias, and yet others have reported

a "yes" bias. In addition, some researchers focusing on age as a determining factor have reported a bias in one direction only for a particular age group.

Recently, researchers in other contexts have started to focus on response tendencies of young children in other languages. For example, in a series of studies, Okanda and her colleagues investigated Japanese, Vietnamese, and Hungarian children's responses to yes-no questions. Okanda and Itakura (2008) compared Vietnamese and Japanese children's response tendency toward yes-no questions concerning household objects. They found that both Vietnamese and Japanese 2- and 3-year-olds showed a "yes" bias, but 5-year-olds did not. Four-year-olds also showed a "yes" bias but only when they were asked questions about familiar objects. However, Japanese children showed some response tendencies, which were rarely observed in Vietnamese children. For example, Japanese 2- and 3-year-olds showed a "no answer" response: they tended not to respond to an interviewer's questions. Focusing on sociocultural differences between Japanese and Hungarian 2- to 5-year-old children, Okanda, Somogyi, and Itakura (2012) reported that children from both cultures exhibit a "yes" bias when answering yes-no questions about familiar objects. These authors concluded that children's "yes" bias can be due to their underdeveloped cognitive abilities. On the basis of these findings, Okanda, et al., (2012) hypothesized that children's "yes" bias is a common phenomenon all over the world regardless of sociocultural differences among children. This is consistent with the conclusion made by Mehrani and Peterson (2016) who argue that children's response tendencies cannot be a sociocultural phenomenon because as children socially develop their response biases grow weaker. In other words, as children acquire the sociocultural norms of their society, their responses to yes-no questions become less biased and more accurate (Mehrani & Peterson, 2016).

Although developmental studies have shown that children may exhibit particular response tendencies when answering adults' questions, the existence of a particular "yes" bias in children's responses was challenged in studies by Mehrani (2011) and Mehrani and Peterson (2016). Mehrani (2011) argues that although some of the previous studies on children's responses to yes-no questions have found an affirmation bias on the part of children (e.g., Fritzley & Lee, 2003; Fritzley, Lindsay et al., 2013; Okanda & Itakura, 2008, 2010), the reported "yes" bias might be because of the questions asked in these studies. In fact, an examination of the syntactic properties of the questions asked in these studies reveals that subjects were asked only positive yes-no questions. However, investigating how children respond to negative yes-no questions is equally important and can contribute to our understanding of children's response tendencies. It should be mentioned that negation is a universal principle of human language, and studies show that the comprehension and expression of negation is acquired very early in infancy (Dimroth, 2010; Mehrani & Peterson, 2016).

Mehrani (2011) hypothesized that children would not show any yes-bias if they are equally asked both positive and negative questions. Mehrani (2011) and Mehrani and Peterson (2016) investigated Persian preschoolers' response tendencies, prompting children with both positively and negatively loaded questions. They found that children in their studies did not display any "yes" or "no" bias; rather, they displayed what they referred to as a "compliance tendency." That is, children were influenced by the structure of the question and complied with its implication, be it negative or positive, by replying in the same way. These authors speculated that perhaps children attempt to please the questioner and to be polite and compliant (and thus, they are likely to acquiesce during interviews).

Although Mehrani's compliance tendency hypothesis seems to have the potential to provide a comprehensive theoretical explanation for children's inaccurate responses to yes-no questions, it needs to be empirically investigated. The data that Mehrani (2011) and Mehrani and Peterson (2016) presented in their studies are limited to Persian speaking children and at best partially confirm his hypothesis. Another limitation of Mehrani's study (2011) is that although he prompted children with four types of questions, he ignored half of the children's answers in analysing their responses. Thus, by ignoring other patterns of responses, it is unknown whether children showed an acquiescence tendency in their overall performance.

Another potential complicating issue in children's response bias is their language background and the syntactic properties of the questions they are asked. In fact, an examination of the literature shows that the linguistic aspects of yes-no questions are rarely investigated. Although previous studies have mainly focused on monolingual children

and speakers of one particular language, the conclusions drawn from these studies are assumed to apply universally, regardless of the linguistic properties of children's language. To our knowledge, the only comparative studies on children's response tendencies are the ones conducted by Okanda and Itakura (2008, 2010) who focused on sociocultural differences between Japanese children and Hungarian and Vietnamese children rather than on their linguistic differences. Therefore, cross-linguistic explorations are needed in order to verify the results of previous studies and to investigate the potential influence of children's language on their response tendencies.

The present cross-linguistic study was conducted to probe the existence of any particular tendency in children's responses to yes–no questions. To remove some of the inconsistencies in the literature, we extended the scope of the study to three groups of children with various linguistic backgrounds, namely, English, Persian, and Kurdish, and prompted them with various types of yes–no questions. We particularly focused on these languages because of the differences across these languages in terms of the syntactic properties of yes–no questions. For example, in English, positive yes–no questions follow a “verb + subject + complement” word order (e.g., Is it a book?), and in negative yes–no questions, a negation element is added to the complement (e.g., Is it not a book?) or to the verb (e.g., Isn't it a book?). In colloquial Persian, however, a “subject + complement + verb” syntactic structure is used for both positive and negative questions. On the other hand, in the majority of Kurdish dialects, linking verbs are omitted in most yes–no questions and a “subject + complement + inflectional suffix” word order is used to form positive and negative yes–no questions. Table 1 illustrates the syntactic differences of yes–no questions across English, Persian, and Kurdish.

In the present cross-linguistic study, we specifically focused on four research questions. First, we investigated whether 2- to 5-year-old children show any particular response tendency when asked various types of yes–no questions. On the basis of the findings of Mehrani (2011) and Mehrani and Peterson (2016), we hypothesized that an acquiescence tendency would be present in children's answers to yes–no questions. However, on the basis of the existing, albeit inconsistent, literature, we predicted that such a response tendency, if present, would be more pronounced in younger children's responses. Second, we investigated whether children's familiarity with objects have any effect on their responses to yes–no questions. On the basis of the findings of Fritzley and Lee (2003) and Fritzley, Lindsay et al. (2013), we expected that children's response tendency, if present, would be stronger in the unfamiliar object condition than in the familiar object condition. Third, we investigated whether different types of yes–no questions (positive vs. negative) have different effects on children's accuracy of response. Given that in most of the previous studies, only positive yes–no questions were used; we could not easily predict the effects of different types of yes–no questions on children's response accuracy. Finally, we explored whether children's linguistic background have any effect on their responses to yes–no questions. Because most of the previous studies were only conducted on monolingual children and were limited to one language, we were also hesitant to predict the effect of children's language on their responses to yes–no questions.

2 | METHOD

2.1 | Participants

Three groups of participants ($N = 219$) with different linguistic backgrounds participated in this study. There were 98 Iranian Persian speakers in four age groups including 20 2-year-olds (8 females and 12 males, age range = 24–35 months, mean (M) = 30.6 months, standard deviation (SD) = 1.4), 26 3-year-olds (18 females and 8 males, age range = 36–47 months, $M = 43.1$, $SD = 2.5$), 24 4-year-olds (12 females and 12 males, age range = 48–59 months, $M = 54.9$, $SD = 2.6$), and 28 5-year-olds (17 females and 11 males, age range = 60–71 months, $M = 66.4$, $SD = 2.1$). These children were monolingual speakers of Persian, and they were recruited from five kindergartens in Neyshabur and Mashhad, Iran. Children's demographic information was gathered through reports provided by kindergarten administration; consequently, there was some missing data concerning parent education. However, the kindergartens

TABLE 1 Grammatical differences of yes-no questions across English, Persian, and Kurdish

	English	Persian	Kurdish
Positive yes-no questions	Verb + subject + complement Is it an apple?	Subject + complement + positive verb In sib hast? (It apple is?)	Subject + complement + (verb) inflectional suffix Ev sêv ê? (It apple?)
Negative yes-no questions	Verb + subject + (negation) + complement Verb (negation) + subject + complement Is it not an apple? Isn't it an apple?	Subject + complement + negative verb In sib nîst? (It apple isn't?)	Subject + complement + (verb) negative inflectional suffix Ev sêvê ne? (It apple not?)

were located in the downtown areas and included preschoolers from neighbourhoods where mostly middle-class, working families lived. Thus, participants came from similar socioeconomic backgrounds, minimizing possible social and cultural variations.

The second group of participants were 78 Kurdish speakers in four age groups: 15 2-year-olds (9 females and 6 males, age range = 24–35 months, $M = 31.3$ months, $SD = 2.7$), 19 3-year-olds (10 females and 9 males, age range = 37–47 months, $M = 42.5$, $SD = 3.2$), 26 4-year-olds (14 females and 12 males, age range = 48–59 months, $M = 53.6$, $SD = 3.7$), and 18 5-year-olds (9 females and 9 males, age range = 60–71 months, $M = 65.1$, $SD = 1.9$). The participants were recruited from three child care centres in Sanandaj, Kurdistan. Because there were a few bilingual children in these child care centres, the researchers sent a demographic survey to each parent and asked about children's linguistic background. All parents identified their children as monolingual speakers of Kurdish. There were four additional children who were identified as bilingual by parents and were excluded.

The third group of participants included 43 English speakers in four age groups: 10 2-year-olds (4 females and 6 males, age range = 26–35 months, $M = 32.1$ months, $SD = 3.8$), 14 3-year-olds (7 females and 7 males, age range = 36–47 months, $M = 41.8$, $SD = 2.2$), 11 4-year-olds (7 females and 4 males, age range = 48–59 months, $M = 55.1$, $SD = 1.8$), and 8 5-year-olds (3 females and 5 males, age range = 60–69 months, $M = 64.4$, $SD = 2.4$). These children were recruited from a child care centre in a southeastern university in Canada. Canadian children's demographic information was gathered through teacher reports, and in the portion of the sample ($N = 18$) for which parental education information was provided, nearly every parent achieved at least a college degree.

2.2 | Instrument and procedure

In order to prepare a response tendency test, first, a pilot study was conducted to select a few objects that were either familiar or unfamiliar for children in all contexts and age groups. In selecting familiar objects, attempts were made to select objects that were easily pronounced in both Persian and Kurdish as well as in English. We were also mindful of choosing objects that were frequently used in all contexts. The final four familiar objects included a key, an apple, a glass, and a comb. Two unfamiliar objects, namely, a spark plug and an electronic connector, were also selected. To ensure that each object was either familiar or unfamiliar to children, 13 children (4 English speakers, 4 Kurdish speakers, and 5 Persian speakers) aged from 2 to 5 years were presented with the objects and asked questions concerning the name, properties, and functions of each. Children in all language contexts knew the properties and functions of the familiar objects. But, as expected, they could not name or describe the function of unfamiliar objects.

The choice of familiar and unfamiliar objects as the focus of this study was motivated by the literature on language development that suggests children often show interest in talking about names and properties of objects (e.g., Nelson, 1973). In addition, designing interview questions based on tangible objects allowed us to reduce the potential sociocultural loads of our questions and collect cross-linguistically comparable data.

We then followed the procedures used by Mehrani (2011) and Mehrani and Peterson (2016) to design a response tendency test about the functions and properties of the objects. The test included four questions about each of the items. Half of the questions for each item were positively formulated, and the other half included a negation element. Also, for two of the questions about each object, the correct answer was "yes," and for the remaining two, the correct answer was "no." Therefore, out of 24 questions, 12 were "yes" questions, and 12 were "no" questions.

To collect data in the other linguistic contexts, the test was translated into Persian and Kurdish by two bilingual experts, and several other experts were then asked to review and revise the tests. In order to detect any ambiguity in the items, the resulting versions were used in a small-scale pilot study on 7 Persian and Kurdish preschoolers. Having ensured the precision and clarity of the items, the final versions of the translated tests were used to collect data from Persian and Kurdish children.

To counterbalance the order of items in the tests, the researchers designed two versions of each test. The first version started with a question in which a negation element was incorporated followed by a question that had no negative element, followed by a question with a negative element, and so on. The second version included the same

task in the opposite direction; the first question was positive, followed by a negative question, and so on. Children were randomly assigned to two groups. The first group received the first version of the test, and the second group received the second version (see Appendix for the questions used in the response tendency test).

Written consent forms from the child care centres' administrators and children's parents were obtained before beginning data collection. Then, in each context, a research assistant who was a native of that context and did not know the purpose of the research was first asked to spend a few days in children's care centres for a rapport-building introduction. Then, the research assistants interviewed children individually in a separate room in the child care centres, and children's responses were written on a score sheet immediately after each question.

3 | RESULTS

To examine whether children had a particular response tendency, four acquiescence tendency scores were calculated for each child. In doing so, first, a proportional acquiescence tendency score for children's responses to positive questions concerning familiar objects was obtained by assigning a score of +1 to every response, which was in accordance with the direction of the question and a score of -1 to every question, which was not in the direction implied in the question. Both "I don't know" responses and "unanswered questions" were scored as zero. The obtained proportional score was then divided by the total number of positive questions concerning familiar objects, resulting in a maximum acquiescence tendency score of +1 and a minimum score of -1. The same procedure was followed to calculate three other acquiescence tendency scores for children's responses to other types of questions: negative questions about familiar objects, positive questions about unfamiliar questions, and negative questions about unfamiliar questions. Within this formulation, the acquiescence tendency scores for a child with no acquiescence tendency should be zero. A positive score suggests an acquiescence tendency, whereas a negative score suggests a nonacquiescence tendency.

Preliminary analyses included counting the frequency of "I don't know" responses and unanswered questions. The researchers did not expect a high frequency of "I don't know" responses to the familiar objects as children were all familiar with them, although such responses were expected to be higher to the unfamiliar objects. Children at all ages seldom responded "I don't know." They also responded to almost all questions and rarely left questions unanswered. That is, there were only 7 times across all children that "I don't know" responses were observed for the familiar objects and 16 times for unfamiliar objects. There were also 13 "no answer" responses to familiar objects and only 9 to unfamiliar objects. In addition, initial analyses were conducted to examine the effects of participants' gender on children's scores, and because no significant differences were found, data were collapsed across this variable in the analyses presented below.

Descriptive statistics revealed that except for Persian 5-year-olds, children's mean scores in all age groups and across all language contexts were positive, indicating that children did display an acquiescence tendency in response to yes-no questions. The mean score of Persian 5-year-old children was zero, indicating that these children did not show any particular tendency in their responses. The data also showed that the mean scores across all language conditions decreased as children developed. (See Figure 1.)

A 4 (age: 2-year-olds, 3-year-olds, 4-year-olds, and 5-year-olds) \times 3 (linguistic background: Persian, Kurdish, and English) \times 2 (familiarity: familiar objects and unfamiliar objects) \times 2 (question type: positive questions and negative questions) analysis of variance was conducted on children's acquiescence tendency scores with familiarity and question type factors as the repeated measures. The age effect was significant, $F(3, 207) = 11.04, p < .001, \text{partial } \eta^2 = .14$. As age increased, the acquiescence tendency scores decreased. In addition, we found significant effects for familiarity, $F(1, 207) = 594.87, p < .001, \text{partial } \eta^2 = .69$, for question type, $F(1, 207) = 54.68, p < .001, \text{partial } \eta^2 = .21$, and for the age \times familiarity interaction, $F(3, 207) = 16.23, p < .001, \text{partial } \eta^2 = .19$. However, the effect of language was not significant, $F(2, 207) = 1.64, p > .16, \text{partial } \eta^2 = .08$. The other two-way interactions were not significant, nor were any of the three-way or the four-way interactions.

To further examine the effect of age and familiarity as well as to ascertain whether an acquiescence tendency was present, one-sample t tests were conducted to compare the mean acquiescence score of each age group with a

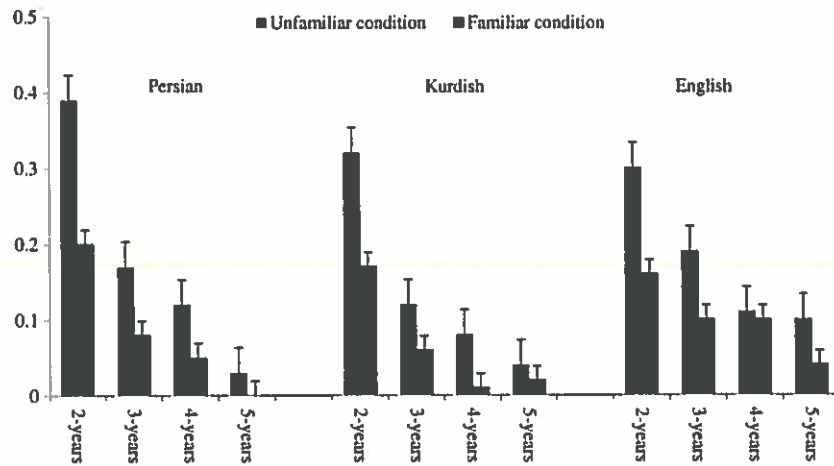


FIGURE 1 Means for children's acquiescence tendency scores. Standard errors are represented in the figure by the error bars attached to each column

score of zero (i.e., no acquiescence tendency) within each condition. Two-year-olds displayed a significant acquiescence tendency in both familiar, $t(43) = 9.99, p < .001$, and unfamiliar conditions, $t(43) = 10.23, p < .001$. Similarly, 3-year-olds displayed an acquiescence tendency for both familiar and unfamiliar items, $t(59) = 6.55, p < .001$ and $t(59) = 8.30, p < .001$, respectively. Four-year-olds' mean response acquiescence scores were also significantly above zero in both the familiar $t(60) = 3.91, p < .001$ and unfamiliar condition $t(60) = 6.73, p < .001$. In addition, although 5-year-olds did not show a response bias in the familiar condition, $t(53) = 1.63, p = .11$, their scores were significantly above zero in the unfamiliar condition, $t(53) = 2.31, p = .02$, indicating an acquiescence tendency.

In order to examine the effect of familiarity and question type on children's accuracy of response, we obtained four accuracy scores for each child. The first accuracy score was obtained by assigning a score of +1 for any correct response to positively formulated questions concerning familiar objects. The obtained accuracy score was then divided by the total number of positive questions concerning familiar objects, resulting in a maximum score of +1 and a minimum score of zero. The same procedure was followed to obtain three other accuracy scores for children's responses to other types of questions: negatively formulated questions concerning familiar objects, positively formulated questions concerning unfamiliar objects, and negatively formulated questions concerning unfamiliar objects. In calculating the accuracy scores, "I don't know" and "no answer" responses received no scores.

As Figure 2 shows, both children's negative and positive accuracy scores increased as they developed. In addition, children's positive accuracy scores at all age levels were higher than their negative accuracy scores, suggesting that they performed better when answering positive questions rather than negative questions. A 4 (age: 2-year-olds, 3-year-olds, 4-year-olds, and 5-year-olds) \times 3 (language: Persian, Kurdish, and English) \times 2 (question type: positive questions and negative questions) \times 2 (familiarity: familiar objects and unfamiliar objects) analysis of variance was conducted on children's accuracy scores with the question type and familiarity factors as the repeated measures. Results showed significant effects for age, $F(3, 207) = 13.76, p < .001$, partial $\eta^2 = .166$, familiarity $F(1, 207) = 68.41, p < .001$, partial $\eta^2 = .248$, and for question type, $F(1, 207) = 8.28, p < .001$, partial $\eta^2 = .194$. The age \times question type interaction was also significant, $F(3, 207) = 3.31, p = .021$, partial $\eta^2 = .046$. However, the effects of language, $F(2, 207) = 1.29, p = .261$, partial $\eta^2 = .036$, the age \times language interaction, $F(6, 207) = .68, p = .49$, partial $\eta^2 = .011$, the age \times familiarity, $F(3, 207) = 1.13, p = .34$, partial $\eta^2 = .032$, the familiarity \times question type interaction, $F(1, 207) = 2.40, p = .14$, partial $\eta^2 = .02$, the language \times familiarity interaction, $F(2, 207) = .52, p = .07$, partial $\eta^2 = .008$, and the language \times question type interaction, $F(2, 207) = .71, p = .16$, partial $\eta^2 = .02$, were not significant. There were no significant higher order interactions.

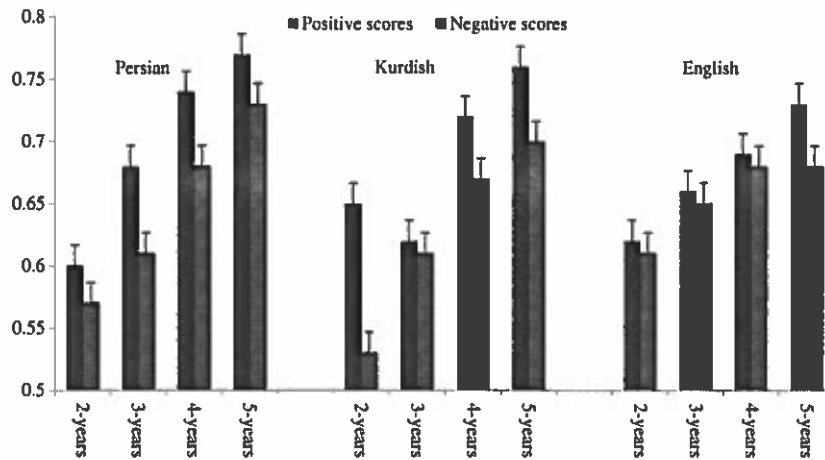


FIGURE 2 Means for children's negative and positive accuracy scores. Standard errors are represented in the figure by the error bars attached to each column

To further examine the differences between children's accuracy scores and to ascertain whether children performed better when answering positive questions, paired sample *t* tests were performed for children's accuracy scores across each age group. Because we found no significant effect for language, the data were pooled across this variable for the *t*-test analyses. As shown in Table 2, results of the analyses showed that children's responses to positive questions at all age levels and in both familiar and unfamiliar conditions were significantly more accurate, suggesting that they displayed better performance in response to positive yes-no questions.

4 | DISCUSSION

The present cross-linguistic study investigated English, Persian, and Kurdish children's response tendency to positive and negative yes-no questions concerning familiar and unfamiliar objects. The study examined whether children with

TABLE 2 The *t*-test scores and means for children's accuracy scores across age levels

Age		Mean	<i>t</i> value
2-year-olds	Negative familiar accuracy score	.58	<i>t</i> (43) = 3.09*
	Positive familiar accuracy score	.64	
	Negative unfamiliar accuracy score	.50	<i>t</i> (43) = 2.29*
	Positive unfamiliar accuracy score	.54	
3-year-olds	Negative familiar accuracy score	.64	<i>t</i> (59) = 2.11**
	Positive familiar accuracy score	.67	
	Negative unfamiliar accuracy score	.55	<i>t</i> (59) = 2.07**
	Positive unfamiliar accuracy score	.56	
4-year-olds	Negative familiar accuracy score	.69	<i>t</i> (60) = 4.01*
	Positive familiar accuracy score	.73	
	Negative unfamiliar accuracy score	.60	<i>t</i> (60) = 3.67*
	Positive unfamiliar accuracy score	.64	
5-year-olds	Negative familiar accuracy score	.72	<i>t</i> (53) = 3.30*
	Positive familiar accuracy score	.77	
	Negative unfamiliar accuracy score	.63	<i>t</i> (53) = 2.96*
	Positive unfamiliar accuracy score	.66	

**p* < .001

***p* < .05

different linguistic backgrounds display an acquiescence tendency when answering yes–no questions. It also explored the effect of children's age on their responses.

Overall, it was found that regardless of their linguistic backgrounds, young children tended to demonstrate an acquiescence tendency when they were asked yes–no questions. That is, children's responses were in line with the expectations implied in questions. In other words, if the questions were negatively formulated children tended to reply negatively ("no"), and if the questions were positively formulated, they tended to respond positively ("yes"). Children's acquiescence tendency was more pronounced in the unfamiliar condition than in the familiar condition, as shown in Figure 1. The findings also showed that older children's acquiescence tendency scores decreased with age. Although 2-year-old children displayed a strong level of acquiescence tendency in both conditions, 3- and 4-year-old children showed a strong acquiescence tendency only when answering questions about unfamiliar objects. In addition, 5-year-old children showed only moderate acquiescence tendencies when answering questions about unfamiliar objects and exhibited little or no acquiescence in their responses to questions concerning familiar objects. In addition, we found that children's accuracy to positive and negative questions increased with age. However, at all age levels, children's responses to positive questions were more accurate than their responses to negative questions.

Our findings reflect the existence of an acquiescence tendency in children's responses. This concurs with the findings of Mehrani (2011), who was the first to report that children's responses to yes–no questions might comply with the direction of the positively or negatively framed questions. Taken together, these findings and other evidence reported by Mehrani and Peterson (2016) suggest that children's responses to yes–no questions are characterized by a tendency to acquiesce to the implications of the question, be it negative or positive, by replying in the same way.

Although our findings do not explicitly indicate whether acquiescence tendency is a social or psychological phenomenon, they do show that as children socially developed with age, their acquiescence tendency grew weaker. In other words, as children acquire cultural and social norms, they appear to be less susceptible to yes–no question biases and thus less acquiescent. This lends support to the hypothesis that children's acquiescence tendency is a developmental phenomenon (Fritzley & Lee, 2003; Fritzley, Lindsay et al., 2013; Mehrani, 2011), and children at a very early age have a tendency to communicate in accordance with what they think is expected. One possibility is that prior to acquiring the semantics of language and the true meaning of verbal exchanges, children know, through their communicative competence, that they must cooperate in a dialogue by verbalizing in response to questions. Children at later stages of language development gradually learn more advanced norms of communications such as expressing the truth and not saying anything that they do not know (Steinberg & Sciarini, 2006). A further possibility is that acquiescence tendency occurs due to children's lack of some cognitive abilities (Okanda, et al., 2012). We suggest that future studies be conducted to determine the source of acquiescence tendency. Researchers can effectively compare the performance of bilingual children's acquiescence in two languages and examine whether this phenomenon is due to children's lack of language proficiency or because of their inadequate cognitive development.

Our findings did not show significant cross-linguistic differences across English, Kurdish, and Persian speaking children. This suggests that acquiescence tendency is not restricted to a particular language but it seems to occur regardless of language differences. Given the absence of cross-linguistic studies in the literature, we cannot comment on how these findings relate to other languages. Nevertheless, considering the findings of two cross-cultural studies by Okanda and her colleagues (i.e., Okanda, et al., 2012; Okanda & Itakura, 2008) who reported no significant differences between Japanese and Vietnamese children and Japanese and Hungarian children in terms of their response tendencies, it seems that children's acquiescence tendency is a universal phenomenon, although it may be stronger in some languages than in others.

Children's acquiescence tendency scores were higher in the unfamiliar condition than in the familiar condition. This finding and the similar findings reported by Fritzley and Lee (2003), Okanda and Itakura (2008), and Okanda, et al., (2012) indicate that when children do not have any knowledge about the questions their responses are more likely to be biased. This is perhaps because children know that in response to a yes–no question, they are supposed to give an answer, but since they don't have any knowledge about the objects, their responses are not based on the true value of the question.

Our findings also showed that regardless of their language, children's responses to positively formulated yes–no questions were more accurate than their responses to negatively formulated questions. Lyon (2005) argues that yes–no questions can be made more suggestive by turning them into negative yes–no questions or tag questions. Some studies have found that young children are more likely to acquiesce to negative and tag questions than to positive questions (e.g., Greenstock & Pipe, 1996). Putting this differently, children's more accurate responses to positive questions might be because negative yes–no questions are more suggestive than positive yes–no questions and are more likely to mislead young children.

Another important consideration is the age of the child participants. The strongest acquiescence tendency in the present study was found for 2-year-olds. When looking at 2- to 5-year-olds' responses to positively formulated yes–no questions, Fritzley and Lee (2003) and Fritzley, Lindsay et al. (2013) reported the strongest "yes" bias by 2-year-olds followed by 3-year-olds. Okanda and Itakura (2008, 2010), who studied Japanese preschoolers, reported similar findings. Overall, the results concerning the 2-year-olds' response tendency support the previously reported conclusion that children between 2 and 3 are at a developmental transition period (Fritzley & Lee, 2003). Although this conclusion is based on studies dealing with children's accuracy of response to various types of questions, the results imply that 2-year-old children's response tendencies are significantly different from those of other age groups. It appears that this difference may suggest a genuine developmental phenomenon (Fritzley & Lee, 2003; Fritzley, Lindsay et al., 2013).

A further point is that children almost never said "I don't know" to either positive or negative yes–no questions. Also, children rarely left questions without any response. Instead, they appeared to respond with a veneer of certainty by providing either correct or incorrect answers. Importantly, they even did so when the objects were totally unfamiliar. In contrast, studies have shown that children from some linguistic backgrounds are likely to avoid binary decisions. For instance, Okanda and Itakura (2008, 2010) found that 4- and 5-year-old Japanese children tend to provide "I don't know" responses and 2-year-old Japanese children tend to avoid answering adults' yes–no questions. Okanda and Itakura (2010) pointed out that Japanese children could have a specific response attitude to yes–no questions influenced by the sociolinguistic norms of Japanese. But unlike their Japanese counterparts, Canadian, Iranian, and Kurdish children in this study did not appear to be unwilling communicators; rather, they suggested a sense of cooperation by answering almost all questions. Considering the methodological differences between the studies, at the moment, no clear understanding of discrepancies between the performance of Japanese and other children can yet be discerned. However, further research may clarify the conditions that influence children's willingness to communicate in response to binary questions.

The present study should be interpreted in the context of its limitations. The study does not represent a criminal interview. Rather, the process of data collection was conducted in children's care centres, where rapport was established between the interviewers and children. In addition, children were asked questions about a few tangible objects. Although in the pilot study children showed interest in talking about the objects, it is not clear how much attention children paid to the objects or how motivated they were to provide correct answers to questions. All these contextual and cognitive factors might influence children's responses (Almerigogna, Ost, Akehurst, & Fluck, 2008; Goodman, Sharma, Thomas, & Considine, 1995; Ornstein, Baker-Ward, Gordon, & Merritt, 1997; Roebbers, Schwarz, & Neumann, 2005). Thus, it would be useful for future studies to control some of these extraneous factors in order to ensure the generalizability of the findings to other contexts.

This study illustrates the benefits of analysing and evaluating data collection instruments in developmental studies. As mentioned, researchers often use questioning as an instrument for collecting data in developmental studies involving children (Fritzley & Lee, 2003). However, this study, together with existing research, suggests that in designing developmental studies attempts should be made to avoid using instruments that may result in ineffective and distorted data. The study suggests that when questioning children, caution should be exercised and yes–no questions ideally should be avoided with younger children.

In addition, the study has important implications for criminal interviews. Although in forensic situations interviewers are encouraged to use open-ended questions, they too often use leading questions such as forced-choice

and yes–no questions to elicit information where other types of questions were not effective (Davies, Tarrant, & Flin, 2000; Mehrani & Peterson, 2015). Our findings indicate that this type of question is not appropriate for forensic situations because children's acquiescence tendency may result in biased information. Furthermore, children's tendency to respond to questions about unfamiliar objects even when they have no knowledge about them is disquieting.

In conclusion, this study found evidence in support of children's acquiescence tendency in response to yes–no questions in various linguistic contexts. Such a tendency has also been reported in two other studies conducted with Persian-speaking children (e.g., Mehrani, 2011; Mehrani & Peterson, 2015). It is important that children with different language backgrounds be tested to see if the acquiescence tendency found here holds true in other linguistic and social contexts.

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APPENDIX

Objects used and questions asked in interviews.

Objects	Question	Objects	Questions
Red apple	Is it eatable? Is it not yellow? Is it a toy? Is it not a fruit?	Green comb	Is it for brushing hair? Is it not for cleaning shoes? Is it yellow? Is it not made of plastic?
Glass	Is it for drinking water? Is it not for eating food? Is it for painting? Is it not for drinking milk?	Key	Is it for opening doors? Is it not for drawing? Is it for eating food? Is it not for locking doors?
Spark plug	Is it made of iron? Computers Is it not for cooking? Is it used for radios? Is it not for cars?	Electronic connector	Is it used for computers? Is it not eatable? Is it used for writing? Is it not used for printers?

