

The Effect of Bilingualism on Responses to Forced-choice Questions: A Case of Persian and Lurish Preschooler Children

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Abstract:

This study investigated the impact of bilingualism (Persian and Lurish children) on responses to forced-choice questions regarding familiar and unfamiliar objects. 40 bilingual 4- and 5-year-old children were selected and asked two-option forced-choice questions pertaining a group of four familiar and four unfamiliar objects. The results of the study showed that older preschoolers are less susceptible to two-option forced-choice questions. That is, 4- and 5-year-old bilingual preschoolers have less intention to show a recency tendency unless they are asked about unfamiliar objects. As a whole, the findings showed that children's familiarity with objects influenced their responses, whereas children's language did not have any effect on their responses.

Key words: forced-choice questions, bilingualism, recency tendency, objects

Introduction

The use of questions and response tendencies of children show one of the developmental aspects of language acquisition. One of the classifications of response tendency includes both yes-no question or forced-choice questions (closed-ended). Forced-choice question is a way of measuring individual's patterns of choice. In this pattern only two alternative options exist and the individual is forced to choose the correct one. In [yes-no question](#), the individual is presented with one option and is forced to choose between one category and the other. These kinds of questions require recognition memory process by giving answers positively, negatively or selectively (Brown et al. 2013).

Wright and Powell (2006) believe that most interviewers prefer yes-no and forced-choice questions to get more information by limiting interviewees (children) to one word response. In this case Fritzley et al. (2013) note that this widespread use of closed-ended questions (yes-no and forced-choice) is due to the fact that preschooler children are not able to express their own idea through open-ended questions. Occupying less memory processing in comparison with open-ended questions might be the other reason that children prefer in the use of closed-ended questions (Katz and Hershkowitz, 2010). The possibility of obtaining objective data and analyzing them quantitatively might be another reason for frequent use of closed-ended questions.

Regarding this practical preference, various studies related to children's responses have been conducted (Ceci & Bruk, 1993; Newcombe & Dour, 2001).

One of the earliest ones belongs to Walker and his colleagues (Walker et al. 1996). Preschoolers as well as second and fifth graders were the participants in this study. The participants were asked some forced-choice questions about the content of a short video clip. They were questioned either on the time when the correct answer was not included within the question or when it was presented as one of alternatives. The results indicated that the participant had a recency tendency regardless of the order of the correct construct. Moreover, the participants were eager to select either the first or second choice in response to neither -option questions.

As Krahenbuhl and Blades (2006) note since the last three decades more studies regarding the reliability of children's responses have been conducted. According to Fritzley & Lee (2003) in developmental psychology, questioning can be used as a significant technique forgetting data from children. So, the significance of analyzing children's response tendencies to questions arises from both developmental research, and other contextual framework like medicine, education, and law. For example, Baeyer, Forsyth, Stanford, Watson, & Chambers (2009) conducted a research in medical setting and the results showed that the response biases were a common phenomenon in children under 5 years. Within forensic settings, another study by Davies, Westcott, and Horan (2000) revealed that the police raised questions for 4- to 7-year-old mostly in the form of open-ended questions with limited number of yes-no questions.

Regarding relationship between applied linguistics, education and response tendencies of children a series of studies were conducted as well (e.g.; Fritzley, Lindsay, & Lee, 2013; Peterson & Mehrani, 2015).

There also exist focused studies on the effect of question format (yes-no ,open-ended-,forced-choice) and the syntactic properties of questions(e. g.; Mehrani, 2011; Okanda, Somogyi, & Itakura, 2012; Person, Dowden, &Tobin,1999).

As an example of research on children's response to yes-no question or forced-choice questions, a study by Howie, Sheehan ,Wrzesinska ,and Mojarrad (2004)showed that 7- to 8-year-old children were vulnerable to yes-no questions and 4 to 5-year-old children to forced-choice questions.

Freitzley et al. (2009) examined 2-to 5- year- old children's responses regarding familiar and unfamiliar objects. Forced-choice questions were chosen as the main variable in this study. Children in all age ranges indicated significant recency tendency. Incomprehensibility and unfamiliarity of objects were also two elements that showed children's stronger recency tendency. In line with Freitzley et al. (2009), another investigation carried out by Rocha and her colleagues'(Rocha et al. 2013).A dental visit was the place where children's recency tendency (two-option forced-choice questions) was tested. The children ranged in age from 4 to 12 years old. The outcomes of the study showed that recency effects were obvious in children's response especially for younger ones. Also, it was found that none of the option questions were regarded to be the most challenging forced-choice forms which lead to eliciting a high ratio of misinformation.

Brown et al. (2013) in their study had a comparison between the accuracy of 5- to 7-year-old children's response to yes-no questions and forced-choice questions. They concluded that open-ended questions caused more detailed responses than more forced ones. Two experimental studies by Mehrani and Peterson(2015)intended to investigate whether or not forced-choice questions would result in tendency in 3-to 5-year-old Persian-speaking children's responses. The results indicated that children showed a constant recency tendency. It means that the preference

of the children in forced-questions was the second choice and as children got older this tendency grew weaker.

Closely related to the theme of the present study, is the research article by Behzadnia and Mehrani (2017), in that study the researchers wanted to know Persian-Turkish bilingual children's tendencies to forced-choice questions mainly related to familiar and unfamiliar objects. The analysis of responses showed that older preschoolers were less vulnerable to two-option forced-choice questions. The final results also proved that children's familiarity with objects was effective on their responses while their language did not have any effect on their responses.

It is worth mentioning that many of these studies have been conducted in English contexts among monolingual children. The only exceptions belong to Mehrani and Peterson (2015) and Behzadnia and Mehrani(2017).

Behzadnia and Mehrani(2018) conducted a study to investigate how Persian-Turkish bilingual children tend to respond to forced-choice questions pertaining to objects. A total of 42 bilingual 5- and 6-year-old children were asked two-option forced-choice questions about a set of four familiar and four unfamiliar objects. The analysis of participants' responses showed that older preschoolers are less susceptible to two-option forced-choice questions. That is, 5- and 6-year-old bilingual preschoolers are less likely to show a recency tendency unless they are asked about unfamiliar objects.

Similarly, Moriguchi, Okanda, & Itakura (2008) investigated how young children reduce a yes bias, the tendency to answer 'yes' to yes –no questions. Three factors were examined: verbal ability, inhibitory control and theory of mind. The results revealed that verbal ability and inhibitory control were strongly associated with a yes bias even after controlling for age and also the results indicated that young children may have to inhibit a dominant 'yes' response when they are supposed to respond 'no'.

In the present study the researchers try to investigate children's possible response recency to forced-choice questions in a bilingual context. It does this by including Lurish language. While

Behzadnia and Mehrani (2017) showed 5-to 6-year-old, the present study focuses on 4 to-5 year-old children's responses to questions about familiar and unfamiliar objects. The researchers' choice of Persian and Lurish languages is due to the fact that these two languages have different grammatical structures and intonation patterns. Some of the differences are presented in Table 1.

Table :1

Syntactic differences across Persian and Lurish in forced-choice questions

Persian	Lurish
Subject + complement 1 + verb + or + complement 2 + verb	Complement 1 + complement 2
In + zard + hast + ya + safid + hast?	Zardeyasafi?
This yellow is or white is?	Yellow or white?

Research questions

The current study has addressed the following research questions:

1. Regarding response tendency to two-option forced-choice questions, is there any difference between bilingual 4- and 5-year-old children?
2. Do different languages (Lurish and Persian) have any effect on children's response tendency to two-option forced-choice questions?
3. Does children's familiarity or unfamiliarity with objects have any effect on their responses to forced-choice questions?

Methodology

Participants

In this study, a population of 40 Persian-Lurish bilingual 4- and 5-year-old children was taken into investigation. There were 20 4-year-olds (12 males and 8 females, age range = 48–56 months), and 20 5-year-olds (10 males and 10 females, age range = 60–65 months). As

confirmed by their teachers as well as parents, these children were all equally bilingual speakers of Persian and Lurish and had the opportunity to speak the two languages with their parents at home, in their kindergartens, and also in daily conversations with others. The participants of this study were recruited from 2 child care centers in Dehdasht city located in Kohgiluyeh and Boyer-Ahmad province in the southern part of Iran.

Instruments and materials

A forced-choice question task based on a set of four familiar and four unfamiliar objects was designed. The choice of objects was based on previous studies (e.g., Behzadnia and Mehrani 2017). The familiar objects consisted of an orange ball, a banana, a book, and a blue pen, and the unfamiliar objects comprised a flasher relay, a Turbuhaler, a drill bit, and an LED. In order to ensure children's knowledge of each set of objects a pilot study was conducted with four children (i.e., two 4-year-olds and two 5-year-olds) who were asked about the functions and properties of each object. The pilot study corroborated that the familiar objects were known to children and also they had no idea about the unfamiliar objects. The subjects who participated in the pilot study were excluded from the main study.

Procedure

The staffs of the kindergarten were informed about the principles of the study prior to data collection and children voluntarily took part in the study. In addition, children's parents filled out consent forms for their children's participation in the study. Interview session took place in a quiet room and their teacher had a short conversation with them in both Persian and Lurish language to make sure about children's understanding. Each child was questioned a set of three two-option forced-choice questions for each object. The first part of the interview was in Persian and the second part was in Lurish. Totally 48 questions were asked with half in Persian and half in Lurish. The internal consistency of the test was 0.81 based on Cronbach alpha criteria.

The procedures of questioning in each language started with the familiar objects and their related questions, followed by questioning of the unfamiliar objects. That is, each child was first presented with a familiar object and was asked 3 forced-choice questions in Persian and then the

same procedure was followed for the rest of the familiar and unfamiliar objects as well as the Lurish questioning phase. The questions for each object were ordered based on their correct answers. That is, the correct answer to the first question for each object was the first option (hereafter first option questions). For the second question the correct answer was the second option (hereafter second option questions), and for the third question neither of options was correct (i.e., neither option questions). The questions asked in the present study can be found in appendix (table 3).

Results

In order to find out any response tendency pertaining to choosing any of the two options of the questions by the children, for every participant, the researchers obtained the score of response tendency and also to do this they obtained a recency and primacy score. The score of 1 and -1 were assigned to the first and second choice answers respectively for obtaining dual the primacy and recency scores.

For each option questions, if the first and second options were chosen by the participants, the scores of 1 and -1 were assigned to primacy and recency scores. For all questions in different languages and familiarity conditions, this scoring procedure was applied. Then, the sum of the primacy and recency scores led to a maximum response tendency score of +3 and a minimum score of -3. The primacy and recency scores were shown based on positive and negative scores in order. And also when each participant did not intend to answer any options of the question, in this case, the response tendency score should be zero.

In terms of the conducted analysis, the age variable did not result in a significant effect on the participants' response tendency, so, the data were collapsed across this variable for the results presented below.

One-sample t-tests were conducted to compare the participants' mean tendency scores within each condition against a score of zero (i.e. lack of response tendency) and to determine whether children depicted any tendency toward selecting either of the two response alternatives in response to two-option, forced-choice questions. As Table 2 shows, the mean tendency scores for

both Persian and Lurish unfamiliar conditions as well as for Lurish familiar condition were negative. but, the mean tendency score for Persian familiar condition was positive. The relevant statistics are presented in Table 2.

According to Table 2, children in unfamiliar object condition obtained the highest negative mean response score. That is, children showed a statistically significant recency tendency when they were asked both Persian and Lurish forced-choice questions about unfamiliar objects.

The analysis of variance (ANOVA) was conducted to determine the effects of children's language (Persian and Lurish) and their familiarity with objects (familiarity condition: familiar, unfamiliar) on their responses. The main effect of familiarity was slightly significant, $F(1, 40) =$

Table: 2

T-test scores and means for tendency scores across language and familiarity conditions.

Condition	mean tendency score	SD	t-value
Persian familiar	.23	1.45	$t(4) = 1.04$
Lurish familiar	-.06	2.06	$t(4) = -.21$
Persian unfamiliar	-.63	2.19	$t(4) = -1.99$
Lurish unfamiliar	-.68	2.21	$t(4) = -2.01$

$P < .05$

3.39, $p = .072$, $\eta^2 = .06$. As a result, the findings depicted that the language variable did not have any significant effect, $F(1, 40) = 1.69$, $p = .199$, $\eta^2 = .03$. That is, children's language did not affect their response tendency. Moreover, the interaction effect between children's language and their familiarity with objects was not significant, $F(1, 40) = .017$, $p = .893$, $\eta^2 = .00$.

Discussion

Question1: Regarding response tendency to two-option forced-choice questions, is there any difference between bilingual 4- and 5-year-old children?

The present study investigated the impact of bilingualism (Persian and Lurish children) on responses to two-option forced-choice questions regarding familiar and unfamiliar objects. It also investigated the effects of age, language, and object familiarity on children's responses.

As a whole, The results of this study depicted that Persian and Lurish - speaking children did not show any significant recency tendency except when they were asked questions about unfamiliar objects in both languages – Persian and Lurish. Furthermore, the participants' age did not influence their responses to forced-choice questions, this is in line with the results with those of the previous studies on monolingual older preschoolers conducted by Walker et al. (1996), Fritzley et al. (2009), as well as Mehrani and Peterson (2015, 2017). In Walker et al.'s (1996) study preschoolers and second and fifth graders participated. Children's recency tendencies were different based on their age. That is, in their study, the youngest participants exhibited a strong recency tendency and the oldest participants did not exhibit any recency tendency.

Similarly, In Fritzley et al.'s (2009) study older preschoolers' exhibited a weaker recency tendency in immediate questioning. However, a significant recency tendency was evidenced when children were asked incomprehensible questions pertaining to unfamiliar objects and also when they were asked after a one-week delay. In addition, Mehrani and Peterson (2015, 2017) who investigated preschoolers' responses toward forced-choice questions reported no significant recency tendency on the part of five-year-old children. However, considering the results obtained in this study, as well as those reported in the literature, it seems that the participants' recency tendency is significantly affected by chronological age. Moreover, other factors such as children's familiarity with objects and comprehensibility of the questions may result in a significant recency tendency in older children as well.

Question 2: Do different languages (Lurish and Persian) have any effect on children's response tendency to two-option forced-choice questions?

The participants' language (i.e., Persian and Lurish) did not seem to have any significant effect on children's responses to questions. Moreover, pertaining to the effect of children's language on their response tendencies, the results showed that bilingual children did not exhibit a significant recency tendency in all conditions but in Persian and Lurish unfamiliar objects. In other words,

children's language did not significantly influence their responses to forced-choice questions except in Lurish and Persian unfamiliar object condition. This finding is compatible with the results of Okanda and Itakura's (2012) study in that bilingual children's languages did not affect their yes bias in response to yes/no questions. However, because of geographical proximity and frequent interactions between the speakers of Persian and Lurish, these two languages share a number of commonalities such as lexicon. On the other hand, we speculate that some linguistic differences such as intonation patterns, word order, and other syntactic differences might have influenced children's responses in this study.

Question 3: Does children's familiarity or unfamiliarity with objects have any effect on their responses to forced-choice questions?

The other factor that might influence children's response to questions is their familiarity with objects. In other words, their familiarity with different objects (familiar and unfamiliar) influenced their responses to forced-choice questions. Accordingly, the findings obtained in this study showed that 4- and 5-year-old children did not show significant response tendencies in familiar objects except in unfamiliar objects of dual languages, this is not in alignment with research study (Behzadnia and Mehrani; 2018) highlighting that there is not significant response tendency nearly in all conditions except in Turkish unfamiliar object condition. Partially, The finding of this study regarding object familiarity is similar to that of Fritzley et al. (2009) and Mehrani and Peterson (2017) in which familiar and unfamiliar objects were used. In addition, consistent results were obtained. Bilingual 4- and 5-year-old children similar to Fritzley et al.'s (2009) 2-to 5-year-old monolingual participants exhibited a significant recency tendency in unfamiliar object condition. Mehrani and Peterson (2017) also reported that questions pertaining to unfamiliar objects were problematic to Persian, Kurdish, and English children when answering forced-choice questions. In addition, some studies on yes/no questions showed children's yes biases to unfamiliar objects than to familiar objects (Fritzley and Lee 2003; Fritzley et al. 2013). Children's yes bias toward unfamiliar objects in these studies might be due to children's uncertainty which results in definitive answers from children.

Limitation of the study

This study seeks to investigate the impact of bilingualism (Persian and Lurish children) on responses to forced-choice questions regarding familiar and unfamiliar objects. The present study is limited to just 4 to 5 years preschoolers and bilingual children who can speak two languages – Persian and Lurish.

Suggestions for Further Research

As a word of recommendation future researches are suggested to investigate the effect of the other variables/factors (gender, linguistic background, social class and so on) regarding various ages and also other languages on response tendencies of preschoolers' children toward forced-choice questions.

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Appendix

Table:

The questions asked in the present study

Familiar Objects	Questions	Unfamiliar Objects	Questions
Orange ball	Is it for playing or swimming?	Flasher relay	Is it green or yellow?
	Is it white or orange?		Is it made paper or plastic?
	Is it a bag or a pencil?		Is it for cooking or singing?
Banana	Is it for eating or sleeping?	Turbuhaler	Is it black or white?
	Is it pink or yellow?		Is it big or small?
	Is a chocolate or a toy?		Is it a toothbrush or a toy?
Book	Is it made of paper or plastic?	Drill bit	Is it short or long?
	Is it a notebook or a book?		Is it for cooking or cutting wood?
	Is it for playing or walking?		Is it a fork or a knife?
Blue pen	Is it for writing or reading?	LED lamp	Is it small or big?
	Is it yellow or blue?		Is it high-power or low-power?
	Is it for a ruler or a marker?		Is it a toy or a telephone?