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Authors

Gauvain, Mary
Munroe, Robert L
Beebe, Heidi

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Children's Questions in Cross-Cultural Perspective: A Four-Culture Study

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Mary Gauvain¹, Robert L. Munroe² and Heidi Beebe¹

Abstract

This study investigated language data collected in 1978-1979 from ninety-six 3- to 5-year-old children in four different non-Western cultures: Garifuna in Belize, Logoli in Kenya, Newars in Nepal, and Samoans in America Samoa. There were 24 children per culture; half of the children were 3 years of age, and half were 5 years of age. The study examined the use of information-seeking questions in everyday life situations and the proportion of explanation-seeking questions (why-questions) in these communities relative to those reported among Western samples. Results revealed that the number of information-seeking questions does not differ from those of Western samples, but the proportion of explanation-seeking questions was much lower than that reported for Western children. Implications of these findings are discussed.

Keywords

cognitive development, children's questions, cultural differences

Dites-moi, pourquoi, la vie est belle,
Dites-moi, pourquoi, la vie est gai

—Rodgers and Hammerstein, *South Pacific*, 1949

These lines are from the musical play *South Pacific*, which is based on James Michener's Pulitzer Prize winning collection of short stories *Tales of the South Pacific* (1947). This book describes events and stories Michener encountered while stationed in the South Pacific during World War II. The play concentrates on the story of a widowed French man and his two young children with his late Polynesian wife. This song, which is sung by the children, captures the great curiosity that young children have about the world as well as how this curiosity is often expressed in questions that ask for causal explanation, or "why-questions." Even though these two children live in a very different time and place, the lyrics reflect the view that this behavior is universal, that is, all children ask why-questions and they do so at a rapid fire pace. However, to support this

¹University of California, Riverside, USA

²Pitzer College, Claremont, CA, USA

Corresponding Author:

Mary Gauvain, Department of Psychology, University of California, Riverside, CA 92521, USA.

Email: mary.gauvain@ucr.edu

claim, evidence from a wide range of cultures is needed, and such evidence is in short supply (Lieven & Stoll, 2010). Most of the research on children's questions has been conducted in Western, industrialized societies. This research has shown that young children produce explanatory-type or why-questions with great frequency, a pattern that has led researchers to suggest that these questions may play an important role in cognitive development (Chouinard, 2007).

In the research reported here, we endeavored to learn whether asking for information is a prominent aspect of children's speech in non-Western cultures. We were particularly interested in discovering whether a significant portion of that question-asking consisted of explanatory questioning. We take the view that explanatory questions, like other forms of speech, may be subject to cultural conventions and social practices regarding how children are socialized to speak with others, including about matters pertaining to their own curiosity, which is the source of why-questions. We do not take issue with the idea that children have great curiosity about the world. Rather, we are concerned with the forms this curiosity takes. Examining these knowledge-seeking behaviors as social and cultural behaviors opens discussion regarding the universality of why-questions along with related questions pertaining to their function or role in cognitive development.

Children's explanatory questions have been of interest to researchers for close to a century (Piaget, 1926/1923). The research has focused on a broad spectrum of topics including the age at which children begin to ask these questions, their pattern over childhood in both form and frequency, the situations or contexts in which these questions are expressed, and the purpose or function of explanatory questions more generally. Regarding the onset of these questions, early research by Smith (1933) used verbatim records of conversations in the home involving 18- to 72-month-old children with adults and with peers to determine when children begin to ask various types of questions, including why-questions. Out of approximately 23,000 utterances, about 3,100 (13%) were questions, and only 8% of these were explanatory or causal questions. Although the youngest children in the sample, the 2-year-olds, had begun asking questions of various types, none of their questions included the word "why" or probed for causal explanations. The earliest age at which why-questions occurred was 29 months and these questions occurred with increasing frequency from 3 to 5 years of age, at which point they stabilized. A later study by Tyack and Ingram (1976) based on parent records reported similar rates though somewhat earlier patterns for younger children, with approximately 7% of the questions asked by 2- to 3-year-old children identified as why-questions. Longitudinal research confirms these patterns. Observations conducted by Hood, Bloom, and Brainerd (1979) of eight children between 2 and 3 years of age found that children began to ask explanatory-type questions as early as 30 months of age, with the frequency of these questions increasing as children got older. However, not all studies have reported an age-related increase. In cross-sectional research based on parents' diaries, Callanan and Oakes (1992) found no age differences in the number of explanatory questions asked by 3-, 4-, and 5-year-old children.

What is the content of young children's explanatory questions? These questions mostly concern the motives or intentions of people (self or others); however, some pertain to physical causality (Callanan & Oakes, 1992; Hood et al., 1979; Kelemen, Callanan, Casler, & Pérez-Granados, 2005). This pattern echoes Piaget's (1926/1923) claim that most of the young children's explanation-seeking questions are about psychological causality and Dunn's (1988) point that children's earliest questions tend to focus on the social world.

Research on the situational aspects of children's explanatory questioning indicates that this behavior varies by social context (Hart & Risley, 1992; Tizard & Hughes, 1984). A study conducted in the United Kingdom examined the rate and types of young children's (only girls were included in the study) explanatory questions at home and in nursery school in relation to family social class and parental responses to the questions (Tizard, Hughes, Carmichael, & Pinkerton, 1983). The aim was to determine whether children's curiosity, as represented in these questions,

may be disadvantaged in homes in which parents are less responsive, a pattern presumed to be more common in working- than middle-class families. The children in this study asked more explanatory questions at home than at school, averaging 26 questions an hour at home (range = 8-145); at school, the rate was much lower, with a range of 0 to 46 questions in double the amount of time of the home observations. Social class was a contributing factor in that girls from middle-class families had a proportionally higher rate of questions at home and at school than did girls from working-class families. There were very few explanatory questions in both social class groups; however, children from middle-class homes posed more of these types of questions than children from working-class homes. In terms of individual differences, the rate of why-questions was not related to child IQ, but it was related to quality of maternal response to these questions, and furthermore, middle-class mothers provided more responses described as extensive or adequate than working-class mothers did. Additional analysis revealed that the children from working-class families were as competent as the children from middle-class families in conceptual and logical thinking. Thus, what differed in the two social class groups was the frequency of certain types of talk, which the researchers described as a difference in language style (Tizard & Hughes, 1984).

This conclusion is similar to that reached by Heath (1983) in research investigating the early communicative experiences, including the types of questions, of children growing up in two communities of the southeastern United States. Young children in the African American working-class community tended to ask questions about events, objects, and people in the immediate setting that were new or that the children were not sure about. In contrast, children in the European American working-class community tended to ask questions during conversations with their parents that involved mutual questions and answers. For Heath, these conversations resembled, and thereby may serve as training for, the types of exchanges the children would experience later in school. This research suggests that some experiences at home may help prepare children for experiences outside the home, especially at school, and that these experiences may have a privileged role in certain social groups and even in certain parent-child conversations (Rogoff, 2003). In observations of the conversations of Mexican American parents and their young school-age children, parents welcomed and supported children's questions when they were about school matters (Delgado-Gaitan, 1994). However, when these same children asked questions about other matters, such as family routines, parents found the questions defiant and challenging of parental authority, and such questions were discouraged.

The purpose or function of children's explanatory questions has also received research attention. Children's explanatory questions may serve a number of socioemotional or interpersonal functions, including exchanging information, sharing emotions or attitudes, and initiating or maintaining social contact (Pretacznik-Gierowska & Ligeza, 1990). Observations of children's spontaneous why-questions during free play and other group activities suggest that these functions emerge gradually over the preschool years and reflect the development of pragmatic skills (James & Seebach, 1982). Whereas the explanatory questions of 3- and 4-year-old children in this study were mostly information seeking (e.g., "Why are we doing this?"), 5-year-olds also asked such questions for conversational and directive purposes (e.g., when passing a book to the teacher a child asked, "Why don't we read this one?").

By and large, the cognitive function of explanatory questions has garnered the most research attention. Piaget (1926/1923) viewed these questions as children's efforts to understand causality and to resolve problems of incommensurate information, or disequilibrium, between what is currently known and how the world or objects in the world appear to operate. In a similar light, contemporary research views these questions as reflections of children's curiosity about the world and their efforts to get assistance as they develop concepts in various domains (e.g., biology, psychology, social conventions and rules; see Carey, 1985). In this way, explanatory questions provide adults with information about how to support children's learning (Bruner, 1975,

1981). But do children's explanatory questions actually stimulate conversations that lead to advances in causal understanding? The evidence in support of this claim is equivocal. Callanan and Oakes (1992) report that parents responded to children's why-questions with explanations that often provoked further queries from the children, and as children got older, parents provided more complex explanations. However, in other research, the causal explanations that parents provided for children were incomplete and, in some cases, incorrect (Callanan & Jipson, 2001). The researchers suggest that perhaps the answers parents provide to children's why-questions are less important than the underlying message about the value of exploring and understanding causal processes.

Several studies have examined children's explanatory questions using the child language data exchange system (CHILDES; MacWhinney & Snow, 1985, 1990), a computerized database that includes transcripts of children's natural speech collected by different language researchers over the last 50 years. Hickling and Wellman (2001) studied the transcripts of four children recorded between 2.5 and 5 years of age for evidence of children's concern with the cause of everyday events in their questions. This data set included more than 120,000 utterances for the four children over this roughly 3-year period. Of these utterances, 4,807 contained explicit causal references, and 31% of these were questions. Causal references occurred at even the youngest ages in the sample. When children were 2 to 3 years of age, they offered or asked for causal explanations once in every 25 utterances. Overall, questions about persons (activities and states) were more common than questions about objects, and as in some prior research, the frequency of causal questions decreased after age 4. In a subsequent study, Frazier, Gelman, and Wellman (2009) examined the transcripts of six children in this database in an effort to determine children's intention in asking these questions—in particular, whether the question was used to get attention, engage in social interaction, or gather information. The researchers focused on how children reacted when an adult responded to a child's explanatory question. Results indicated that children's reactions varied by the type of information the adult provided; children were more satisfied when adults provided explanatory versus nonexplanatory information. This suggests that children were seeking information and not merely trying to get attention or sustain the conversation. This result was replicated in a follow-up experimental study in which preschoolers were engaged in a situation that provoked causal questions with adults responding to their questions with either a scripted explanatory or nonexplanatory response. Again, children were more satisfied with responses that included causal or explanatory information, and when explanatory information was not provided, children continued to request it.

In another study that used the CHILDES database, Chouinard (2007) concentrated on four English-speaking children beginning when they were 2 years of age. The children were observed only at home, and the majority of their questions were addressed to parents (usually mother). The total number of utterances available for analysis exceeded 100,000 (Snyder, 2007), and Chouinard was able to extract more than 17,000 information-seeking questions from the children's speech records. Among these sample children, information-seeking questions made up an average of 13.3% ($SD = 4.48$) of all utterances. From age 2 through approximately the fifth birthday, the children were, on average, asking more than a question per minute, with approximately one seventh (more than 13%) of their utterances (speech acts) being information-seeking questions. Beginning at about age 3, almost one quarter (23%-26%) of the children's information-seeking questions sought explanation rather than isolated factual information. Chouinard argued that a child's use of explanatory questions indicated that learning was taking place. She then carried out experimental work with U.S. children to justify and support this assertion. Chouinard used this set of results to support her claim that children's questions function as a tool or mechanism of cognitive development.

As this research review shows, various methods have been used to understand the developmental pattern and function of children's explanatory-type or why-questions. The methods include observations at home and at school, parent reports and diaries of children's questions (usually at home), analysis of extant data sets of child language, and even laboratory observations designed to promote children's questions. Each method has strengths and weaknesses, and the variety of methods employed attest to the difficulty in studying children's spontaneous questions under comparable conditions. The best way to approach this topic may ultimately be the use of multiple methods across different samples in a range of settings and conditions to identify whether—and what—common themes and patterns emerge (Lieven & Stoll, 2010). However, a major shortcoming in the research to date is the paucity of data from non-Western, more traditional community settings. As research conducted in Western samples has demonstrated, the social settings in which children learn and produce language are an important component of this developmental process (Hart & Risley, 1992; Tizard & Hughes, 1984). These findings suggest that cultural conventions of speech and social interaction may also regulate the manner and frequency with which children seek information and explanations from elders.

Thus, we endeavored to learn whether question-asking was a prominent aspect of children's speech in non-Western cultures. We also wanted to know whether a significant part of that question-asking consisted of explanatory questioning. Cross-cultural research is necessary for determining whether the patterns described in existing research are common across developmental contexts and for probing assumptions about the universality of these patterns. Our research is focused on two questions: (a) Do children in non-Western cultures ask information-seeking questions in proportions similar to those observed in U.S. samples? (b) Likewise, do children in non-Western cultures and U.S. samples ask similar proportions of explanatory questions? For comparison purposes, we use the data set reported by Chouinard (2007) as the Western sample. Although we recognize the limitations of choosing an extant data set for comparison purposes, the careful documentation of these data and research provided by Chouinard lent itself well to our comparative analysis.

Given that the social settings in which children learn language appear to influence the manner and frequency of children's questions, our data set also provided an opportunity to explore variation in the immediate social context in relation to children's explanatory questioning. Unlike the Western studies that have largely focused on parent-child communication, children in our samples were in social groups that only sometimes included a parent. We were thus able to look at the number and types of questions asked under social conditions that varied from parent-child interaction. However, even though the social context of our observations differed from that of most Western samples, especially those that relied on home observations such as the CHILDES data set, both types of studies examine ecologically valid contexts for the respective cultural groups. Young children in the United States spend much of their time at home with one or both parents and with few other children or adults present. In contrast, time allocation observations of the groups in the present study showed that in each of the four cultures, children were seldom alone with one or both of their parents (R. L. Munroe & Munroe, 1990a, 1990b, 1991; R. H. Munroe, Munroe, Shwayder, & Arias, 1997).

Method

Data Source

The data were collected by R. H. and R. L. Munroe in 1978-1979 in four communities, the Garifuna (Belize), Logoli (Kenya), Newars (Nepal), and Samoans (American Samoa; Gowdy, Munroe, & Munroe, 1989; R. H. Munroe, Shimmin, & Munroe, 1984). (These data were

collected around the same time that the CHILDES (MacWhinney & Snow, 1985, 1990) database used by Chouinard (2007), Frazier et al. (2009), and Hickling and Wellman (2001) was collected.) The four cultures differed geographically and linguistically and, at that time, they had no contact with each other. The descriptions below pertain to the communities at the time the data were collected. Estimates of time use, represented as proportions of daylight activities dedicated to subsistence work, were derived from systematic naturalistic observations of adults in the four communities (R. H. Munroe et al., 1997; R. L. Munroe & Munroe, 1990a, 1990b, 1991).

Garifuna in Belize. The Arawak-speaking Garifuna lived in a town in southern Belize. They are descendants of African slaves who settled in Central America in the 1800s following a period in the Caribbean. When the data were collected, the Garifuna had almost completely given up subsistence farming and fishing, food was bought in local stores, half the men (50%) had taken up wage-labor employment in town, and only 6% of the adults' daily activities entailed subsistence work. Primary and secondary school were available. In 1979, the per capita income of Belize was \$1001 per year.

Logoli in Western Kenya. In the late 1970s, the Logoli, who are members of a Bantu-speaking group, lived on dispersed patrilocal, patrilineal homesteads near Lake Victoria, farmed subsistence products like maize and beans, and kept cattle. When the data were collected, few men (3%) were employed in village wage labor, 19% of the adults' daily activities involved subsistence work, and children attended primary school only. The per capita income of Kenya at the time was \$380 per year.

Newars in Nepal. The Newars, Tibeto-Burman-speaking members of a farming caste in the Kathmandu Valley, lived in a compact village surrounded by terraced rice fields. All the households possessed and cultivated patrimonial land. At the time of data collection, few men (15%) participated in wage labor in the village, 26% of the adults' daily activities involved subsistence work, and only primary school was available. The per capita income in Nepal at the time was \$130 per year.

Samoans in American Samoa. The sample of American Samoans consisted of village-dwelling members of a Polynesian island culture. Although traditional growing of taro and raising of domesticated pigs continued, at the time of data collection, there was increasing involvement in U.S. development and employment programs. Most men (87%) participated in wage labor in the village, and 13% of the adults' daily activities entailed subsistence work. Children attended both primary and secondary school. The per capita income in American Samoa at the time was \$5,210 per year.

The Sample

The Four Communities. Despite an ongoing decline in subsistence activities in the samples, all four communities retained enough of their aboriginal customs that they could be validly labeled as representing "small-scale traditional" societies (R. H. Munroe et al., 1997; R. L. Munroe & Munroe, 1990a, 1990b, 1991). They could therefore be grouped as a unit and contrasted with a data set from Western children, this being the primary purpose of the current study. At the same time, their differences were great enough that they could be compared with each other. Both types of analysis were undertaken. Sociodemographic background information was also collected on sample children and their families, and these data were used to learn whether factors like socioeconomic status and degree of modernity affected question-asking.

Participants. After an initial village census, sample members were chosen on the basis of age. Parents of boys and girls in the age categories whose birth dates most nearly matched each other within the communities were invited to participate. Almost all the parents agreed to participate (only one Garifuna family declined). In each of the communities, 24 children—6 boys and 6 girls each of 3 and 5 years of age—were selected, giving a total sample of 96 children.

Procedure

Observations were carried out by trained observers in each site (R. H. Munroe, Munroe, et al., 1984). A total of 30 to 35 observations per child were collected on a schedule ensuring that data for all sample children were roughly equivalent with respect to time of day observed. This approach entailed locating a child in his or her natural setting, and was designed to achieve ecological validity in the observation and recording of social behavior. Although a given child might be observed more than one time in a single day, the full set of data for each child in every community was gathered over approximately a 6-week period.

For each protocol, an observer sought out the scheduled child, recorded background information including the setting and the personnel present, and then noted the first (and only the first) verbal or nonverbal (physical aggression or touching) social act performed by the child under observation. To be clear, each observed single act constituted the entire data point for that observation whether it was at the beginning, middle, or end of a series of behaviors in the social group. Our interest here was in the *verbal* social acts, not the physical ones. These verbal social acts, which shall be referred to herein as “utterances,” comprised 89% of the total, and constituted the complete data set of 2,705 data points. The average number of utterances per child was 28. The discrete, noncontinuous nature of these observations meant that we would be able to calculate the proportion of utterances that were question-asking, but not the rates at which such questions were asked (e.g., questions per minute).

For recording purposes, the observers—all of whom were fluent both in English and in the local language—translated the sample children’s utterances into English.

Coding

A coder scored all utterances as to whether or not they were information-seeking questions. Examples of such utterances were, “What is her name again?” (3-year-old female, Belize) and “Are you going to take your meal?” (5-year-old male, Nepal). Altogether, 269 of 2,705 utterances were coded as questions that sought information. A second coder scored 307 utterances (11% of the total) for reliability purposes. The coders were in agreement on 304, or 99%, of the items. The scores of the more experienced coder were accepted in the cases of disagreement.

Type of Question. Each information-seeking utterance was coded as to whether it was an explanatory question or a fact-seeking question, following the scoring method of Chouinard (2007): All questions that included any of the terms *why*, *how*, or *what about* were coded as explanatory questions, and all others were coded as fact-seeking questions. This operational definition provided an objective and easily coded criterion. Examples of explanatory questions were, “Why are you laughing, Talonga?” (3-year-old Samoan female, Samoa) and “Why did you keep the tail on this kite?” (5-year-old Newar male). Explanatory questions proved to be quite rare in the data set, making up only 12 of the 269 (4.5% of the total) information-seeking questions.

Question Content. The content of the children’s information-seeking questions was coded using the 14-item coding scheme outlined by Chouinard (2007; see Table 1). Preliminary analysis of our data revealed that some content represented in the children’s questions were not captured in

Table 1. Content Codes for Information-Seeking Questions With Definitions From Chouinard (2007) and Examples From the Four-Culture Data.

Code	Definition	Example
Label	Name of object, or to what a name applies	"Matuala, what are we eating?" (Samoa, 3-year-old)
Appearance	Visible property of an object	No instances
Property	Permanent property of an object	"Where is the edge of it?" (Samoa, 5-year-old)
Function	Function of an object	"Can I eat the fruit that dropped from the tree?" (Logoli, 5-year-old)
Part	Part of an object	No instances
Activity	Activity of an object, person, or animal	"Are you finished combing my hair?" (Garifuna, 3-year-old)
State	Temporary state of something	"Is it too hot?" (Newar, 5-year-old)
Count	Number of, existence of something	"How many seeds should I put in every hole?" (Logoli, 5-year-old)
Possession	Who something belongs to, or if someone has possession of something	"Is this mine?" (Garifuna, 5-year-old)
Location	Where something is or belongs	"Where is my brother?" (Newar, 3-year-old)
Hierarchy	How different category labels relate to one another	No instances
Generalization	A category as a whole	No instances
Theory of mind	Beliefs, desires, mental states, or personality of a person	"Do you want to play with me?" (Samoa, 3-year-old)
Identity	What makes something what it is	"Who give you that piece of yam you are eating?" (Garifuna, 3-year-old)
General information	News about someone or someplace	"Did you win your match?" (Logoli, 3-year-old)

these codes; therefore, we included one additional code that pertained to general information, defined as a request for news from elsewhere (e.g., "What news do you have?" [3-year-old Logoli female]). Some of the codes pertained to persons and animals: Activity, Possession, and Theory of Mind (ToM). Some codes applied to objects: Label, Appearance, Property, Function, Part, Hierarchy, and Generalization. Some codes could be applied to persons, animals, or objects: State, Count, Location, Identity, and General Information. Finally, we identified any questions that concerned a future-oriented behavior or plan (e.g., "Ma, which dress will I put on after I bathe?" [3-year-old Garifuna female]) and a past event or memory (e.g., "Tafeo, did you see the cat?" [5-year-old Samoan female]). These two codes were not mutually exclusive from the other content codes, that is, a question that was identified as one of the 15 content codes could also be coded as a future-oriented or memory question. Two independent coders coded the content of the information-seeking questions. Reliabilities based on coding 100% of the data yielded 77% agreement. All disagreements were resolved by discussion to yield a single content code for each information-seeking question.

Social Setting. The personnel present when children asked the question as well as the person to whom the child directed the question were also coded. The following categories of persons were identified: mother, father, adult female, adult male, older female (9-16 years), older male (9-16 years), younger female (3-8 years), younger male (3-8 years), infant female (0-2 years), and infant male (0-2 years).

The Western Comparison Sample

Chouinard's (2007) sample consisted of four English-speaking children whose transcripts were part of the CHILDES database (MacWhinney & Snow, 1985). To achieve comparability with our own data set, we analyzed only those utterances collected when the children were between 3 and 5 years of age, a period during which their rates of information-seeking questions and why-type questions did not change. As noted, Chouinard extracted more than 17,000 information-seeking questions from the children's speech records. Thus, the U.S. database was intensive rather than extensive.

Comparison of the Two Data Sets

The structure of our data set was the opposite of Chouinard's, with many more children but far fewer data points per child. Nevertheless, similarity in scoring allowed us to perform statistical comparisons between our non-Western samples and Chouinard's U.S. children concerning both the frequency of information-seeking questions and the relative proportions of explanatory versus fact-seeking questions. The content of the questions in both samples was also compared. Information regarding the presence of social personnel in our observed settings additionally permitted us to explore an issue the U.S. data could not address, and that is whether the frequency and types of questions were influenced by culturally typical social settings in which peers were ordinarily present, rather than simply the parents.

Results

Comparison of Question-Asking Between U.S and Non-Western Children

In our sample of non-Western children, children asked 269 information-seeking questions, which made up an average of 10.0% ($SD = 6.57$) of all child utterances observed. Among Chouinard's sample of children living in the United States, information-seeking questions made up an average of 13.3% ($SD = 4.48$) of all utterances. The difference was not significant, $t(2.28, \text{unequal variance assumed}) = 1.22, ns$.

A massive difference appeared when the comparison shifted to how often explanatory questions were asked. In our non-Western samples, explanatory questions were rare, making up only 4.5% ($SD = 12.97, n = 12$,) of the 269 information-seeking questions. In contrast, Chouinard's four U.S. sample children (when they were between ages 3 and 5) asked explanatory questions, ranging from 23% to 26% ($M = 24.3\%, SD = 1.26$) of all their information-seeking questions. The percentages of explanatory questions in the two samples differed significantly, $t(57.23, \text{unequal variance assumed}) = 13.60, p < .001$, effect size $r = .73$. In our non-Western samples, 12 of the 96 children asked no questions, and of the remaining 84 children, 74 asked information-seeking questions but did not ask any explanatory questions. Of 10 children who asked an explanatory question, 9 asked only one such question and 1 child asked three.

Of the 14 content types, for the U.S. children the highest six (in rates of occurrence) made up three fourths of all their questions. For the non-Western samples, the same six types together accounted for 93% of the questions (see Table 2). We list the rates of each of these six question types for purposes of comparison (U.S. children rates, from Chouinard, 2007, are given first): Activity = 22%, 30%; Location = 12%, 31%; State = 11%, 7%; Label = 10%, 4%; ToM = 10%, 16%; Identity = 9%, 5%. Questions about state, label, and identity were more frequent among American children, and questions about activity, location, and ToM were more frequent among the non-Western groups. A few other differences between the non-Western and Western samples are worth noting. In the Western sample, questions about label and location were frequent, though

Table 2. Number (and Percentage) of Each Type of Information-Seeking Question for the Non-Western Samples Together and Number of Question per Type by Culture.

Question type	Total (%)	Logoli	Garifuna	Newars	Samoa
Label	10 (4)	3	1	2	4
Appearance	0 (0)	0	0	0	0
Property	3 (1)	0	0	2	1
Function	2 (1)	1	0	0	1
Part	0 (0)	0	0	0	0
Activity	81 (30)	11	29	23	18
State	18 (7)	2	8	5	3
Count	3 (1)	1	0	1	1
Possession	10 (4)	1	1	4	4
Location	83 (31)	12	14	11	46
Hierarchy	0 (0)	0	0	0	0
Generalization	0 (0)	0	0	0	0
Theory of mind	44 (16)	3	10	20	11
Identity	13 (5)	4	4	3	2
General information	2 (1)	2	0	0	0

their number declined substantially over the preschool years. This pattern was especially evident for label questions, which led Chouinard (2007) to conclude that when children are young, they are more focused on learning basic facts, and as they get older their interests shift to category structures and causal relations. Despite the much lower rate of label questions among children in the non-Western samples, 8 of the 10 such questions were asked by 3-year-olds. There was no age-related pattern in location questions in the non-Western samples (3-year-olds, $n = 42$; 5-year-olds, $n = 41$). We shall take up consideration of differences in the content of the children's information-seeking questions in the "Discussion" section.

In terms of social setting, the American children's questions, asked in the home with only the mother present in the typical setting, were directed almost solely to those mothers. In the non-Western samples, the usual social scene was peer-group-dominated, and only 27% of the questions were directed to a parent (the mother, occasionally the father). Although about three fourths of the questions asked by these children were peer-directed, for three content categories, the rate was even higher. These were 17 of 18 (94%) questions about state, 39 of 44 (89%) questions about ToM, and 11 of 13 (85%) questions about identity. There were no content categories for which parents were asked an unusually high percentage of questions. When addressing parents, our sample children asked about activities ("Are we going by school today?") and location, although these questions occurred in large numbers to nonparents also. Of the 12 specific "why" questions, the queries were in only two instances directed to a parent.

There were 50 information-seeking questions in the non-Western samples that concerned future behaviors or plans, 18 of these questions were asked by 3-year-olds and 32 were asked by 5-year-olds. Children asked 4 questions that concerned a memory or past event, with only one of these questions from a 3-year-old (Samoa).

Comparison of Question-Asking Among Children in Four Non-Western Societies

To turn specifically to the non-Western samples, inspection reveals differences in information-seeking questions, but solely among the Logoli in comparison with other culture groups. On average, Samoan children asked 11.96 ($SD = 5.98$) questions, Newar children asked 11.41 ($SD = 6.65$)

questions, Garifuna children asked 8.89 ($SD = 7.10$) questions, and Logoli children asked 6.94 ($SD = 5.15$) questions. When these groups are compared, Samoan and Newar children asked significantly more information-seeking questions than the Logoli children, $t(46) = 3.24$, $p < .01$, effect size $r = .42$; $t(46) = 2.61$, $p < .01$, effect size $r = .36$, respectively. No other group comparisons displayed significant differences, t -values ranged from 0.59 to 1.74, *ns*.

The very small number of explanatory questions, totaling but 12, does not easily lend itself to quantitative analysis, but we can point out that the Logoli children asked none of these. Of the other culture groups, Newar children asked 7, Samoans 3, and Garifuna 2. One Newar child, a 3-year-old male, asked 3 explanatory questions, whereas no other participant in the four non-Western samples asked more than 1. We will consider this anomaly in the discussion.

Socioeconomic status and the age of the child (3 vs. 5 years of age) were unrelated to number of questions asked, both within and across all culture groups. The same was true of sex except in one instance: Whereas Garifuna male children asked the majority of questions (67%), Logoli boys asked fewer questions (40%) than girls, $\chi^2(1) = 7.53$, $p < .01$, effect size $\phi = .56$.

As to content, there was some variation across the four groups (see Table 2). Content questions related to location proved highest in Samoa (50% of all questions) and among the Logoli (30% of questions), and questions related to activities were highest among Garifuna (43%) and Newar children (32%). ToM questions were usually modest in percentage (between 8% and 15% of a group's total information-seeking questions) except among the Newars, where these questions ran to 28%.

There was no difference across the groups in information-seeking questions that concerned future behaviors or plans (Logoli = 6, Garifuna = 14, Newar = 14, Samoa = 14). Of the four memory questions, Samoan children asked three such questions and one was asked by a Garifuna child.

Discussion

The ratio of better than five to one favoring U.S. children in explanation-seeking questions is, for theoretical reasons, provocative. These results indicate that, relative to children in Western settings, children in more traditional non-Western settings ask very few explanatory-type or why-questions. This difference suggests that cultural variation in this behavior may be large, a pattern that, in turn, raises questions about the role that explanatory questioning may play in children's cognitive development. We shall explore the ramifications of these differences below, but first, we briefly discuss the social context and content of children's questions. Our discussion will focus on social factors that may have contributed to children's production of why-questions in our non-Western samples, some of which are in the immediate context and some of which emanate from cultural practices and the experiences children have in these settings. We then discuss these issues more broadly and return to the role played by children's explanatory questioning in cognitive development. But first, it is important to point out that our more general finding of contextual influences on children's questioning is consistent with research conducted in Western settings that reports differences across social contexts in children's question-asking, including explanatory questions. Recall that in research by Tizard et al. (1983), children produced far more explanatory questions at home than at nursery school. And in other research, differences in Western settings have been found in relation to family social class and other community-level differences (see Harris, 2007; Heath, 1983; Maratsos, 2007).

U.S. and Non-Western Children

We begin with a depiction of the children's question-asking in relation to the social scenes of which they were a part. The U.S. children were observed only at home. In our non-Western

samples, much the same could be said except that the setting was often outdoors, in yard-like areas near the homes. Given that the great majority of the U.S. children's questions were necessarily addressed to parents (usually the mother), we can ask what happens to children's questioning when the social surrounds typically include many individuals besides the parents. Across our non-Western samples, the mean number of participants per setting (besides the observed child) was slightly over four persons. Inspection of the question-asking protocols revealed that if parents (one or both) were present, they constituted the social target for a child's questions in approximately one quarter of the cases.

Did the questions asked of parents differ from the questions asked of others? Chouinard (2007) reported that U.S. children often inquired about activity, location, and state (condition), with questions about activities the most common. These categories were also prominent among our samples, and we found no differences in whether these questions were asked of parents or nonparents. Children in our sample did appear to ask parents fewer explanatory questions than they asked of others. In fact, of the 12 explanatory questions, only 2 were directed toward parents. This rate is low compared with the Western data where children were mainly with parents, to whom children asked a large number of explanatory questions. Nevertheless, the small, albeit relative, rate of explanatory questions to parents in the non-Western samples is significant and needs to be accounted for. Perhaps children in non-Western traditional cultures ask parents fewer explanatory questions because such questions undermine established authority relations, a point we take up shortly.

Examination of the content of children's questions revealed similarities and differences in the Western and non-Western samples. For both groups, a large proportion of questions were about activity and location. However, Western children also often asked about state, label, and identity, and non-Western children frequently asked questions pertaining to ToM, that is, what someone wants, is thinking, or believes. Although ToM questions occurred at a similar rate in the Western and non-Western samples, in our data, these questions are asked largely of other children not of parents, even though parents were often available. As research has shown, over the preschool years, children are beginning to appreciate different points of view, and they show increased interest in what others think (Doherty, 2009). However, children need to pursue these interests within the social relations and practices of their culture. In non-Western settings, ToM questions may be seen as intrusive and perhaps even confrontational, and therefore disruptive of established respect and authority relations between adults, especially parents, and children.

Non-Western Children

The most notable of the cultural differences across our samples was the low percentage of questions asked by the Logoli children of Kenya. R. A. LeVine (1973) has persuasively argued that a primary sociobehavioral pattern in sub-Saharan Africa involves social distance between persons differing in age and sex. This includes an emphasis on the authority of elders and the compliance, obedience, and responsibility of those younger (Doob, 1965). Asking of questions by children would implicitly violate these norms of conformity, and asking "why?"—which the Logoli children did not do at all—would do so even more. The rarity of why-questions, as noted above, was true for all our samples, but strikingly absent in the Kenyan sample.

The Logoli were also the least industrialized or modernized of all our samples, and put children to work (chores, infant care, subsistence activities) at a higher level than in the other sample societies, even at the young ages of 3 and 5 (Gauvain & Munroe, 2009; R. H. Munroe, Shimmin, et al., 1984). In such a situation, children could see for themselves their meaningful part in the socioeconomic fabric and would less often have needed to ask questions about processes and conditions of which they were a consequential part. In the other three societies, new devices and

techniques—and ever-widening knowledge—would seem to have made the asking of questions a highly adaptive way of coming to terms with rapidly advancing sociocultural change.

The why-questions, aside from their absence among the Logoli, were more or less evenly distributed among the other culture groups, excepting the one Newar 3-year-old who asked three such questions. This child happened to be the only one in the entire 96 four-culture sample children who was the offspring of a storekeeper in the village. This boy's mother was absent from the village, and his father owned a small shop. This child was in the shop all the time, and his questions were not directed toward his father but to others in the vicinity. Perhaps the child's unique experience in the shop, a setting in which questions are often asked as customers seek out goods to buy, influenced the boy's pattern of social interaction. It was also the case that the overall percentage of information-seeking questions (not simply why-questions) asked by this child was the sixth highest of all children among the 96 in the full sample.

Explanatory Questions

We turn now to the issue of the rarity of explanatory questions in our four-culture sample. Of the 12 specific why-questions, the queries were in only two instances directed to a parent, and in one of the other protocols, a parent was present and part of the social scene. Thus, we know that in the few cases where explanatory questions were asked, parental influence was quantitatively not a relevant factor. But even if it were, our fundamental problem would remain, and that lies in trying to understand a phenomenon's near-absence. In looking for a clue, let us consider what was occurring in the situations of the U.S. children, where why-type questions were so common. We want to give an example from the United States, because this can happen only if such questions are being asked in the first place. It is almost startling to read, in the CHILDES transcripts, the never-let-up why-questions that were being asked by this child. The situation was the child's looking at pictures in a book.

Mother (Mo): "he's a little boy who's painting." Child (Ch): "why he painting?" Mo: "because he likes to paint." Ch: "why he like to paint?" Mo: "because it's fun." Ch: "why it's fun?" Mo: "because it's something he like[s] to do." Ch: "why he like to do it?" (MacWhinney & Snow, 1985)

Two commentaries on Chouinard's monograph suggested, on somewhat varying grounds, that the question-asking style of her sample children is not normative and "natural" but instead representative of only upper- and middle-class behavior in the First World (Harris, 2007; Maratsos, 2007). These critiques suggest that a wider database might show different patterns of question-asking than what Chouinard found. Harris (2007), commenting on differences between middle-class and working-class mothers, notes the "tenacious questioning" (p. 117) that typifies the questions of middle-class children (cf. Hart & Risley, 1992; Tizard & Hughes, 1984), and Maratsos (2007) points out that "in many groups and cultures, 'children should be seen and not heard' is more than a wistful slogan . . ." (p. 124; cf. S. LeVine & LeVine, 1981; Ochs & Schieffelin, 1995). The children in our four cultures do ask many questions, and at a frequency rather similar to that displayed by the U.S. children. But the emphasis in traditional societies, as Maratsos (2007) says, is often on respect and obedience, and the claims of Harris and Maratsos ring true so far as explanatory questions are concerned. In our four cultures, the children mostly asked spontaneous, one-off questions designed to get immediate, relevant information; asking "why" would more than likely be regarded as insolent. During interviews, a large majority of mothers in these four societies stated that children should be obedient, responsible, and respectful, as well as being engaged in household chores and subsistence work. That these children should do what they were told—indeed, should do so without being told—seemed an expectation in these traditional culture groups. Among the Gusii, a Bantu-speaking group closely related

linguistically to the Logoli of our sample, R. A. LeVine et al. (1994) report that in speech directed by mothers to children, “The imperative mode dominates at all ages. . . . Questions—the staple of infant-directed speech in Western middle-class samples—are rare” (p. 221). And, even so, “When questions are asked they are often rhetorical ones intended to scold the child” (p. 270).

We can hypothesize, then, that among many traditional societies, including those in our sample, it would be inappropriate for children to ask why-questions for two reasons: First, given the social distance between children and adult figures, asking “why” would be regarded as a challenge to adult authority, and second, children can see for themselves their meaningful part in relatively stable socioeconomic fabrics, and they consequently do not often need to ask for explanations. As Fortes (1938/1970) observed in his rural African group, “Nothing in the universe of adult behaviour is hidden from [Tallensi] children or barred to them” (p. 18), and, as he later reported in the same monograph, “I was surprised to note how rarely ‘why’ questions occurred” (p. 40). However, in Western middle-class society, the demands of modern life—new devices and techniques, ever-widening knowledge—would seem to make the asking of explanatory questions a highly adaptive way of coming to terms with its complexity (Gauvain & Munroe, 2012).

In terms of cognition more generally, we stress that in their information-seeking questions, the children in our cultures did ask questions that displayed memory for events, concern with future-oriented activities, and taking the point of view of others. In other words, their questions give evidence of complex thought, and we do not assume a gulf in cognitive activity between them and “Western” children (Gauvain & Munroe, 2009).

Conclusion

Claims about the universality of children’s question-asking makes appropriate a restatement of Whiting’s (1954) early declaration of the twofold advantages of cross-cultural research: “First, it ensures that one’s findings relate to human behavior in general rather than being bound to a single culture, and second, it increases the range of variation of many of the variables” (p. 524). We can frame our main results and their implications in Whiting’s terms. The general level of information-seeking questions in our sample was close to that of the U.S. children, and we can conclude that the “Western” regularity holds at least for the children in our four traditional societies.

But the extremely low level of why-questions, which were asked by few of our sample children, indicates that, here, the cultural variation is great. As we have argued, there are adaptational prerequisites in post-industrial societies that would tilt children toward asking explanatory questions. And we have seen, in Chouinard’s (2007) analysis of the CHILDES data, that children do ask such questions on a highly regular basis. It is perhaps in the post-industrial world, in fact, that “the range of variation” falls outside statistically observable cross-cultural norms. As R. A. LeVine (2010) has recently phrased it, “[O]ne result of early enculturation is observable ‘precocity,’ that is, the emergence of culturally preferred behavior patterns at an age that would be considered extremely early in other cultural contexts” (p. 459).

On the other side, we have tentatively identified a pair of factors that in many traditional societies would seem to work against asking why-questions. The first is simply that in traditional societies, adaptation requires a lower level of “demand” for these questions. Children can fit into and contribute meaningfully to family stability and well-being without constant explanation-seeking. The second factor involves the possibility of an association between authoritarian child rearing and its effects on development and, by extension, the employment of explanatory questioning. More than 40 years ago, R. A. LeVine (1970) posited that “passive obedience” (p. 560) among children in traditional societies might account for their scores on measures of intellectual functioning. However, relatively little has since been done with the idea (but see R. A. LeVine

et al., 1994). Our own results, in showing the extremely low level of why-questioning, may well illustrate the probable pressures exerted by high expectations of obedience, but the next step, demonstrating that such training does compromise cognitive development, remains to be carried out.

It is important to restate the limitations that have accompanied our comparison of the U.S. database and our own. The transcriptions with which Chouinard worked contained many thousands of utterances, from which she was able to extract well over 15,000 information-seeking questions. In our samples, the utterances totaled only about 2,500, and the information-seeking questions fewer than 300. A further difference was that the social partners of Chouinard's children were generally the parents, whereas in our samples the social scene usually involved several nonparental others. (This difference, however, yielded some insights about the social-interactive drawing power of parents with respect to question-asking.) The disadvantage of Chouinard's small set of four observed children was offset to some extent by the size of her database, and our own relatively small number of total utterances was balanced, in a sense, by a total sample approaching 100 children. Finally, even if we assume that the findings reflect something meaningful about the study's children and the questions they asked, the number of culture groups is very small and needs to be expanded as research continues on the problems raised herein. It is also important to remember that our culture groups were themselves representative of only certain traditional ways of life, mainly agriculturally based subsistence societies, and do not tell us about question-asking in, say, hunter-gatherer societies or even in the larger cities of the nations in which the sample children were living.

Young children actively explore the world, and they often use language to carry out their explorations. It is reasonable to assume that children's own questions are important to this process and that these questions affect children's learning. But the role that children's questions play in cognitive development may well vary across cultures. The present results suggest that cultural practices, such as the authority relations between children and their parents, and other adults and the social groupings in which children find themselves, and other cultural experiences such as the likelihood of children encountering new or unfamiliar things in the environment, influence the nature and extent of children's questions. Thus, our findings extend the conclusions of other investigators (Hart & Risley, 1992; Tizard & Hughes, 1984) by suggesting that children's question-asking, and its role in cognitive development, varies according to the cultural and social context in which it plays out.

It is also important to stress that the children in these four cultures are not silent. They talk and ask about interesting things, many of which reflect the speech and cognitive capacities of their respective ages in Western and more industrialized communities. What is different is that the children's speech in similar social circumstances to children included in Western-based studies appears to lack the type of questioning that dominates the speech of children in Western communities, specifically explanation-type questions. Thus, we challenge the assumption that explanation-type questions are universal, at least in the sense of the proportion of these types of questions relative to other speech acts. This observation demands, therefore, that we revise the assumption that children's explanation-seeking questions function as universal mechanisms of cognitive development.

Given lack of evidence about the universality of explanation-seeking questions, this assumption is troubling from a cross-cultural perspective. That is, if explanation-seeking questions are viewed as an important mechanism of cognitive development, where does this conclusion leave children who live in cultures where language socialization does not emphasize or encourage such forms of speech? Certainly, in this light, it is problematic to argue that such questions are essential mechanisms of cognitive development. Therefore, we contend that explanation-type questions can function as mechanisms of cognitive development but that they are not the sole or even

a primary mechanism. Moreover, the role these questions assume as mechanisms of cognitive development is contingent on their context of expression.

The results reported here suggest a need for more research in this area, research that not only examines the rate of children's explanatory questions across different contexts and cultures but also probes directly the role that children's questioning of all sorts may play in cognitive development and other areas of psychological growth. Better understanding of the social and cultural conditions that promote these questions is also needed, along with study of whether and how children's questioning changes as cultures change. One of the important features of industrialized, technological societies is an ever-expanding availability of new material forms to support human activity. One consequence of such changes, which are closely tied to the process of globalization, may be alterations in the manner and pace with which children ask questions of others. Certainly, research would predict that greater availability of formal schooling, a process that often accompanies globalization, would lead to such changes as parents and others in the community try to prepare and support children with the demands and expectations associated with school (Greenfield, 1998; Rogoff, 2003). We expect that in a changing society in which more resources are made available to support everyday life, children's experiences will change considerably, including the ways in which they talk with others and the type of information they feel compelled to seek out (Gauvain & Munroe, 2012). Thus, not only does the nature of children's interactions with others change as cultures change, but the nature of the behaviors that children themselves produce to learn, and that may serve as mechanisms of cognitive development, also change.

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