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Elaboration and Autonomy Support in Low-Income Mothers' Reminiscing: Links to Children's Autobiographical Narratives

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Maternal elaboration and autonomy support during reminiscing facilitate middle-class children's autobiographical narrative skills. In this study, low-income Hispanic, White, and Black mothers' elaboration and autonomy support in reminiscing were examined in relation to children's joint and independent autobiographical narratives and engagement. Sixty preschool children discussed three past events with their mothers and one past event with a researcher. Maternal elaboration was related to children's joint and independent autobiographical narratives, and autonomy support was related to children's joint and independent engagement. Hispanic mothers used a less elaborative style during conversations about misbehavior, and Hispanic children tended to have less advanced independent autobiographical narratives. Maternal elaboration and autonomy support appear to play different roles in children's autobiographical narratives. Further, reminiscing may serve different purposes in different racial/ethnic groups.

The way that mothers talk about the past is associated with their young children's autobiographical memory development (Fivush, Reese, & Haden, 2006; Wareham & Salmon, 2006). Mothers who use a highly elaborative reminiscing style ask many open-ended questions containing rich event information and confirm their children's responses. These mothers have children who, over time, themselves contribute more memory information in the same conversation and across conversational partners (Cleveland & Reese, 2005; Fivush et al., 2006; Leichtman et al., 2000). In contrast, mothers who use a low-elaborative reminiscing style ask a preponderance of closed-ended questions containing less information and are less confirming of their children's responses. When children of these mothers do provide a memory response, their mothers are less likely to elaborate on the child's memory, compared to the mothers who use a highly elaborative style (Reese, Haden, & Fivush, 1993).

Early work in this area established concurrent and longitudinal links between maternal reminiscing and children's autobiographical memory and narrative development (e.g., Fivush & Fromhoff, 1988; McCabe & Peterson, 1991; Reese et al., 1993), but left unmeasured many factors that could be responsible for the relation between maternal elaboration and children's autobiographical memory and narratives (i.e., characteristics of mothers and children such as socioeconomic status, language skills, temperament, self awareness, attachment status). Longitudinal work has revealed the unique role of maternal reminiscing in children's autobiographical memory and narratives, even when factors such as children's language, self awareness, and attachment status are controlled (Harley & Reese, 1999; Reese, 2002a,b). Moreover, experimental work in which mothers are trained to reminisce more elaboratively confirms the causal role that elaborative reminiscing plays in children's autobiographical memory and narrative development (Peterson, Jesso, & McCabe, 1999; Reese & Newcombe, 2007). Similar results have been found when researchers are the child's conversational partner (McGuigan & Salmon, 2004).

One of several remaining gaps in this literature is that the focus has been almost exclusively on European American and Asian middle-class families (e.g., Wang, 2006). Past research shows that race, class, and culture are important factors influencing mother-child interactions (e.g., Heath, 1982, Miller, Cho, & Bracey, 2005). Hence, it is possible that the positive effect of maternal elaborative reminiscing style on children's autobiographical narratives is specific to middle-class families. At present, our ability to extend and generalize the findings of this literature to other nonmiddle-class populations is limited.

There are reasons to expect differences but also similarities in maternal reminiscing style across race/ethnicity and class. Wang (2001, 2006) found that

Chinese and Chinese American middle-class mothers displayed aspects of elaborate reminiscing with their preschoolers, but on the whole did not use as highly elaborative a style as did European American middle-class mothers. Mullen and Yi (1995) measured the frequency of naturally occurring, reminiscing conversations between middle-class Korean and European American mothers and their preschoolers. European American mothers and their children talked about past events nearly three times as often as Korean mother-child dyads. Hayne and MacDonald (2003) demonstrated that middle-class European New Zealand mothers used a more elaborative style during conversations about everyday shared past events with their children than did middle-class Māori mothers. However, Reese, Hayne, and MacDonald (2008) clarified that when talking with their children about more significant life events, such as the child's birth, Māori mothers used a relatively more elaborative style than did European New Zealand mothers. Even fewer studies have focused on low-income families. Melzi (2000) compared the autobiographical narrative styles of working-class European American and Latino families. European American mothers tended to be more collaborative during reminiscing compared to Latino mothers, who were more likely to let children take the narrator role in conversations about everyday past events.

Because the ability to tell coherent and complete narratives about personally experienced past events is linked to children's later literacy and school achievement (Fivush et al., 2006; Griffin, Hemphill, Camp, & Wolf, 2004; O'Neill, Pearce, & Pick, 2004; Tabors, Snow, & Dickinson, 2001), not just to their autobiographical memory development, it is critical that we expand this research base to include mothers and children from other races/ethnicities and classes. In the present study, we explored the development of reminiscing among low-income Hispanic or Latino, nonHispanic White, and nonHispanic Black or African American mothers and their preschool children. Hereafter, we will refer to these groups as Hispanic, White, and Black in accordance with National Institute of Health's (NIH) racial/ethnicity reporting guidelines (<http://grants.nih.gov/grants/guide/notice-files/NOT-OD-01-053.html>). We examined two elements of maternal reminiscing style that appear to matter for children's autobiographical narratives. We use the term "autobiographical narratives" because in this investigation of low-income children's language and literacy we were primarily interested in the form of reminiscing, not in the accuracy of children's memories. First, we investigated the structure of mothers' reminiscing as measured by the number and type of questions containing old (repetitions) or new information (elaborations), and the number of evaluations of the children's responses (confirmations). Second, we studied the way that mothers deliver this structure, in an autonomy supportive or a controlling manner. Mothers' autonomy support is measured through their willingness to maintain the

child's perspective in the conversation, as opposed to negating the child's perspective or moving the conversation in a new direction (Grolnick, Frodi, & Bridges, 1984). McCabe and Peterson (1991) tapped this aspect of reminiscing with their topic-extending versus topic-switching styles, and Fivush (2001) noted the importance of giving voice to children's perspectives about an experience as opposed to silencing them. Conceptually, autonomy support comes from Self-Determination Theory (Deci & Ryan, 1987) and is linked to a larger literature on the positive effects of autonomy support for children's engagement in learning (i.e., their intrinsic interest in learning for its own sake) and the negative effects of adults' controlling behaviors on children's learning and motivation. Children who are invited to learn material for its own sake, as opposed to learning in order to do well on a test, reveal deeper and longer-lasting mastery of the material (Grolnick & Ryan, 1987) and higher levels of engagement (Assor, Kaplan, & Roth, 2002).

It is important to study both structure and autonomy support in reminiscing because these two aspects have been independently and consistently linked to children's memory and narrative skills in middle-class samples using both correlational and experimental studies. However, little is known about whether the role of structure and autonomy support in maternal reminiscing varies as a function of race/ethnicity and class. Cleveland and Reese (2005) found that European New Zealand middle- and working-class mothers who used a highly elaborative style in an autonomy supportive, rather than controlling, fashion had young children with the highest levels of recall, thus demonstrating a link between maternal autonomy support during reminiscing and children's memory. This finding was restricted to conversations about shared past events, however, and to 3-year-olds', but not 5-year-olds' recall during the same conversation. Cleveland, Reese, and Grolnick (2007) used two experimental conditions to orient White middle-class mothers toward either autonomy support or control when reminiscing about a zoo event with their preschoolers. The authors found no differences in children's independent memory and engagement (i.e., their intrinsic interest in reminiscing for its own sake) with a researcher as a function of experimental condition. However, they did demonstrate that maternal elaboration was linked to children's independent memory and their narrative coherence, and maternal autonomy support was linked to children's engagement in reminiscing with a researcher.

In lab studies using a researcher as the child's reminiscing partner to talk about a staged zoo event, a reminiscing style that was autonomy supportive and elaborative was more effective than a controlling and elaborative style in enhancing European New Zealand middle-class children's memory for the goals of the event, both with their reminiscing partner and later with a different researcher in a memory interview (Reese et al., 2007). A reminiscing style

that is both elaborative and autonomy supportive thus appears to be most effective for White middle-class children's autobiographical narratives, both in terms of completeness and coherence, perhaps because this style is the most successful at encouraging children's active participation in reminiscing.

Self-Determination Theory also discusses the structure that parents or teachers provide as an independent dimension contributing to children's learning. In reminiscing, parents provide the most effective structure for the child's narratives with their elaborations (Cleveland & Reese, 2005). One prediction from Self-Determination Theory is that adults' use of structure (i.e., elaborations) is expected to be most predictive of children's competence in a task (i.e., children's event narratives), whereas adults' autonomy support is expected to be more predictive of children's engagement in the task. The few studies addressing this differential prediction have yielded mixed evidence. Only in Cleveland et al.'s (2007) study was there a distinct pattern of prediction, with maternal elaborative structure during reminiscing predicting children's recall and narrative competence and maternal autonomy support predicting children's engagement in reminiscing. In other studies, autonomy support was sometimes correlated with the completeness of children's autobiographical narratives (Cleveland & Reese, 2005) and elaborations enhanced children's engagement, as measured by their positive feelings about the original event (Reese et al., 2007).

These discrepancies across studies may be due in part to methodological differences in the measurement of engagement. The preferred method of coding children's engagement in the self determination literature is from videotape, so that children's nonverbal behavior can inform coders' judgments. In this study, we improved upon prior measures of engagement by conducting the autonomy support and engagement coding with a coding team that was trained by the third author, who was one of the original developers of these schemes (e.g., Grolnick et al., 1984). Maternal elaboration and children's autobiographical narratives were coded by an independent team that was trained by the second author, who was involved in the development of the elaborative reminiscing coding scheme (e.g., Reese et al., 1993).

The primary goal of this study was to extend the autobiographical narrative socialization literature to include low-income families from a range of races/ethnicities. Hispanic ($n = 23$), White ($n = 20$) and Black ($n = 17$) mothers and their 4-year-old children participated in videotaped conversations about three types of past events: shared, unshared, and misbehavior. Children were also interviewed by a researcher about a child-nominated personal injury event. We chose a personal injury as the topic for our independent autobiographical narrative interview for several reasons. First, prior research has demonstrated that children from a range of socioeconomic backgrounds readily supplied narratives on this topic (Peterson &

McCabe, 1983). Second, research has shown that children provide more elaborate and coherent narratives when discussing a negative than positive event (Ackil, Van Abbema, & Bauer, 2003; Sales, Fivush, & Peterson, 2003). Third, we wished to extend the autobiographical narrative socialization literature beyond mother-nominated events by giving children the opportunity to talk about events that were interesting from their own perspective. Mother-child past event conversations were coded for maternal autonomy support and elaborations and for children's joint engagement and autobiographical narrative skills (i.e., ability to tell a detailed story about the personal past with some maternal support). Children's interviews with the researcher about a personal injury event were coded for independent narrative skill (i.e., ability to tell a detailed story with no maternal support) and for engagement.

In line with Self-Determination Theory, we expected to find a distinct pattern of associations in which maternal autonomy support was primarily linked to children's engagement and maternal elaboration was primarily linked to children's autobiographical narrative skills. As mentioned previously, past research has yielded mixed evidence for this distinct pattern of association. Establishing whether there is a distinct pattern of relations is important to determine the unique role of maternal elaboration and autonomy support in children's developing autobiographical narrative skills. We expected these overall patterns of associations to be similar across race/ethnicities. In line with prior research, we expected to find that these specific links during mother-child conversations extended to children's engagement and narrative during independent reminiscing (Cleveland et al., 2007; Haden, Haine, & Fivush, 1997; Leichtman et al., 2000). Moreover, we expected patterns of association between maternal joint reminiscing and children's independent reminiscing skills to emerge in very specific conversational contexts. Maternal elaboration during shared conversations may be particularly important for children's independent narrative skills (see Fivush et al., 2006). Because mother and child share knowledge of the event, it is easier for the mother to provide conversational structure. In contrast, maternal autonomy support during conversations about unshared events may be particularly important for children's engagement in independent reminiscing. Because mother and child do not share the same knowledge about this event, it is even more important for the mother to support the child's individual point of view.

Although we expected similar associations across races and ethnicities between mothers' reminiscing style and children's autobiographical narratives, we expected possible differences as a function of race/ethnicity in mother-child reminiscing across conversational contexts. Specifically, we expected any racial/ethnic differences to be more pronounced in conversations

about children's behavior (in this case, children's misbehavior). Past research has revealed that Hispanic mothers view *educación* (teaching one to be a responsible, moral and socially skilled person) and *respeto* (respect for others and self in several social groups/settings) as two main parental goals (Halgunseth, Ipsa, & Rudy, 2006). Hispanic mothers have more rules, and are observed to engage in more unilateral decision-making than mothers from other cultural backgrounds (Calzada & Eyberg, 2002; Carlson & Harwood, 2003; Harwood, Miller, & Irizarry, 1995; Leyendecker, Lamb, Harwood, & Scholmerich, 2002). Thus, we predicted that Hispanic mothers might view the conversations about misbehavior as an opportunity to teach *educación* and *respeto* to their children. If so, they might use fewer open-ended, elaborative questions than White and Black mothers do when reminiscing about past behavior. Consistent with the literature on Hispanic children's narrative skills (McCabe, Bailey, & Melzi, 2008; McCabe & Bliss, 2003), we also expected to find that Hispanic preschoolers might show less developed autobiographical narrative skills than White and Black preschoolers, as reflected in less detailed conversations with a researcher about a past event. However, we wished to assess whether any differences in autobiographical narratives we found for the Hispanic children were due to differences in children's English language skills, because most Hispanics in the United States are bilingual to some degree (Sanchez, 1996).

We did not have any specific predictions about differences in reminiscing for the Black mothers and their children compared to the White mothers and their children. Ethnographic research indicates that personal storytelling is rich and valued in working-class Black communities, as it is in working-class European American communities (Burger & Miller, 1999; Heath, 1982; Miller et al., 2005; Sperry & Sperry, 1996), but existing research has not explicitly compared the form of reminiscing between Black and White mothers and their preschool children.

METHOD

Participants

This sample came from the Preschool Language Project, a study of over 60 low-income children from diverse racial/ethnic backgrounds attending Head Start (a U.S. federal program for preschool children from low-income families). The larger study includes a baseline, intervention, and two post-test phases.

In this study we report only the mother-child reminiscing and child autobiographical narrative data from the baseline phase with the three most

TABLE 1
Maternal Education, Children's Age and Language as a Function of Racial/Ethnic Group

	<i>Hispanic</i> (<i>n</i> = 23)	<i>White</i> (<i>n</i> = 20)	<i>Black</i> (<i>n</i> = 17)	<i>F</i> (2, 57)
Maternal education (years)	11.9 (1.9)	13.3 (2.0)	12.6 (2.9)	2.0
Children's age (years)	4.3 (.33)	4.2 (.34)	4.3 (.37)	.43
Children's language				
PPVT-III A	92.9 (14.8)	97.2 (13.8)	91.9 (17.8)	.31
EVT	89.2 (9.9)	93.9 (8.7)	94.4 (13.2)	1.50

highly represented racial/ethnic groups: Hispanic ($n = 23$), nonHispanic White ($n = 20$), and nonHispanic Black mothers ($n = 17$) and their children, who ranged in age from 3 years, 10 months to 5 years, 2 months ($M = 4$ years, 3 months; $SD = .34$). Table 1 reports the demographic characteristics of the families. Racial/ethnic membership was based on mothers' identification of both themselves and their children as part of that group. Primary caregivers (59 mothers and one grandmother; from now on we will refer to these as mothers) were recruited from seven Head Start centers located in central Massachusetts. Participants were enrolled for the study only if they were comfortable talking and reading to their children in English. The percentage of bilingual children in each racial/ethnic group was as follows: Hispanic (69.6%), White (30%), and Black (47.1%). Children were classified as bilingual if parents reported more than one language spoken at home. The languages reported were Spanish, Albanian, Portuguese, French, Arabic, and three African languages: Twi, Shona, and Fante. The average number of years Hispanic, White, and Black mothers reported being enrolled in school was 12.6. There were 31 boys and 29 girls (48% girls in the Hispanic group, 40% girls in the White group, and 44% girls in the Black group); 53.7% of the mothers reported living with child's father, 37% lived without other adults, and 9.3% lived with other adults. Participants chose whether they preferred to have a home visit or come to a university lab; 57 were visited at their home and three came to the lab (two Hispanic and one Black dyad). The session was conducted by two female research assistants out of a pool of 10 (six White, two Hispanic, one Black, and one Indian). Adherence to study protocol across research assistants was ensured through extensive training by the second author prior to testing, through observation by the second author during the initial stage of data collection, and through training checks from video and audiotape during testing by the second and third authors. Children received a small gift at the end of the home visit and mothers received \$20 for their participation in the baseline phase.

Procedure and Measures

The primary research assistant first asked the mother to fill out the demographic questionnaire and then conducted an interview about the family narrative environment, while the second assistant conducted an independent reminiscing interview with the child in another room. Thus, mothers were not present during the children's independent reminiscing interview. A vocabulary assessment to control for children's language development in English was also conducted. Most of the vocabulary assessments were administered at Head Start within one to two months of the home visits, but 18 children completed the vocabulary assessment at home prior to the independent reminiscing assessment. The mother-child past event conversations occurred last in the session.

Demographic Information

Mothers were asked to fill out a questionnaire with information about their own and the child's race/ethnicity, language background, their highest level of education, and the people living in the household. This questionnaire used the U.S. Census categories for race and Hispanic origin.

Parent interview about narrative practices. Mothers were asked whether or not talking about past events with their children was part of their everyday family practices, and if so, to estimate the frequency with which they engaged in this kind of narrative with their children. All of the mothers reported that past event conversations were part of their family practices, and 75% of White mothers, 50% of Hispanic mothers, and 57% of Black mothers reported often or very often talking about special past events with their children during a typical week (Leyva, Reese, & Sparks, 2006). Similar percentages of mothers from each racial/ethnic group also reported talking "often" or "very often" about their children's misbehavior (25% of the Hispanic mothers, 33.3% of the White mothers, and 50% of the Black mothers). These proportions were not significantly different as a function of culture (z tests for difference in independent proportions, $ps > .10$).

Mother-child past event conversation. At the end of the parent interview, primary researchers helped mothers select three past events to discuss with their children: one shared event (something that both mother and child did together, e.g., going to the beach last summer), one unshared event (something that the child did but the mother was not present, e.g., a school field trip to the grocery store), and a past misbehavior (e.g., the child threw a tantrum at a toy store). Mothers were also asked to select and talk with

their children about a past good behavior, but these data were not included in the analyses presented here. Mothers were strongly encouraged to talk about one-time special past-events (e.g., a field trip at school) rather than routine events (e.g., going to the park). The conversations were video- and audio-taped. The researchers were not present in the room during the conversations in order to allow the mother and child to feel as comfortable as possible. The average number of maternal utterances in the mother-child conversations was 17.7 for the shared event, 14.5 for the unshared, and 13.1 for misbehavior.

Children's language. The Peabody Picture Vocabulary Test (PPVT-III Form A; Dunn & Dunn, 1997) and the Expressive Vocabulary Test (EVT; Williams, 1997) were used to assess children's language development in English. Standard scores were used in all analyses.

Child's independent reminiscing interview. The researcher invited the child to talk about a past injury. This child-nominated event was elicited using an adaptation of Peterson and McCabe's (1983) injury prompt. The researcher gave the child markers and a piece of paper, encouraged the child to draw, and praised the child's drawing. After several minutes of drawing, the researcher drew a bee on her paper and said: "I just drew a bee, because I was thinking about the time I got stung by a bee. It really hurt. Have you ever gotten stung by a bee?" If the child did not remember a time when she got stung by a bee, the researcher asked: "Have you ever gotten hurt on the playground?" Once the child was engaged in an autobiographical narrative, the researcher provided general positive feedback, encouragement, and confirmation (e.g., "Uh huh," "Really?") and prompted the child only once to keep the child going (e.g., "Tell me some more about that"). The narrative terminated when the child did not spontaneously provide any more information about the event. Children's narratives were audiotaped and transcribed verbatim. The child was then reunited with the mother for the past event conversation.

Coding

Maternal education. Mothers' highest level of education was equal to the number of years they reported attending school in the demographic information sheet.

Maternal elaborations. A 5-point scale adapted from Laible (2004) was used to assess parents' elaborative style when reminiscing with their children. This scale ranges from a low-elaborative style characterized by a

frequent use of yes/no questions, repetitions, very little introduction of new information and no wh-questions, to a high-elaborative style characterized by wh-questions, introduction of new information, no repetitions, and few yes/no questions. We used this global scale, rather than the more typical utterance-based coding scheme (e.g., Reese et al., 1993), because we found that the mothers' elaborative style as determined by the global scale was strongly correlated with the frequency of their elaborations using the utterance-based scheme. For this investigation with multiple conversational contexts, it was preferable to use a single score for elaboration in each context as opposed to the multiple elaboration variables that result from utterance-based coding. Two raters (one White and one Hispanic) independently coded 25% of the parent-child conversations from videotape. Reliability coefficients assessed with Shrout-Fleiss intraclass correlations were: .88 for shared, .86 for unshared, and .81 for misbehavior. The remaining videotapes were coded by one of the raters. Mothers were given three elaboration scores, one per past event.

Maternal autonomy support. A 5-point scale that Cleveland and Reese (2005) adapted from Grolnick et al. (1984) and Grolnick, Gurland, DeCourcey, and Jacob (2002) was used to assess mothers' autonomy support during mother-child past-event conversations from videotape. This scale ranged from 1 (low autonomy support, in which mothers' responses changed the child's ongoing activity), to 5 (autonomy supportive, in which mothers' responses maintained child's ongoing activity). Within each event, mothers' turns were individually coded for autonomy support using the 5-point scale. A mother's turn was considered completed either when the child responded verbally or nonverbally (e.g., head nod), or when the mother paused long enough for the child to respond (even if the child did not do so). Off-task behavior or inaudible utterances were not coded. A total of eight raters participated in the coding process and at least two raters independently coded each conversation (groups of raters ranged from two to five; seven raters were White and one Hispanic). Shrout-Fleiss intraclass correlation coefficients were: .82 for shared, .84 for unshared, and .86 for misbehavior. Mothers were given three autonomy support scores by averaging across turns to obtain a single score per event.

Children's autobiographical narratives. Children's utterances during the mother-child conversations were transcribed from video. Children's utterances from the independent reminiscing interview were transcribed from audiotape. The transcripts were then coded for information units using Haden's (1998) scheme. The child was given credit (one point) for every new piece of information about the past event discussed. If the child provided

two new pieces of information in a single utterance (e.g., I played and ran at the park), these were coded as two units. Two raters (one White and one Hispanic) independently coded 25% of the transcripts for reliability (Cohen's kappas were: .80 for shared, .79 for unshared, .81 for misbehavior, and .82 for independent narratives). The remaining transcripts were coded by one of the raters. Children received four autobiographical narrative scores, one for each mother-child conversation, and one for the independent reminiscing interview.

Children's engagement. Children were assigned four scores: one for engagement during each of the mother-child conversations and one for engagement during the independent reminiscing interview. A 5-point scale developed by the third author's lab was used ranging from 1 (unengaged, in which the child required multiple prompts to stay on task) to 5 (highly engaged, in which the child seemed eager to be involved in the task and provided information spontaneously). A total of eight raters participated in the coding process and at least two raters independently coded each conversation from videotapes (groups of raters ranged from two to five; seven raters were White and one Hispanic). The Shrout-Fleiss intra-class correlation coefficients for engagement were: .90 for shared, .91 for unshared, .91 for misbehavior, and .85 for engagement in independent reminiscing.

After obtaining independent reliability estimates for each scheme, any coding disagreements were resolved and the consensus scores were used in analyses.

RESULTS

Most mothers nominated positive shared events (96% Hispanic, 90% White, 98% Black) and positive unshared events (93% Hispanic, 90% White, 97% Black). These proportions are in line with past research with middle-class European-descent samples (e.g., Reese & Brown, 2000). Examples of positive events included going to see Thomas the Tank Engine[®] and going to a birthday party at Chuck-E-Cheese[®]. Examples of negative shared and unshared events included throwing a tantrum at mother's job and getting in a car accident with grandma. By definition, misbehavior events were negative.

All 60 mothers had at least some conversational data in order to be included in the sample, and 35 mothers and children completed all four conversations (65% of Hispanic dyads, 65% of White dyads, and 53% of Black dyads). The average percentages of missing data were as

follows: 18% for shared conversation, 13.3% for unshared conversation, 23.3% for misbehavior conversation, and 27.5% for the independent reminiscing interview. Missing data were the result of either technical problems with the audio/videotaping or participation issues (e.g., the mother failed to discuss one of the three past events; the mother talked about a past event that did not qualify as a specific one-time past event, such as going to a familiar park; the child was not engaged in the task long enough to be coded). There were no missing data for the PPVT or EVT. Because we did not substitute means for missing data, the number of participants in each analysis varies by conversational context.

We examined the data for normality. We found that all maternal and most child measures were normally distributed, except for children's narrative skills in unshared and misbehavior events, which were positively skewed. For these two measures we conducted logarithmic transformations for correlational analyses as suggested by Tabachnick and Fidell (2001).

Differences in Demographic Factors Among Groups

We first conducted one-way ANOVAs to determine whether children's age, language scores or maternal education differed among the groups (see Table 1). No significant differences in maternal education, children's age, or language scores were found as a function of racial/ethnic group (all $ps > .10$).

Differences in Maternal and Child Measures Among Groups

A series of one-way ANOVAs were conducted in order to determine whether there were racial/ethnic differences in the maternal and child measures (see Table 2 for unadjusted means). All significant main effects were followed up with post hoc Tukey Honestly Significant Differences (HSD) tests at $p < .05$.

Significant differences among dyads from the three groups were found for maternal elaborations during the misbehavior conversation and for children's narrative skills during misbehavior (see Table 2). Hispanic mothers scored lower in elaborations than White and Black mothers during misbehavior talk. Hispanic children scored significantly lower in narrative skills during misbehavior talk than Black children, but not White. Hispanic children also scored marginally lower in the independent narrative than White, but not Black children. To test whether this marginal difference was accounted for by bilingualism, an unpaired t-test was conducted comparing monolingual and bilingual Hispanic children on their independent narrative skills. No significant difference between these two groups was found ($t(15) = .04$,

TABLE 2
Mothers' and Children's Reminiscing as a Function of Racial/Ethnic Group

	<i>Hispanic</i> <i>M (SD) n</i>	<i>White</i> <i>M (SD) n</i>	<i>Black</i> <i>M (SD) n</i>	<i>F</i>	<i>pn</i> ²
<i>Maternal elaborations</i>					
Shared	3.3 (1.2) 19	3.3 (1.3) 18	2.8 (1.1) 14	.90 ^a	.04
Unshared	3.0 (1.3) 22	2.8 (1.1) 17	3.3 (1.3) 15	.55 ^b	.02
Misbehavior	2.1 (.88) 18	3.1 (1.1) 18	2.9 (.90) 13	5.5 ^{**c}	.19
<i>Maternal autonomy support</i>					
Shared	3.2 (.53) 19	3.1 (.67) 17	3.3 (.40) 13	.79 ^c	.03
Unshared	3.4 (.40) 21	3.3 (.53) 15	3.6 (.46) 14	1.1 ^d	.04
Misbehavior	3.1 (.71) 17	3.0 (.70) 17	3.1 (.50) 12	.23 ^e	.01
<i>Children's narrative with mothers</i>					
Shared	4.8 (2.7) 19	3.9 (3.2) 18	3.5 (3.7) 14	.71 ^a	.03
Unshared	4.3 (3.7) 22	4.6 (4.2) 17	5.3 (6.0) 15	.24 ^b	.01
Misbehavior	1.3 (1.4) 18	2.7 (2.0) 18	3.9 (4.2) 13	3.7 ^{*c}	.14
<i>Children's engagement with mothers</i>					
Shared	3.1 (1.1) 19	2.9 (1.3) 16	2.4 (1.0) 12	1.6 ^c	.07
Unshared	2.8 (1.1) 22	3.0 (1.2) 15	3.0 (1.2) 14	.14 ^d	.01
Misbehavior	2.6 (1.3) 18	2.6 (.94) 17	3.0 (1.4) 12	.34 ^e	.02
<i>Researcher-child conversations</i>					
Independent narrative	3.2 (2.4) 18	5.6 (3.9) 14	4.5 (2.9) 8	2.5 ^{+f}	.12
Independent engagement	2.9 (1.0) 19	2.9 (1.2) 17	3.2 (1.1) 11	.34 ^g	.02

* $p < .05$, + $p < .10$.

^a $F(2, 48)$, ^b $F(2, 51)$, ^c $F(2, 46)$, ^d $F(2, 47)$, ^e $F(2, 43)$, ^f $F(2, 37)$, ^g $F(2, 44)$.

n. s.). Hence, Hispanic children tended to have less sophisticated independent narrative skills than White children, regardless of whether they were monolingual or bilingual.

Relations Between Maternal Elaborations and Autonomy Support and Children's Narrative and Engagement With Mothers

A series of Pearson's two-tailed correlations was performed to examine whether demographic measures varied with the mother-child reminiscing measures. Children's age was negatively related only to maternal autonomy support during the unshared event ($r = -.29$, $p < .05$). Children's language (PPVT) was marginally related only to children's independent narrative skills ($r = .30$, $p < .10$). Mothers' education was related only to maternal elaborations in the misbehavior conversation ($r = .29$, $p < .05$). We controlled for child age, maternal education, and language in further correlational analyses involving the affected variable(s).

TABLE 3
Correlation Coefficients for Maternal Elaborations and Autonomy Support Across Contexts

	1	2	3	4	5	6
<i>Maternal elaborations</i>						
1. Shared		.45**	.32** ^a	-.06	.23 ^b	-.06
2. Unshared			.38*** ^a	-.21	-.07 ^b	.03
3. Misbehavior				-.10 ^a	-.22 ^c	-.02 ^a
<i>Maternal autonomy support</i>						
4. Shared					.25 ^b	.37**
5. Unshared						.20 ^b
6. Misbehavior						

* $p < .05$, ** $p < .01$.

^aPartialled out maternal education, ^bpartialled out child age, ^cpartialled out maternal education and child age.

One of the main goals of this study was to examine whether or not there were relationships between maternal elaborations and autonomy support and children’s narrative and engagement in low-income dyads. To examine the relationship between maternal autonomy support and elaborations and children’s narrative and engagement within the same conversational context (i.e., shared, unshared, misbehavior), we first calculated Pearson’s correlation coefficients separately for each racial/ethnic group. Overall, maternal elaboration and autonomy support and children’s narrative skills and engagement were consistent across conversational contexts in each group. Fisher z-tests revealed no significant differences in the patterns of correlations among maternal and children’s variables as a function of race/ethnicity. We thus elected to present these relationships across the entire sample.

Table 3 shows the correlation coefficients testing for consistency of maternal elaboration and autonomy support across contexts. Maternal elaborations were moderately consistent across conversations, whereas maternal autonomy support was only somewhat consistent across conversations. Maternal autonomy support was not related to maternal elaborations in any of the conversations.

Table 4 shows the correlation coefficients for children’s narrative and engagement in the mother-child conversations across contexts. Both children’s narrative skills and engagement were moderately consistent across contexts. Children’s narrative skills were moderately positively related to children’s engagement in every conversational context.

Table 5 shows correlations between mothers’ and children’s variables in the mother-child conversations. Maternal elaborations were positively

TABLE 4
Correlation Coefficients for Children's Narratives and Engagement With Mothers Across Contexts

	1	2	3	4	5	6
<i>Children's narratives with mothers</i>						
1. Shared		.28*	.30*	.39**	.17	.24
2. Unshared			.11	.18	.56**	.10
3. Misbehavior				.11	.10	.55**
<i>Children's engagement with mothers</i>						
4. Shared engagement					.48**	.62**
5. Unshared engagement						.29 ⁺
6. Misbehavior engagement						

* $p < .05$, ** $p < .01$, ⁺ $p < .10$.

related to children's narrative skills, but not engagement, within every conversational context. Maternal autonomy support was positively related to children's engagement in shared and in unshared, but not in misbehavior conversations. Maternal autonomy support in the unshared conversation was positively related to children's narrative skills with their mothers in the shared conversation and marginally related to children's narrative skills in the unshared conversational context.

TABLE 5
Correlation Coefficients for Maternal Elaborations and Autonomy Support and Children's Narratives and Engagement With Mothers

	<i>Maternal elaborations</i>			<i>Maternal autonomy support</i>		
	<i>Shared</i>	<i>Unshared</i>	<i>Misbehavior</i>	<i>Shared</i>	<i>Unshared</i>	<i>Misbehavior</i>
<i>Children's narratives with mothers</i>						
Shared	.51**	.30*	.10 ^a	.18	.31* ^b	.09
Unshared	.39**	.28*	.20 ^a	.02	.27* ^b	-.11
Misbehavior	.27 ⁺	.31*	.37* ^a	-.02	-.01 ^b	.21
<i>Children's engagement with mothers</i>						
Shared	.19	-.01	.12 ^a	.41**	.07 ^b	.12
Unshared	.16	.25 ⁺	.11 ^a	+.05	.36* ^b	.03
Misbehavior	.18	.25	.25 ^a	.18	.04 ^b	.17

* $p < .05$, ** $p < .01$, ⁺ $p < .10$.

^aPartialled out maternal education, ^bpartialled out child age.

TABLE 6
Correlation Coefficients Between Children's Independent Narratives and Engagement and Mother-Child Reminiscing

	<i>Children's independent narratives</i>	<i>Children's engagement independent</i>
<i>Maternal measures</i>		
Shared elaborations	.34* ^c	.34*
Unshared elaborations	.22 ^c	.32*
Misbehavior elaborations	.24 ^d	-.11 ^a
Shared autonomy support	-.34* ^c	.17
Unshared autonomy support	.01 ^e	.50** ^b
Misbehavior autonomy support	-.43* ^c	.12
<i>Children's measures</i>		
Shared narratives	.07 ^c	.31*
Unshared narratives	.10 ^c	.24
Misbehavior narratives	.04 ^c	.21
Shared engagement	-.08 ^c	-.06
Unshared engagement	.30 ^c	.42**
Misbehavior engagement	-.19 ^c	-.08

* $p < .05$, ** $p < .01$.

^aPartialled out maternal education, ^bpartialled out child age, ^cpartialled out PPVT, ^dpartialled out maternal education and PPVT, ^epartialled out child age and PPVT.

Relationship Between Maternal Reminiscing and Children's Independent Narrative and Engagement

We were especially interested in examining whether mothers' elaborations and autonomy support in joint reminiscing were related to children's independent narrative skills and engagement in reminiscing (see Table 6), because these correlations test generalization to children's independent reminiscing. Children's narrative skills and their engagement in independent reminiscing were correlated ($r = .53, p < .01$), yet we found distinct patterns of association between the maternal measures and the two independent reminiscing measures. Maternal elaborations during shared conversations were positively correlated with children's independent narrative skills. Maternal elaborations during shared and unshared conversations were also correlated with children's engagement in independent reminiscing. Maternal autonomy support was not positively related to children's independent narrative skills; in fact, autonomy support during the shared and misbehavior contexts was negatively related to children's independent narratives. Maternal autonomy support during the unshared event, however, was positively correlated with children's

engagement in independent reminiscing. Children's engagement in independent reminiscing was related to their engagement with mothers during the unshared conversation and to their narrative skills during shared conversation.

The Unique Role of Maternal Elaboration and Autonomy Support in Children's Independent Narrative and Engagement

The link between maternal elaborations during shared reminiscing and children's independent narrative might be explained by consistency in children's narrative across contexts; after all, children's narrative with their mothers in shared conversations was correlated both with their mothers' elaboration during this conversation and with their independent narrative. To test whether or not maternal elaboration during shared conversations uniquely predicted children's independent narrative skills, a series of partial, one-tailed Pearson's correlations was conducted, controlling separately for all variables that were associated to either mothers' shared elaborations or children's independent narrative: child language ($r = .39, p < .05$), children's narrative skills in shared ($r = .36, p < .05$), and unshared conversations ($r = .33, p < .05$). The correlation between maternal elaboration in shared conversations and children's independent narrative skills remained significant in all cases. Maternal elaboration in shared conversation was uniquely related to children's independent narrative skills.

Similarly, the link between maternal autonomy support and children's engagement in independent reminiscing could potentially be explained by children's consistency in engagement across the conversational contexts. Mothers who provided more autonomy support during unshared events had children who were more engaged in the same conversational context and were also more engaged in independent reminiscing. We conducted a series of partial Pearson's one-tailed correlational tests between maternal autonomy support in the unshared conversations and children's engagement in independent reminiscing, controlling separately for all other variables that were correlated with either variable: child age ($r = .50, p < .01$), children's narrative during shared ($r = .51, p < .01$) and unshared conversations ($r = .48, p < .01$), mothers' elaborations during shared ($r = .54, p < .01$) and unshared conversations ($r = .48, p < .01$), and children's engagement during the unshared conversation ($r = .37, p < .05$). The correlation between maternal autonomy support and children's engagement in independent reminiscing remained significant in all cases. Thus, maternal autonomy support during unshared conversations was uniquely linked to children's engagement in independent reminiscing.

DISCUSSION

The main aim of this study was to extend research on maternal reminiscing and young children's autobiographical narrative development to include lower income and nonEuropean families. Most of the research base on this link is with European middle-class families (Fivush et al., 2006 review). Although Chinese, Korean, and Māori families have also been studied, these nonEuropean samples have all been middle-class (Hayne & MacDonald, 2003; Mullen & Yi, 1995; Wang, 2001; but cf. Melzi, 2000).

Overall, our findings support the claim that maternal reminiscing style is linked to children's autobiographical narrative skills in nonEuropean and lower-income families in ways similar to European and Chinese middle-class families. Specifically, mothers' elaborations were positively correlated with children's narrative within the same conversations, and more importantly, mothers' elaborations during conversations about shared past events were linked to children's independent narrative skills. We know from other research that mothers who ask more open-ended questions containing new information may help children provide more detailed information about an event, and this elaborative style of reminiscing generalizes to children's independent reminiscing by the end of the preschool years (Haden et al., 1997; Leichtman et al., 2000; Reese & Newcombe, 2007). Taken together, our results support the idea that the positive effects of maternal elaborative reminiscing style on children's autobiographical narrative skills are not specific to middle-class families. We will further address this hypothesis in our analyses of the intervention phase of this longitudinal study in which a subset of the mothers in each racial/ethnicity group received training in elaborative and autonomy supportive reminiscing.

We have also extended prior research by including independent assessments of maternal autonomy support and children's engagement in reminiscing. As in past research with European middle-class families, autonomy support was primarily related to children's engagement in conversations and was not consistently linked to children's narrative skills (Cleveland et al., 2007; Reese et al., 2007; but cf. Cleveland & Reese, 2005 with younger preschoolers). Mothers who were more autonomy supportive had children who were more engaged in reminiscing about those same events, but these children did not necessarily supply more detailed event narratives. Most importantly, mothers who were more autonomy supportive when discussing events for which they were not present had children who were more engaged in independent reminiscing. It is possible that autonomy support is particularly important in this context, because a mother who uses a controlling style when discussing an event she did not experience personally may be especially discouraging of children's sense of agency, which then affects

children's subsequent willingness to tell others about past events. For example, in the following conversation about an unshared event, the mother focuses only on her perspective of the event, not the child's:

M: Why did you stay with Bucky?

C: Bucky.

M: Do you know why? Do you know why you stayed with Bucky?

C: Because I did.

M: Because Mommy went to...?

C: (off-task)

M: Where did Mommy go to?

Mothers' autonomy support and their elaborations appear to play different roles in the development of children's reminiscing. Mothers' elaborations (especially when discussing shared experiences) are particularly important for children's narrative competence, and autonomy support (especially when discussing unshared experiences) is particularly important for children's engagement in reminiscing.

Notably, the children in this study were consistent in their engagement and narrative across the conversations in that those who were highly engaged also provided more detailed narratives. Taken together with other research that demonstrates that children's engagement in reminiscing as early as the second year of life is a powerful predictor of their later autobiographical memory (Farrant & Reese, 2000; Reese, 2002a,b), we propose that engagement in reminiscing may be a precursor to memory and narrative performance in the preschool years. Children must be at least somewhat engaged in order to provide unique memory information in their autobiographical narratives. However, children can be engaged in a conversation without providing any memory information. Mothers' autonomy support may be especially helpful in getting toddlers and younger preschoolers engaged in reminiscing. In a longitudinal study of New Zealand middle-class mothers, Cleveland and Reese (2005) found that maternal autonomy support was more important for children's autobiographical narratives at younger ages (40 months), whereas mothers' elaborations were the dominant force in children's reminiscing by the end of early childhood (65 months). Thus, mothers' autonomy support helps children's motivation to reminisce, but children also need elaborative structure from adults in order to become competent rememberers and reporters of their personal experiences.

Mothers who were more autonomy-supportive in shared and misbehavior conversations, however, had children with lower levels of independent narrative skill. One possible explanation for this finding is that too much

autonomy support when discussing shared experiences, either positive or negative (as in misbehavior), may not be beneficial to children's narrative and memory development. It might be that those parents who are extremely autonomy supportive in these contexts are not providing their children with enough guidance to aid them in creating coherent independent narrative skills. This finding is in line with Cleveland and Reese's (2005) and Reese et al.'s (2007) findings that autonomy support on its own, without corresponding levels of structure, is not helpful for children's autobiographical memory and narrative. More research is needed, however, in order to understand this finding fully.

Overall, we found few differences in reminiscing across racial/ethnic groups, and in fact, we found no differences among low-income Hispanic and nonHispanic White and Black families when reminiscing about shared and unshared events. Differences did emerge, however, when we asked mothers to discuss their children's behavior. Hispanic mothers used a less elaborative style when discussing misbehavior events than did nonHispanic White and Black mothers; relatedly, Hispanic children provided less detailed narratives in this context than did Black children. When Hispanic mothers reminisced about misbehavior, they usually formulated "forced-choice" questions or questions that required only a confirmation from the child (e.g., "Did you bite Carlos?" "Was it nice, or not nice?" "Can you bite him again or are you not allowed to bite him?"). They were also repetitive in their questioning about misbehavior, focusing on one specific aspect of the event (e.g., "Why did Mommy punish you last night?" "You don't remember?" "Remember the pretzels?" "What happened? Why did Mommy punish you?"). In contrast, nonHispanic White and Black mothers focused not only on talking about a wider range of information (i.e., what, where, how, who?), but more importantly, on discussing with the children the causes and the consequences of their misbehavior, as in the following example of a Black mother and her child talking about a past misbehavior.

M: What happened at the Cape Cod that we keep reminding you not to play with?

C: [child silent]

M: Was it . . . curling iron?

C: Yeah.

M: Why?

C: Because I burned myself.

M: And it hurt?

C: Yeah.

M: That's why we told you not to touch it.

In other research, maternal talk about causes and consequences of past behavior and emotions is linked to advances in children's moral and emotional understanding (see Fivush et al., 2006; Wareham & Salmon, 2006 for reviews), but this work needs to be extended to include low-income families.

One explanation for this difference in reminiscing style to be restricted to misbehavior is that Hispanic mothers emphasize rules in their child-rearing, as reported by Valdes (1996) and discussed in the review by Halgunseth et al. (2006), especially when these rules relate to moral education. The misbehavior conversations may have elicited this focus on social rules or *consejos* (homilies about proper behavior and feelings in different situations). Although controlling maternal behaviors have been found to be normative for this ethnic group (Leyendecker et al., 2002), these controlling behaviors are usually accompanied by high levels of warmth and sensitivity toward the child (Carlson & Harwood, 2003; Calzada & Eyberg, 2002; Ipsa et al., 2004, Leyendecker et al., 2002). In our sample, for instance, Hispanic mothers sometimes discussed the child's misbehavior in a teasing and humorous manner (see Sparks, 2008), which might be indicative of a high level of warmth accompanying this highly directive style of discussing a child's past behavior (see Flannagan, 1997, for research on Mexican-American mother-child conversations about school experiences). For example:

M: Oh, I remember a brother that hit his brother. Who is he?

C: No!

M: You're not gonna tell me? Why? (pause) Isn't his name Miguel?

C: No!

M: Oh, yeah! Miguel hit Jakey. Remember you hit Jakey right here? (pause) And Jakey was upset? (pause) Did you say sorry to him?

C: No, it wasn't, I was, I was, it wasn't for real (pause). It was just pretended.

M: Oh, you were pretending to beat him? Hmm... Jakey was serious, he told me it hurts.

Another cultural difference in this study was that Hispanic children tended to provide sparser narratives about a specific past event (personal injuries) than did nonHispanic White children, even though there were no cultural differences in children's general language skills, nor were there differences between Hispanic monolingual and bilingual children in terms of independent narrative skills. Although this finding was only marginally significant, it is in line with prior research (McCabe & Bliss, 2003) and is noteworthy given that personal narrative skill is an important predictor of children's future literacy and success in school (Griffin et al., 2004; O'Neill

et al., 2004). Future research with larger samples is needed to replicate this finding and to clarify further the source of Hispanic children's difficulties with personal narratives.

It is important to note that despite the racial/ethnic differences in low-income, mother-child conversations about behavior, the positive link between mothers' elaborations in shared reminiscing and children's independent narratives was present across the entire sample. Similar to research with middle-class samples, it was maternal reminiscing about shared experiences, not unshared experiences, which predicted children's independent narrative performance (Fivush et al., 2006). This finding at first appears counterintuitive because the mother-child conversations about unshared events are functionally the most similar to the researcher-child conversations: In both contexts, adults are asking children about events for which the child has privileged information. However, we argue that mother-child reminiscing about shared experiences provides the best scaffolding for children's independent narrative skills, precisely because mothers can be more elaborative about events they personally experienced. The link we found between mother-child shared reminiscing and children's independent narratives is also notable given our extension to child-nominated topics for the independent narratives.

A limitation of this study was the amount of missing conversational data. This higher level of missing data is not unusual in research with low-income families. For example, in Raikes et al.'s (2006) study of book-reading practices with low-income Hispanic and nonHispanic families, less than 50% of mothers and children completed all tasks, and that study used only questionnaire data, not direct observations. One option to obtain more control in future research would be to assess families in their Head Start centers, but then we would sacrifice some ecological validity that is gained when capturing conversations in the families' homes.

Although the pattern of relationships we found between maternal reminiscing and children's narrative skills is remarkably similar to that found with middle-class samples, we are unable to conclude that the overall level of elaboration that children in low-income families receive is similar to the levels in middle-income families (see Hart & Risley, 1995, for research on class differences in the quantity and quality of child-directed speech). Several patterns in our data instead indicate that the low-income families in our sample used a less elaborative style overall in their reminiscing than did middle-income families. Laible (2004) obtained a mean maternal elaboration score of 3.62 for positive and negative past events with European American middle-class mothers, whereas the mean for our low-income families on the same 5-point scale was 2.86 across a range of positive and negative past events. Moreover, the mother-child conversations in our study

were much shorter (ranging from 13–17 utterances per event) than reminiscing conversations in prior research with middle-class families. For example, Reese and Fivush (1993) reported a mean conversation length of 43 codes (roughly equivalent to utterances) per shared past event with younger children (40-month olds). Because an elaborative reminiscing style in middle-income samples is positively linked to many aspects of children's socioemotional development and to their literacy and narrative skills (Fivush et al., 2006), it is important to determine in future research whether enhancing low-income mothers' elaborative reminiscing will help their children's development.

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