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# Telling stories of experiences: Narrative development of young Chinese children

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ABSTRACT
This study explores growth in Chinese children's narrative over a 9-month period. Sixteen children (eight boys, eight girls) living in Taipei, Taiwan, participated in this project. The children were visited in the home at ages 3 years 6 months (3;6), 3;9, 4;0, and 4;3 and were prompted to tell personally experienced narratives at each visit. Three dimensions of the child's narrative skills (narrative structure, evaluation, and temporality) were assessed from an individual growth modeling perspective. The results of this study suggest that Chinese children, generally speaking, include more narrative components, evaluative information, and temporal markers in their narratives over time. However, the growth patterns and rates of change for each child on each narrative measure vary.

This study is designed to trace growth in preschool Mandarin Chinese speaking children's narrative skills over time. This issue is worth examining because narrative competence is important in itself as an aspect of language skill and of personal identity formation and is closely related to literacy achievement. In addition, research on narrative development in children who speak Mandarin Chinese is sparse.

Analysis of children's narratives is also a fruitful way to understand what beliefs, presumptions, norms, and values children adopt from the cultural environments (Gee, 1991). For example, Miller, Wiley, Fung, and Liang (1997) found that Chinese caregivers were more likely to convey moral and didactic standards in telling stories of their children's past experiences. In contrast, in European American families, stories were regarded as a source of entertainment and affirmation. In recounting emotional memories, Wang and Leichtman (2000) found that Chinese children showed greater concern with social engagement, moral code, and authority than American children. The stories children select to remember and tell reflect the framework into which they are socialized (Miller, Potts, Fung, Hoogstra, & Mintz, 1990; Miller, Wiley, Fung, & Liang, 1997; Wang & Leichtman, 2000). Accordingly, narratives are a window for understanding the process of socialization and enculturation.

According to Labov (1972), a minimal narrative is "a sequence of two restricted/independent clauses which are temporally ordered" (p. 360). Given this

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definition, previous research in this field suggests that children start to tell personal experience stories as early as 2 years of age (Miller & Sperry, 1988; Sachs, 1982) and tell fantasy narratives before they go to school (Applebee, 1978). Their narratives in this phase, however, are quite short, simple, and fragmented. Children also rely heavily on their caregivers to construct the content and structure of their narratives.

Narrative structure, evaluation, and temporality are three important dimensions of narrative skill. In Labov's (1972) description of narrative structure, a well-formed personal narrative consists of six components: abstract (summary of a narrative), orientation (setting or context of a narrative), complicating actions (a series of events), evaluation (the point of a narrative), resolution (termination of complicating events), and coda (end of a narrative). Not all these components, however, appear in children's personal experience narratives before the age of 6 (Peterson & McCabe, 1983). Individual and cultural differences are also evident in children's preference for these various narrative components (Champion, Seymour, & Camarata, 1995; McCabe, 1996).

In telling stories of experiences, children not only report what happened to them but also exhibit their thoughts and feeling about the experiences. Evaluations are a means through which narrators indicate the significance of the narrated event to them (Labov, 1972). A variety of evaluative devices are available at phonological (e.g., use of distinctive way to pronounce a word), syntactical (e.g., use of comparators), and discourse levels (e.g., repetition for effect; Labov, 1972; Polanyi, 1989). Through use of evaluative devices, children reveal their internal experiences and view of the world. According to prior research, American children as young as 2.5 years old are able to use limited linguistic means to convey the significance of the reported event (Miller & Sperry, 1988); 21 types of evaluative devices were identified in the personal narratives of American children aged from 4 to 9 (Peterson & McCabe, 1983). To date, however, there has been no study focusing on the evaluative devices in Mandarin-speaking children's personal narratives over time. It is important to explore what kinds of evaluative information preschool Mandarin-speaking children embed in their stories and how these evaluative strategies may expand with age.

Temporality is the basic element in the organization of narrative structure. The time line of narrative discourse is usually built up through linguistic devices, such as tense/aspect, connectives, lexical temporals, and so forth. Appropriate use of these devices is important for establishing cohesion in narratives. Children's control of these strategies develops in the preschool period. Peterson and McCabe (1991) found that children as young as 3.5 years old used connectives such as "then," "and," "so," "because," and "but" in their narratives. Previous studies on Chinese children observed that Mandarin-speaking children by age 4 have developed some ability to use sequencers (e.g., "and then"), temporal connectives (e.g., "when"), perfectives (e.g., "already"), and durative markers (e.g., *zai*) to set the time frame of their story in the past and to establish and maintain the story lines (Chang, 1998).

With progress in their cognitive and linguistic ability, children in the United States and in other cultures in which narrative development has been documented (e.g., Japan) become increasingly competent in storytelling between the ages of 3

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and 4. Children in this phase show considerable growth in the complexity of their narratives (Umiker–Sebeok, 1979). They independently discuss two or more events in sequence without depending on a great deal of support from an adult (Fivush, Gray, & Fromhoff, 1987; Minami, 1996; Peterson & McCabe, 1983). In addition, children in this phase have acquired the linguistic devices for cohesion, such as anaphoric reference (e.g., pronouns) and connectives (e.g., and, then). However, studies of European and U.S. children suggest it is still challenging for children to use these devices explicitly and appropriately in their narratives ( Bamberg, 1987; Hickman, 1991; Karmiloff–Smith, 1981). Work on Japanese children also found that 4-year-olds have more difficulty in providing nonsequential information, such as evaluation, in their stories than 5-year-olds (Minami, 1996).

With a better command of a variety of linguistic devices, European, North American, Japanese, and Chinese children at ages 5 and 6 typically are able to produce longer and well-ordered narratives. Some of their narratives meet the Labovian criteria for a well-formed story (Labov, 1972). Research on Japanese children (Minami, 1996) found 5-year-olds have begun to use the form of adultlike narratives and can evaluate at adultlike levels. Studies on Chinese children (Chang, 1998) found that 6-year-olds used clearer reference and more temporal connectives and sequencers to sustain their narrative talk than the 4-year-olds. In comparison to 3- and 4-year-olds, children at ages 5 and 6 are typically better able to manage referential and temporal devices in their narratives.

In order to understand growth patterns, it is essential to examine children's narrative ability longitudinally. Most of the previous studies on the course of children's narrative development, however, are cross sections (Applebee, 1978; Berman & Slobin, 1994; Chang, 1998; Peterson & McCabe, 1983). Although these studies suggest developmental shifts in narrative ability of children across different ages, the rate of change in narrative competence over time among individuals remains unexplored. By examining growth trajectories of Mandarin-speaking children's narrative ability, we can begin to capture the developmental progression in Mandarin-speaking children and assess whether their development accords with or differs from that of children from other cultures.

Because the sample size in this study is too small to conduct inferential analysis, an individual growth modeling perspective was adopted to examine change over time. The main advantages of growth modeling are that it enables assessments of (a) "within-person" growth rates across measures and (b) "between-person" differences in change (Pan, Snow, & Willett, 1993; Willett, 1994; Willett, Singer, & Martin, 1998). Moreover, with multiple "waves" of data collected at regular intervals, individual growth modeling enables us to see a more fine-grained picture of each child's development over time.

On the basis of previously reviewed research on the child's narrative development, two general hypotheses were formulated:

1. The preschool Mandarin-speaking children, in general, will include more narrative components, a wider variety of evaluations, and more temporal devices in their stories over time.
2. There will be individual differences in Chinese children's growth pattern for narrative competence.

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## METHOD

### *Subjects*

The subjects of this study were 16 Mandarin-speaking children (8 boys, 8 girls). The children were recruited from a kindergarten affiliated with a prestigious university in Taipei, Taiwan. They were native speakers of Mandarin Chinese and normally developing children with no learning disabilities and no speech or hearing problems. The mean age of the children was 3;6 (range = 3;4–3;7) at the start of this study and 4;3 (range = 4;1–4;4) at the last session. Six of the children were firstborns and 10 were later borns. Three of the children had no siblings. All children came from middle class families (i.e., their mothers were college or graduate school educated).

### *Procedure*

Children were visited in the home at four time points when they were 3;6 (Time 1), 3;9 (Time 2), 4;0 (Time 3), and 4;3 (Time 4) on average. During each visit, after establishing rapport with the child through activities such as toy play or picture drawing, the experimenter followed Peterson and McCabe's prompting techniques (1983) to elicit the child's independent personal experience narratives. The experimenter prompted for specific topics such as doctor visits, injuries, and fights (scripted prompts); other topics were suggested by the mother beforehand, drawn from the family photo albums provided by the mother, or occurred spontaneously during the ongoing conversation. The whole process of performing the task was audiotaped, and the codes for the Human Analysis of Transcripts (CHAT) rules of the Child Language Data Exchange System (CHILDES) were used to transcribe the audiotapes in Chinese characters (MacWhinney, 2000; MacWhinney & Snow, 1985).

It is important to emphasize that the purpose of this task is to assess what the child can accomplish on his/her own without an adult's support. The mother, therefore, was asked to either leave or not speak to the child while performing this task. The experimenter only gave general, neutral subprompts such as "uh-huh," "tell me more," and "then what happened?" in response to the child's answers. These subprompts served to show the experimenter's interest in the child's story but avoided directing the narrative.

### *Measures*

The child's two monologic personally experienced stories with the greatest number of narrative clauses collected at each time point were selected and coded at the clause level (Berman & Slobin, 1994) along three dimensions: narrative structure, evaluation, and temporality. According to Berman and Slobin (1994), the clause is defined as "any unit that contains a grammatical unit containing a predicate" that "expresses a single situation (activity, event, or state)" (p. 657). Their definition of clause is applicable to Mandarin Chinese sentence construction in general, so their clausing rules were followed to code the data.

*Narrative structure coding.* Six major types of narrative elements were categorized from the personal experience stories based on an adaptation of high point

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structure (Hemphill et al., 1995; Labov, 1972; Peterson & McCabe, 1983). The definitions and examples taken from the actual data for the codes are listed in the following:

1. event narration: clauses that refer to events or actions that advance the narrative (e.g., "then [I] ate our peanuts.");
2. durative/descriptive talk: talk about descriptive or durative information related to who/what is involved in the narrated events and when/where the events take place (e.g., "[my] brother, and me, and another person, and . . . ");
3. evaluation: clauses that are nonevents and contain only evaluation such as description of internal states (expression of emotions, cognitions, and physical states), intentions (want, hope), compulsions (have to, must), explicit negatives (not), and so forth (e.g., "[It] was funny."); subtypes of evaluation are listed in the section on evaluation coding;
4. narrative unclassifiable: clauses that seem to be continuing in the narrative sequence but are unclassifiable (e.g., "and then . . . and then . . . ");
5. relevant nonnarrative talk: talk that is related to the narrative, including metamemory talk and responses to the experimenter's queries or narrative prompts (e.g., "I don't want to talk."); and
6. irrelevant nonnarrative talk: talk that is completely irrelevant to the narration of the story (e.g., "Why is the tape turning round and round?").

*Evaluation coding.* Evaluation coding was designed to capture types of evaluative devices that occurred in the narratives. The children revealed their feeling and attitude toward the stories they told through the devices. Subtypes of evaluation were applied to the clauses that were categorized as pure evaluation or embedded evaluation in the narrative structure coding. Adapted from previous studies of evaluation (Hemphill et al., 1995; Miller & Sperry, 1988; Peterson & McCabe, 1983) and developed from actual data, 10 subtypes of evaluative devices were classified:

1. expressions of internal emotions, cognition, and physical states (e.g., "like," "mad," "dizzy," "thought");
2. expressions of intentions or compulsions (e.g., "allow," "want");
3. intensifiers or delimiters (e.g., "very");
4. verbal qualifiers marking onset and duration (e.g., "keep," "start");
5. evaluative adjectives (e.g., "dirty");
6. evaluative adverbs (e.g., "run very fast");
7. repetition for effect (e.g., "My dad kept running and catching catching catching catching catching [the kite] like this.");
8. comparison (e.g., "bigger");
9. emphasis or stressed words (e.g., "[I] won't lend [it to] you any more!"); and
10. explicit negations (e.g., "I did not cry.").

*Temporality coding.* Based on Erbaugh (1992) and Li and Thompson's (1981) analyses of temporal categories in Mandarin Chinese and previous study on

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temporal markers in preschool Mandarin-speaking children (Chang, 1998), four main categories for time reference were classified.

1. Temporal connectives: Temporal connectives are temporal conjunctions or adverbs for linking events or states (e.g., "before," "when," "afterward," "finally," "as soon as").
2. Causal connectives: Causal connectives are causal junctions or adverbs for linking events or states (e.g., "because," "so," "therefore," "so then," "as a result," "but").
3. Sequencers (sequential connectives): In this study sequencers refer to connectives that forward sentence-linking elements only (Li & Thompson, 1981), including three connectives, "then," "later," "and then," and "later on then."
4. Aspectual expressions: The aspect category includes aspectual morphemes, for example, *le* (past or perfective marker), and extended aspectual expressions, for example, *yijing* "already." These temporal devices form part of a larger group, which includes perfective (*yijing* "already," *le* past or perfective marker, *guo* perfective marker) and durative markers (*zai*, *zhe*), inceptives (*kaishi* "start"), and so forth.

### *Reliability of coding*

Twelve randomly selected transcripts were independently scored by another native Mandarin speaker. Cohen's kappa statistic was used to estimate interrater corrected for chance agreement. Interrater agreement results are 95% for narrative structure coding, 91% for evaluation coding, and 89% for temporality coding.

## RESULTS

### *Length measures*

The number of words, number of different words, number of utterances, mean length of utterances (MLUs), number of clauses, and mean length of turn (MLT) in the two coded narratives were first computed. Table 1 presents the statistics for these length variables across the four time points.

As shown in Table 1, on average, the children displayed the least mature performance in terms of story length at Time 1 when they were 3;6. They produced the lowest number of words ($M = 148.00$), number of different words ($M = 59.31$), number of utterances ($M = 29.88$), and number of clauses ($M = 35.88$). The MLUs ($M = 4.50$) and the MLT ($M = 1.29$) in their talk were also the shortest at Time 1. The children's length scores increased, however, from Time 1 to Time 2 to Time 3. At Time 4, the children's performance was the second best on all of the length measures with the exception of MLU, which ranked the highest across the four time points.

### *Narrative measures*

In preliminary analyses, the mean frequencies of each narrative element were calculated and compared across the four time points. Then, an individual growth

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Table 1. *Length of personal experience narratives over time (N = 16)*

| | Time 1 (3;6) | | Time 2 (3;9) | | Time 3 (4;0) | | Time 4 (4;3) | |
|---|---|---|---|---|---|---|---|---|
| Variable | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Number of | | | | | | | | |
| Words | 148.00 | 83.66 | 195.19 | 131.13 | 257.00 | 171.40 | 213.19 | 95.02 |
| Different words | 59.31 | 23.61 | 72.88 | 29.17 | 90.38 | 27.85 | 82.94 | 29.73 |
| Utterances | 29.88 | 12.93 | 29.00 | 13.51 | 36.56 | 14.33 | 30.06 | 10.45 |
| MLU | 4.50 | 1.06 | 6.00 | 1.72 | 6.32 | 1.29 | 6.64 | 1.65 |
| Number of clauses | 35.88 | 15.85 | 38.69 | 17.85 | 51.38 | 23.87 | 41.50 | 14.22 |
| MLT | 1.29 | 0.24 | 1.43 | 0.29 | 1.66 | 0.37 | 1.44 | 0.36 |

*Note:* MLU, mean length of utterance; MLT, mean length of turn.

modeling perspective was used to examine the growth pattern of the children's narrative skill across measures (Pan et al., 1993; Willett, 1994; Willett et al., 1998).

*Narrative structure.* The CLAN program was first used to probe frequency of narrative components across the four time points. With respect to the frequencies of the three major narrative components, that is, event, durative/descriptive, and evaluation, event talk occurred the most frequently across time (Time 1: 12; Time 2: 17.06; Time 3: 18.88; Time 4: 17.88), evaluation talk occurred the second most frequently (Time 1: 3.88; Time 2: 4.50; Time 3: 8.25; Time 4: 6.75), and durative/descriptive talk occurred the least frequently (Time 1: 2.63; Time 2: 4.19; Time 3: 6.81; Time 4: 4.94). The low occurrences of durative/descriptive talk suggest that it might still be difficult for children from ages 3 to 4 to provide orientation information (Peterson, 1990).

For each major narrative structure code for each child (i.e., number of narrative clauses, number of nonnarrative clauses, event talk, durative/descriptive talk, and evaluation talk), the observed value at each time point was plotted against the child's age in months. Ordinary least-squares regression is usually used to summarize individual change over time in psychology (Willett et al., 1998). In preliminary analyses, a linear growth trajectory was therefore first fitted to each individual child's data. The low $R^2$ statistic and visual inspection of the plots, however, both suggested that a linear model might not be appropriate for representing the pattern of growth of the children's narrative skill in the current study. Because most of the plots looked like parabolic curves, a curved model was thus chosen to fit the data.

The fitted growth trajectory for each major narrative component for each child was assembled on the same plot to examine whether individual growth trajectories differed across children. Figure 1 presents a collection of the 16 fitted individual growth trajectories for a number of narrative clauses.

Homogeneity and heterogeneity were both evident in the figures for each narrative component. The levels of the growth parameters and rates of change in each individual growth trajectory were different from child to child. In light of the variation across children, it is important to understand the general growth pattern

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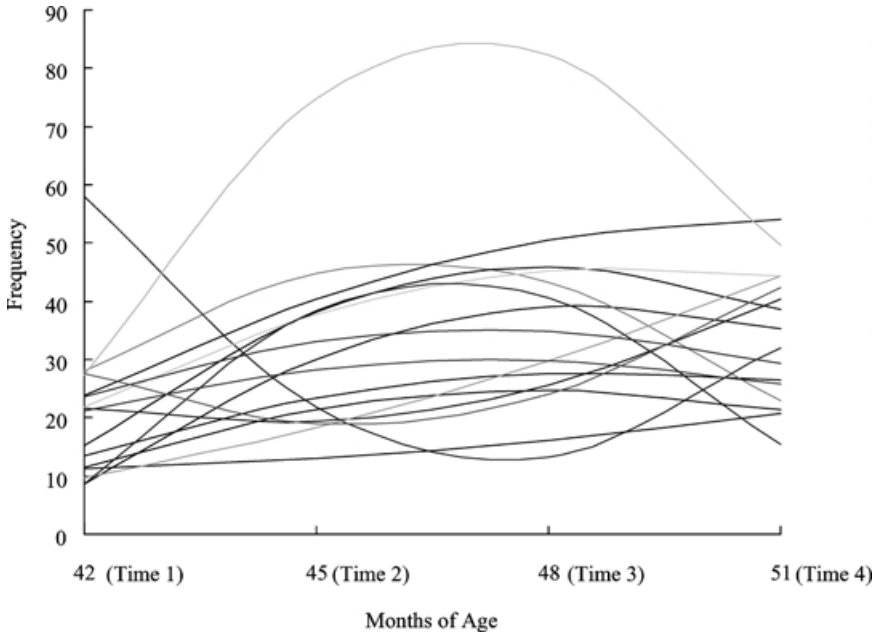


Figure 1. The assembled fitted individual growth trajectories for narrative clauses in personal experience narratives.

in the children's ability to construct elements of narrative structure in their personal experience stories. Thus, the average growth parameters for each major narrative component for the whole group of children were investigated. Figure 2 displays the fitted growth trajectories for each narrative component.

As shown in the graph in Figure 2, the fitted growth trajectory for the number of narrative clauses rose in the first 6 months but dropped slightly during the last 3 months. The estimated growth parameters were 19.95 for the linear slope and −3.11 for the quadratic slope. These estimates suggest that although the number of narrative clauses produced by the children increased between Times 1 and 3, it did so at a progressively slower and slower rate. Between Time 3 and Time 4, the number of narrative clauses began to decrease, although at an even slower rate. The growth trajectory for number of nonnarrative clauses showed the most rapid period of growth between Time 1 and Time 2. The peak for occurrence of number of narrative clauses was at Time 3. On the other hand, the growth trajectory for the number of nonnarrative clauses descended over time and the rate of change accelerated with age, with evidence in the widening gap between the growth trajectory for the number of narrative clauses and the growth trajectory for the number of nonnarrative clauses.

The fitted growth trajectories for the three major narrative codes were also plotted. The direction for the fitted growth trajectories for event talk and for durative/descriptive talk was similar to that for the number of narrative clauses: the

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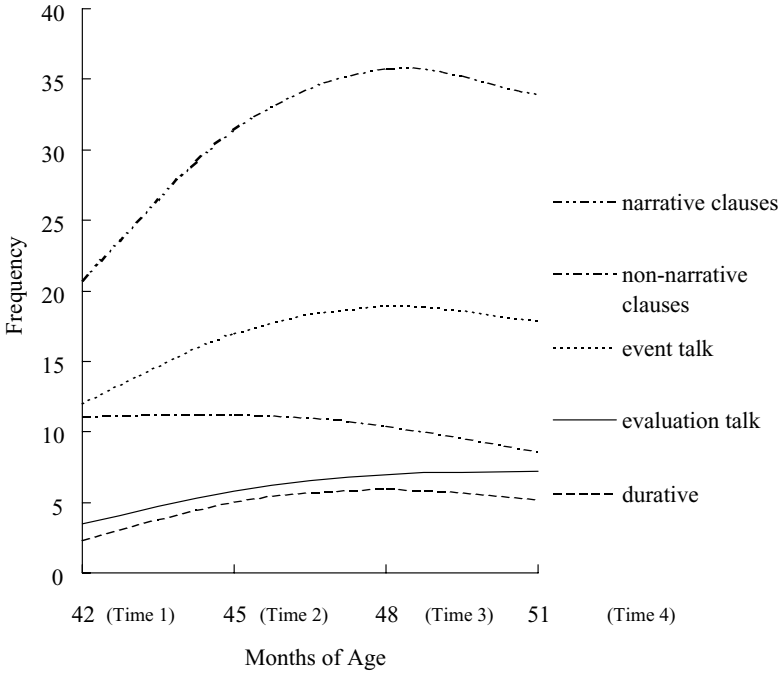


Figure 2. The fitted growth trajectories for narrative structure in personal experience narratives.

trajectories ascended from Time 1 to Time 2 to Time 3 but descended slightly between Time 3 and Time 4. The growth trajectory for evaluation talk, however, was the only one that rose continually without falling as time passed. The curves for the three narrative components all displayed the fastest period of growth between Time 1 and Time 2 and the rate of change decreased after Time 2.

### *Evaluation*

The number of evaluative devices and types of evaluative devices were further examined using the growth modeling perspective. As in the analysis of narrative structure, curved models were selected to represent the effect of time on the children's use of evaluative devices in their stories. Again, the coefficients in the curved models for the 16 children for the number of evaluative devices and types of evaluative devices were averaged to examine the general growth pattern of the children's evaluative skill. The growth trajectories are presented in Figure 3.

As shown in Figure 3, the children displayed a rapid period of growth in the number of evaluative devices in the first 6 months, but a near leveling off of growth was observed during the period between ages 4;0 and 4;3. The rate of change for number of evaluative devices decreased over time. As for types of evaluative

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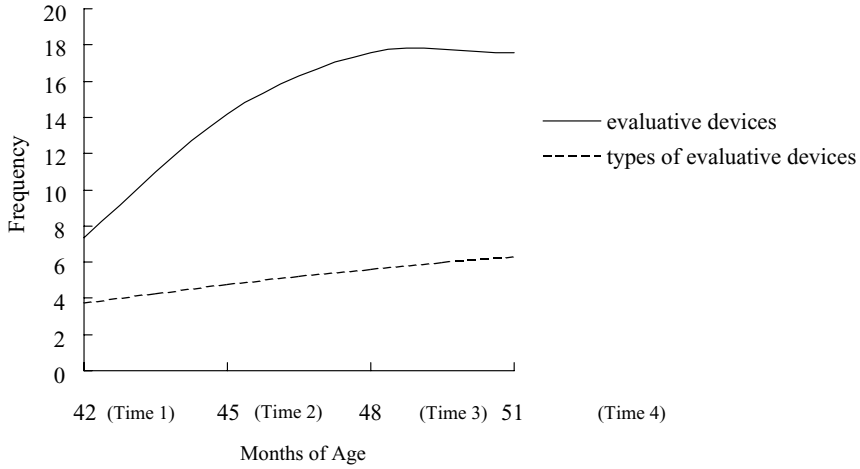


Figure 3. The fitted growth trajectories for evaluative devices in personal experience narratives.

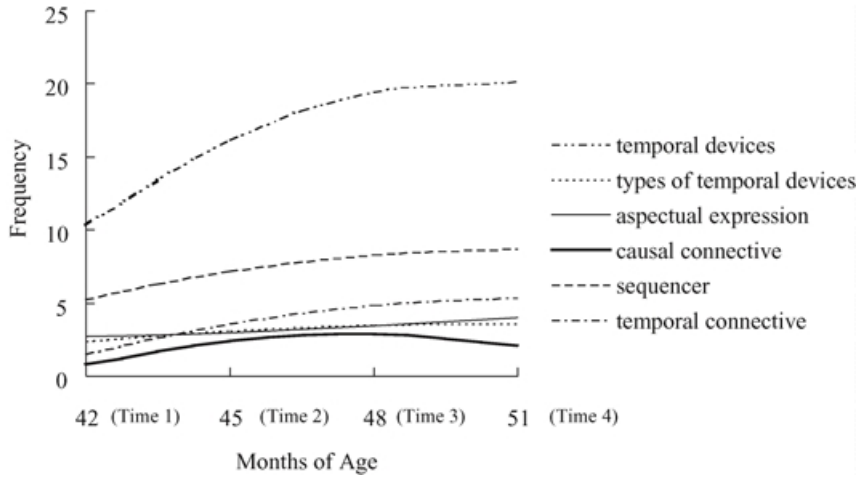


Figure 4. The fitted growth trajectories for temporal devices in personal experience narratives.

devices, the fitted growth trajectory looked quite linear. The frequencies of types of evaluative devices increased nearly steadily over time.

### *Temporality*

Again, curved models provided a better fit and were more appropriate to represent the effect of time on the children's skill in using temporal devices in their personally experienced stories. The fitted growth trajectories are exhibited in Figure 4.

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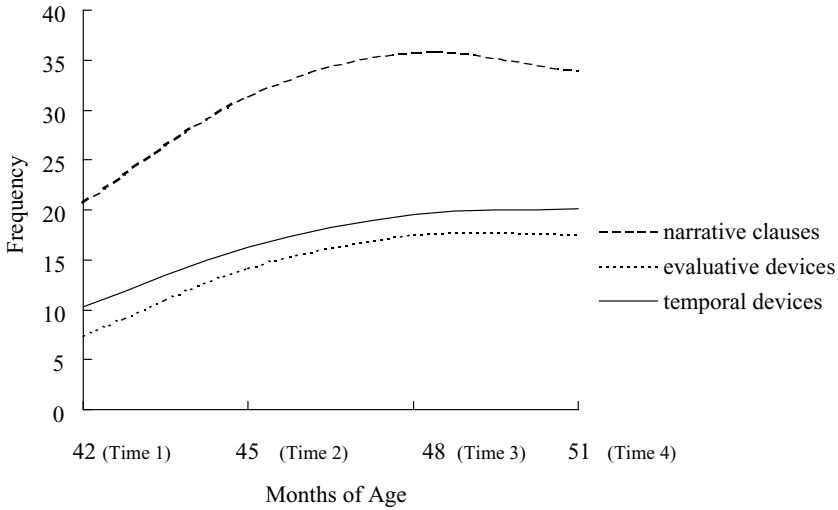


Figure 5. The fitted growth trajectories for narrative clauses, evaluative devices, and temporal devices in personal experience narratives.

As shown in Figure 4, except for causal connectives whose growth trajectory rose during the period from 3;6 to 4;0 and dropped from 4;0 to 4;3, the fitted growth trajectories for all the temporality measures ascended with age. The rate of growth, nevertheless, differed across measures over time.

### *Synchrony or asynchrony across measures*

The fitted growth trajectories for the three dimensions of narrative competence were collected in a plot to examine developmental synchrony or asynchrony across narrative skills. Figure 5 presents the assembled fitted growth trajectories for the number of narrative clauses, number of evaluative devices, and number of temporal devices.

As displayed in Figure 5, the children followed a similar growth pattern with respect to the three narrative measures in the early three observation points: the children included more narrative clauses, more evaluative devices, and more temporal devices from 3;6 to 3;9 to 4;0. Nevertheless, different pathways were observed in the three narrative measures at the period between 4;0 and 4;3: the trajectory for the number of narrative clauses declined, the trajectory for the number of evaluative devices looked nearly horizontal, and the trajectory for the number of temporal devices rose. The peaks for the number of narrative clauses and for the number of evaluative devices were both at 4;0, but the peak for the number of temporal devices occurred at the last time point.

Furthermore, the rate of change in the three narrative measures varied as well. As shown in Figure 5, from Time 1 to Time 2 to Time 3, there were widening

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gaps between the trajectories for the number of narrative clauses and number of evaluative devices and between the trajectories for the number of narrative clauses and number of temporal devices, suggesting that the number of narrative clauses increased at a faster speed than the number of evaluative devices and the number of temporal devices in the early 6 months. On the other hand, the gap between the trajectories for the number of temporal devices and number of evaluative devices narrowed between Time 1 and Time 3. This suggests that the rate of change for the number of temporal devices increased at a slower pace than that for the number of evaluative devices.

During the period between 4;0 and 4;3, it was difficult to compare the rate of change between the trajectory for the number of narrative clauses and the trajectory for the number of temporal devices because the directions for the two trajectories were opposite. As for the trajectory for the number of evaluative devices, it looked nearly horizontal in the last 3 months, indicating that there was almost no change in the growth of the number of evaluative devices.

### *Qualitative analyses: Variation in narrative performance within children*

As stated, the growth trajectories for the children's narrative performance varied. Some children displayed steady development in narrative performance over age, some children exhibited little change in narrative skill, and some children's narrative abilities fluctuated across time. In this section, the personal experience stories narrated by three children across the four time points were presented to demonstrate the three growth patterns observed in this study, i.e., steady growth, stability, and fluctuation.

*Steady growth in narrative ability.* The following are personal experience narratives produced by a boy, Da-shan, at 3;7, 3;10, 4;1, and 4;3. These stories are representative examples showing a pattern of steady growth in narrative ability over time.

**Excerpt 1: Da-shan (3;7, boy)**

| | | |
|---|---|---|
| | Experimenter: | how's your school? |
| 1. | Child: | I rode in a big airplane. |
| | Experimenter: | Then what? |
| 2. | Child: | (I) rode in a big tank. |
| | Experimenter: | (You) rode in a big airplane and a big tank. |
| 3. | Child: | Mmhm. |
| | Experimenter: | What else? |
| 4. | Child: | (child plays with toys) |
| | Experimenter: | Then what? |
| 5. | Child: | (child plays with toys) |
| | Experimenter: | You rode in a big airplane and a big tank at school what else? |
| 6. | Child: | That's all. |

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**Excerpt 2: Da-shan (3;10, boy)**

| | | |
|---|---|---|
| | Experimenter: | What happened when you went to see your mom? |
| 1. | Child: | A baby brother. |
| 2. | Child: | He cried. |
| | Experimenter: | A baby brother. |
| 3. | Child: | Right he cried. |
| | Experimenter: | He cried. |
| 4. | Child: | Right. |
| 5. | Child: | I heard him crying. |
| 6. | Child: | (My) little brother needed to push (to be pushed) in a cart. |
| | Experimenter: | What else? |
| 7. | Child: | xxx We were sleeping, (my) mom was also sleeping, (so that) left my grandma and little brother (my grandma and brother were not sleeping). |

**Excerpt 3: Da-shan (4;1, boy)**

| | | |
|---|---|---|
| | Experimenter: | Have you ever been frightened? |
| 1. | Child: | No. |
| 2. | Child: | (My) papa helped me and stepped (on the cockroach). |
| | Experimenter: | What? |
| 3. | Child: | Papa stepped on (the cockroach). |
| | Experimenter: | You saw the cockroach last time? |
| 4. | Child: | Right. |
| | Experimenter: | What happened when you saw the cockroach? |
| 5. | Child: | No. (not sure what the child refers to) |
| 6. | Child: | (My) papa used the slipper as that that the slipper stepped on it (the cockroach). |
| 7. | Child: | Stepped (on the cockroach) with the slipper. |
| 8. | Child: | (child makes treading sound) |
| 9. | Child: | (The cockroach) was dead. |
| | Experimenter: | Then what? |

**Excerpt 4: Da-shan (4;4, boy)**

| | | |
|---|---|---|
| | Experimenter: | Something climbed over my feet. |
| | Experimenter: | (When I) looked it was a cockroach. |
| | Experimenter: | Auntie was frightened. |
| 1. | Child: | Our house . . . |
| 2. | Child: | There was a cockroach at our house too (my) papa squashed (him). |
| 3. | Child: | There was a cockroach at our school too (he) was squashed. |
| 4. | Child: | He was dead but his legs were still moving. |
| | Experimenter: | Then what? |
| 5. | Child: | Then I just stepped on stepped on him. |
| 6. | Child: | (I) crushed his bones with my feet. |
| | Experimenter: | Mmhm. |
| 7. | Child: | Then the teacher wrapped him up and threw him in the garbage can. |

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| | | |
|---|---|---|
| 8. | Child: | There was a cockroach and a fly at our house too. |
| 9. | Child: | (It) stank. |
| 10. | Child: | (It) stank. |
| | Experimenter: | (It) stank. |
| 11. | Child: | Mmhm. |
| | Experimenter: | What about the cockroach at your house? |
| 12. | Child: | There were two. |
| 13. | Child: | One at school was under the toothbrush cabinet and the other was over where my teacher took the dessert. |
| 14. | Child: | Two. |

In Excerpt 1, Da-shan produced only two event clauses in his story, "rode in a big airplane" and "rode in a big tank," combined with one evaluative adjective, "big." Then he was distracted by the toys and was not interested in performing the task at all. In response to the experimenter's narrative prompts for continuation of the story, he only replied "that's all." Excerpt 2 was a story about what happened when Da-shan visited his mother and baby brother at the hospital. He included more event clauses and was more engaged in the narration of the story in Excerpt 2 than in Excerpt 1. However, as in the case with Excerpt 1, this story was fairly brief and unelaborated. Additionally, he did not use any connectives or sequencers to link the happenings in his story. The temporal or causal relationship between the events in this story was not clear. The reference "we" in line 7 was also ambiguous.

Da-shan improved his narrative skill after he was 4 years old. Excerpts 3 and 4 were both stories about the child's experience of being frightened by a cockroach. In both of the stories, the sequence of events was clear: the cockroach was stepped on, the cockroach was dead, and the cockroach was thrown into a garbage can. The primary components of narrative structure, such as event, evaluation, and durative clauses or elements, were all included in the stories. Temporal and causal connectives were also evident in the two stories, such as the temporal connective "then" in line 10 of Excerpt 3 and the causal connective "but" in line 4 of Excerpt 4.

Although Da-shan provided essential information about being frightened by the cockroach in both of the stories, Excerpt 4 is more elaborate and rich in comparison to Excerpt 3. In Excerpt 4, Da-shan included details about the events, such as in lines 4, 6, and 7: "He was dead but his feet were still moving," "I crushed his bones with my feet," and "Then the teacher wrapped him up." Furthermore, he used a variety of evaluative devices in Excerpt 4, such as expression of physical states (e.g., "dead"), intensifier (e.g., "even"), repetition for effect (e.g., "stepped on stepped on"), and evaluative adjectives (e.g., "stank"). Although the portion about the cockroach at the child's home in Excerpt 4 was incomplete and not clear, his talk about the cockroach at school was coherent and well constructed. In contrast, Excerpt 3 contained repetitive information about stepping on the cockroach (lines 2, 3, 6, and 7) and was less elaborated.

*Stability in narrative ability.* Some children, especially the ones who produced quite good personal experience stories at the start of the study, displayed stable

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narrative performance with age. The following four stories were narrated by a girl, Yu-lian, when she was 3;6, 3;9, 4;0, and 4;3. Excerpts 5–8 are illustrative examples that exhibit little change in the child's narrative performance over time.

**Excerpt 5: Yu-lian (3;6, girl)**

| | | |
|---|---|---|
| 1. | Child: | Before, when I I, when I I was at our our the zoo, when (I) was running, I fell by accident. |
| 2. | Child: | There was a big hole in my leg. |
| 3. | Child: | Then (it) bled. |
| 4. | Child: | When I I got home (I) put put medicine (on it). |
| 5. | Child: | My hand got hurt, too. |
| 6. | Child: | A scratch a scratch a scratch. |
| 7. | Child: | Here. |

**Excerpt 6: Yu-lian (3;9, girl)**

| | | |
|---|---|---|
| | Experimenter: | What happened when you took the boat? |
| 1. | Child: | Then then when we got off the boat, we went to eat. |
| | Experimenter: | Then what? |
| 2. | Child: | (It) was too crowded so we stood. |
| 3. | Child: | A big boat. |
| | Experimenter: | A big boat. |
| 4. | Child: | And there were lots of bubbles under (the boat). |
| 5. | Child: | (It was) windy. |
| 6. | Child: | And then the people below threw trash everywhere. |
| 7. | Child: | (They) threw (the trash) into the water. |
| | Experimenter: | Then what happened? |
| 8. | Child: | That's all. |

**Excerpt 7: Yu-lian (4;0, girl)**

| | | |
|---|---|---|
| | Experimenter: | Mom said that your sister got burned on her leg. |
| 1. | Child: | Yes. |
| 2. | Child: | When she she went out with mom, there was a teapot near the stairs, my sister got kicked by (the teapot). |
| 3. | Child: | Then my mom took my sister's socks off. |
| 4. | Child: | Then I went downstairs to look for my sister. |
| | Experimenter: | Oh then what? |
| 5. | Child: | And then my dad carried my sister. |
| 6. | Child: | And then I walked by myself. |
| 7. | Child: | And then my mom took a lot of stuff. |
| | Experimenter: | Oh then what? |
| 8. | Child: | (child plays with toys) |

**Excerpt 8: Yu-lian (4;3, girl)**

| | | |
|---|---|---|
| | Experimenter: | Mom said that you got angry this morning, what happened? |
| 1. | Child: | When my sister was playing with me, but I was playing with the puzzle, she wanted to play (with it) too. |
| 2. | Child: | Then I cried and my sister hit me in the nose. |

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3. Child: And then my mom told my sister to tell me she was sorry.
   Experimenter: Then what?
4. Child: That's all.

The topics and lengths of these stories differed, but overall they were explicit and coherent. By using the temporal connective "when" consistently at the beginning of the four stories, such as in "before, when I I, when I I was at our our the zoo, when (I) was running" in Excerpt 5, line 1; "then then when we got off the boat" in Excerpt 6, line 1; "when she she went out with mom" in Excerpt 7, line 2; and "when my sister was playing with me" in Excerpt 8, line 1, Yu-lian provided clear background information about the narrated events. After building up the background of the stories, she then reported a series of events, most of which were organized in chronological order and clearly linked together by the sequencer "then" or "and then." Other connectives appearing in the child's stories were "so" in Excerpt 6, line 2; "and" in Excerpt 6, line 4; and "but" in Excerpt 8, line 1. Moreover, Yu-lian constantly employed evaluative devices in the four stories to show her perspective on the narrated events, such as "by accident" and "big hole" in Excerpt 5; "too crowded," "lots of bubbles," and "threw trash everywhere" in Excerpt 6; "a lot of stuff" in Excerpt 7; and "wanted" and "cried" in Excerpt 8.

Although the temporal and evaluative devices used by Yu-lian in the four excerpts were not completely the same, she displayed a quite mature ability to construct the elements of narrative structure in her stories over time. Compared with the narrative performance of Da-shan at Time 1 and Time 2, Yu-lian's stories produced at the first two time points were more clear, elaborate, and well-organized. Yu-lian's last story was short but it was also clear and contained the major narrative components. Generally speaking, Yu-lian's personal narratives were fairly good, with no obvious change in her narrative skill over the 9-month period.

*Fluctuation in narrative ability.* Another growth pattern observed in this study was fluctuation in the child's narrative performance with age. Excerpts 9–12 are stories narrated by a girl, Bai-he, at 3;4, 3;7, 3;9, and 4;1. Excerpts 9–12 are examples demonstrating inconsistent skill in narrating personal experience stories across the four time points:

**Excerpt 9: Bai-he (3;4, girl)**

1. Child: We went to Happy Castle yesterday.
   Experimenter: Really, (you) went to Happy Castle.
2. Child: There was was was was was a bus, a very high bus at Happy Castle.
3. Child: That auntie wanted to take (the bus) twice twice twice.
4. Child: Sat sat at the back.
5. Child: So then (the bus) started to move.
6. Child: So I wanted to play again.
7. Child: (It) was fun.
   Experimenter: Oh (you) played again, (it) was fun, wasn't it?
8. Child: Mmhm.

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| | | |
|---|---|---|
| 9. | Child: | I'll take you there next time, okay? |
| | Experimenter: | Okay. |
| | Experimenter: | What else? |
| 10. | Child: | My brother went to Happy Castle, (you) have to take off your shoes. |
| 11. | Child: | (Your) hand had to have a stamp to get in too. |
| 12. | Child: | You have to have a stamp to get in too. |
| | Experimenter: | What else? |
| 13. | Child: | That's all. |

**Excerpt 10: Bai-he (3;7, girl)**

| | | |
|---|---|---|
| | Experimenter: | Have you ever spilled something? |
| 1. | Child: | I I broke a glass one time. |
| | Experimenter: | What happened? |
| 2. | Child: | (I) finished drinking the water, (and) spilled (it) here. |

**Excerpt 11: Bai-he (3;10, girl)**

| | | |
|---|---|---|
| | Experimenter: | Have you ever been frightened by anything? |
| 1. | Child: | Yes. |
| 2. | Child: | When I got off the bed, then my head got off the bed. |
| 3. | Child: | Then I left, (and) ran to the living room, then I saw a big big cockroach in my mom's room, then I screamed. |
| 4. | Child: | (It was) in my mom's room. |
| 5. | Child: | Near the mirror. |
| 6. | Child: | A very big very big one. |
| 7. | Child: | Not a little one, a very big one. |
| | Experimenter: | Then what? |
| 8. | Child: | (refers to the block)<br>This looks like a garbage can. |

**Excerpt 12: Bai-he (4;1, girl)**

| | | |
|---|---|---|
| | Experimenter: | Have you ever had a band aid on? |
| 1. | Child: | Yes. |
| | Experimenter: | What happened, how did you get hurt? |
| 2. | Child: | When (I) was taking a bath, my mom yanked (the band aid) off, (it) hurt a lot. |
| 3. | Child: | Then I said "(it) hurts (it) hurts (it) hurts don't tear (it) off." |
| 4. | Child: | "(It) hurts don't tear (it) off." |
| 5. | Child: | I don't know what else to . . . |

In the four excerpts, Bai-he provided unequal amounts of information about the narrated events and displayed different levels of narrative ability. Excerpts 9 and 11 were both quite elaborate stories containing rich information about a sequence of actions that advanced the narratives (e.g., "went," "took," "started to move," and "played," in Excerpt 9), about what was involved in the narrated events (e.g., "bus," in Excerpt 9 and "cockroach," in Excerpt 11), about when ("yesterday," in Excerpt 9 and "got off the bed," in Excerpt 11) and where ("mom's room," and "near the mirror," in Excerpt 11) the events took place, and about the

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child's evaluation of the events ("very high" and "fun" in Excerpt 9, and "very big very big" and "not a little one" in Excerpt 11). In contrast, in Excerpt 10, which was produced at Time 2, the information reported was insufficient for the listener to understand what happened. It is not clear why the child broke the glass and spilled the water. No evaluation was given in Excerpt 10 either. Obviously, Bai-he showed less mature narrative ability between Time 1 and Time 3. As for Excerpt 12, the story produced at the last time point was highly evaluative. Bai-he included a number of evaluations in her story but these evaluative devices were repetitive, e.g., "(it) hurt a lot" (lines 2, 3, and 4) and "don't tear it off" (lines 3 and 4). Moreover, in Excerpt 12, the experimenter prompted an injury story but the child did not provide any information about what happened when she was injured. In comparison with Excerpts 9 and 11, Excerpt 12 was less elaborate. Fluctuation in Bai-he's narrative abilities over time is manifested in the four excerpts produced at different ages. Lack of motivation to report on some topics (such as spilling something) might explain the variation in this child's narrative performance.

## DISCUSSION

The results obtained from this study regarding preschool Mandarin-speaking children's narrative skills are generally consistent with the hypotheses and agree with past research with American and Japanese mothers. Growth modeling showed that over time Mandarin-speaking children produce longer narratives and begin to include more narrative components, evaluations, and temporal devices in their stories of personal experiences. Frequency of disruptive nonnarrative clauses mixed in with narration decreases with age. Moreover, the children include a wider variety of evaluative and temporal devices in their narratives over time. These findings correspond to the observations of Fivush, Haden, and Adam (1995) in their longitudinal study of English-speaking preschoolers over 2.5 years and with the findings of Minami (1996) in his cross-sectional study of Japanese-speaking children aged 4 and 5. The overall growth in the three dimensions of narrative competence from ages 3 to 4, especially from 3;6 to 4;0, implies quite rapid development in Mandarin-speaking children's narrative skills during the preschool years. With increasing control over narrative components, evaluations, and temporal markers over time, the children's narratives become more informative, evaluative, and clear.

However, it is worth stressing that the growth patterns and rates of change for the children's narrative competence in construction of narrative components and use of evaluative and temporal devices are not completely the same across children. With respect to narrative structure, the children display the most rapid period of growth in number of narrative clauses and in each major narrative component from 3;6 to 3;9. The length of the narratives and the frequencies of each narrative component in the children's stories, however, are increasing at a slower pace during the period from 3;9 to 4;0. Unexpectedly, the stories the children tell between 4;0 and 4;3 become a little shorter, and the occurrences of some of the narrative components slightly decrease.

With respect to evaluative devices, the children also exhibit the most rapid period of growth in number of evaluations in their personally experienced stories from

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3;6 to 3;9, with the rate of change decreasing from 3;9 to 4;0. Again, contrary to my expectations, the children do not show growth in number of evaluative devices during the period between the last two time points. However, the children include more types of evaluative devices in their stories over time. Generally speaking, the children show better ability in imbuing their stories with personal meaning as time passes.

With respect to temporal devices, the growth patterns the children demonstrate are in keeping with what was predicted. The number of temporal devices and types of temporal devices occurring in their stories increase steadily over time. Except for causal markers, the children also show improvement with age in use of all types of temporal devices. Although the rates of change for most of the temporality variables decrease over time, the increasing use of temporal devices suggests that the children are becoming more competent in establishing temporal or causal links between happenings in their stories.

The lack of improvement or even decline in some of the narrative measures between Times 3 and 4 is perhaps due to the timing of the last interview. It was conducted in early July 1998 when an epidemic disease was spreading among children in Taiwan. Schools were closed and parents were advised to keep children at home. One of the target children suffered from the disease and was sick at the time of the interview. In addition, because the schools were all closed, some of the parents who had to work in the daytime sent their children to their relatives' homes. Several of the children in the study were therefore interviewed with siblings and/or cousins around. Some of them were distracted by other children and talked less than they did in the previous interviews.

Another point worth noting is that remarkable individual variation is evident in the Mandarin-speaking children's performances in telling personal experience narratives. At the start of the study, for example, some children had already developed the ability to include the essential narrative information, such as event clauses, durative or descriptive information, evaluation, and so forth in their stories and were able to produce long, clear, and elaborate narratives whereas other children could only report brief, fragmented stories with limited information. The growth patterns in narrative skills over time also vary across children. Some children displayed rapid, steady growth in narrative ability but the room to develop for other children was relatively small. Individual variation in children's narrative performance and growth trajectory patterns may be related to the input children received from their parents or primary caregivers. According to Chang's study on Chinese mother–child conversation about the past (2003), Chinese children's narrative ability is correlated with maternal approval of their talk, elaborative requests, and provision of information. Research on English-speaking children has also shown that maternal scaffolding strategies support children's narrative skill (Fivush, 1991; Fivush & Fromhoff, 1988; McCabe & Peterson, 1991; Reese & Fivush, 1993).

In past research reviewed above, Chinese children exhibited some culturally specific features in their narrations, such as inclusion of talk about moral correctness and authority (Wang & Leichtman, 2000). In this study, however, no such features were observed. Perhaps the children in this study were too young to display any distinctive Chinese narrative styles. The children were 6 years old in Wang and

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Leichtman's study, whereas the children in this study were only 3. The children might need a longer period of time to internalize the culturally specific narrative styles provided by their environment and caregivers (Chang, 2003).

A growth modeling perspective proved to be useful in assessing within-person growth rate across measures and between-person differences in change in this short-term longitudinal study. Growth trajectories revealed a fine-grained picture of the developmental progression of Mandarin-speaking children's narrative abilities from ages 3 to 4 in the construction of narrative components, use of evaluative devices, and use of temporal devices and shows a period of marked growth from 3;6 to 4;0. In recent years there has been an increased interest in children's narrative development. The importance of narrative development is enhanced as researchers find that narrative skills can predict later literacy and academic achievement (Feagans, 1982; Reese, 1995; Snow, 1983; Snow & Dickinson, 1991). Thus, promoting narrative skills during the early years may help children succeed in literacy tasks in school. In this sense, the above findings are crucial for early childhood educators and parents in Taiwan in understanding the language skills children bring to school, predicting their academic and literacy performance, and in detecting delay in some children's language and narrative development. Moreover, this project may have implications for classroom instruction in the United States (McCabe, 1996). Asian Americans are now the fastest growing ethnic group. Information about the narrative skills of preschool Mandarin-speaking children can enrich U.S. teachers' understanding of the kinds of language competence of some of their students.

Nevertheless, two limitations of this study should be acknowledged. One limitation is that the sample size is clearly too small to support substantial inferential statistical analysis and limits the generalizability of the findings. In future study, more subjects should be included. The other limitation is that the time span for observation in this study is too short. A longer observation period might allow us to see if the narrative measures examined in this study are sensitive to developmental change and if the trend noted at Time 4 continued or was reversed. In order to fully understand the change and growth in the children's narrative ability during the preschool years, this issue should be examined over a longer period of time.

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