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Chinese Mothers' Joint-Reading Behaviors and

Preschoolers' Reading Interest and

Joint-Reading Engagement

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四年，在人生的旅程中，是否值得書寫出一點心得，端看這期間刻畫了些甚麼可豐富人生的痕跡。這些年來各縣市許多教育文化單位和學校絡繹不絕的舉辦推廣親子共讀的活動，很幸運的我也參與其中。然而我這樣一個教育文化界的門外漢，單憑著自己對閱讀的喜愛，和從孩子出生後就以書本為互動媒介所獲得的實際經驗，以及和家長們頻繁互動的心得，總覺得國內推廣親子共讀的熱絡中，似乎可以再加入某個元素，讓孩子們對於共讀的過程能有更美好的經驗，讓孩子們長大仍欣喜於閱讀的樂趣。這個元素，似乎從這份論文可以看到一點端倪，也不枉這四年的辛苦！這四年，來往於台北與羅東，學校與醫院，挑燈讀著一篇又一篇的論文文獻，熬夜寫著一份又一份的作業，經常連出門旅遊，背包裡一定帶著筆電，就是想將零碎的時間拿來多讀點資料。讀著讀著，眼前經常浮現出過往與孩子們和家長們接觸的情景，許多的理論都可以轉化為臨床上的衛教，這些就夠豐富過往這四年的歲月！

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摘要

西方研究顯示，親子共讀時的社會情緒互動與父母的共讀技巧皆可預測孩童的閱讀動機，而閱讀動機與日後的讀寫能力及學業成就有關。華人父母原即十分注重子女的學業成就，然親子共讀並非傳統華人家庭慣常之互動方式。本研究之目的即在觀察華人母親在親子共讀時所顯示的社會情緒互動行為和共讀技巧，並探討其對孩童閱讀動機的預測力。為能在臨床上給予家長適性之共讀建議，本研究並檢驗孩童性別及母親教育程度如何調節母親共讀行為與閱讀動機之關係。本研究並自行發展觀察登錄系統，以捕捉在重視學業之文化思維下的台灣母親的親子共讀行為。共有 51 對母親與其 50 至 60 個月大 ($M = 55.22$) 的學齡前孩童完成相隔一至二週的兩次 10 分鐘的共讀活動錄影，再以時間取樣法登錄母親行為。觀察系統共分兩大向度，並將「社會情緒表達」向度再分成以孩童為中心的行為、以父母為中心的行為兩個次向度；也將「認知與語言教導」向度再分成教導、闡述、封閉性問題，以及開放性問題四個次向度。以母親評量的孩童日常閱讀興趣及觀察者評量之孩童在共讀當時的參與度為結果變項之階層迴歸分析顯示：(1) 以孩童為中心的行為可正向預測孩童共讀時的參與度，但無法預測孩童的閱讀興趣；以父母為中心的行為則可負向預測孩童的閱讀興趣和參與度。(2) 母親之封閉性問題，對孩童的閱讀興趣有負向預測力。(3) 女孩比男孩有較高的閱讀興趣，但孩童性別無法預測共讀參與度。(4) 母親的教育程度可調節以父母為中心的行為以及闡述行為對孩童共讀參與度的預測效果。(5) 母親的教育程度亦可調節以孩童為中心的行為對孩童閱讀興趣的預測力。藉由本研究所發展之父

母共讀行為登錄系統，顯示華人母親的教導行為對閱讀動機沒有顯著影響，但在親子共讀時以自我為中心的社會情緒表達，如批評、要求速度、不回應等，在兒童的日常閱讀興趣上扮演了負向的角色。以兒童為中心的共讀行為則對母親教育程度較低的孩童之閱讀興趣有正向作用。

關鍵字: 親子共讀、華人親職教養、以兒童為中心的行為、以父母為中心的行為、母親閱讀行為、閱讀動機



**Chinese Mothers' Joint-Reading Behaviors and
Preschoolers' Reading Interest and Joint-Reading Engagement**

Shu-Chuan Wu

Abstract

Prior research in the Western societies has revealed both the socioemotional interaction and parental reading strategies during parent-child joint-reading sessions significantly predicted children's reading motivation. Children's reading motivation, in turn, is related to their later literacy development and school success. Although Chinese parents are much concerned with their children's academic achievement, shared reading is not a common activity in traditional Chinese families. The goal of this study is to investigate how Chinese mothers' socioemotional behaviors and joint-reading skills may predict preschoolers' reading motivation. In order to give Taiwanese parents sensible suggestion suitable for their family background about the way to implement joint-reading activities, this study also examined the moderating effect of child's sex and maternal education level on the relation between maternal behaviors and child's reading motivation. A coding scheme was developed in this study to capture the culture-specificity of Chinese mothers' joint reading behaviors. Fifty-one mothers and their 50- to 60-month-old preschoolers completed two 10-minute joint-reading sessions 7 to 14 days apart. Maternal behaviors were coded

into two major behavioral aspects by time sampling method. The aspect of *Socioemotional Expression* was further divided into two dimensions of *Child-Centered Behavior* and *Parent-Centered Behavior*. The aspect of *Cognitive/Linguistic Guidance* was further divided into four dimensions of *Teaching*, *Elaboration*, *Specific Question*, and *Open-Ended Question*. Hierarchical regression analyses on maternal rating of child's everyday reading interest and observer's rating of joint-reading engagement revealed the following results. (1) Mothers' *Child-Centered Behavior* positively predicted child's reading engagement, but did not predict child's everyday reading interest. *Parent-Centered Behavior* inversely predicted child's reading interest as well as engagement. (2) *Specific Question* asked by mothers inversely predicted child's reading interest. (3) Girls showed more everyday reading interest than did boys, but gender could not predict child's joint-reading engagement. (4) Maternal education level moderated the predictability of *Parent-Centered Behavior* and *Elaboration* on child's joint-reading engagement. (5) Maternal education level also moderated the predictability of *Child-Centered Behavior* on child's reading interest. The coding scheme developed in the current study helped revealed that Chinese mothers' *Teaching* behavior per se would not harm children's reading motivation. It was *Parent-Centered Behavior*, such as criticism, demand for reading tempo, and unresponsiveness, that played a negative

role in children's everyday reading interest. In addition, *Child-Centered Behavior* played a positive role in reading interest among preschoolers of mothers in the lower bracket of education level.

Key words: Shared Reading, Chinese Parenting, Child-Centered Behavior, Parent-Centered Behavior, Maternal Joint-Reading Behaviors, Reading Motivation.



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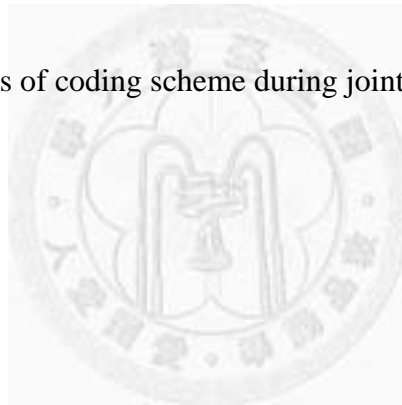
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Introduction

Preface

Home literacy activities such as storybook reading are important not only for children's language development but also for subsequent reading ability and academic achievement (Aram, 2008; Fletcher & Reese, 2005; Vandermaas-Peeler, Nelson, Bumpass, & Sassine, 2009). Thus, in recent years, parent-child storybook reading has become one important and frequently studied context for literacy development.

Through reading storybooks with parents, children are exposed to advanced language and concepts (Bus, van Ijzendoorn, & Pellegrini, 1995; Torr, 2004). Parents' interactive behaviors other than reading the text verbatim during joint book reading, such as labeling and asking questions, were also found a useful component for enhancing children's language skills (Neuman & Gallaher, 1994; Whitehurst et al., 1988). Meanwhile, discussion about books is found contributive to the development of comprehension, phonological and graphemic skills necessary for reading (Snow & Burns, cited in Sonnenschein & Munsterman, 2002).

Yet, shared reading may not always be beneficial to children as aforementioned. In a meta-analysis of thirty-three empirical studies investigating the frequency of parent-preschooler book reading, Bus et al. (1995) noted that if children were not interested in book reading or if they found it aversive, encouraging their parents to

read more to them might conversely impose a negative effect on literacy development.

They suggested that forcing a child to listen to a story when he or she does not want to may decrease the child's interest in shared reading (Bus et al., 1995). Scarborough, Dobrich and Hager (1991) followed a group of children from 30 months to 8 years of age, and found children who later became poor readers entertained themselves with books only 2 to 3 times per week, while children who became good readers typically were engaged by reading activities daily. Since children's reading motivation takes an important part in their literacy development, there is a growing awareness of the necessity to study the factors enhancing early reading motivations and the desire to engage in literacy activities.

Sonnenschein and Munsterman (2002) observed a group of 5-year-olds reading with their family members and found that, although reading frequency was a significant correlate of early literacy-related skills, the affective quality of reading interaction was the most powerful predictor of children's motivations for reading. Moreover, different research have suggested that exposure to printed matters before formal learning starts may foster preschoolers' reading interest by associating literacy experiences with positive, enjoyable interactions (Baker, Mackler, Sonnenschein, & Serpell, 2001; Scarborough & Dobrich, 1994). In addition, Baker et al. (2001) also found that the affective atmosphere during dyadic reading interactions between first

graders and their mothers was related to the frequency of reading chapter books later in the second and third grade. Taken together, children who experience pleasant reading interactions early on seem more motivated to read continuously and frequently. Parents, in turn, often are responsible for cultivating such fun and enjoyable reading experiences for young children.

Bus et al. (1995) indicated that the role of parents in shared reading activity is to provide assistance and support that allows and encourages children to participate in reading interaction. As researchers (Bus & van Ijzendoorn, 1997; Bus et al., 1995) concluded, shared book reading is a social process and learning to read is associated with the affective dimension of the mother-child relationship. Parents' general supportive attitude and warmth have been found to associate with children's emerging literacy ability (Berlin, Brooks-Gunn, Spiker, & Zaslow, 1995; Fitzgerald, Schuele, & Roberts, 1992) and positive child behaviors such as focused attention and enthusiasm (Frosch, Cox, & Goldman, 2001). Mother's praise and enthusiasm have also been indicated to encourage child's participation during shared reading (Britto, Brooks-Gunn, & Griffin, 2006). Those results pointed out how the socioemotional aspect of parental interactive behaviors during shared reading may affect children's reading interest and engagement in reading activities, which, in turn, would bring about the positive outcomes of literacy development.

Knowing that parent-child shared reading activities are strong predictors of successful emergent readers and later reading achievement (Baker, Scher, & Mackler, 1997; Ortiz et al., 2001; Scarborough & Dobrich, 1994), Taiwan's Ministry of Education (MoE) announced the "National Children Reading Program" in the year 2000. This program has been well accepted by Taiwanese parents because it matches closely with the general belief of the necessity of providing children with academic preparedness ahead of their developmental schedule. Through the promotion of MoE, the majority of kindergartens in Taiwan has installed reading sessions in their school programs in recent years. Preschool teachers also regularly recommend parents to establish shared book-reading routine with their children at home.

Nevertheless, the abovementioned benefits from parent-child shared reading are coming from research conducted in the Western societies, where shared book reading is a typical family custom and daily routine. On the contrary, although Chinese parents are often highly involved in their children's learning activities (Stevenson & Lee, 1990), shared book reading is not an often-found everyday activity in traditional Chinese families (Li & Rao, 2000; Wu, 2007). In addition, unlike American parents that often view positive emotions as an important component during parent-child joint book reading, Chinese parents were reported to endorse traditional styles of teaching

and emphasizing repetitive drills while helping their children to learn new materials (Johnston & Wong, 2002). These cross-cultural differences of parental attitude and behaviors may be originated from the idiosyncratic meaning system of learning in Chinese societies and may alternate the positive effect of joint reading on Chinese children that were found in the Western societies. Consequently, how Chinese parents interact with their young children in shared reading activities and how the shared reading experience plays a role in children's reading motivation deserve detailed investigation.

In the present study, a new coding scheme would be developed to capture the behaviors of Chinese mothers during shared reading. Through this newly designed coding system, this study attempted to document how Chinese mothers, bounded by the cultural beliefs of the importance of academic excellence, may react to a shared reading opportunity with their young children and how their shared reading behaviors, both in the socioemotional and cognitive/linguistic aspects, contributed to children's reading motivation. Moreover, with the intention of giving practical advice to parents of different family backgrounds, this study would also capture how demographic factors such as child's gender and mother's educational level moderated the predictive effect of maternal joint reading behaviors on preschoolers' reading motivation.

Role of Parenting Quality in Shared Reading

Western research on shared reading interaction have pointed out that children's reading skills and interest may be cultivated by engaging, fun, and emotionally warm reading experiences that are often first experienced with parents (Bergin, 2001; DeBaryshe, 1995; Sonnenschein & Munsterman, 2002). Therefore, there are increasing interests in how the affective and socioemotional components of parental behaviors are related with children's shared reading experience, which may subsequently affect children's reading outcomes (Bergin, 2001; Frosch, Cox, & Goldman, 2001; Landry et al., 2011; Ortiz et al., 2001). For example, Bergin (2001) conducted an observational study to address the importance of the affective quality of parental behaviors during shared book reading with kindergarteners and first-graders. Affect-related behavioral and emotional dimensions such as praise, hostility, criticism, support, positive affect, emotional spontaneity, physical proximity, and affection were included in the coding scheme for parental behaviors. Results showed that children were less frustrated and more engaged if their dyadic interactions with the parent during joint reading were more affectionate.

Frosch et al. (2001) also included the affective aspects of maternal behaviors with their 24-month-olds during shared book reading in their coding scheme. Among the coded dimensions of degrees of sensitivity (e.g., emotional support),

intrusiveness (e.g., lack of recognition of the child's effort to be independent), detachment (e.g., emotionally uninvolved), positive (e.g., positive affect and enjoyment) and negative regard (e.g., hostility, impatience toward the child), flatness of affect (e.g., how animated the parent is in terms of facial and vocal expressiveness), and stimulation of cognitive development (e.g., degree of parental supports and encouragement), Frosch et al. found the more warm/supportive and cognitively stimulating and the less hostile/intrusive and detached were the parents, the more compliant, attention-focused, enthusiastic, and emotionally positive were the children during storybook interaction.

Similar findings were also shown in an intervention program by Landry et al. (2011), which focused not on the reading instruction per se but the parenting strategies enacted during daily activities, including shared reading. Landry and her colleague (2011) applied the Play and Learning Strategies (PALS) intervention to parents with children ranging from infants to preschoolers. The overarching goals of PALS were targeted at increasing maternal affective (e.g., praise, encouragement and responsiveness) and cognitive–linguistic supports (e.g., scaffolding, verbal prompting). After eleven weeks of intervention, maternal behaviors were observed during a shared reading session. The results revealed that PALS was effective in changing mothers' behaviors in areas such as positive affect (e.g., praise,

encouragement, and responsiveness) and the effectiveness in shared reading interaction (e.g., frequency and richness of book-related language input, usage of verbal scaffolding strategies, open prompts, and book-related comments). Children's engagement and use of language in the shared reading contexts, in turn, were enhanced. Other research also indicated that, given an affectively responsive climate during shared reading, children were more likely to stay focused on the reading material, cooperate with the mother's requests, show more enthusiasm to the reading experience and, consequently, open themselves to more opportunities to involve in shared reading experience (Bus et al., 1997; Leseman & de Jong, 1998).

The above findings imply that children's reading motivation may be enhanced by the positive quality of parent-child interaction, which, in turn, would promote children's literacy development. After all, once children can take pleasure in book reading, they may actively look for books and for opportunities to read alone or jointly with their parents.

Shared Reading in Chinese Societies

The foregoing findings are mostly observed in the Western societies where parents generally value storybook reading as a medium of family entertainment and reading together as a special time to share and bond with their children (Leseman & de Jong, 1998; Sonnenschein et al., 1997). Unlike American parents' relaxed and

fun approach to literacy learning, Chinese parents' approach to literacy learning is often more serious. For example, Johnston and Wong (2002) suggested that American parents viewed positive emotions as an important component during parent-child joint book reading, while Chinese parents were often reported for their emphasis on using picture books and flash cards for children to learn new words. This cross-cultural difference may be originated from the strong emphasis of academic achievement in Chinese societies. Since academic achievement is the most effective measure for transferring social stratification, Chinese parents are often highly engaged in their children's achievement-related activities compared to their Western counterparts (Huntsinger, Jose, Liaw, & Ching, 1997; Stevenson & Lee, 1990). Moreover, most Chinese parents believe preschool-age is the appropriate time to start literacy teaching, and regard literacy teaching at home a necessary preparation for elementary school (Jing, 2004; Li, & Rao, 2000). A study conducted in Hong Kong suggested that the majority of preschools start teaching children to read single Chinese characters as young as they are only three years old (Ho & Bryant, 1997).

Shared reading activities have been particularly introduced to Taiwan, a culturally Chinese society, during the last decade due to its multi-dimensional benefits in children's literacy development documented in the literature. Taiwan's Ministry

of Education formally announced the “National Children Reading Program” at the year 2000. Since then, parents have been encouraged to apply shared reading activity as a way to create positive learning environment at home. However, there are still few researches on joint book reading conducted in Taiwan. From a recent literature review by Chang and Liu (2011), three main findings from eighteen published studies were obtained: (a) a child’s reading attitude was related to the reading habits, educational levels, and occupations of his/her parents, (b) individual differences in parent-child interaction patterns during joint book reading were evident and these patterns varied across the age of the children, and (c) joint book reading practices at home facilitated children’s language ability (p.336). Chang and Liu’s (2011) conclusion corresponds with Hui and Salili’s (2008) study using a sample from Beijing, China. Hui and Salili (2008) examined the relation between home literacy and 3- to 6-year-olds preschoolers’ intrinsic motivation for reading. Among the home literacy variables, they found parental model of reading behaviors, number of books at home, and number of years of home teaching in Chinese characters significantly contribute to the Chinese preschoolers’ persistence and voluntary engagement in reading-related activities.

Nevertheless, the majority of the studies reviewed by Chang and Liu (2011) were collected by questionnaires or semi-structural interviews. Five of the eighteen

studies were designed to observe parent-child interaction during joint reading.

However, the coding schemes for these studies were designed to capture the narration of parents or children. Little is known about these parents' affective quality, responsiveness, or practices of cognitive guidance during joint reading.

There is one study conducted in the US but using Taiwanese sample to explore the parental behaviors during shared reading beyond narration per se. Wu (2007) conducted a multi-method research in the Tainan city to investigate the relation between Taiwanese mother's belief systems about reading, their shared reading behaviors, and their preschoolers' emergent literacy outcomes. Wu observed maternal reading strategies while reading together with their 3- to 5-year-olds and measured these preschoolers' language ability as the outcome variable. Results showed that the most frequently used maternal joint reading strategy was "pointing," followed by "asking convergent questions (e.g., yes/no questions)," "labeling/describing," "asking divergent questions (i.e., open-ended questions)," and "elaboration." The least used strategies were: "extending/correcting," "skills demonstration," and "asking prosocial elements." In addition, children's language outcomes were conversely predicted by maternal strategies of pointing" and "labeling/describing."

Unfortunately, Wu (2007) only explored maternal cognitive/linguistic guidance

but not maternal affective and responsive expressions during shared book reading, rendering no clue of how the affective component during shared reading in Chinese families may influence children's reading attitude and motivation or literacy achievement. Wu and her colleague (2010) further assessed maternal belief of early reading, which is likely to be a critical component for the affective expression that mothers display while reading to their children. Taiwanese mothers' belief about reading aloud for preschoolers was assessed by the Chinese version of Parental Reading Belief Inventory, PRBI (DeBaryshe & Binder, 1994), and was compared with that of DeBaryshe and Binder (1994) using an US sample. Through the questionnaire that mothers filled, they found 90% of the Taiwanese mothers agreed that parents should teach children how to read before they start school and they placed more value on the moral and practical knowledge that children would gain from storybook reading, whereas American parents viewed positive emotions during joint book reading as more important than other factors.

Findings from Wu (2007) and Wu and Honig (2010) are consistent with those of many cross-cultural studies between culturally Chinese and Western societies (Huntsinger, Jose, Liaw, & Ching, 1997; Johnston & Wong, 2002; Stevenson & Lee, 1990) indicating that education and formal learning is highly emphasized by Chinese parents. Based on the different attitude of Chinese parents as opposed to parents in

the Western societies on shared reading, it is worthwhile to investigate both the cognitive/linguistic and the socioemotional aspect of behavioral styles that the Chinese parents may particularly demonstrate when they interact with their children during shared reading activity and how the style would predict children's outcomes.

Reading Motivation of Chinese Children

In 2006, a total of 4589 Taiwanese 4th-graders attended the Progress in International Reading Literacy Study (PIRLS 2006) conducted by the International Association for the Evaluation of Educational Achievement. The goal of this international association is to measure trends in children's reading literacy achievement and practices related to literacy across countries. The results (Ko, Chan, Chang, & Yo, 2008) showed that the mean reading score from Taiwan was 535, slightly above the international mean score, 500. However, only 24% of the Taiwanese participants responded positively to the question "reading for fun on average reading every day or almost every day." The percentage was the lowest around the world (international mean value: 40%). Meanwhile, the report also indicated that Taiwanese parents read less by themselves. Even though the literacy resources in home environment that Taiwanese parents set up for their children (e.g. children's books) were richer than some other countries, the frequency of shared reading activities was lower.

It should be noted that the international report indicated that students with the most positive attitudes toward reading generally have the highest reading achievement. This result corresponds with prior Western findings that children's reading motivation poses an important part on literacy development (Baker et al., 2001; Lonigan, 1994; Scarborough & Dobrich, 1994; Sonnenschein, & Munsterman, 2002). Unfortunately, the PIRLS study seems to indicate that enjoyment to read is exactly from which most Taiwanese children lack.

Hence, the present study intended to develop a coding scheme to incorporate both the socioemotional and the cognitive aspect of joint reading behaviors particularly salient among Chinese parents in order to capture the factors that lead to limited general reading interest among Taiwanese children.

The Role of Child Gender and Maternal Educational Level in Shared Reading

When examining factors related to parent-child interaction during shared reading, child gender is often served as a controlled variable (Senechal, LeFevre, Thomas, & Daley, 1998). However, the role of child gender played in parent-child literacy interaction may worth investigating directly. For example, prior research have indicated that mothers pointed out letter details more often to boys (Evans, Barraball, & Eberle, 1998) and asked more *Specific Question* to girls (Meagher, Arnold, Doctoroff, & Baker, 2008). It seems that, while reading to their children, mothers

display different behaviors based on their children's gender. For example, Tamis-LeMonda, Briggs, McClowry, and Snow (2009) examined the relation between mother's parenting (control and sensitivity) and their 6- to 7-year-old children's behaviors during cooking task and clean-up task. Boys were observed with less responsiveness and task involvement than girls, and were rated by their mothers as having more behavior problems as well. In the meantime, their result revealed that mothers of boys exhibited less sensitivity and more control than mothers of girls. After controlling for mothers' sensitivity and control, gender difference in children's behaviors maintained. Tamis-LeMonda et al. concluded that, at this young age, boys' lower responsiveness and task involvement relative to girls was at least partly mediated by mothers' increased use of control and lower sensitivity since mothers of boys were aware of the behavioral problem that boys would exhibit. By the same token, it is interesting to understand how maternal behaviors and child's gender may interact in predicting child's reading motivation.

Maternal educational level is another variable that should be investigated carefully when studying the relation between maternal joint reading behaviors and child's literacy development. For example, Bus et al. (1995) compared the differences between middle-income and low-SES families over the frequency of storybook reading and parent-child interaction during joint reading. They found

children's literacy development was not decided by how enriched the written materials were in the environment, but by how strong of the parental ability to involve young children in literacy-related experiences. The extent that parents can facilitate children's reading involvement, in turn, may have a lot to do with their educational level. Past research has documented that higher maternal educational level predicted higher maternal sensitivity and higher scores from the Home Observation for Measurement of the Environment Inventory (HOME), which has been found to contribute to children's language and early literacy skills (Roberts, Jurgens, & Burchinal, 2005). By the same token, low-literacy parents were reported not as sensitive to their children as higher educated parents. They tended to control their children intrusively (Tamis-LeMonda et al., 2009). In contrast, parents of higher literacy valued informal and playful interaction as useful medium for literacy learning (Baker, Sonnenschein, & Gilat, 1996; Fitzgerald, Spiegel, & Cunningham, 1991; Goldberg, MacKay-Soroka, & Rochester, 1994; Sonnenschein et al., 1997). In addition, research using Taiwanese samples also indicated that parental educational level is a significant correlate of children's reading attitude (Chang & Liu, 2011). Since parents of different educational level may perceive children's learning in different ways, it would be interesting to understand whether parental educational level would moderate the relation between parental joint reading behaviors and

children's reading motivations.

In sum, both child gender and maternal educational level are worth further investigation in terms of their roles in bringing about children's reading motivations. Meanwhile, from the perspectives of both governmental institution and non-profit private sectors, or even pediatricians (Wu, Lue, & Tseng, 2012), that are interested in promoting parent-child joint reading activities in Taiwan, to provide appropriate guidance based on the specific characteristics of the child and the family background may help make joint reading a prolonged and well-liked family activity. Research on the moderating effect of maternal educational level and child gender on the relation between maternal behaviors and child reading motivation is the first step to reach this practical goal.

Behavioral Coding Scheme for Shared Reading Interaction

Derived from the above literature review, the present study firstly intended to capture the affective and socioemotional components of maternal behaviors during mother-child reading contexts and document how these dimensions of maternal behaviors are related with children's reading motivation, which are manifested in children's engagement during shared reading context as well as their everyday reading interest. Meantime, based on prior findings of Chinese parents' emphasis on academic effort and cognitive performance, this study was also interested in how

Chinese mothers would facilitate their preschool children's cognitive involvement in the joint reading activity. With the above goals in mind, this study developed a coding scheme to depict both the aspect of *Socioemotional Expression* and *Cognitive/Linguistic Guidance* from mother in joint reading contexts.

(1) Socioemotional Expression: Children's socioemotional development has long been associated with parenting behaviors. One factor that relates to parenting behaviors may be the goal that parents set in the hope to achieve while interacting with their children, which are frequently cited as pivotal in determining parenting practices (Coplan, Hastings, Lagace-Seguin, & Moulton, 2002; Dix as cited in Hastings & Grusec, 1998). Three broad categories of parenting goals, namely, the Parent-Centered, Child-Centered, and Relationship-Centered goal have been identified by Dix (as cited in Hastings & Grusec, 1998) and Grusec and Goodnow (1994). The Parent-Centered goal is associated with parenting behaviors aimed at disciplining and gaining immediate compliance from the child, and establishing parental authority. The Child-Centered goal is categorized as two goals: socialization goal--teaching a child an important value or lesson, and empathic goal--satisfying a child's emotional needs to promote positive feelings. The Relationship-Centered goal is referred to the parental desire to foster close and harmonious bonds within the family. Hastings and Grusec (1998) established the

link between goals and behavior and found that Parent-Centered goal was associated with higher rates of power assertion and lower levels of responsive actions, such as warmth and acceptance; conversely, Child-Centered goals were associated with low power assertion and higher responsiveness (empathic goal) and pursuing the use of reasoning (socialized goal). Relationship-Centered goal was associated with most warm, negotiating, and cooperative parenting behaviors.

The differentiation of Parent versus Child Centered goals and behaviors also corresponds with parenting models conceptualized by both Baumrind (1971) and Maccoby and Martin (1983). Specifically, research based on Baumrind's (1971) authoritative, authoritarian, and permissive typology has found that compared to authoritative parents, authoritarian parents were more likely to practice Parent-Centered goals and less to Child-Centered goals in their parenting techniques (Coplan, Hastings, Lagacé-Séguin, & Moulton, 2002). In addition, research based on Maccoby and Martin's (1983) two-dimensional model of parental warmth/responsiveness and control/demandingness has found that parental responsiveness, in concordance with the effect found for *Child-Centered* practice, significantly predicted children's academic readiness, self-regulation, and social competencies (Burchinal & Campbell, 1997; Kelly, Morisset, Barnard, Hammond, & Booth, 1996; Landry, Smith, Swank, Assel, & Vellet, 2001). On the other hand,

parental control/demandingness, in concordance with the effect found for Parent-Centered practice, was linked to children's negative affect, low mother-child mutuality, and less affection toward mothers (Culp, Hubbs-Tait, & Culp, 2000; Ispa et al., 2004).

In addition, parenting strategies often revealed in Chinese families may also be comprehended through the Western framework of Parent-Centered versus Child-Centered practice. For example, Chao (1994, 2001) as well as Lin and Fu (1990) reflected that Chinese parenting practices are more restrictive, controlling, and authoritarian than those from Western parents. If a child misbehaves or shows bad manners, it is viewed as a reflection of poor "cha chiao," and/or not well "guanad," which can be translated as "family education" and "governing/training" respectively (Kelly & Tseng, 1992). Consequently, "governing/training" (i.e., Guan) (Chao, 1994), which are often manifested in parental demand and power-assertion, may be regarded as Parent-Centered Behaviors.

In this study, mothers' *Socioemotional Expression* was categorized into two dimensions based on prior literatures: *Child-Centered* and *Parent-Centered Behavior*.

A. *Child-Centered Behavior*: *Child-Centered Behavior* was coded when mother displayed sensitive parenting in response to the child's need, showed positive affect, or provided an enjoyable interactive environment for her child to engage in reading

activities. Sometimes, the mothers may verbally invite their children to join the reading activity in a question format or they may adjust their prior unanswered questions to match better with the child's current state or comprehension ability. These two types of questions, although may differ largely in terms of content, both take the child's interest, ability, and state into consideration and may be regarded as a reflection of maternal sensitivity. Therefore, they were included in the coding dimension of *Child-Centered Behavior*. The coding scheme of *Child-Centered Behavior* consisted of six subcategories.

(a) *For Fun*: such as mother changing her voice to pretend to be the character(s) in the book, making gestures related to the story content, or reading aloud with an expressive tone.

(b) *Praise*: such as mother expressing a favorable justification about the child's behavior, either verbally or nonverbally.

(c) *Responsiveness/Sensitivity*: such as mother displaying contingent behaviors in response to the child's actions, and adjusting her own behavior according to her child's needs or abilities.

(d) *Positive Affect*: such as mother expressing warmth and emotional closeness with her child.

(e) *Q-Entertainment/Creativeness*: such as mother using creative, fun, and loving

tones to ask child questions in order to invite the child to join in the reading activity.

(f) *Q-Adjustment*: such as mother readjusting their unanswered questions to match better with the child's current state or comprehension ability (e.g., When one mother asked "What is this machine for?", if her child didn't know the answer, and the mother adjusted her question to "When your clothes are dirty, which machine will we put those clothes into?" then the latter question would be coded as *Q-adjustment*).

Past research have pointed out that the higher level of maternal responsiveness and sensitivity, the better in children's social, cognitive, and language development (Landry et al., 1997; Landry et al., 2001). Meantime, parents being warm and supportive positively predicted children's attentiveness and enthusiasm during story book interaction (Frosch, Cox, & Goldman, 2001). This research thus predicted that *Child-Centered Behavior* would positively predict children's reading interest and engagement.

B. Parent-Centered Behavior: *Parent-Centered Behavior* was coded when the mother followed her own agenda, showed power assertion on her child, or aimed at disciplining or gaining immediate compliance from her child. Specifically, the coding scheme of *Parent-Centered Behavior* consisted of five subcategories.

(a) *Demand on Tempo*: such as mother pushing the tempo of joint reading with no respect to the child's reading rhythm.

(b) *Discipline/Criticism*: such as mother exerting verbal or non-verbal intrusiveness over the child, criticizing the child, or applying disciplinary strategies such as love withdraw toward the child.

(c) *Directives*: such as mother verbally ordering her child to read.

(d) *Non-Responsiveness*: such as mother being uninvolved, lacking recognition of the child's need, and ignoring the child's interests and desires

(e) *Negative Affect*: such as mother speaking with a negative emotional tone or frowning disapproval at her child's behaviors.

Past research has indicated that the frequency or level of maternal intrusiveness was significantly and inversely correlated with 6-year-olds' language scores and academic competence (Olson, Bates, & Kaskie as cited in Culp, et.al. 2000). In addition, parental directives were found to inhibit a child's vocabulary development (Landry et al., 1997). Therefore, this study expected that maternal' *Parent-Centered Behavior* of exerting high demand over children and intrusiveness would hamper and thus negatively predict children's reading interest and engagement.

(2) Cognitive/Linguistic Guidance: Chinese parents often start to cultivate their children's academic working habit as early as possible. As a result, even in preschool years, parents may have already applied different ways of cognitive and linguistic guidance to advance their children's knowledge and improve their reasoning

ability. The aspect of *Cognitive/Linguistic Guidance* in the current coding scheme is referred to the literacy-related strategies that parents performed in order to teach new words, provide new information, and facilitate cognitive development via the reading material. This aspect consists of five dimensions.

A. *Teaching*: Traditionally, Chinese regard learning and knowledge acquisition being more effective through repetitive exposure and memorization. Johnston and Wong (2002) reported that Chinese parents used picture books and flash cards to teach their children new words and believe children learn best through formal instruction (Johnston & Wong, 2002). On the other hand, Wu (2007) indicated that Taiwanese mothers conceived that children would gain moral and practical knowledge from storybook reading. Therefore, in this study, *Teaching* included three subcategories.

(a) *Formal Learning*: such as mother teaching new words, correcting the child's verbal mistakes of grammatical or semantic errors, testing the child's counting or reading ability.

(b) *Moral Lesson*: such as mother emphasizing the manners or morally-correct act described in the book.

(c) *Q-Moral/Conventional*: referring to questions that were related with the book and, meantime, had something to do with observing manners, moral standards, and daily routine, such as being polite, saying "thank you," brushing teeth after meal,

cleaning up, etc.

The above definitions about *Teaching* were designed to specifically reflect the self-assumed role of Chinese parents in literacy activity. Teaching behaviors have been found to promote children's literacy ability (Evans, Shaw & Bell 2000; Senechal & LeFevre, 2002), but how it is related to children's reading interest and engagement in shared reading context is yet to be explored.

B. Elaboration: Mothers might bring out statements indirectly related with the content of the reading material, such as mentioning the past experiences of the child, drawing inferences from the texts, or predicting the story line with new terms.

Elaboration was divided into two subcategories in the current study.

(a) Elaboration: such as mother bringing up conversation that is related to the current reading material or the child's previously mentioned topic, yet she has elaborated the topic through mentioning child's past experience or extended the topic to provide new but related information

(b) Q-Past Experience: such as mother posing verbal questions to remind the child some past experience that was similar with the content of the book

Prior research has pointed out that using a wider and more complex variety of cognitive strategies, such as elaboration, was related to children's higher scores on tests of language skill (Roberts et al., 2005). The current study stretched the above

findings by expecting *Elaboration* may also relate positively with children's interest and engagement in joint reading.

C. *Pointing*: Pointing/labeling has been found to increase child responses and attentiveness during storybook reading (Justice & Ezell, 2002). Therefore, *Pointing* was coded whenever the mother pointed to words or pictures in the storybook.

D. *Specific Question*: Asking question during shared reading is one of the strategies that mothers usually used when interacting with children. Good questions posed at the right moment may facilitate further conversation and processing for complex ideas, while questions posed at the wrong moment or with irrelevant content may interrupt the ongoing thought flow and cool down the interaction. Since questions posed by mothers during joint reading contexts may serve different socioemotional/cognitive/linguistic functions, they were designated to different dimensions in the current coding scheme.

Specifically, when questions were not at all related to the current context, they were coded as part of *Non-responsiveness* in the *Parent-Centered* dimension of *Socioemotional Expression*. When questions were particularly designed by the mother to either entertain the child or make readjustment based on the child's state or need, they were included in the *Child-Centered* dimension of *Socioemotional Expression*. When the content of the questions were related to the reading material

but seemed to connote moral/conventional teaching, they were included in the *Teaching* dimension. When the content of the questions matched with the reading material but seemed to extend to the child's own past experience, they were included in the *Elaboration* dimension. There are still other questions posed by mothers that were related with the content of the reading materials. Some of them were straightforward question about the content of the book with a fixed answer, while the others were more open-ended that seemed to bid for deeper thinking or conversation. These questions were included either in the dimension of *Specific Question* or *Open-Ended Question*. In the dimension of *Specific Question*, only one subcategory of *Q-Fact* was coded.

(a) *Q-Fact*: referring to the questions destined with specific answers most likely findable in the text of the reading material (e.g. "what is it?")

E. Open-Ended Question: *Open-Ended Question* may allow children to practice skills of decontextualized language. Children's experience with decontextualized language that often requires high cognitive demand has been suggested to predict later language ability and school success (Haden, Reese, & Fivush., 1996). In addition, Open-ended questions that parents spontaneously offer during joint-reading may help children gain vocabulary as well as motivate their interest in literary materials and related activities (DeBaryshe, & Binder, 1994; Karrass, & Braungart-Rieker, 2005;

Ortiz et al., 2001; Sorsby, & Martlew, 1991). There were two subcategories of *Open-Ended Question* in this coding scheme.

(a) *Q-Open*: referring to questions without fixed answers and subject to the child's own opinion (e.g., "How would you do if you were that boy?")

(b) *Q-Cognition*: referring to questions that may potentially elicit the child to think in depth, such as questions about the concept of length, shape, and size (e.g., "Which one is longer?")

In sum, the coding scheme developed in this study incorporated both the *Socioemotional Expression* and the cognitive/linguistic guidance of joint reading behaviors as well as the behaviors that may be particularly salient in Chinese parents due to their belief in formal instruction and the power of practicing and drilling.

Overview of the Current Study

This study intended to investigate how Taiwanese mothers' joint reading behaviors contribute to preschool children's motivation that is measured by their everyday reading interest and engagement in a joint reading context. Although shared reading activities have been encouraged by the Taiwanese government and educators since the past decade, it is not a traditionally common home activity for Chinese families. Instead, Chinese parents may take literacy learning more seriously because they conceive themselves as having the responsibility of ensuring their

children being educated well (Chao, 1994). Therefore, some culture-specific maternal behaviors were incorporated in the behavioral coding scheme to better capture the variety of Chinese mothers' shared reading behaviors. In the present study, we specifically targeted at 4- to 5-year-old preschoolers and their mothers because, at this age, literacy activities are often considered by adults as particularly crucial in facilitating children's language skills and cognitive ability.

Since regarding jointly reading with one's parent as fun, warm, and rewarding may increase preschoolers reading interest, which, in turn, may inspire the child to actively seek all sorts of literacy activities and eventually benefit the child's language skill in general (Scarborough & Dobrich, 1994), this study assessed children's everyday reading interest and engagement in joint reading contexts as the outcome variables. Children's reading interest was reported by mothers through questionnaire asking the frequency that the child actively looks at books at leisure time and asks to be read to. Children's reading engagement was assessed through observers' ratings of children's behavior and emotion during two experimental sessions of joint reading. By acquiring the outcome measures both from mothers and observers and by assessing children's reading motivation both through their daily activities and behaviors during standardized observational sessions, this study adopted a multi-method/multi-informant approach in order to capture a thorough view of

children's reading motivation.

Each dyad was invited to participate in two reading sessions. In the first reading session, the dyad was to jointly read an unfamiliar book and in the second session the dyad read a familiar book that they had already brought home for one week. Researchers argued that different degrees of familiarity to the books may elicit different types of talk, and mothers may view familiar and unfamiliar books as fulfilling different discourse functions (Goodsitt, Raitan, & Perlmutter, 1988; Haden et al., 1996; Torr, & Clugston, 1999). For example, Goodsitt et al. (1988) noted that children who are repeatedly exposed to and read to with the same book are familiar with the context of the book, and that allows them to increase their active participation during joint reading. Under such circumstances, mothers would aid the child less in comprehending the book but demand the child to engage more profoundly while jointly reading a familiar book (Phillips & McNaughton, 1990). In addition, parents are more likely to point out the relation between the text and the child's own experiences when they jointly read a familiar book; consequently, familiar books produce more conversational interchange between mothers and preschoolers than do unfamiliar books (Hayden & Fagan, 1987; Goodsitt et al., 1988).

Nevertheless, the effect of different book genre on maternal behaviors or on children's reading motivation were not of interest in the present study. Instead, the

goal of the current study was to investigate how commonly implemented maternal joint reading behaviors among Chinese mothers are related with preschoolers' reading motivations. Since reading books with different levels of familiarity or book genre would be the conditions that usually occur in daily life, the current design was to sample a large enough portion of mothers' joint reading behaviors. Therefore, the participating dyads were asked to read two different books with different content and different levels of familiarity in the two sessions such that it would provide a more complete picture of the dyadic interaction in joint reading contexts.

A coding scheme for observing maternal behaviors during shared reading was developed including some dimensions that were documented in Western literature and some considered common in Chinese families. Maternal behaviors in the aspect of socioemotional expression and cognitive/linguistic guidance were both included in the coding scheme. Behaviors in the former dimension represent the quality of parenting practice included *Child-Centered Behaviors* and *Parent-Centered Behaviors*. Behaviors in the latter reflect maternal strategies to guide the child through the content and the connotation in the text.

Past research on the Western families has revealed warmth/responsiveness (i.e., *Child-Centered Behaviors*) was positively related to children's literacy development (Burchinal & Campbell, 1997; Kelly et al., & Booth, 1996; Landry et al., 2001), while

control/demandingness (i.e., *Parent-Centered Behaviors*) was conversely associated with children's literacy development (Culp et al., 2000; Ispa et al., 2004). However, recent cross-cultural comparison of school-age children and adolescents indicated that despite Chinese parents exerted more psychological control in children's learning, heightened parental involvement predicted children's enhanced engagement positively (Cheung & Pomerantz, 2011). Therefore, on the one hand, this study hypothesized that if mothers demonstrated more *Child-Centered Behaviors* during joint reading, their children would be observed as engaging in more in reading activities and reported with higher reading interest. More *Parent-Centered Behaviors* was expected to predict negatively to child's reading interest and engagement. On the other hand, this study would document whether maternal control, drilling, and non-responsive behaviors would indeed hamper children's reading motivation as found in their Western counterparts or facilitate children's reading motivation through the relatedness established through long-term involvement of the Chinese mothers.

Finally, given the prior results indicating that boys are more active, and less coordinated in emotion regulation (Knight et al., 2002), it is reasonable to expect that, to facilitate preschoolers' reading interest and engagement, mothers may need to adjust their joint reading strategies based on the child's gender. Therefore, this study

intended to document whether child gender plays a moderating role in the association between maternal joint reading behaviors and child reading interest and engagement. Prior research has not attempted to treat child gender as a moderator in the effect of joint reading behaviors. Consequently, this study did not pose any specific hypothesis in this part of investigation. However, since prior research has indicated that mothers treat boys and girls differently in their frequency of pointing out letter details (Evans et al., 1998) and the style of asking questions (Meagher et al., 2008) in joint reading contexts, it would be worth investigating whether the maternal behaviors that have often been found to apply on children of a particular gender would truly benefit more for children of that gender. Therefore, in reference to Evans et al. (1998), this study asked whether specific instruction of the print in the story book (i.e., maternal *Teaching*) would benefit boys' reading interest and engagement more than that of girls; and, in reference to Meagher et al. (2008), this study asked whether the frequency of *Specific Question* asked by mothers would positively relate to girls' reading interest and engagement more than those to boys.

Maternal educational level (Roberts et al., 2005; Tamis-LeMonda et al., 2009) have also been found to contribute to children's literacy development positively. The results from a study (Wu & Honig, 2010) investigating Taiwanese mothers revealed that more highly educated mothers had higher belief on the contribution of

parental involvement to child's formal learning and gains from reading storybooks.

In the meantime, these mothers themselves read more and reported significantly more books in the home, which may also affect children's emergent literacy behaviors such as emergent reading and writing. Moreover, recent studies (Chen et al., 2000; Chen & Luster, 2002; Xu et al., 2005) indicated that mothers with higher education are more likely to be influenced by western culture, which might lead them to prefer authoritative parenting rather than authoritarian parenting. In sum, prior research has already documented that mothers with different educational levels treat their children differently for cultivating their literacy development. Nevertheless, whether Chinese mother's educational level would predict child's reading motivation, manifested in their interest and engagement, or moderate the relation between maternal reading behaviors and child's reading interest is yet to be explored. This question is important because reading motivation may cultivate the individual to become a long-term reader, which may be more critical to cognitive development than emergent literacy ability. Moreover, it would be especially beneficial to understand the differential effect of different components of joint reading behaviors of highly educated and not-so-well educated mothers on children's reading interest. A significant moderating effect would shed light for educators and pediatricians because it may suggest that there are different ways to encourage and train mothers to apply

joint reading activities with their young children to facilitate their reading motivation that may benefit the particular child in the years to come.



Method

Participants

This research followed the ethical principles of Taiwanese Psychological Association and was approved by the Research Ethics Committee, Department of Psychology, National Taiwan University (approval number: 9911004). The participating parent-child dyads were recruited from kindergartens in Loudong Town in Yi-Lan county located in the northeastern area of Taiwan.

A total of sixteen out of the twenty kindergartens contacted by the researchers agreed to help deliver the invitation letters to parents of 4- to 5-year-olds (see appendix A). Fifty-three dyads (10 % of the invited families) participated in this study. Nine of them were from public schools (17 %), and the other forty-four dyads were recruited from private schools (83 %). All but one adult in the participating dyads was not the child's mother but grandmother, who was the child's primary caregiver. The participating children's mean age was 55.22 months ($SD = 3.40$ months; range: 50-60 months, 31 boys and 22 girls) and the mean age of the 52 participating mothers was 35.33 years ($SD = 3.76$ years; range: 28-47 years). The only grandmother was 55 years old. The averaged educational level of the adults was 15.30 years (12 years = graduated from high school; $SD = 2.28$ years, range = 9-22 years). Two of the 53 dyads did not show up for the second visit. As a result,

a total of 51 dyads (21 girls and 30 boys) remained for the subsequent analyses.

Procedure

Procedure overview: Each participating dyad completed two 10-minute shared reading sessions that were 7 to 14 days apart. The sessions were held and videotaped at either the child's kindergarten or the Children's Reading Room at the Saint Mary Hospital in Loudong. The mothers also completed two questionnaires about family demography and literacy environment at home.

Shared-reading sessions: Before videotaping the first shared reading session (Session A), the researcher explained the procedure and an informed consent was signed by the mother. Mothers also completed the family demography and home literacy environment questionnaire. The mother-child dyads then proceeded to Session A. All dyads were provided with the same children's book in Session A (100 層樓的家。文、圖：岩井俊雄；譯：周佩穎；小魯文化出版)。 If the child had already read this book prior to this visit, it was substituted by a then newly published book written by the same author with similar story framework (地下 100 層樓的家。文、圖：岩井俊雄；譯：周佩穎；小魯文化出版)。 If this second choice was also read before, a book entitled 30 隻貓咪 30 層樓 (文、圖：安井寄子，山田比呂美；譯：林嘉麗；大穎出版社) would be used. In any case, the priority was always 100 層樓的家, 地下 100 層樓的家, then 30 層樓的 30 隻貓咪。 If the child was familiar with

all of the three books, the least familiar one would be used. Mothers were told that they could read the book to their child as the way they usually would at home. Then the dyad was left alone in the recording room for ten minutes. Upon the completion of Session A, another story book (媽媽買綠豆。文：曾陽晴；圖：萬華國。信誼基金出版社。) was given to the child to bring home, and the mother was told to read this book with her child at home and to bring this book back for the second shared book reading recording session (Session B).

The mother-child dyads were given the same instruction for Session B just that, because the text of the second book was shorter and probably also because most dyads had already jointly read this book for many times in the last one to two weeks, many dyads finished the reading session less than ten minutes. The videotaping was then stopped once the dyad had finished the last page of the text.

Reading materials: The book for session A was 100 層樓的家 that describes a little boy's adventure in a tall building with one hundred floors, where there is one different type of animal living in every ten floors. The book introduces not only a variety of animals and describes the idiosyncratic activities related to each specific type of animals but also the daily activities that children of kindergarteners' age are used to, such as eating, bathing, exercising, and brushing teeth. The pictures in this book can be easily used for adults as a medium for testing children's cognitive ability,

initiating discussion, or teaching new knowledge, manners, and moral standards.

Meanwhile, the text and the structure of the story of this book is relatively easy.

Thus, even for the mothers being not used to parent-child shared-reading activities, they would not easily feel intimidated or frustrated.

The book for session B was 媽媽買綠豆, which has been a classical and popular picture book in Taiwan for more than two decades. It illustrates a series of mother-child joint activities such as shopping, cooking, and planting. The text is also simple and concise parallel to the reading level of the books chosen for Session A.

Questionnaires: The questionnaire for family demographic information includes items surveying parental age, educational level, and occupation, as well as child's age, gender, birth order, and total number of siblings. The questionnaire for literacy environment at home includes three subscales. The subscale of maternal reading habit includes items such as the degree of mother's reading interest, mother's frequency of reading in general and her reading activities often held in front of her child. The subscale of literacy practices at home includes items such as the frequency of mother-child shared reading and the reading materials available at home. Because these two subscales were not the focus of this study, they were excluded from further statistical analyses. The third subscale of children's reading interest

includes items such as child's frequency of looking at books during leisure time and the frequency of asking to be read to. Maternal rating of these two items was averaged and designated as one of the two outcome variables for this study.

Coding system for maternal behaviors in shared reading interaction: Based upon the empirical findings from Lay and Chen (2010) using the Q-set of Maternal Play (2nd ed.) in describing maternal behaviors in mother-child interaction as well as the observational studies of shared reading by Dodici, Draper, and Peterson (2003), Frosch et al., (2001), Meagher et al., (2008); and Vandermaas-Peeler et al., (2009), a coding system was designed specifically for this study to capture a variety of maternal verbal and non-verbal behaviors during the two shared-reading sessions. The Q-set of Maternal Play 2nded, was developed by Lay and Chen (2010) to quantify maternal behaviors during free-play session with her child through fifty-four items. These items included a wide range of maternal behavior to describe the cultural differences of maternal play behaviors between Chinese mothers and American mothers during free-play task with their 4 to 5-year-olds preschoolers. This coding scheme was an attempt to provide a broad spectrum of descriptors of maternal behavior including her interactive style, her sensitivity to child's state, and the extent to which the mother reflects the child's needs. Besides, it could reflect cultural difference in child rearing practice. Results revealed that Chinese mothers were more likely to use teaching

and directives, while mothers from the US applied marginally more praises and affections. Though QMP was not designed for observation of parent-child interaction during shared reading, the main dimensions were consistent with the central idea in present study that shared reading is a socioemotional process that parental practice played an important role. In a word, the coding scheme here is not only in reference to the construct focusing on the shared reading per sec in prior researches (Dodici, 2003; Frosch et al., 2001; Meagher et al., 2008; Vandermaas-Peeler et al., 2009), but also in reference to the construct of Q-set of Maternal Play to observe a broad spectrum of parental practice during parent-child interaction.

In the original coding scheme (see Appendix), a total of twenty types of maternal behaviors were coded for each session by two trained observers. Time sampling method with intervals of 20 seconds in length applied to describe the maternal behaviors during each session. Thus the maternal behaviors in a total of thirty intervals in ten minutes for each session were coded. The observer coded whether each particular type of maternal behavior had been displayed in each interval. The final score for each type represents the total number of intervals that the behavior was present. Thus the range of the score of each behavioral type is from 0 to 30. Since many dyads ended Session B earlier than ten minutes, the raw scores in each type of

Session B were first divided by the total number of intervals that the session lasted.

Then the number was again multiplied by 30 (examples of some maternal behaviors coded were at appendix 9).

After all the videotaping records of 51 dyads have been observed and coded into frequency counts, the raw data of the twenty types of behaviors was reorganized into eleven categories then further into six major dimensions according to the related connotation of these behaviors (see Table 1), whereas two items were excluded at the least: *Negative affect* due to related lower frequency, and *Pointing* to forbid the ceiling effect. The six dimensions and their contents are:

(1) Child-Centered Behavior -- (a) *Funny and Animated Atmosphere* (reorganized with *For Fun* and *Q-Entertainment*), (b) *Praise*, (c) *Responsiveness/Sensitivity* (reorganized with *Responsiveness/Sensitivity* and *Q-Adjustment*), (d) *Positive Affect*;

(2) Parent-Centered Behavior – (a) *Control* (reorganized with *Demand on Tempo, Discipline/Criticism* and *Directive*), (b) *Non-Responsiveness*--kept as original content;

(3) Teaching – reorganized with *Formal Learning, Moral Lesson* and *Q-Moral/Conventional*;

(4) Elaboration—reorganized with *Elaboration* and *Q-Past Experience*;

(5) *Specific Question*—as original content of *Q-Fact*;

(6) *Open-Ended Question*—reorganized with *Q-Open* and *Q-Cognitive*

The dimension scores were calculated by summing up the frequency count of all the behaviors belonging to the particular dimension, which was then divided by the total amount of categories included in that dimension. The inter-rater reliability on 25% of session A was $k = .87$ (range=.75--.94), of session B was $k = .88$ (range= .75-.95).

Child's engagement in joint reading: Another outcome variable in the present study was the extent of the child's engagement during mother-child joint reading. The score was a global rating of how engaged and interested the child appeared to be in the particular joint reading session. Right after they finished the time sampling coding of maternal behaviors, observers rated each participating child's engagement level during Session A and Session B separately. Rating for child's engagement includes three 5-point Likert scale items, namely, 1) the child's physical orientation towards the book and the mother, 2) the child's overall level of alertness as indicated by posture and enthusiasm of expression, 3) the child's response to mother's request. The inter-rater correlation of the child-engagement score on 25% of the session A was $.52$ ($p < .05$), session B was $.61$ ($p < .01$).

Table 1

Definition and Examples for Maternal Reading Behaviors

	Item	Definition	Example
<i>Child-Centered Behavior</i>	Funny and animated atmosphere	Mother builds up an atmosphere for child to enjoy shared reading	Mother changes her voice /behavior to pretend to be the character(s) in the book. Mother admires the creation in the book and says: "Hey, the book is so funny!" Mother creates interesting activities, such as:"Let's look up to see the building."
	Praise	Mother expresses a favorable judgment about the child's behavior	Mother says:"Good!" "Well done! in response to child's answer or response. Mother gives a "thumb up."
	Responsiveness	Mother responses timely, contingently, and with proper quality to child's requests or behaviors	Mother gives oral or behavior response to child's questions or answers, or follow child's reading tempo.
	Positive Affect	Maternal positive facial expression or vocal tone	Mother smiles or shows enthusiasm.
<i>Parent-Centered Behavior</i>	Control	The exertion of pressure over child with such methods as discipline, commands, directives, and love withdrawal	"It has been taught before, you should have learned." "You always violate rules." "Concentrate!" Mother is physically intrusive or restrains child. e.g., forcing child to follow her reading tempo before the child is ready.
	Non-Responsiveness	Lack of recognition of child's need or ignoring child's interests and desires.	Mother's facial and vocal expressions look detached and cold. Mother ignores child's questions or explicit requests.
<i>Teaching</i>	Formal learning	Mother teaches child through formal learning, such as instruction, testing, correcting, and demanding repetition	Mother demands child to learn new words or syntax, or tests child's counting or reading ability.
	Moral Lesson	Mother talks about social pragmatics or moral lessons	Mother reminds child to cherish the book binds, or says:"The boy is a good child, who says <i>Thank you</i> and <i>Please</i> all the time."

(continued)

Table 1

Definition and Examples for Maternal Reading Behaviors

<i>Elaboration</i>	Mother brings out new information or past experiences that is not directly from the reading material	“When you were a baby, you also ate like that way.” “Frog lives in the water and that’s why they need to collect water in the house.”
<i>Specific Question</i>	Mother poses questions destined with specific answers most likely findable in the reading material	“What is it?” “What is that boy doing?” (Yes/no questions was not included in this category.)
<i>Open-Ended Question</i>	Mother poses questions without fixed answers and subject to the child’s own opinion	“How do you think why the boy is afraid of drinking the juice?”



Results

Preliminary Analyses

The means, standard deviations and intercorrelations of all measured variables for the entire samples are listed in Table 2. The descriptive statistics and the examination of differences between gender and between high and low maternal educational level are presented in Table 3. The mean frequency of the six dimensions of maternal behaviors in the two reading sessions is also shown in Figure 1.

As shown in Table 3 and Figure 1, across both reading sessions, the most frequently applied maternal behavior was posing “*Specific Question*,” followed by practicing “*Child-Centered Behavior*,” posing “*Open-Ended Question*,” and “*Elaborating*” from the reading materials. “*Parent-Centered Behavior*” and “*Teaching*” were the least applied behaviors during the joint reading sessions. None of the mean frequency of each dimension of maternal behaviors displayed in the two sessions was significantly different. As shown in Figure 2, mothers in the higher bracket of educational level (≥ 16 years) displayed significantly less *Parent-Centered Behavior* ($t(48) = 3.43, p < .001$) and asked significantly more *Open-Ended Questions* ($t(48) = -2.81, p < .01$) during Session A than those in the lower bracket of educational level (≤ 14 years). The frequencies of displaying *Child-Centered Behavior* ($t(48) = -1.69, p < .1$), asking *Specific Question* in the story book ($t(48) = -1.82, p < .1$) in

Table 2.

Bivariate Correlations Among Study Variables

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1.Materanl education	15.31	2.27	----																
2.Child gender ^a			.17	---															
Session A																			
3.Child-Centered A	11.15	2.56	.29*	-.01	---														
4.Parent-Centered A	1.84	2.26	-.53**	.14	-.21	---													
5.Teaching A	1.22	1.55	-.01	.16	-.09	.30*	---												
6.Elaboration A	3.75	2.76	.12	.01	.15	-.05	.26	---											
7.Specific Question A	14.37	5.42	.12	.14	.13	-.07	-.06	-.06	---										
8.Open-end question A	5.59	4.33	.26	.10	.06	-.11	.13	.05	.32*	---									
Session B																			
9.Child-Centered B	10.74	2.79	.09	-.09	.59**	-.18	.11	.10	-.24	-.12	---								
10.Parent- Centered B	2.07	2.85	-.40**	.10	-.26 ⁺	.45**	.02	-.19	-.05	-.10	-.18	---							
11.Teaching B	1.49	1.33	.03	.10	.08	.16	.53**	.10	-.04	.03	.11	.08	---						
12.Elaboration B	3.91	3.27	.17	.02	.14	-.09	.28*	.32*	-.14	.02	.10	-.22	.19	---					
13.Specific Question B	14.09	7.43	-.10	.25	-.19	.06	-.07	-.07	.33*	.18	-.24 ⁺	.09	-.23	-.41**	---				
14.Open-end question B	6.57	4.87	.09	.05	.14	-.14	-.01	-.03	.19	.30*	-.12	-.31*	-.06	-.05	-.08	---			
Child reading motivations																			
15.Child engagement A	4.53	.65	.10	.15	.30*	.03	.19	.16	.03	-.04									
16.Child engagement B	4.47	.64	.06	-.01							.41**	-.30*	-.15	.17	.03	-.14	---		
17.Child reading interest	4.16	.86	.26	-.32*	.22	-.29*	-.01	.05	-.05	.03	.10	-.39**	.20	-.02	-.39**	-.03	.03	-.01	

Note. a: girl/boy: 21/30

⁺ $p < .1$. * $p < .05$. ** $p < .01$.

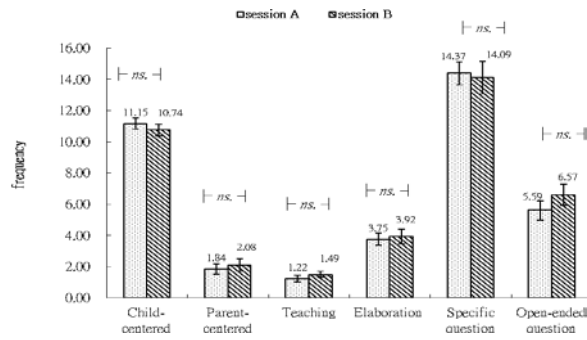


Figure 1. Frequency of the six maternal behaviors in two sessions

Note. ns: non-significant

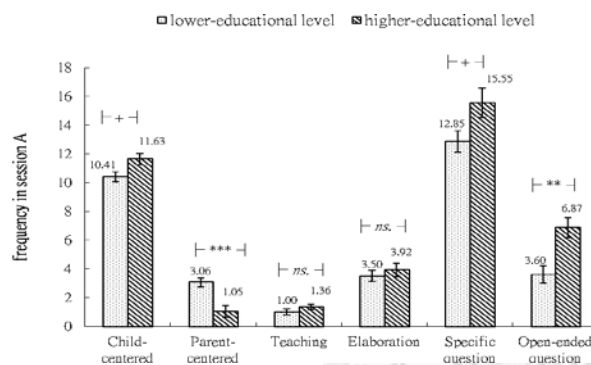


Figure 2. Frequency of maternal behaviors between different maternal educational level in session A

Note. ns: non-significant

+ $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

session A were also marginally higher for the more highly educated mothers.

However, as shown in Figure 3, mothers in the upper and lower brackets of

educational levels did not differ in terms of frequency in any of the behavioral

dimension measured during Session B. Mothers of boys versus girls did not reveal

different degree of behavioral frequency in any of the dimension measured in either

Session A or Session B.

Table 3

Means and Standard Deviations of Study Variables for Child's Gender and Maternal Educational Level

	<u>Girls (n=21)</u>			<u>Boys (n=30)</u>			<i>t</i>	<u>Education<=14</u>			<u>Education>=16</u>			<i>T</i>
	Mean	<i>SD</i>	Skewness	Mean	<i>SD</i>	Skewness		Mean	<i>SD</i>	Skewness	Mean	<i>SD</i>	Skewness	
Maternal education (y)	14.86	1.74	-.51	15.63	2.55	-.22	-1.21	13.05	1.36	-1.51	16.77	1.33	2.24	-9.67***
<u>Shared book reading behaviors (1-30)</u>														
Session A														
Child-Centered Behavior A	11.17	2.65	-.68	11.13	2.55	-.04	.59	10.41	2.76	-1.51	11.63	2.35	-.30	-1.69 ⁺
Parent-Centered Behavior A	1.48	2.22	2.75	2.09	2.29	1.54	-.96	3.06	2.98	-.13	1.05	1.11	1.10	3.43***
Teaching A	0.93	1.14	1.19	1.43	1.77	2.11	-1.13	1.00	1.01	1.00	1.36	1.82	1.94	-.81
Elaboration A	3.74	2.64	1.09	3.77	2.88	.69	-.04	3.50	2.73	1.48	3.92	2.81	.70	-.53
Specific Question A	13.48	5.92	-.24	14.99	5.05	.01	-.98	12.85	5.75	1.06	15.55	4.76	-.45	-1.82 ⁺
Open-Ended Question A	5.10	4.85	1.08	5.93	3.97	.69	-.68	3.60	3.08	.22	6.87	4.57	.51	-2.81**
Session B														
Child-Centered Behavior B	11.03	3.41	.83	10.54	2.30	.44	.60	10.8	2.49	.03	10.70	3.01	3.07	.13
Parent-Centered Behavior B	1.73	2.10	1.29	2.31	3.29	1.87	-.72	2.85	3.33	1.65	1.57	2.42	1.18	1.59
Teaching B	1.34	1.07	.34	1.59	1.50	.97	-.67	1.35	1.36	1.04	1.58	1.33	.94	-.60
Elaboration B	3.85	2.87	.29	3.95	3.57	.82	-.12	3.51	2.79	.50	4.17	3.57	.67	-.70
Specific Question B	11.86	7.97	.66	15.65	6.73	.14	-1.83 ⁺	14.18	7.99	.21	14.03	7.18	.28	.07
Open-Ended Question B	6.28	5.40	1.35	6.77	4.54	1.56	-.35	6.70	5.99	1.58	6.48	4.09	.88	.15
<u>Child reading motivation(1-5)</u>														
Child engagement A	4.41	.72	-.97	4.61	.60	-1.75	-1.04	4.46	.73	-1.30	4.57	.61	-1.38	-.59
Child engagement B	4.48	.67	-1.26	4.46	.63	-1.19	.08	4.48	.52	-.85	4.46	.71	-1.22	.14
Child reading interest	4.48	.60	-1.04	3.93	.94	-.62	2.32*	3.95	.93	-.60	4.29	.79	-1.23	-1.40

⁺ $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

According to the zero-ordered correlation matrix of maternal shared-reading behaviors (see Table 2), while the mother-child dyad was jointly reading an unfamiliar book (session A), mothers with stronger tendency to apply *Parent-Centered Behavior* were more likely to display *Teaching* behavior ($r = .30, p < .05$); and those who were prone to ask *Specific Question* were also the ones who offered more *Open-Ended Question* ($r = .32, p < .05$). On the other hand, while the dyad was jointly reading a familiar book (session B), mothers who were more likely to ask *Specific Question* to children were also the ones that reflected less *Elaboration* ($r = -.41, p < .001$), and marginally tended to display less *Child-Centered Behavior* ($r = -.24, p = .096$). Moreover, mothers who were inclined to initiate *Open-Ended Question* were less likely to present *Parent-Centered Behavior* ($r = -.31, p < .05$).

Central Analysis

The central goal of this study is to investigate how maternal reading behaviors are related with children's concurrent engagement tendency and their reading interest in daily life as well as whether the relation may vary with child's gender and maternal educational level. Thus the following hierarchical regression analyses started by entering one dimension of maternal behavior as the first model, and was followed by adding either child gender or maternal education. Finally, the interaction term of the maternal behavior and the moderator (gender or educational level) was entered as the

third step. Since there were two outcome variables of children's concurrent engagement and reading interest, two sets of regression analyses were conducted separately for the two outcome variables.

Contributions of Maternal Reading Behaviors to Children's Reading

Engagement with Child Gender and Maternal Education as Moderators : First,

two sets of hierarchical regression analysis on the observers' rating of children's concurrent engagement in the joint-reading laboratory session were conducted using the indicators of maternal behaviors in either Session A or Session B as the predictors.

To examine the moderating effect of maternal education and child's gender separately, the interaction of each maternal behavioral dimension and the moderator was analyzed separately, resulting in twelve (6 behavioral dimensions x 2 moderators, see Table 4-1, 4-2, 4-3, 4-4) regression analyses for each session.

The only maternal behavioral dimension that could significantly predict children's concurrent engagement in Session A was *Child-Centered Behavior* ($\beta = .30$, $p < .05$) (see Table 4-1, 4-2). Neither child's gender nor maternal education that was entered secondly contributed significantly in predicting children's reading engagement. However, results of the third step of the regression indicated that maternal education but not child's gender played a significant role in moderating the

Table 4-1

Hierarchical Regression Analyses for Predicting Child Engagement in Session A with Maternal Educational Level as Moderator

Maternal behavior	Child-Centered Behavior			Parent-Centered Behavior			Teaching		
	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β
Step 1	.09*	.07*		.00	-.02		.04	.02	
Maternal behavior			.30*			.03			.19
Step 2	.00	.05 ⁺		.02	-.02		.01	.01	
Maternal behavior			.30*			.10			.19
Maternal education			.01			.15			.10
Step 3	.00	.04		.10*	.07		.01	-.01	
Maternal behavior			.28 ⁺			.42 ⁺			.17
Maternal education			.00			.19			.11
Behavior X education			-.07			.44*			.08
		Elaboration		Specific Question			Open-Ended Question		
	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β
Step 1	.02	.00		.00	-.02		.00	-.02	
Maternal behavior			.16			.05			-.04
Step 2	.01	-.01		.01	-.03		.01	-.03	
Maternal behavior			.15			.04			-.07
Maternal education			.08			.09			.11
Step 3	.08*	.05		.03	-.02		.06 ⁺	.02	
Maternal behavior			.15			.02			-.13
Maternal education			.04			.04			.26
Behavior X education			-.29*			-.17			.28 ⁺

⁺ $p < .1$. * $p < .05$.

predictability of some of the maternal behaviors to child's engagement.

Specifically, maternal education was either a significant or marginally significant

moderator for *Parent-Centered Behavior* ($\beta = .44$, $p < .05$, see Figure 3-1),

Elaboration ($\beta = -.29$, $p < .05$, see Figure 3-2), and *Open-Ended Question* ($\beta = .28$, p

$= .09$, see Figure 3-3) in predicting child's reading engagement. As shown in Figure

3-1, while jointly reading an unfamiliar book, highly educated mothers were more

Table 4-2

Hierarchical Regression Analyses for Predicting Child Engagement in Session A with Child Gender as Moderator

Maternal behavior	Child-Centered Behavior			Parent-Centered Behavior			Teaching		
	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β
Step 1	.09*	.07*		.00	-.02		.04	.02	
Maternal behavior			.30*			.03			.19
Step 2	.02	.08 ⁺		.02	-.02		.01	.01	
Maternal behavior			.30*			.01			.17
Child gender			.15			.15			.12
Step 3	.04	.10 ⁺		.04	.00		.00	-.01	
Maternal behavior			.52*			.26			.04
Child gender			.15			.31 ⁺			.13
Behavior X gender			-.29			-.38			.14

	Elaboration			Specific Question			Open-Ended Question		
	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β
Step 1	.02	.00		.00	-.02		.00	-.02	
Maternal behavior			.16			.05			-.04
Step 2	.02	.01		.02	-.02		.02	-.02	
Maternal behavior			.16			.03			-.06
Child gender			.15			.14			.15
Step 3	.00	-.01		.00	-.04		.03	.00	
Maternal behavior			.12			.06			-.23
Child gender			.15			.23			.16
Behavior X gender			.04			-.10			.25

⁺ $p < .1$. * $p < .05$.

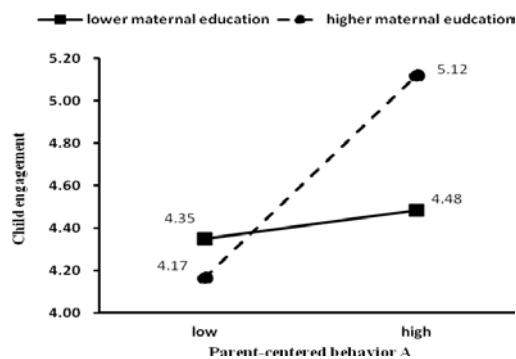


Figure 3-1. The interaction between Parent-Centered Behavior and maternal educational level on child engagement in session A

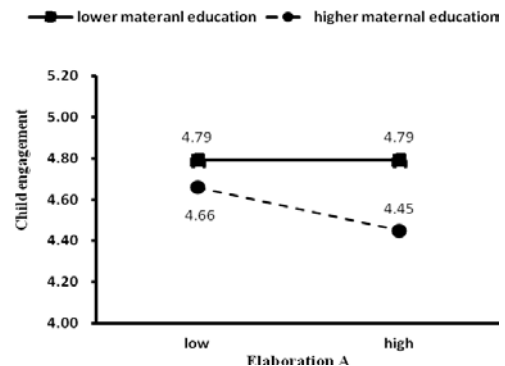


Figure 3-2. The interaction between Elaboration and maternal educational level on child engagement in session A

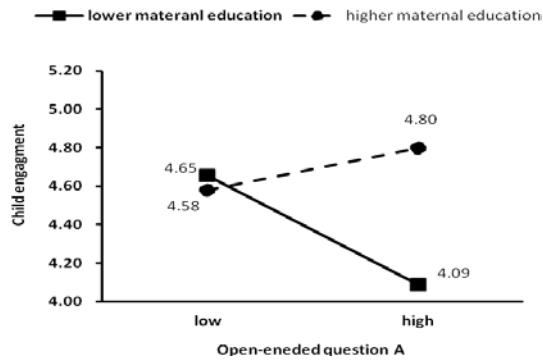


Figure 3-3. The interaction between *Open-Ended Question* and maternal educational level on child engagement in session A

likely to have their children engaging in the reading activity when they displayed more *Parent-Centered Behavior*. However, this effect was not significant for mothers in the lower bracket of educational level. The more mothers in the higher bracket of educational level *elaborated* the story, surprisingly, the less likely their children would be engaged in jointly reading an unfamiliar book with mother; while there was no such tendency for mothers in the lower bracket of educational level. Meantime, the more frequently that mothers in the lower bracket of educational level posed *Open-Ended Question* the less likely would their children engaged in the reading activity, while the effect was reversed for children of mothers in the higher bracket.

The set of hierarchical analyses for Session B revealed a different pattern of the relation between maternal behavior and child's engagement compared to that for Session A (see Table 4-3, 4-4). Frequent *Child-Centered Behavior* ($\beta = .29, p < .05$)

and infrequent *Parent-Centered Behavior* ($\beta = -.30, p < .05$) both significantly predicted higher degree of child's engagement in Session B. Maternal educational level and child's gender remained not significant in the second step of the analyses. The interaction term of maternal indicator and the moderator was added to the analyses in the third step and revealed that maternal education was a marginal

Table 4-3
Hierarchical Regression Analyses for Predicting Child Engagement in Session B with Maternal Educational Level as Moderator

Maternal behavior	Child-Centered Behavior			Parent-Centered Behavior			Teaching		
	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β
Step 1	.17**	.16**		.09*	.07*		.02	.01	
Maternal behavior			.41**			-.30*			-.15
Step 2	.00	.14*		.01	.06 ⁺		.00	-.02	
Maternal behavior			.41**			-.33*			-.15
Maternal education			.02			-.08			.06
Step 3	.00	.12*		.00	.04		.03	-.01	
Maternal behavior			.41**			-.33 ⁺			-.18
Maternal education			.01			-.08			.08
Behavior X education			.03			.01			-.17
	Elaboration			Specific Question			Open-Ended Question		
	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β
Step 1	.03	.00		.00	-.02		.02	.00	
Maternal behavior			.17			.03			-.14
Step 2	.00	-.01		.00	-.04		.00	-.02	
Maternal behavior			.16			.04			-.15
Maternal education			-.03			.06			.07
Step 3	.00	-.03		.06 ⁺	.00		.01	-.03	
Maternal behavior			.17			-.02			-.18
Maternal education			-.03			-.01			.06
Behavior X education			-.01			-.24 ⁺			-.09

⁺ $p < .1$. * $p < .05$. ** $p < .01$.

Table 4-4

Hierarchical Regression Analyses for Predicting Child engagement in Session B with Child Gender as Moderator

Maternal behavior	Child-Centered Behavior			Parent-Centered Behavior			Teaching		
	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β
Step 1	.17**	.16**		.09*	.07*		.02	.01	
Maternal behavior			.41**			-.30*			-.15
Step 2	.00	.14*		.00	.05		.00	-.02	
Maternal behavior			.42**			-.30*			-.15
Child gender			.02			.02			.00
Step 3	.00	.12*		.00	.04		.06 ⁺	.02	
Maternal behavior			.43**			-.21			.26
Child gender			.02			.06			-.02
Behavior X Gender			-.02			-.12			-.48 ⁺

	Elaboration			Specific Question			Open-Ended Question		
	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β
Step 1	.03	.00		.00	-.02		.02	.00	
Maternal behavior			.17			.03			.14
Step 2	.00	-.01		.00	-.04		.00	-.02	
Maternal behavior			.17			.04			-.14
Child gender			-.01			-.02			.00
Step 3	.04	.00		.00	-.06		.00	-.04	
Maternal behavior			.45 ⁺			-.01			-.13
Child gender			-.02			-.10			.01
Behavior X Gender			-.34			.11			-.02

⁺ $p < .1$. * $p < .05$. ** $p < .01$.

moderator in the relation between mother's frequency of asking *Specific Question* and child's joint-reading engagement ($\beta = -.24$, $p = .1$, see Figure 4-1), while child gender marginally moderated the relation between maternal *Teaching* behavior and child's engagement ($\beta = -.48$, $p = .09$, see Figure 4-2). As shown in Figure 4-1 and 4-2, when jointly reading a familiar book during reading session, if mothers from the

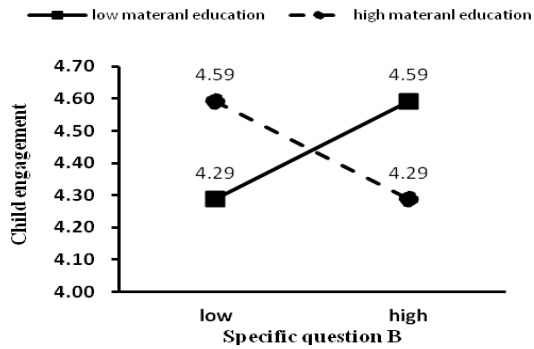


Figure 4-1. The interaction between *Specific Question* and maternal educational level on child engagement in session B

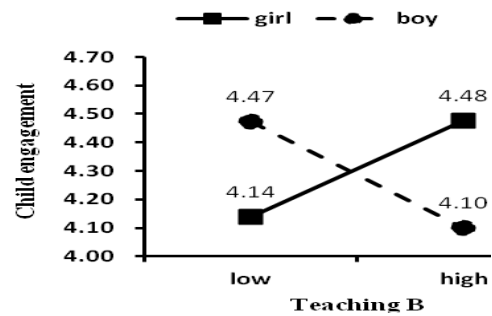


Figure 4-2. The interaction between *Teaching* and child gender on child engagement in session B.

lower bracket of educational level frequently asked *Specific Question* related to the content of book, their children were more likely to engage in the joint reading activity. In contrast, for the more highly educated mothers, frequently asking *Specific Question* would relate with reversed effect on child engagement. In the meantime, boys would engage less in the reading activity when their mothers frequently displayed *Teaching* strategy, whereas girls would engage more under the same circumstances.

Contributions of Maternal Reading Behaviors to Children's Reading

Interest with Child Gender and Maternal Education as Moderators: The other two sets of hierarchical regression analysis were to predict the outcome variable of children's reading interest reported from mother. The analysis were the same as in children's engagement, which also included twelve (6 maternal indicators x 2 moderators, see Table 5-1, 5-2, 5-3, 5-4) regression analyses for each session.

In the first step of the hierarchical regression of Session A (see Table 5-1, 5-2), *Parent-Centered Behavior* exerted a significant but negative main effect ($\beta = -.29, p < .05$). In the second step, child's gender was significant in predicting reading interest in all of the six regression models with different maternal behaviors (β s = $-.31, .28, -.32, -.32, -.32, -.32, ps < .05$). Girls displayed significantly more interest in reading than boys. Maternal education was nearly significant to predict child's

Table 5-1

Hierarchical Regression Analyses for Predicting Child Reading Interest in Session A with Maternal Educational Level as Moderator.

Maternal behavior	Child-Centered Behavior			Parent-Centered Behavior			Teaching		
	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β
Step 1	.05	.03		.08*	.07		.00	-.02	
Maternal behavior			.22			-.29*			-.01
Step 2	.04	.05		.02	.06		.07 ⁺	.03	
Maternal behavior			.16			-.21			-.01
Maternal education			.21			.14			.26 ⁺
Step 3	.10*	.14*		.03	.07		.00	.01	
Maternal behavior			.08			-.38 ⁺			.00
Maternal education			.17			.13			.25 ⁺
Behavior X education			-.34*			-.23			-.05
	Elaboration			Specific Question			Open-Ended Question		
	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β
Step 1	.00	-.02		.00	-.02		.00	-.02	
Maternal behavior			.05			-.03			.03
Step 2	.06 ⁺	.03		.07 ⁺	.03		.07 ⁺	.03	
Maternal behavior			.02			-.07			-.04
Maternal education			.25 ⁺			.27 ⁺			.27 ⁺
Step 3	.04	.05		.00	.01		.00	.01	
Maternal behavior			.02			-.06			-.04
Maternal education			.28 ⁺			.29 ⁺			.25
Behavior X education			.21			.06			-.03

⁺ $p < .1$. * $p < .05$.

reading interest in four of the six regression models of different maternal behaviors, including *Teaching* ($\beta = .26, p = .07$), *Elaboration* ($\beta = .25, p = .08$), *Specific Question* ($\beta = .27, p = .06$) and *Open-Ended Question* ($\beta = .27, p = .07$). Preschoolers of mothers in the higher bracket of educational level revealed more reading interest at

Table 5-2

Hierarchical Regression Analyses for Predicting Child reading Interest in Session A with Child Gender as Moderator

Maternal behavior	Child-Centered behavior			Parent-Centered Behavior			Teaching				
	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β		
Step 1	.05	.03		.08*	.07		.00	-.02			
Maternal behavior			.22			-.29*			-.01		
Step 2	.10*	.11*		.08*	.13		.10*	.06			
Maternal behavior			.22			-.25 ⁺			.04		
Child gender			-.31*			-.28*			-.32*		
Step 3	.02	.11*		.02	.13		.01	.05			
Maternal behavior			.07			-.08			-.12		
Child gender			-.31*			-.17			-.31*		
Behavior X Gender			.19			-.25			.18		
			Elaboration			Specific Question			Open-Ended Question		
	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β	ΔR^2	adj.R ²	β		
Step 1	.00	-.02		.00	-.02		.00	-.02			
Maternal behavior			.05			-.03			.03		
Step 2	.10*	.06		.10*	.06		.10*	.07			
Maternal behavior			.05			.02			.06		
Child gender			-.32*			-.32*			-.32*		
Step 3	.05	.09		.00	.04		.00	.05			
Maternal behavior			-.23			.03			.00		
Child gender			-.31 ⁺			-.30			-.32*		
Behavior X Gender			.36			-.02			.08		

⁺ $p < .1$. * $p < .05$.

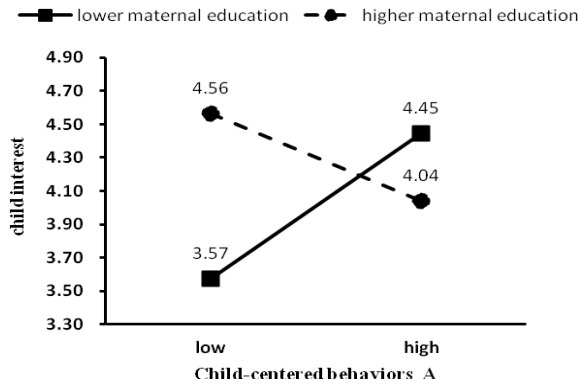


Figure 5. The interaction between *Child-Centered Behavior* and maternal educational level on child interest in session A

home than those of not-so-well-educated mothers. The interaction term of maternal indicator and the moderator added in the third step of the regression analyses revealed that maternal educational level played a significant role ($\beta = -.34, p < .05$, see Figure 5) in moderating the relation between mothers' *Child-Centered Behavior* and children's reading interest. That is, as shown in Figure 5, the frequency of *Child-Centered Behavior* displayed by mothers in the lower bracket of educational level would positively predict children's reading interest at home. On the other hand, children of highly educated mothers seemed to maintain a fair level of reading interest at home no matter how frequently their mothers would carry out *Child-Centered Behavior*. Interestingly, frequent display of *Child-Centered Behavior* by highly educated mothers, while they were jointly reading an unfamiliar book in a laboratory session not only did not positively predict but seemed to negatively predict children's reading interest at home.

The set of hierarchical analyses for maternal behaviors in Session B on child reading interest revealed a similar pattern as it was for Session A (see Table 5-3,5-4). *Parent-Centered Behavior* remained a significant but negative predictor ($\beta = -.39, p < .01$) to child's interest. The other significant but negative predictor to child interest when the dyad was jointly reading a familiar book was *Specific Question* ($\beta = -.39, p < .01$). As in the prior analyses using maternal behaviors in Session A as

Table 5-3

Hierarchical Regression Analyses for Predicting Child Interest in Session B with Maternal Educational Level as Moderator

Maternal behavior	Child-Centered Behavior			Parent-Centered Behavior			Teaching			
	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β	
Step 1	.01	-.01		.15**	.13**		.04	.02		
Maternal behavior			.10			-.39**			.20	
Step 2	.06 ⁺	.03		.01	.13*		.06 ⁺	.07		
Maternal behavior			.08			-.34*			.19	
Maternal education			.25 ⁺			.12			.25 ⁺	
Step 3	.01	.03		.01	.11*		.01	.06		
Maternal behavior			.09			-.38*			.17	
Maternal education			.27 ⁺			.13			.27 ⁺	
Behavior X education			-.11			-.09			-.10	
		Elaboration			Specific Question			Open-Ended Question		
	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β	
Step 1	.00	-.02		.15**	.13**		.00	-.02		
Maternal behavior			-.02			-.39**			-.03	
Step 2	.07 ⁺	.03		.05 ⁺	.16**		.07 ⁺	.03		
Maternal behavior			-.06			-.36**			-.05	
Maternal education			.27 ⁺			.22 ⁺			.26 ⁺	
Step 3	.00	.01		.00	.15*		.01	.02		
Maternal behavior			-.05			-.37**			-.08	
Maternal education			.26 ⁺			.22			.25 ⁺	
Behavior X education			-.04			-.02			-.11	

⁺ $p < .1$. * $p < .05$. ** $p < .01$.

predictors, girls were reported to have higher reading interest than boys, and maternal educational level was nearly significant to predict child's reading interest in five of the six regression models for Session B.

Result of the third step indicated that maternal education was not a moderator for any of the maternal behaviors displayed in Session B to predict reading interest, but

Table 5-4

Hierarchical Regression Analyses for Predicting Child Reading Interest in Session B with Child Gender as Moderator

Maternal behavior	Child-Centered Behavior			Parent-Centered Behavior			Teaching			
	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β	
Step 1	.01	-.10		.15**	.13**		.04	.02		
Maternal behavior			.10			-.39**			.20	
Step 2	.09*	.07		.08*	.19**		.11*	.12*		
Maternal behavior			.07			-.36**			.23 ⁺	
Child gender			-.31*			-.28*			-.34*	
Step 3	.05	.01		.06 ⁺	.24**		.02	.12*		
Maternal behavior			.01			.10			.48 ⁺	
Child gender			-.31*			-.09			-.35*	
Behavior X Gender			.10			-.56 ⁺			-.29	
		Elaboration			Specific Question			Open-Ended Question		
	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β	ΔR^2	adj. R^2	β	
Step 1	.00	-.20		.15**	.13**		.00	-.02		
Maternal behavior			-.02			-.39**			-.03	
Step 2	.10*	.06 ⁺		.05 ⁺	.17**		.10*	.06*		
Maternal behavior			-.01			-.33*			-.01	
Child gender			-.31*			-.23 ⁺			-.31*	
Step 3	.02	.07		.01	.15*		.02	.06		
Maternal behavior			-.24			-.25			-.14	
Child gender			-.31*			-.10			-.49*	
Behavior X Gender			.27			-.19			.26	

⁺ $p < .1$. * $p < .05$. ** $p < .01$.

child's gender played a marginally significant role ($\beta = -.56, p = .06$, see Figure 6) in moderating the relation between the mothers' *Parent-Centered Behavior* and children's reading interest while the dyads were jointly reading a familiar book. The post-hoc analysis is shown in Figure 6. Girls' reading interest was unrelated to the frequency of *Parent-Centered Behavior* that mothers displayed. In contrast, the frequency of *Parent-Centered Behavior* that mothers displayed when they were jointly reading a familiar book would significantly reflect boys' reading interest at home.

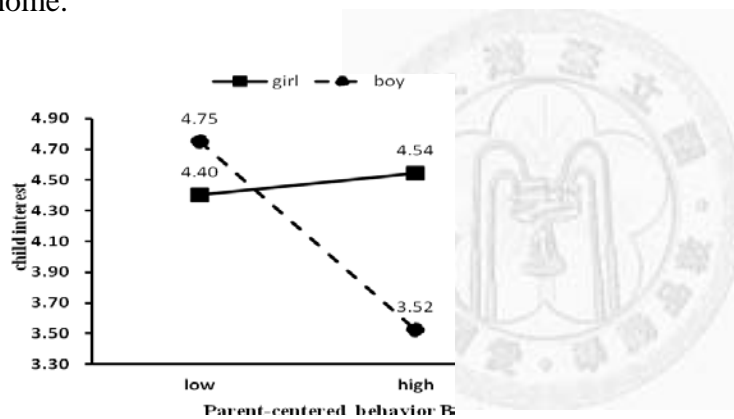


Figure 6. The interaction between *Parent-Centered Behavior* and child gender on child interest in session B

Discussion

The central goal of this study is to investigate how maternal behaviors, including *Socioemotional Expression* and *Cognitive/Linguistic Guidance*, are related to children's reading motivation, and whether the relationships would be moderated by mother's educational level and child gender. Findings reveal that *Parent-Centered behavior* hampers child's reading interest and engagement in joint reading, while *Child-Centered behavior* promotes child's participation in joint reading activity but not for child's reading interest. Meanwhile, among the relationship between maternal behaviors in *Cognitive/Linguistic Guidance* and children's reading motivation, only *Specific Question* elicits effect but negatively to child's reading interest. The results suggest that it is the quality of parenting practice, instead of the literacy behaviors of parents, predicting children's motivation to read.

The results are consistent to what researches have found that the quality of parent-child interaction during reading is more important for predicting children's later literacy skills, when compared to the instructional methods used during the reading activity (Bingham, 2007; Sonnenschein & Munsterman, 2002). In respect to the quality of parent-child interaction, it is reasonable that when jointing an activity with child, if mother has noticed what child's need and gives proper response, or if mother herself engages in the activity with positive attitude or emotion to make

sharing atmosphere enjoyable (*Child-Centered Behavior*), the child would be observed with more engagement in the activity and more positive and cooperative attitude. The converse is true when the mother has a *Parent-Centered* view in mind (i.e., she displays more power assertion or more disciplining). Surprisingly, *Child-Centered Behavior* in which child's needs are the central point could not predict child's reading interest as expected, but the *Parent-Centered Behavior* dose though negatively. The findings further imply that *Parent-Centered behavior* may account more important role in cultivating child's reading interest, In other word, it is not mother's effort to create an enjoyable atmosphere or giving higher maternal responsiveness per se that is important for cultivation of children's interest in books or reading, but rather the mother's own agenda when interacting with child, and unfortunately, it caused adverse effect to children's reading interest. Since the announcement of reading program by Taiwan's Ministry of Education at year 2000, many teachers in kindergarten have introduced the benefits of shared reading to preschooler's parents. From the family demography questionnaire in this study, a majority of mothers (73%) has responded that their child like to be read to and look at books at daily life usually. In addition, parents in this study displayed a high frequency of *Child-Centered Behavior* and children were generally rated as highly engaged in joint reading sessions, which might infer that shared-book reading has

been accepted by Taiwanese parents of preschoolers. One implication might be suggested from the results in present study that when promoting the shared reading activity, educators may need to pay more attention on how to enhance parental skills not just instructions for reading skills. Parents might be informed to make joint reading a pleasurable experience for child rather than just encouraging parents to engage in book reading frequently because frequent book reading may not have positive outcomes for the young child if the parent-child interaction is conflicted (Bergin, 2001).

It has been found that positive parenting is also involved minimal amounts of maternal discipline, restrictions, or a negative tone of voice during reading (Bus & van IJzendoorn, 1997; Leseman & de Jong, 1998). Nevertheless, Chinese parents have been known to score higher on “restrictive”, “controlling”, or “authoritarian” parenting than western parents (Chao, 1994, 2001; Lin & Fu, 1990). From the post hoc analysis (not shown in the results), it revealed that it was the *Parental control* that correlated to children’s reading interest and engagement, not the subdimension of *Non-responsiveness*. Also from the directed observation in this study, mothers displaying high *Parent-Centered behavior* tended to restrict and discipline their children during joint reading session, such as by saying “Now you have to concentrate.” “Sit straight! Or I wouldn’t read to you” “Look at the book now, don’t

wonder around!” or controlling the tempo of joint reading by not letting children turn the page even the children have shown the intention to. A similar observation was also found from Wu’s (2007) study who found that Taiwanese mother was inclined to ask their children to sit and behave well and try to get their children pay attention to joint reading. Yet, shared reading activity is a bidirectional process that mothers and children mutually influence each other (Bus et al., 1997; Reese & Cox, 1999). As Bus et al. (1997) pointed out that child’s interest in book is a requirement and an outcome of book reading activities. However, without the guidance and support from an adult, who is usually the parent, young children may not be able to enjoy book reading. It is the parent who assists the child in becoming interested in books and makes it part of the child’s normal routine. When parent, the mother in preset study, shares book reading with the child in daily activity by a parenting pattern like *Parent-Centered Behavior*, they might, as a result, have children who exhibit greater avoidance or dislike to such literacy-related activities. Researcher revealed that highly controlling and negative behavior directed toward the child can undermine children’s autonomy and confidence and has been linked to negative outcomes, including language ability (Tamis-LeMonda et al, 2004) and lower academic achievement (Culp et al., 2001). Unlike the extensive studies of positive parental behaviors in shared reading (Bergin, 2001; Frosch et al., 2001; Ortiz et al., 2001;

Sonnenschein & Munsterman, 2002), there is still a gap between understanding the effect of negative parental behaviors on child's reading interest and joint engagement. Results from present study could add more extensive information to this gap.

Among the behaviors in *Cognitive/Linguistic Guidance*, only *Specific Question* was related to children's reading motivation. The *Specific Question* was as expected to generate negative effect to child reading interest. This style of reading strategy was displayed most frequently in this study, but which was noted as low cognitive-demanded strategy (Pellegrini, Brody, & Sigel, 1985; Silven 2002). Those categorized as high cognitive- demanded strategies, such as "*Open-Ended Question*" and "*Elaboration*", came in the second and third. Comparing with Wu's (2007) study, the first three behaviors demonstrated most frequently in her study were "*pointing*", "*asking convergent questions*" and "*labeling/describing*", which were all categorized as low cognitive- demand strategy. However those with higher cognitive-demand, "*elaborate*" and "*asking divergent questions*" were placed at 4th and 5th. It seems that Taiwanese mothers tended to use lower cognitive-demanded strategies such as asking questions with limited answers related to book context, labeling objects to naming/teaching or for concentrating child's attention. That is, Taiwanese mothers demonstrated fewer strategies that challenged children cognitively during reading comparing to Western literature reviews (Pellegrini et al., 1985). As

Wu indicated that Taiwanese mothers show a tendency to use strategies referred to as “print-referencing strategy (e.g., using questions, comments, and requests about print)”. This strategy was known to increase child responses during storybook reading by pointing to the pictures, labeling pictures, and using questions to engage the child’s attention and responses (Justice & Ezell, 2002). Nevertheless, Wu found a negative association between those print-referencing strategies and child language outcomes. Consistently to the finding of present study, mothers used *Specific Question* strategy frequently during joint reading. But the more maternal *Specific Question* was displayed, the less child’s reading interest was reported. In line with Taiwan’s result of PIRLS 2006 (Ko et al., 2008), researchers noted that past interventions on parent-child interaction during shared reading or reading program in schools have primarily focused on practices such as text commentary, questioning, and reading strategies. However, such programs may sometimes serve to solidify negative attitudes toward literacy. The parenting quality during shared reading noted in present study might help to explain why some children fail to learn to read easily and early, despite cognitive ability or print-rich environments. It is possible that part of the reason for this conclusion may be differences in the degree of enjoyment they derive from reading because of positive or negative interactions with parents or during reading.

Regarding with child gender, child gender was significantly predictive to children's reading interest. Daughters are reported significantly more interesting in reading than sons as western research noted (Eccles, Wigfield, Harold, & Blumenfeld, 1993; Lynch, 2002), and girls whose mothers like to teach from book reading show more interest in reading. Although there was no difference in frequency by child gender between maternal reading behaviors, there was a trend that mothers of boys were more controlling and less sensitive than mothers of girls. And from the moderating effect of child gender, results revealed that boys would be afflicted in book sharing if mothers demonstrated *Parent-Centered behavior* or tried to teach her son literacy from the storybook. It might be derived from the gender nature that boys were tended to be more easily aroused and less able in emotion regulation that resulted in mothers' more controlling behaviors (Knight et al., 2002).

Regarding to mother's educational level, it did not predict children's reading interesting, but it significantly correlated with mother's parenting behaviors and moderated the relationship between maternal parenting and children's reading motivation. As the present results showed, though *Parent-Centered Behavior* hampered child' reading motivation, however, children of highly educated mothers engaged more in joint reading if their mothers demonstrated *Parent-Centered Behavior*, especially when reading a novel book. Prior researches working on

Chinese parenting (Chen et al., 2000; Chen & Luster, 2002; Xu et al., 2005) have revealed that despite of the old traditional view about authoritarian parenting in Chinese society, mothers' years of education were positively associated with authoritative parenting styles and less likely with authoritarian parenting styles.

Belsky, Rha and Park (2000) found that highly educated mothers who were supposed to have the more opportunity to contact with and understanding about Western patterns of child-rearing were more likely to appreciate democratic forms of control rather than power assertion in their interaction with children. From the preset results, mothers in the bracket of higher educational level did display less *Parent-Centered Behavior* comparing with those in the bracket of lower educational level, and their *Parental-Centered behavior* is positive to children's joint engagement, which is consistent to prior finding that parental control is not always negative to children (Belsky et al., 2000). Meanwhile, lower- educated mothers demonstrated less *Child-Centered Behavior* in general, but if they displayed *Child-Centered Behavior* more frequently, they would stimulate their children's interest in reading. It might suggest that limited- literacy parents need more information about how to investigate child's need and to build an enjoyable reading climate when reading to children.

When concerning the association between mother's education and the other four reading behaviors, highly-educated mothers demonstrated more *Open-Ended*

Question and *Elaboration* (higher-cognitive demanded) as predicted, however, they did also show more formal learning strategy (*Teaching*) and asked more low-cognitive demanded questions (*Specific Question*). Li and Rao's (2000) report indicated that a majority of Asian parents focused on the academic advantages of early reading, and they seemed to take storybook reading as useful to develop children's literacy skills. These finding, also with the findings in preset study, support the general conclusion that Chinese parents value teaching and education very much (Li & Rao, 2000; Stevenson & Lee, 1990).

There was no significant difference in the frequency of maternal behaviors between sessions with different book familiarity. Though the familiarity of book content is not the variable to be discussed in present study, but some difference in behaviors between the two sessions is found. Regardless the familiarity of book, *Parent-Centered behavior* predicted negatively to children's reading interest, where as *Child-Centered Behavior* predicted positively to child's joint engagement. *Parent-Centered Behavior* also was negative to children's reading engagement in unfamiliar book session, but not in familiar book session. There are frequent opportunities for dyads to read different book genre in daily activities. It seems that to children's reading motivation, the role of parenting practice is far beyond the print materials during joint reading interactions. In addition, the behaviors of

Cognitive/Linguistic Guidance did not predict child's reading motivation between different book genres except that if mothers asked more *Specific Question* in familiar book session, it would reduce children's reading interest. This finding is reasonable because if children have been familiar to book context, it was supposed that dyads need more conversational interchange not just the Ask-and Say with limited answers. In another word, the result represented that it is essential for Taiwanese mothers to be more sensitive to child's response and need when interacting with children in different activities. Above findings implied again that child's reading motivation was influenced mainly by maternal parenting, especially the *Parent-Centered behavior*, not by the literacy behaviors or print-materials.

Some limitations of this study should be acknowledged. Firstly, shared reading is a bi-directional interaction, thus child's characteristics such as reading ability, language ability, attention skills or temperament is likely a significant influence on parents' behavior during shared book reading (Evans, Moretti, Shaw, & Fox, 2003, Pellegrini et al., 1985; Stoltz & Fischel, 2003). However, there is also good evidence that some aspects of maternal discourse style are relatively independent of the child's contributions (Reese & Cox, 1999). Further research may need to find how the extended role that child's characteristics played. Secondly, only mother-child interactions were involved in preset study, just as most other studies

examining parent-child interactions of book sharing (Bus et al., 1997). Researcher argued that fathers' educational level and income were uniquely associated with child literacy development, and consistently predicted the quality of mother-child engagement (Tamis-LeMonda et al., 2004). Meanwhile, the study was conducted in a small town that located in East-Northern Taiwan, where the concept of shared book reading was still not so as familiar as in Western Taiwan, and "reading" per sec might be corresponded to formal learning to many parents. Thus further research should include father-child dyads and dyads from different background and areas in order to determine whether our findings are robust. Besides, dyads were observed in an artificial environment, whereas we did not know how representative of typical home reading the parent-child interactions were in this study. The least limitation was occurred from the study design. The two raters coded maternal behaviors (predictors) and the children's engagement (outcome variable) as well, the data might have been biased since the raters might be influenced by mothers responses when rating children's engagement.

Despite these limitations, the findings of present study have important methodological implications for research on shared reading, and practical implications for shared-reading intervention programs. In terms of methods, observational techniques to assess mothers' behaviors and child's engagement during joint reading

interaction are related rare in light of the expense and time associated with such procedures. Nonetheless, directed observation may offer a different perception from those obtained when parents are asked to report on their behaviors and child's reading interest. Self-report methodologies might contribute to respondent bias and answers that are rooted in social desirability. Observational measures may overcome some of these limitations by providing more objective insight into semi-naturalistic behaviors that represent everyday parental behaviors, and also the child's engagement in joint reading interaction.

In term of implications for practice, the present study provides some suggestions to who are working on the promotion of shared reading activities. Firstly, it is the quality of parenting playing an important role in cultivating Chinese children's reading interest and engagement, rather than the styles of maternal reading practices. Secondly, when giving anticipatory guidance about shared reading to mothers, it might need to keep in mind that mothers with different educational level and different child gender might need individual guidance. To mothers in the bracket of high educational level, parental control and frequently asking open-ended questions might increase children's engagement in joint reading interaction, but more elaboration and frequently asking questions relating to content of book might make children pay less attention on joint reading activities. To mothers with lower bracket of educational

level, frequently asking open-ended questions also would decrease their children's engagement in joint reading, but asking questions relating to the content of book might get reverse result. In the meantime, mothers might be informed that girls usually show higher reading interest than boys thus mothers need to be more patient to sons.

In sum, consistent with the suggestion from researchers--Learning should best occur when children are interested and engaged (Arnold & Doctoroff, 2003; Sonnenschein & Munsterman, 2002), results from the preset study reveal that children would show more interest in books and exhibiting greater focused attention, enthusiasm, and positive mood during the storybook reading interaction when their parents are more warm and responsive, less discipline, directive and intrusive. Most all, this study suggests that it is important to support parent-child joint book reading programs, nevertheless, when educators or pediatricians encourage Taiwanese parents to read aloud to their children, there is particular noteworthiness to understand how that advice is carried out by different parents; otherwise the behaviors of parents might contribute negatively to the attitude of beginning readers.

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Appendix

Appendix 1: Introduction form for kindergarten



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「親子共讀情境中之互動行為」研究說明

親愛的園長您好：

我是台灣大學心理系碩士班的研究生，由台大心理系副教授雷庚玲指導，正在進行藉由親子共讀來觀察學齡前幼兒與母親之互動行為的研究。這封信的目的，一方面是想懇請您協助發放本研究的邀請函給貴園所之適齡兒童的家長；另一方面，則想向您商借場地進行親子共讀的錄影活動。

有關發放邀請函之事宜，是想藉由貴園所內老師的協助，趁家長接送孩子們上下學之便，將本研究的邀請函發送給園內中班的學齡前兒童的家長們。其中包括(1)研究邀請函，和(2)家長接受邀請回條，謹附副本一份供您留檔參考。

有關商借場地之事宜，則是欲請教貴園所是否有適合錄影的場地，讓家長與孩子可就地自己的園所，進行共兩次、每次十分鐘的親子共讀錄影。本研究進行的過程是在母親簽好「參與研究同意書」之後，(1)先請參與研究的親子花十分鐘共讀一本故事書，並將共讀過程錄影。(2)當天便請母親與寶寶帶另一本故事書回家，一起閱讀，並在一到兩個禮拜之後，帶著同樣的書來校，以此書為素材，再進行一次十分鐘的親子共讀錄影。(3)兩次共讀活動結束後，請母親約花十五分鐘，當場填寫一份與家庭共讀經驗及學習信念有關的問卷。

本研究之收案時間預計從今年（2010年）9月份到12月份。若貴園所不方便進行錄影，也沒有關係，我們將請家長與孩子直接到羅東聖母醫院的兒科兒童室進行錄影。

如果園長您願意支持本研究，煩請您將園所同意書填好後回覆給我。我會迅速地跟您聯絡並準備足夠的家長研究邀請函到貴園所發送。非常感謝您支持本研究。如果您對本研究的過程有任何的問題，請連絡碩士班研究生吳淑娟（02-3366-3231）。

再次感謝您的幫忙。 敬祝

平安愉快

台灣大學心理系碩士班研究生

吳淑娟 敬上

台灣大學心理系副教授

雷庚玲 敬上

2010年 月 日

Appendix 2: Consent form for Kindergarten

園所同意書

園所名稱：_____

編號：_____

親愛的園長您好：

本研究計畫由國立台灣大學心理系碩士班學生吳淑娟執行，台大心理系雷庚玲副教授指導。承蒙貴園所願意協助使得本研究能夠順利進行，以下說明研究內容與研究程序：

內容：親子共讀情境中之行為觀察

研究程序：

時段一：請母親填寫「家長同意書」（請見附件）。若蒙協助能在貴園教室中設置一個適合共讀錄影的環境，則邀請母親與孩子就近於貴園所提供之場地，一起共讀一本書，並同時進行10分鐘的錄影。此活動亦可請家長帶孩子至羅東聖母醫院兒科之兒童室進行。

時段二：與時段一相隔一星期，家長與孩子於相同場地再次進行10分鐘親子共讀之錄影活動。活動結束後，再請母親多花15分鐘填寫與家庭共讀經驗及學習信念有關的問卷。

需要貴園所協助之處：

1. 煩請貴所老師提供適齡的幼兒名單，請幼兒帶回研究邀請函及家長接受邀請回條給家長，並協助回收家長接受邀請回條。
2. 接受邀請之家長，將會收到確認函，煩請老師轉交給家長。
3. 研究中將商借貴園所之教室實施，實施時間為放學時段(或因應家長特殊需求的時段)，每對親子每次大約需要二十分鐘左右。如蒙協助，研究人員會事先與貴園所及家長協調日期，使本研究之進行不致影響貴園所的正常運作、或增加老師的負擔。

本人已經仔細閱讀過本同意書的內容，可協助本研究進行的部份如下：

- 提供適齡兒童名單 協助發放家長邀請函及家長接受邀請回條
 協助回收家長接受邀請回條 協助發放確認函
 在不影響本園運作的前提下，可提供錄影場地（錄影機由研究者自備）

園(所)長同意簽名：_____ 園所電話：_____

日期：_____年_____月_____日 研究者簽名：_____

*本研究已通過台大心理系學術倫理委員會之審查，對於研究對象必須謹守保密原則，因此即使貴園所主管也不能查閱特定幼兒的實驗資料。如果您對於本研究有任何的問題，請聯絡碩士班研究生吳淑娟 (02-3366-3231)

Appendix 3 : Consent form (first time)



國立臺灣大學
National Taiwan University
臺北市羅斯福路四段一號

社會情緒發展實驗室
雷庚玲副教授研究室：(02) 3366-3094
學習發展研究團隊：(02) 3366-3231
台大心理系學術倫理委員會通過 9911004

參與研究同意書（第一輪研究）

親愛的家長，您好：

感謝您參與這個有關親子共讀的研究！本研究由國立台灣大學心理系碩士班研究生吳淑娟執行，台大心理系雷庚玲副教授指導。我們一共需要邀請您與孩子來參與兩次的活動，第一輪與第二輪活動的間隔約為一至兩個禮拜。

基於我們對於您個人與您的孩子之權益的尊重，本研究對您有以下的承諾：

- ◆ 若您覺得研究進行的程序或問卷內容讓您或孩子不舒服，而不想繼續參與，您有權「隨時」停止研究進行或停止作答，「無需給任何理由」，並且不會因此而受到懲罰。但因涉及問卷版權問題，請務必將未填寫完的問卷還給研究者，研究者可在您的要求下，當面將您的問卷銷毀。
- ◆ 本研究所有收集到的錄影、問卷資料皆以編號辨識，您與孩子的個人資料將小心存放，絕不對任何本研究團隊之外的人士公開。
- ◆ 本學術研究以群體分析為目標，因此不會針對個別案例給予回饋，但將會把整體分析結果回饋給每位家長，希望對於您及您的孩子有所幫助。我們會留下您的 e-mail 及郵寄地址以方便寄發回饋。
- ◆ 這一輪研究的內容為：

內容：親子共讀情境中之行為觀察

研究程序：

步驟一（家長）：由研究人員向您說明研究的內容後，請您填寫「家長同意書」。

步驟二（親子）：研究方式為在幼稚園教室(或羅東聖母醫院兒科兒童室)中設置一個共讀的環境，請您與孩子一起共讀一本書，並進行10分鐘的錄影。此次活動結束後，會贈送您與孩子一本兒童讀物，讓您帶回去與孩子先熟悉這本書，以便在第二輪研究時再次進行共讀活動。

備註 1： 您同意研究人員為解說此研究，在學術場合中播放包括有您或您的孩子的影像的實驗情況之影片嗎？ 同意 不同意

備註 2： 本研究的資料沒有對錯或好壞的判斷，您與孩子真實的情形就是最寶貴的資訊，謝謝您的合作！

本人已詳細閱讀本同意書，我同意我與我的孩子參加本研究：

孩子姓名：_____

家長同意簽名：_____ 日期：_____年____月____日

研究者簽名：_____ 日期：_____年____月____日

Appendix 4 : Consent form (second time)



國立臺灣大學心理系
National Taiwan University
臺北市羅斯福路四段一號

社會情緒發展實驗室
雷庚玲副教授研究室：(02) 3366-3094
學習發展研究團隊：(02) 3366-3231
台大心理系學術倫理委員會通過

參與研究同意書 (第二輪研究)

親愛的家長，您好：

感謝您再次參與這個有關親子共讀的研究！本研究由國立台灣大學心理系碩士班研究生暨羅東聖母醫院小兒科醫師吳淑娟執行，台大心理系雷庚玲副教授指導。

基於我們對於您個人與您的孩子之權益的尊重，本研究對您有以下的承諾：

- ◆ 若您覺得研究進行的程序或問卷內容讓您或孩子不舒服，而不想繼續參與，您有權「隨時」停止研究進行或停止作答，「無需給任何理由」，並且不會因此而受到懲罰。但因涉及問卷版權問題，請務必將未填寫完的問卷還給研究者，研究者可在您的要求下，當面將您的問卷銷毀。
- ◆ 本研究所有收集到的錄影、問卷資料皆以編號辨識，您與孩子的個人資料將小心存放，絕不對任何本研究團隊之外的人士公開。
- ◆ 本學術研究以群體分析為目標，因此不會針對個別案例給予回饋，但將會把整體分析結果回饋給每位家長，希望對於您及您的孩子有所幫助。我們會留下您的 e-mail 及郵寄地址以方便寄發回饋。
- ◆ 這一輪研究的內容為：

內容：親子共讀情境中之行為觀察

研究程序：

步驟一(家長)：由研究人員向您說明研究的內容後，請您填寫「家長同意書」。

步驟二(親子)：研究方式為在幼稚園教室(或羅東聖母醫院兒科兒童室)中設置一個共讀的環境，請您與孩子一起共讀那本上次贈送給您的書，並進行10分鐘的錄影。

步驟三(家長)：共讀活動結束後，請您填寫一份問卷，目的是為了瞭解台灣家長對親子共讀的看法與習慣。

備註 1：您同意研究人員為解說此研究，在學術場合中播放包括有您或您的孩子的影像的實驗情況之影片嗎？ 同意 不同意

備註 2：本研究的資料沒有對錯或好壞的判斷，您與孩子真實的情形就是最寶貴的資訊，謝謝您的合作！

本人已詳細閱讀本同意書，我同意我與我的孩子參加本研究：

孩子姓名：_____

家長同意簽名：_____ 日期：_____年____月____日

研究者簽名：_____ 日期：_____年____月____日

Appendix 5: Experimental introduction (the first time visit to the laboratory)

研究介紹（一）

親愛的家長，您好：

本研究的目標，是欲瞭解台灣地區的學齡前幼兒與家長進行親子共讀時的互動狀況。感謝您與您的寶貝一起參與本研究的第一輪活動！本研究由台大心理系碩士班研究生吳淑娟執行，台大心理系雷庚玲副教授指導。

第一輪錄影與研究活動介紹

錄影活動：今天的活動主要是請您與孩子在我們設計的空間中一起讀一本書，我們會將共讀的過程錄影 10 分鐘。在這 10 分鐘裡，您與孩子可以完全照自己覺得舒服的方式進行親子共讀。請您在實驗開始前，先把手機關機，以免影響電子儀器的運作及錄影效果。

活動結束：錄影 10 分鐘以後，我們會來通知您錄影活動已經結束，並且會贈送您與孩子一本兒童讀物，請您帶回去與孩子先熟悉這本書，並請在第二輪研究時帶來。下次就會請您與孩子以這本書進行第二輪的共讀錄影活動。

其他陪同家人：為了讓孩子更專心進行各項活動，除了母親之外，請其他陪同前來的家人不要留在錄影現場，請到其他房間等候。

(ps: 若在聖母醫院兒科，陪同家人可到兒童室隔壁的兒童閱覽室休息等候)

同意書：請您先仔細閱讀同意書，並在同意書上簽名，以便進行接下來的活動。

Instruction for session A

開始進行研究及錄影：

1. 這本是「一百層的家」，不知道您的孩子看過這本書嗎？不知道您自己看過這本書嗎？

Note:(若有任何一方看過，則改成「一百層地下的家」，再改成「30 隻貓咪」。

若三本都看過，媽媽對這三本書各有多熟悉？小朋友對這三本書哪一本比較熟悉？ → 選擇小孩比較不熟悉的那一本)

2. 現在想請您以您和孩子覺得舒服的方式，並且以您平常習慣和孩子互動的方式，來和孩子一起看這本書。

3. 共讀的錄影時間是十分鐘，9 分鐘時，研究人員會進來提醒您一次，十分鐘到時，研究人員會進房間來，您就可以停止這個活動了。

完成與叮嚀

(the first time visit to the laboratory)

■ 完成

- ◇孩子所領取的故事書叫做：「媽媽 買綠豆」。是我們送給孩子的禮物，聊表謝忱。
- ◇請您與孩子回家之後，一起先熟悉這本書的內容。下次進行第二輪活動時，要麻煩您與孩子將這本書一起帶來，屆時會請您和孩子一起在同一間房間裡讀這本書。

■ 叮嚀：

- ◇您跟孩子參加第二輪活動時間為： 年 月 日 午 點 分。
- ◇請記得把「媽媽 買綠豆」這本故事書帶來。
- ◇感謝您和孩子的合作，若您有朋友也將要來參與我們的研究活動，請您不要透露活動相關的內容與所要閱讀的書本給您的朋友，以免影響後續研究資料的真實性。再次感謝您的配合。
- ◇我們將於下次錄影前一天與您做行前確認。若您需要更改第二輪的時間，也請事先通知我們。電話：02-33663231 台大心理系幼兒學習發展研究團隊 碩士班研究生吳淑娟。

誠摯感謝您和孩子的參與及協助！

Appendix 6 : Experimental introduction (the second time visit to the laboratory)

研究介紹 (二)

親愛的家長，您好：

感謝您參與本研究的第二輪活動！本研究的目標，是欲收集台灣地區學齡前幼兒與家長的親子共讀的行為資料。本研究由台大心理系碩士班研究生吳淑娟執行，台大心理系雷庚玲副教授指導。

第二輪錄影與研究活動介紹

錄影活動：今天的活動，也像上次一樣。主要是請您與孩子在我們設計的空間中一起讀那本上一輪我們贈送給您的書（忘記帶來了也沒有關係，我們會借給您一本完全一樣的書）。我們會將共讀的過程錄影 10 分鐘。在這 10 分鐘裡，您與孩子可以完全照自己覺得舒服的方式進行親子共讀。請您在實驗開始前把手機關機，以免影響電子儀器的運作及錄影效果。

活動結束：錄影 10 分鐘以後，我們會來通知您錄影活動已經結束，並且請您填兩份問卷。問卷應該可以在十五分鐘以內填寫完畢。

問卷：等一下請您填寫的問卷，目的是為了瞭解台灣父母對親子共讀的看法與習慣。

其他陪同家人：為了讓孩子更專心進行各項活動，除了母親之外，請其他陪同前來的家人不要留在錄影現場，請到其他房間等候。

同意書：請您先仔細閱讀同意書，並在同意書上簽名，以便進行接下來的活動。

Instruction of session B

開始進行研究及錄影：

1. 現在想請您以您和孩子覺得舒服的方式，並且以您平常習慣和孩子互動的方式，來和孩子一起看這本「媽媽 買綠豆」。
2. 共讀的時間一樣是 10 分鐘，9 分鐘時研究人員會進來提醒您一次，十分鐘到時研究人員進房間後就可以停止活動。
3. 若在十分鐘內您和孩子已經共讀完這本書，也可以先行停止。

完成與叮嚀

(the second time visit to the laboratory)

■ 叮嚀：

- ◇ 非常感謝您全家對本研究的支持和參與。
- ◇ 感謝您幫忙填寫問卷，我們已確認過您填寫的問卷。
- ◇ 若您尚未填寫完，請儘量在兩個星期內完成，並用我們附上的回郵信封寄回給我們。
- ◇ 感謝您和孩子的合作，若您有朋友也將會來參與我們的研
究活動，請您不要透漏活動相關的內容與所要閱讀的書
本給您的朋友，以免影響後續研究資料的真實性。再次
感謝您的配合。
- ◇ 若有相關問題請洽：(02) 33663231 台大心理系嬰幼兒學
習發展研究團隊，碩士班研究生吳淑娟

誠摯感謝您和孩子的參與及協助！

Appendix 7: Detailed coding definitions and examples

****媽媽的行為		Interval coding
A Positive M-C interaction		
1	<p>媽媽營造共讀的情境</p> <p>(通常是為了吸引孩子注意，或保持孩子的興趣)</p> <p>For Fun</p>	<ul style="list-style-type: none"> ● 媽媽會營造閱讀的樂趣 (布置環境或以聲音/表情/動作來吸引孩子聽故事) <ul style="list-style-type: none"> ➢ 重建書中的場景：媽媽學書中動物的叫聲或習性，例如青蛙呱呱叫或恐龍叫聲，或做出符合情節的動作：刷牙/洗澡 ➢ 正向的評語：媽媽主動表示欣賞書裡的創意，例如媽媽說：「嘿，這畫得好好玩喔！」 ➢ 媽媽會設計活動，例如：「我們來一起爬樓梯」或「我們一起抬頭看 100 層樓有多高」 ➢ 孩子分心時，會想辦法邀請孩子一起來共讀 (正向方式)，例如說：「你要不要坐到媽媽的懷裡一起看書？」或說：「來來來，妳看這是什麼？媽咪要唸書囉！」
2	<p>讚美或賞識</p> <p>Praise</p>	<ul style="list-style-type: none"> ● 媽媽以口語或肢體行為來讚賞孩子的表現 <ul style="list-style-type: none"> 口語： <ul style="list-style-type: none"> ➢ 對於孩子的回答 (不論對或錯)，媽媽會稱讚：「你好棒/說得好棒/你好有想像力喔！」 動作 <ul style="list-style-type: none"> ➢ 因孩子的行為反應 (媽媽可能覺得回答正確或有創意等) 而撫摸孩子 ➢ 舉起大拇指表示讚賞
3	<p>應答性/敏感性正向</p> <p>Responsivity/Sensitivity</p>	<ul style="list-style-type: none"> ● 媽媽在和孩子互動時，會回應孩子的需求/媽媽會察覺到孩子的需求 <ul style="list-style-type: none"> ➢ 孩子在唸讀故事時，媽媽會配合說：「嗯」「對啊」或點頭回應 ➢ 孩子在唸讀故事時，媽媽會模仿/跟隨孩子的話。例如孩子說：「青蛙呱呱呱」，媽回應：「呱呱呱」 ➢ 會回答孩子問的問題 (即使不是跟書本有關的問題，若有回應都算)，或配合孩子的需求。例如孩子要求媽媽唸書，說：「換你了！」媽媽會順應孩子的要求。 ➢ 媽媽會配合孩子的姿勢來調整自己和孩子共讀的姿勢。 ➢ 媽媽要孩子做某件事 (例如跟著唸或讀一次)，孩子若不願意，媽媽不會強迫。媽媽會調節閱讀的節奏：例如孩子想看下一頁，媽媽會用聲調引導、或用故事情節來吸引孩子繼續把這頁看完 (若用負向方式阻止孩子太快翻頁，則編碼到負

(continued)

		<p>向共讀節奏)</p> <ul style="list-style-type: none"> ➤ 孩子想看下一頁時，媽媽會順應孩子，不會反對若孩子想要自己唸或還在發表意見，媽媽會等待孩子唸完或說完，再繼續進行唸讀。
B Negative M-C interaction		
4	<p>共讀的節奏 負向 (任何與應答性／敏感性有關的負向行為，若與控制讀書的節奏有關、或以「讓全書能夠在時限內完整讀完」為目標，都以這個類別來編碼)</p> <p>Demand on Tempo</p>	<p>媽媽和孩子的節奏不合：媽媽以「繼續讀下一頁」，或以「先完成這一頁才能換下一頁」為目標時，不會順應孩子的需求而調整唸書的節奏。</p> <ul style="list-style-type: none"> ➤ 孩子想看下一頁，但媽媽認為還不行，會阻止孩子翻頁，會說：「不行，這頁還沒看完」(不會用吸引孩子的方式繼續唸同一頁) ➤ 孩子累了不想再看書，媽媽會堅持要唸完 ➤ 孩子想要請媽媽再重覆讀一次，但媽媽拒絕或媽媽不理，繼續唸書 ➤ 孩子看太慢，媽媽會催促，例如說：「這頁看太久了／這頁沒什麼好看，我們看下一頁吧」 ➤ 孩子想翻頁，被媽媽阻止 ➤ 不管孩子想不想聽，媽媽都要繼續唸下去 ➤ 孩子還在表示意見時，媽媽打斷孩子，例如孩子還在對恐龍知識滔滔不絕時，媽媽插話說：「時間太晚了，我們趕快唸完！」
5	<p>Discipline／Criticize</p> <p>Negative Discipline (與負向應答性／敏感度之區分在於媽媽會直接教訓孩子)</p>	<ul style="list-style-type: none"> ● 媽媽對於孩子的表現不滿意，會責備他或限制他 <p>口語</p> <ul style="list-style-type: none"> ➤ 會否定孩子的回答，例如說：「你亂講，才不可能這樣」 ➤ 例如說：「這已經教過了，怎麼還不會？」對孩子說：「你都不乖」 <p>動作</p> <ul style="list-style-type: none"> ➤ 若孩子不想聽故事或不坐好時，媽媽會強拉孩子坐好 ➤ 因孩子不恰當的表現，媽媽打孩子
6	<p>應答性／敏感性 負向</p> <p>Not Responsive /Not Sensitive</p>	<ul style="list-style-type: none"> ● 媽媽會堅持要孩子配合媽媽。媽媽有自己的想法，忽略孩子的需求 ➤ 對媽媽的問題，若孩子不想回答，媽媽會堅持孩子回答 ➤ 對孩子問的問題(不論和故事有沒有關聯)，媽媽沒有回應，仍繼續讀故事文字。例如孩子要求媽媽學恐龍叫，媽媽沒有理，繼續唸書，或說：「這和故事沒有關係不要問」 ➤ 媽媽說些無關書本內容也與孩子目前的注意力焦點無關的事情。例如問：「等一下要吃什麼東西？」「你今天在學校有沒有睡午覺？」

(continued)

		<ul style="list-style-type: none"> ➢ 孩子仍在唸故事或講自己的想法時，媽媽插話一些無關的事情（若插話內容是要孩子繼續唸下去，則算做對讀書簡章的要求） ➢ 孩子唸到某頁後要繼續唸，媽媽說：「換我唸了」
C Teaching		
7	傳統式教導 Direct teaching (practice/correct)	<ul style="list-style-type: none"> ● 媽媽和孩子共讀的過程或是問的問題像在上課 <p>重複練習</p> <ul style="list-style-type: none"> ➢ 媽媽會要求孩子照著她讀過的字再唸一次／或要孩子跟著媽媽一起讀「字」 <p>糾正錯誤</p> <ul style="list-style-type: none"> ➢ 若孩子唸錯或回答錯誤，媽媽會解釋正確的答案給孩子聽，或質疑孩子：「是嗎？」，且媽媽會解釋清楚，想要確定孩子弄懂了。（若媽媽只是告訴孩子正確的答案或發音，但不要要求孩子一定要弄懂或重複說一遍，則不算分）
8	延伸性教導 Elaboration	<ul style="list-style-type: none"> ● 對故事內容，媽媽會加以解釋，或以孩子的過去經驗來輔助孩子了解故事內容，而不只是照書念 <p>媽媽解釋因果關係的推論</p> <ul style="list-style-type: none"> ➢ 例如讀到故事裡多奇不敢喝橡木果汁，媽媽向孩子解釋因果，例如說：因為橡木果汁喝起來很苦，所以小奇不喜歡喝 <p>媽媽輔以孩子過去的經驗</p> <ul style="list-style-type: none"> ➢ 例如看到青蛙玩水的圖片，媽媽說：記不記得上次我們到公園時，也是看到小青蛙都泡在水裏玩 <p>媽媽會提供書本之外的說明</p> <ul style="list-style-type: none"> ➢ 例如會說明蛇摸起來的感覺是黏黏的，或蛇喜歡吃的食物（書中未提及的部份） ➢ 例如孩子說吃蚯蚓好噁心，但媽媽解釋：因為每個人喜歡吃的東西不一樣技術太好的 elaboration 不用 code ➢ 當媽媽有「解釋圖片中的意義」的行為時，若是 coder 判斷媽媽的解釋與圖片中既有的意義十分符合則可不必 code，若媽媽的解釋有延伸性，則可 code 為 elaboration
9	道德與社會規範 Moral/Conv. Issues	<ul style="list-style-type: none"> ● 媽媽對於故事裡道德觀念／生活常規的引用 <ul style="list-style-type: none"> ➢ 媽媽說：「小奇好有禮貌喔，會常說對不起、謝謝您」 ➢ 媽媽說：「小奇好有愛心喔，會幫助別人」 ➢ 對孩子說：「你也像小奇一樣很有禮貌對不對／你也像小奇一樣會幫助別人」 ➢ 提醒孩子要愛惜書本 <p>例如媽媽說：「我們為什麼要跟別人招呼呢？因為這樣他才會覺得我們是關心他！」</p>

(continued)

D Questions		
10	Question Facts in the book Q-Facts	<ul style="list-style-type: none"> ● 媽媽問的問題在書本中找得到答案 <ul style="list-style-type: none"> ➢ 例如：「青蛙是什麼顏色？（書中圖片青蛙是綠色的）」 「告訴媽咪 XX 在做什麼？」 ● 但若媽媽說：「你看到那邊藏著一隻青蛙嗎？」或說：「這是不是一隻青蛙」則不能算是問題，不計分 <ul style="list-style-type: none"> ➢ 問「這個是不是 X X？」之類「是不是」的問題不算是問題，不計分 ➢ 「這是青蛙對不對？」之類「對不對」的問題不算是問題，不計分
11	Question Open-question Q-Open.	<ul style="list-style-type: none"> ● 開放性問題：what, why, when, how, where 等無法在書本中直接找到答案的問題，孩子須以自己的說法來回答： <ul style="list-style-type: none"> ➢ 例如問：「你覺得為什麼小奇不敢喝橡木果汁？」 ➢ 「你覺得要到 100 層樓怎麼樣比較快？」「如果是你的話，你會怎麼做呢？」
12	Question Related past-experience Q-Past Expr.	<ul style="list-style-type: none"> ● 媽媽問孩子與故事情節相關的生活經驗 <ul style="list-style-type: none"> ➢ 「上星期六我們去公園，也有在什麼地方看到青蛙？」
13	Question Cognitive ability Q-Cog.	<ul style="list-style-type: none"> ● 媽媽問有關認知的問題（與書中情節有關） <ul style="list-style-type: none"> ➢ 例如：哪個比較高／矮，輕／重？ ➢ 下雨天溼溼的要撐什麼？
14	Question Social / moral / conventional knowledge Q-Moral/Conv.	<ul style="list-style-type: none"> ● 媽媽問的問題與社會規範、生活常規、甚至道德判斷有關 <ul style="list-style-type: none"> ➢ 例如問：「不刷牙會怎樣？」例如問：「他們不開燈，害客人上樓梯可能會怎麼樣？」
15	Question 6 Entertainment/ Creativity Q-Ent./Creatv.	<ul style="list-style-type: none"> ● 媽媽透過問答分享自己的心得、發揮創造力、或讓共讀更有趣 <ul style="list-style-type: none"> ➢ 媽問：「你覺得這是水滴還是鼻涕？」 ➢ 媽問：「接下來，你想會是誰住在樓上？」
16	Question 7 Adjust / expand the question for child to answer easily Q-Adjustment	<ul style="list-style-type: none"> ● 媽媽問了一個問題（例如：「你看那是什麼？」）孩子沒有回答，而媽媽會將問題加以解釋成更清楚的問題，來讓孩子更能夠回答問題。 <ul style="list-style-type: none"> ➢ 例如媽媽又繼續問：「你看那東西看起來像什麼？」（這樣算一題就可以，直接編碼至 Q-Adjustment，不需再次編碼至 Q-Open）若不是因為孩子沒有回答，而只是媽媽自己直接調整句型，則不算 Q-adjustment

(continued)

E Affect		
17	Positive Aff-Positive	<ul style="list-style-type: none"> ● 各個編碼間隔中，媽媽是否曾表現出正向情緒？（愉悅的聲調或表情都算） <ul style="list-style-type: none"> ➢ 例如以高興的口吻說：「good！」媽媽會面帶微笑
18	Negative Aff-Negative	<ul style="list-style-type: none"> ➢ 各個編碼間隔中，媽媽是否曾表現出負向情緒？（不高興、不耐煩的聲調或表情都算）例如：孩子回答錯誤，媽媽以不高興的語氣說話 ➢ 例如：孩子坐不住，媽媽露出不耐煩的表情
F 19	命令、引導孩子進行下一個動作 Directives	<ul style="list-style-type: none"> ● 命令、引導孩子進行下一個動作 <ul style="list-style-type: none"> ➢ 媽媽說：「你唸唸看／換你唸了」「你要不要唸？」 ➢ （若媽媽唸過後，再要求孩子重覆一次，則 code 在 direct teaching）
G 20	媽媽會用手指著書中的文字 Pointing	<ul style="list-style-type: none"> ● 各個編碼間隔中，媽媽是否曾以手指書中的文字或圖片引導孩子繼續唸下去？

***孩子對媽媽的共讀行為所表現出的程度，以 global rating	
孩子與媽媽的互動性 Child responsiveness	<ul style="list-style-type: none"> ● 孩子對媽媽提問的回應性（口語或表情），會主動回答，或配合媽媽的要求 <p>5. always 總是 4. usually 經常 3. moderate 算是會 2. sometimes 有時 1. rarely 很少</p>
孩子對共讀的投入性 Engagement / interest	<ul style="list-style-type: none"> ● 孩子表現出喜歡共讀的活動（以愉悅的口語回答問題，或主動表示意見），以及孩子對共讀活動的專注力， <p>5. always 總是 4. usually 經常 3. moderate 算是會 2. sometimes 有時 1. rarely 很少</p>
孩子表現出正向的情緒 Child's positive affect	<ul style="list-style-type: none"> ● 孩子表現出正向的情緒 <p>5. always 總是 4. usually 經常 3. moderate 算是會 2. sometimes 有時 1. rarely 很少</p>

Coder:

□ A □ B subject no:

session:

Coding date: 年 月 日

Appendix 8: Coding sheet

Interv	Positive interaction			Negative interaction			Teaching			Question						Affect		Directives	Pointing	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	For fun	Praise	Sensitive Response/ Sensitive	Demand on tempo	Discipline	Not Respn./sensitive	Direct Teaching (practice/correct)	elaboration	Moral/ Conventional	Q-Fact (in the book)	Q-Open	Q-Past Experience	Q-Cognitive	Q-Moral/Conv	Q-Ent./Creativ	Q-Adjustment	Aff-Positive	Aff-Negative		
1																				
2																				
3																				
4---29																				
30																				

Child global rating score: (1. rare, 2. less, 3: moderately, 4: usually, 5. always)

1. Child's responsiveness : _____ 2. Child engagement: _____ 3. Child positive affect: _____

Appendix 9. Examples of coding scheme during joint reading session

Subject no. 1, session A, book: 一百層樓的家

interval	Video tapping	Behaviors coded
7	<p>Mother (M): Bingo, bingo. 好厲害喔。</p> <p>M: 然後他爬樓梯走走。</p> <p>M: 然後那個一樓...二樓是誰的家你知道嗎?</p> <p>C: -----</p> <p>M: Good.</p> <p>M: 三樓也是對不對?</p> <p>C: -----</p> <p>M: 然後他們就一直走走。</p> <p>M: 小老鼠在做甚麼?</p>	<p>Praise (coded)</p> <p>For Fun (帶有手勢, coded)</p> <p>Specific Question (coded)</p> <p>Praise (已記錄過, 此次不算分)</p> <p>"對不對"不算問題</p> <p>Specific Question(已記錄過, 此次不算分)</p>

Note. In this interval, there were three behaviors coded (Praise, For Fun, Specific Question) according the original coding system, and each behavior coded only once within a same interval.

Subject no. 4, session A, book: 一百層樓的家

interval	Video tapping	Behaviors coded
9	<p>C:-----</p> <p>M:有四隻什麼在睡覺? 你都沒有陪我看,那我等一下就要回去了</p> <p>C:-----</p> <p>M:對阿,有幾隻?</p> <p>C:-----</p> <p>M:喔</p> <p>C:-----</p> <p>M:哎唷!你看,這隻是什麼?</p>	<p>Specific Question (coded)</p> <p>Control (coded)</p> <p>Specific Question (已記錄過, 此次不算分)</p> <p>Responsiveness (coded)</p> <p>Specific Question (已記錄過, 此次不算分)</p>

Subject no. 4, session B, book: 媽媽 買綠豆

interval	Video tapping	Behaviors coded
30	<p>M: 就像你喜歡吃的那個糖有沒有</p> <p>C: -(孩子在說有關糖的事-----</p> <p>M: 很多的糖 你看他在拿這個糖罐給媽媽 叫媽媽要放 你看 你看媽媽放那麼多糖</p> <p>C: -----</p> <p>M: 對呀!你看,倒太多了,本來這一大罐,倒最後就剩一罐. 太甜了</p>	<p>Elaboration (coded)</p> <p>Responsiveness (coded)</p> <p>Responsiveness(已記錄過, 此次不算分)</p>