

# 가족의 사회경제적 지위가 유아의 읽기 능력에 미치는 직·간접적 영향 연구\*

## Direct and Indirect Impact of Family Socioeconomic Status on Children's Reading Skills at Kindergarten Entry\*

미국 미시간 대학교 유아교육학과  
박사과정 손승희

Early Childhood Education, School of Education, University of Michigan

*Ph. D. student* : Seung-Hee Son

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### <Abstract>

The present study tested a multivariate model of direct and indirect influences of family Socioeconomic Status (SES) on children's early reading skills at kindergarten entry. The data used here are from one of the largest national databases in the USA, the Early Childhood Longitudinal Study-Kindergarten cohort (ECLS-K). Utilizing structural equation modeling, the results revealed that a number of factors within parental characteristics, home practices, and SES come together to influence children's early reading skills. SES operated primarily indirectly through home literacy activities and also directly in influencing reading. In addition, parental beliefs about kindergarten readiness mediated the relation between SES and home literacy activities. Thus, SES influenced early reading directly and indirectly, through home literacy activities, and simultaneously, through parental beliefs, which in turn, were associated with home literacy activities that were directly associated with children's reading. The findings emphasized the multiple pathways through which SES is associated with children's reading and the need to search for other mediators of SES influence.

본 연구는 가족의 사회경제적 지위가 가정교육활동 및 유아들의 읽기 능력에 미치는 직간접적인 영향을 다변수모형으로 분석하였다. 사용된 자료는 미국 학령기 유아발달에 관련된, 가장 큰 자료중 하나인, Early

Corresponding Author: Seung-Hee Son, School of Education, University of Michigan, 530 Church Street, East Hall Suite 1346, Ann Arbor, MI 48109, USA. Tel: 1-734-647-9439 Email: seunghee@umich.edu

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Childhood Longitudinal Study-Kindergarten Cohort(ECLS-K)이다. 구조적 인과모형을 이용한 분석결과, 부모의 사회인구학적 특성, 가정내 아동양육활동, 그리고 사회경제적 지위 등의 다양한 요인들이 유아의 읽기 능력을 예측하는 것으로 나타났다. 가족의 사회경제적 지위는 직접적으로, 그리고 간접적으로는 주로 가정내 책임기활동을 통해, 아동에게 영향을 미쳤다. 또, 사회경제적 지위가 가정내 책임기활동에 미치는 영향력은 부모의 유치원 준비도에 관한 교육신념에 의해 매개되었다. 다시 말해, 사회경제적 지위는 유아의 읽기 능력을 직접적 그리고 간접적으로 예측하였다; 간접적으로는 부모의 교육신념을 통하여 가정내 읽기활동을 예측하였고 다시 가정내 읽기활동이 유아의 읽기능력을 연쇄적으로 예측하였다. 본 연구 결과는 가족의 사회경제적 지위가 여러 경로를 통해 유아의 읽기 능력과 관련되었음을 보여주며, 사회경제적 지위가 읽기 능력 및 학업에 미치는 영향력을 설명하기 위해서는 여러 가지 가족관련 매개변수를 연구에 포함해야 할 필요성을 시사한다.

**주제어(Key Words):** 사회경제적 지위(Socioeconomic status), 가정내 읽기 활동(home literacy activities), 학습준비도 신념(readiness beliefs), 읽기능력(reading skills), 다중경로(multiple pathways)

## I. Introduction

Accumulating evidence has revealed that important individual differences in reading-related literacy skills emerge early (Hart & Risley, 1995), and that these differences in reading skills are relatively stable over time (Cunningham & Stanovich, 1997). Educational outcomes in adolescence, and even beyond, can be traced back to academic skills, especially reading skills, at school entry (Alexander, Entwisle, & Horsey, 1997). These findings have refocused attention on the topic of school readiness, in which young children's early reading skills and development are emphasized in terms of predicting later school success. According to National Research Council (2000, p. 159), what children know and can do at or before school entry matters, "not because development is less amenable to environmental influences once the preschool years have passed, but because there is, in effect, a manufactured critical transition of schooling at which point individual differences begin to predict longer-term patterns of learning and achievement." In this respect, early childhood research needs to focus on early individual differences in reading skills and possible sources of the differences. In search for sources of early variability, family characteristics such as family socioeconomic status (SES) have been reported as strong predictors.

However, SES variables, in their nature, tend to be distal in its impact on children's outcome (Raviv, Kessenich, & Morrison, 2004). In order to examine the ways through which child development is impacted by family characteristics, mediators of family characteristics should be considered. Thus, the present study attempts to examine the predictability of family SES and its mediators for children's reading skills at school entry.

### 1. Family SES and Home Literacy Activities

It is widely known that children from families with different SES display different levels of cognitive skills and achievement. Heath (1983) demonstrated that families of different SES engage in different literacy-related practices at home. This study opened the door to the hypothesis that these differences could explain the inequalities in reading achievement observed across children from different SES. Empirical studies have found significant relations between a number of home and family characteristics and reading skills in young children, including literacy materials present in the home (Neuman, 1999), shared book reading activities (Leseman & DeJong, 1998; Senechal & Lefevre, 2002), the characteristics of language use at home (Beals, 2001), and explicit reading and writing instruction (Evans, Shaw, & Bell, 2000; Senechal & LeFevre, 2002).

One of the most studied home educational activities among these is shared book reading between the parent and child. Several aspects of shared book reading have been studied in their influence on children's reading skills, but the sheer frequency of this activity is by far the most studied aspect. The frequency of shared reading has been reported to have effects on measures of oral language development (Bus, van Ijzendoorn & Pellegrini, 1995, Senechal & LeFevre, 2002) and reading skills (Bus, van Ijzendoorn & Pellegrini, 1995, Leseman and DeJong, 1998, Overett and Donald, 1998). Regarding book reading styles, most researchers argue that the most effective style is characterized by the interactions that elaborate the contents of the book, by being more cognitively demanding and decontextualized (Allison & Watson, 1994, De Temple, 2001; Pellegrini, Perlmutter, Galda & Brody, 1990).

Some researchers have also focused on parental explicit teaching of reading and writing instruction, and the potential effect that such practices might have for the child (Evans, Shaw, & Bell, 2000; Leseman & de Jong, 1998). Examples of instruction activities include direct reading instruction during storybook reading, encouraging the identification and sounding of letters, helping with homework, and helping with the encoding of words during writing. A recent study by Senechal and her colleagues (1998; 2002) reported that shared book reading and explicit instruction are different types of home literacy activities, which have a specific influence on different outcomes; shared book reading influenced vocabulary and listening comprehension skills while explicit teaching influenced early reading skills.

Although these studies have examined the influence of home literacy activities on young children's reading skills, they failed to incorporate a

more macro picture: they did not tell us how and why home literacy activities are different across families and how these activities influence children's outcome. In addition, they did not go beyond regressing a set of family predictors on early reading, thus, failed to explain the mechanisms that produce differences in family activities and early reading. Considering that there has been a large volume of research interested in SES differences in home activities, researchers may converge two flows of research about SES and home activities into one that can look into the influence of home activities within a broad picture of social and economic conditions of a family. At the same time, researchers may examine the mechanisms or mediators through which SES and home activities influence early reading skills.

## 2. Mediators: Parental Beliefs about Readiness

In spite of the large amount of research that focuses on home influences on reading skills, there has not been much clarity on the issue of "why" families from different SES engage in different literacy behaviors. The answer to this question could have important consequences on the design of policies on early family intervention programs. One of the answers to this question may have to do with parental beliefs about reading and education. It might be the case that families engage in different practices because they have different views and beliefs about the value and function of education at home or because they have different expectations of their children regarding the level of skills the children need to acquire. If this is the case, early intervention programs may also need to attempt to modify parents' views through parent education, not only attempt to modify directly parenting behaviors.

Many researchers have advanced the hypothesis

that what parents do with literacy at home is primarily related to their views about the value and function of literacy, as well as their views about child development and education. Previous research has also shown that different parents endorse different views of what activities are beneficial for their children's literacy development and how parents can foster the development; parents' beliefs about literacy and education have been shown to vary with SES (Sonnenschein, Baker & Cerro, 1992) including the educational level (Fitzgerald, Spiegel & Cunningham, 1991; Stipek, Milburn, Clements & Daniels, 1992). and ethnic groups (Stevenson, Chen & Uttal, 1990) Fitzgerald, Spiegel & Cunningham (1991), for example, showed a relation between parents' literacy level and their beliefs about what is important for children in developing literacy. They found that low-literacy parents (or low-SES parents) placed the equal value on instructional or skill-oriented materials/activities (e.g., alphabet blocks, flashcards, watching educational TV programs and etc.) and natural or nurturing artifacts/events (e.g., paper, pens, magazines, reading to the child), while high-literacy parents (or high-SES parents) did not have a high value for instructional materials, but only for natural ones. In addition, low-literacy parents manifested less preoccupation than high-literacy parents for adult role modeling of literacy behaviors, and they had fewer ideas than high-literacy parents about why some children do well in school and about what parents can do to help them.

Kindergarten entry is a period when some parents may modify their expectations and beliefs about their child's learning. This period has been studied extensively under the name of kindergarten readiness. Readiness skills mean specific skills needed before entering school to succeed in kindergarten and schooling. However, what it means by readiness skills is defined differently

across several groups of people from different cultures (Grague, 1992). Parents might also have their own readiness concepts about what children should know and be able to do at school entry. Parent's readiness beliefs were reported to influence the activities they engage in with their children at home and the programs and experiences they arrange for the children (Grague, 1992). According to one survey, a majority of parents of preschoolers believed that knowing the letters of the alphabet, being able to count to 20 or more, and using pencils and paint brushes are important skills for a child to master before kindergarten entry (National Center for Education Statistics, 1995). In addition, many parents believed that self-regulation/social skills are important to adjust in school, such as sitting still, following commands, or orienting attention. Interestingly, these beliefs on the relative importance of the skills varied across parents with different levels of education (NCES, 1995). Especially, there were large differences in the percentages of parents with higher and lower levels of education who believed that specific school-related skills and behaviors are very important to a child's readiness for kindergarten. That is, parents with lower education reported more emphasis on school-related skills (e.g., counting, alphabet letters, using pencil etc.) than parents with more years of education.

Parental beliefs seem to influence children's developmental outcomes. Differences in parental beliefs about skills that their young children possess seemed to influence children's school performance (Johnson & Martin, 1985; Okagaki & Sternberg, 1993). In addition, considering several studies of the influence of parental beliefs on the home environment and activities (Grague, 1992; Johnson & Martin, 1985; Sonnenschein, Baker, Serpell, & Schimidt, 2000), children's achievement may be mediated by home activities influenced by parental beliefs.

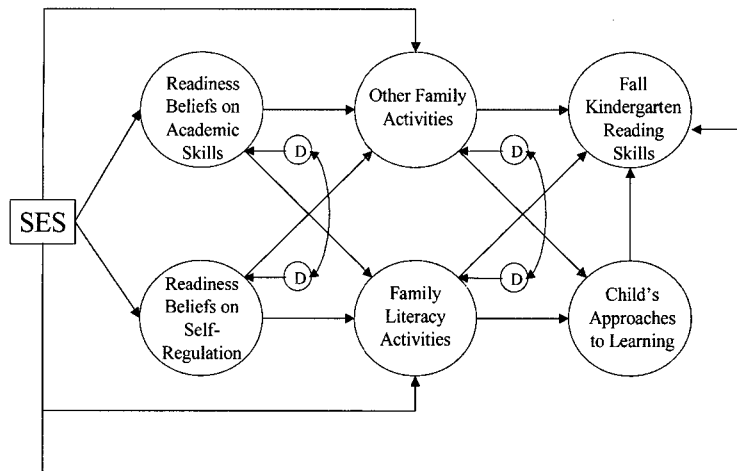
Overall, parents may have different beliefs based on their characteristics, such as SES (income or education level) or ethnic origins. Parents of different SES, for example, might provide a different type and frequency of home activities by endorsing different parental beliefs. In this case, SES may have an indirect influence on children's developmental outcomes through parental beliefs and home activities; that is, parental beliefs and home activities may act as mediators of SES. Goldenberg, Reese, and Gallimore (1992) suggest the importance of considering indirect influences and mediators in studying child development. The authors conducted an intervention, which sent books to the homes of low SES Latino families, but did not find the expected positive effect on children's reading skills. The researchers later found that families had not conducted the expected activities with the books, that is, reading and sharing them with their children, but had used them as direct teaching materials to teach the letters and other explicit literacy concepts they considered important. The study implies that more proximal variables—what parents are actually doing with their children—need to be examined as mediators of more distal variables.

## II. The Present Study: The Model

In this paper, I examined the factors that influence early reading skills upon entry to kindergarten and the relations among the factors. Especially, I looked into the influence of SES and possible mediators of its influence, focusing on the extent to which SES impacts early reading skills and the mechanisms through which SES exerts its influence. Some mediators that might be used as a mechanism of SES influence were included in the model: parental beliefs, parenting practices of home educational

activities, and child characteristics. The paths were hypothesized from SES to parental beliefs, home activities, child characteristics, and reading skills. Direct and indirect paths of SES on child reading skills were examined using structural equation modeling with latent factor structures. Structural equation modeling enables to conduct path analysis with confirmatory factor analysis. By doing confirmatory factor analysis, researchers can make a latent factor, an underlying hypothetical construct that explains the visible differences in the variable (Kline, 1998). Then, researchers conduct path analysis by examining pathways among the latent factors, testing hypotheses about direct and indirect causal effects. Using a latent factor instead of actual variables/indicators takes account of measurement error in all of the observed variables (Kline, 1998).

<Figure 1> displays the current model. In examining the relations between SES and children's reading skills, several possible mediators of SES impact on reading were included in the model. Parental beliefs about readiness and different types of home activities were grouped into latent factors and then tested in terms of their paths to reading skills. First, paths from SES to parenting beliefs were included. Parental readiness beliefs were included as two separate factors of beliefs about children's academic or cognitive skills and beliefs about children's social or self-regulation skills since explicit beliefs about cognitive skills were hypothesized to have different paths from what parental beliefs about children's social/self-regulation skills have. Second, the model included paths from parenting beliefs to two latent factors of home activities: one for home literacy activities and the other for other home educational activities such as playing games, singing songs and playing sports. These two home activity factors were compared to see whether parental beliefs have differential effects on home



<Figure 1> Hypothesized Model of SES, Parental Beliefs, Home Literacy Activities and Children's Reading Skills

literacy activities and on other kinds of family activities. By adding this “other activities” factor in the model, I was able to test the unique effects of home literacy activities, by controlling the possibility that the influence of literacy activities on reading not given by anything specific to literacy activities, but rather by a general factor related to how much time the family spends together. I also included a direct path from SES to home activities to account for other possible influences not tested in the model. Third, several paths from and to children’s motivation towards learning were included. Children’s motivation towards learning was to be controlled when examining the effects of home activities on reading skills, since it has been suggested that home literacy activities may have an indirect effect to reading skills by influencing children’s motivation (Lonigan, 1994). Finally, additional direct paths were included from SES to reading skills and from home activities to reading skills.

Here, the mediators were not just included as a control, but also examined with regards to their dynamic relations with one another. I assumed that in addition to having a direct effect, SES would

indirectly influence early reading skills through parental beliefs that impact home activities, which in turn influence early reading skills through a child’s motivation. Thus, the current model examined (1) the unique influence of SES controlling other possible predictors and, at the same time and, (2) the dynamic relations among the predictors in shaping multiple pathways to children’s reading skills.

### III. Method

#### 1. Sample

The current analysis sample is from the base year dataset of the Early Childhood Longitudinal Study – Kindergarten Cohort (ECLS-K). The ECLS-K is a study in USA that focuses on children’s early school experiences beginning with kindergarten (NCES, 2001). It has been following a nationally representative cohort of children from kindergarten through fifth grade totaling 21,260 children. I used the data from the beginning of kindergarten (administered in the fall semester of kindergarten), since I hoped to examine home influences on

children’s literacy with minimum school effects. Only children who were first-time kindergarteners (that is, who did not repeat kindergarten) and who did not have any missing data on all the variables in the model were included in the study (N = 14,741).

Analyses using ECLS-K data employed weights to compensate for the unequal probabilities of selection and non-response rate, especially for compensating intentional over-sampling of some minority children. In this way, results based on the weighted sample can be generalized to the children in the United States who were kindergartners for the first time during the 1998 school year. I normalized the weight variable by making it sum to the total sample size in order to avoid inflating the sample size and miscalculating standard errors and the degrees of freedom. This enabled to maintain the same sample size within the context of a representative national sample. Current analyses used the sample weighted by the normalized longitudinal child weight.

The demographic characteristics of the study sample were examined using the weighted data (see Table 1). The average age of the sample reached 68

<Table 1> Demographic characteristics of the study sample (N = 14,741)

Variables	Range	Mean	SD
Age (months)	54.00 - 79.00	68.27	4.06
Family income (\$)	1 - 999,999	55,491.54	54,115.99
Variables	Categories	% (N)	
Gender	Female	49.1 ( 7241)	
	Male	50.9 ( 7499)	
Home language	English	94.3 (13891)	
	Other than English	5.7 ( 844)	
Ethnicity	Caucasian	63.8 ( 9407)	
	Asian	2.5 ( 362)	
	Hispanic	13.5 ( 1995)	
	African	15.2 ( 2241)	
	Other	4.9 ( 712)	
Ever enrolled in a center-based care	Yes	78.6 (11577)	
	No	21.4 ( 3148)	

months and their mean family income was around 55,000 dollars. Gender of children was distributed evenly with 50.9% males. The sample was composed of 63.8% Caucasian-American, 15.2% African-American, and 13.5% and 2.5% respectively Hispanic and Asian children. Children using a language other than English at home comprised 5.7% of the sample and most kindergartners had attended a center-based child care before kindergarten entry (78.6%).

## 2. Measures

Every variable was assessed in the fall of the kindergarten year, which is the beginning of kindergarten.

### 1) Socio-Economic Status (SES)

This is a composite variable formed by five items of mothers’ and fathers’ educational level, mother’s and father’s occupational prestige, and family income. The SES variable provided in the ECLS-K database was used as an observed variable. Parent’s occupation of the SES variable was recoded to reflect the average of the 1989 General Social Survey (GSS) prestige score of the occupation (Nanoo & Treas, 1992; NCES, 2001). Missing values within any component in the SES were imputed using a hot deck imputation where the value reported by a respondent for a particular item is donated to a similar person who failed to respond to that question. After the missing values were imputed, SES was computed as a mean of a standardized score of each component.

### 2) Parental Readiness Beliefs about Academic Skills

This latent factor included two items regarding parents’ beliefs about the degree to which academic skills are important and should be mastered before

kindergarten entry. The two items asked about the importance of counting and knowing the letters of the alphabet. Parents were asked to evaluate the level of importance of each item along the continuum from essential to not important. I interpreted this factor as representing an academic-oriented view of parents; the higher the score in this factor, the more likely the parent pushes children to master certain academic skills and knowledge and to be ready for school, which was purported to be directly related to literacy learning. Alpha coefficient of reliability among the two indicators was .640.

### 3) Parental Readiness Beliefs about Social Skills

This factor included three items regarding parents' beliefs about the degree to which social or self-regulation skills are important and should be mastered before entering kindergarten. Parents were asked to evaluate the level of importance of each item along the continuum from essential to not important. The items included in the factor asked about the perceived importance of sharing, being able to sit still, and being able to communicate well. Alpha coefficient of reliability among the three indicators was 0.532.

### 4) Home Literacy Activities

This factor included three items that measured the frequency with which parents engage in different literacy activities with the child, especially book-reading activities. Originally, there were 10 items about home activities in the ECLS-K database. I expected that these items could be factored into one literacy and one non-literacy factors. This expectation was assured by factor analysis. Three items about book activity were loaded on one factor and other activity items were loaded on the other factor. Using the first three items, I created a latent factor of home literacy activities. Actual items in this

factor included: the frequency with which parent reads to the child, the frequency with which the child reads picture books, and the frequency with which the child reads books outside school. Parents' response to each item was coded based on a 4-point scale: not at all, once or twice a week, three to six times a week, or everyday. Reliability of the items was 0.618.

### 5) Other Home Activities

The second factor of home activities included items that measure the frequency with which the family engages in seven non-literacy educational activities. The items were collapsed into three indicators (Act1, Act2 and Act3) to reduce the number of indicator, following recommendations of the several sources (Bandalos, 2002; Bandalos & Finney, 2001; Marsh, Hau, Balla, & Grayson, 1998), which demonstrated that combining items into composite scores would not result in estimate bias and having three items per factor is the most reliable way to get estimate. Activity items composing the three indicators were chosen randomly. Act1 consisted of three items: telling stories to child, playing games or puzzles, and singing songs; Act2 consisted of two items of helping child to do arts and crafts, and talking about nature or do science projects with child; Act3 was composed of two items of playing a sport or exercise together, and building something or play with construction toys with child. Reliability of the three grouped indicators was 0.663.

### 6) Child's Approaches to Learning

Child's approaches towards learning or early motivation were measured with one single variable in the ECLS-K, "approaches to learning." This variable represents a composite of parents' ratings in six items about the degree to which the child shows certain behaviors that indicate his or her disposition



towards learning. The six items in the scale were how often a child shows eagerness to learn, interest in a variety of things, creativity, persistence, concentration, and responsibility. This motivation scale is originally a part of a social rating scale to be reported by parents regarding self-control, social interaction, impulsive/overactive, and sad/lonely. The split-half reliability of this motivation factor was reported approximately 0.68 (NCES, 2001), which was entered in the model to fix the error variance of a latent variable (.0716) to counter the reliability/unreliability of the latent factor measures which is caused by having only one indicator (Hayduk, 1987).

#### 7) Reading Skills at Kindergarten entry

Reading skills at the beginning of kindergarten were assessed using Direct Cognitive Assessments Tools of ECLS-K developed by NCES with five subscales that measured the following basic skills: identifying upper- and lower-case letters of the alphabet, associating letters with sounds at the beginning of words, associating letters with sounds at the end of words, recognizing common words by sight, and reading words in context.

I used Item Response Theory (IRT)-based composite scores of reading of fall kindergarten as outcome variable. IRT scores place each child in a continuous ability scale using the pattern of right, wrong, and omitted responses to the items actually administered in a test (Hambleton, 1991). They were better indicators of overall cognitive skills without a ceiling problem and made it possible to compare the scores taken in different test items. Using the IRT-composite score as one indicator, I constructed a latent factor of kindergarten reading skills. In making a latent factor, I fixed the error variance to 7.0346, using the reliability of the scale (0.9) provided by ECLS-K.

## IV. Results

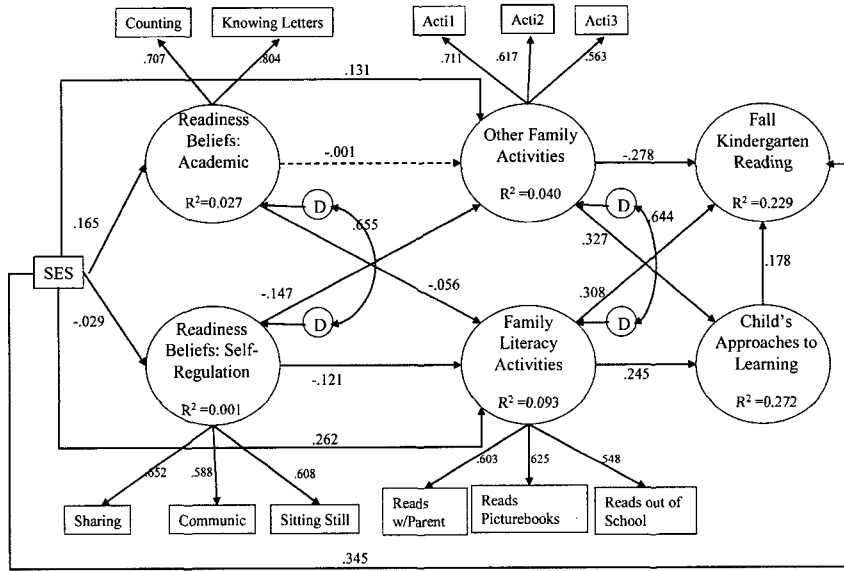
### 1. Measurement Model

As a first step, I tested the measurement model to make sure that the way in which I had constructed the latent factors was appropriate and that the measurement of the factors was reliable. The measurement model was tested by replacing all the paths in the model with correlations, thereby turning all factors into exogenous factors. The measurement model provided a good fit to the data, Chi-square (56,  $N = 14,171$ ) = 2,085.298,  $p < .001$ ; Tucker and Lewis's fit index (TLI) = 0.94; comparative fit index (CFI) = 0.941; root mean square error of approximation (RMSEA) = 0.050. These results suggest that the factors in the model were appropriately measured.

### 2. Confirmatory Analysis: Structural Equation Modeling

I tested the model shown in <Figure 1> using Structural Equation Modeling with the EQS Program (Bentler & Wu, 1993). The results from this confirmatory analysis are presented at <Figure 2>. The current structural model provided a good fit to the data, Chi-Square (64,  $N = 14,171$ ) = 2,843.896,  $p < .001$ ; TLI = 0.926; CFI = 0.928; RMSEA = 0.054. All paths except the one from readiness beliefs about academic skills to other home activities were statistically significant. Several direct paths to the reading outcome were among the ones that had highest coefficients.

SES has a significant influence on fall kindergarten reading skills directly and indirectly. Parents with higher SES tended to have stronger beliefs about the importance of readiness for academic skills (Beta = .165), and the beliefs had a significant relation with the frequency of home



Chi-square <sub>64,14741</sub> = 2843.90 (p < .001); NFI = .926; NNFI = .897; CFI = .928; RMSEA = .054

<Figure 2> SEM results with coefficients and goodness of fit indicators All solid paths shown are significant with p < .05, except the dotted one

literacy activities although the magnitude of the coefficients was quite small (Beta = -.056). However, the effect of academic beliefs on home non-literacy activities was not significant. Parents with stronger beliefs about the importance of social skills tended to provide a lower level of other home activities (Beta = -.147).

On the other hand, home literacy activities have a significant influence on children's reading skills. While there was a high correlation between the residuals of home literacy activities and other home activities ( $r = .655$ ), only the factor of home literacy activities had a positive direct influence on reading skills (Beta = .644). Conversely, other home activities had a negative influence (Beta = -.278). This might indicate that families that spend more time on other kinds of activities get taken time away from literacy activities. However, other family activities still tended to positively impact early reading skills,

indirectly through a child's approaches to learning. Although other activities did not have a direct positive influence on reading, they still impacted child's general attitude towards learning (Beta = .327), which in turns had a positive effect on early reading skills (Beta = .178). Similarly, the home literacy activities had an indirect effect on reading skills through the child's approach towards learning.

Home activities variables were found to be directly influenced by SES (Beta's = .262 and .131 for home literacy activities and for other home activities respectively). The higher the parents' SES was, the more frequently did they engage in home educational activities. And, their frequent activities were linked to child's reading skills. Thus, these results suggest that the home literacy activities, which significantly influenced early reading skills, differed across families from different SES.

SES continued to have the most profound effects

on reading, over and above all the parenting beliefs and home activities variables. The standardized coefficient of the direct path from SES to early reading skills was .345 with all the child and family activities variables controlled for. The magnitude of the effect size is greater than the effects of home literacy activities on reading (Beta = .308). SES exerts a greater independent impact on children's reading skills more than that of home literacy activities.

## V. Discussion

The current structural equation modeling presents interesting findings about the influence of SES on early reading skills. In the confirmatory analysis, the impact of SES on parental beliefs as well as the impact of two parental beliefs variables on home activities were significant, but the actual coefficients were quite small. Thus, they could not fully explain the indirect relation between SES and home literacy activities. On the other hand, the direct influence of SES on home literacy activities continues to be very strong, indicating that there may be other mediators. Examples of such factors that should be studied in the future include the access to literacy resources or parental financial stresses. The access to different amount of materials provides a reasonable bridge between sociocultural factors and home activities, since there is considerable variation in the number of materials that families and communities from different sociocultural backgrounds have access to (Neuman, 1999, Neuman & Celano, 2001).

Not only the amount, but also the type of materials present in different groups has been shown to vary. Heath (1983), for example, found that middle-class mothers were more familiar with traditional narrative texts such as storybooks, while low SES mothers were more familiar with less

traditional narrative texts, such as newspapers or cartoons and expository texts, such as advertisements. The finding by Pellegrini *et al.* (1990) that different genres elicit different interactions supports the hypothesis that the type of materials would be a mediator between SES and the home literacy activities.

SES may influence family activities not only through economic factors such as the availability of resources, but also through psychological factors due to economic problems. There have not been many studies of the effects that parental strains might have on the frequency and quality of literacy interactions in the home, but it is reasonable to expect that the stress created by poverty conditions could have a negative effect on parents' involvement in their children's education. It may be possible that parents with more demands due to economic strains may be less inclined to spend time in a high quality reading and teaching with their children. One example of this is the hypothesis that the daily stresses imposed on low SES mothers by economic deprivations might hinder their ability to focus on the affective relationship with their infants (Schaffer, 1996). This, in combination with some findings related to the attachment security and the frequency of storybook reading, could provide another possible connection between SES and literacy development. Bus and van Ijzendoorn (1988) studied mother-child attachment as a potential source of variation in the frequency and quality of storybook reading, and found that mothers of insecurely attached children reported that their children showed less interest in literacy than securely attached children, and that the attachment security was a strong predictor of the frequency with which the mothers reported that they read with their children.

The home literacy activities factor was shown to

have a direct and positive influence on reading skills as well as an indirect influence through the child's approaches towards learning. Other home non-literacy activities also had an indirect positive effect on reading, through their positive effect on the child's approaches to learning, which then positively influenced children's reading skills. However, their direct effect on reading skills was negative. The negative relation between other non-literacy home activities and reading skills could result from the measure of kindergarten reading skills. Here, most of children could identify letter-word basic decoding but couldn't finish the part of reading words in context or comprehension test, so the measure here represented basic skills mostly. Other home activities may provide opportunities for children to develop other skills, such as content knowledge or vocabulary, which can help reading comprehension but not basic letter-word decoding skills. Thus, these activities did not positively influence basic reading skills here, but might influence higher-level reading skills such as reading comprehension. Children who engaged in a great deal of home activities, literacy-related or not, tended to have an increased motivation towards learning, which, in turn, had a positive effect on their reading skills. However, over and above this effect, there appears to be a certain specificity to the kinds of learning experiences that each kind of activity provides; this study suggests that reading skills at kindergarten entry can be influenced much more by home literacy activities such as book reading than by other enjoyable activities. However, it might be the case that other home activities might influence other aspects of kindergartners' academic skills. In other words, specific family activities can help children develop specific skills. Thus, future studies may want to examine the relations among home activities and various types of cognitive skills.

The inclusion of the specific indicators (education, job prestige, and income level) that were used to estimate SES could be a valuable addition in future studies. It is reasonable to believe that the income level and parental education will influence home literacy activities in different ways; if I included each one of these indicators separately, instead of including them together as a latent SES factor, I might find indirect effects through mediators. For example, parental education might influence home literacy through beliefs while income could have an effect through access and parental financial strains.

The biggest limitation of this study is that the model was not based on longitudinal measurements. Rather, every variable was assessed at the fall kindergarten, which makes the causal interpretation of the current results tentative at best. Another limitation was posed by the operationalization of theoretical constructs. This study is the second analysis of national data, which obviously limited the ability to measure exactly what I would have liked to measure. For example, the beliefs construct only measured the degree to which parents endorse a readiness view of development, where it is important that children master certain specific skills before entering school in order to benefit from school instruction. Although research has shown that this is an important determinant of the practices that parents engage in, it is not everything there is as to parental beliefs about education. It does not provide any insights about how much parents value literacy and education, what they believe it is useful for, and how they believe they can foster it in their children. Thus, it is hard to interpret the positive relations between these beliefs and home literacy activities in the absence of the other information.

However, these findings provide some insights into the direct and indirect effects of SES on home literacy activities and children's reading skills. This

study emphasizes the need to look more carefully at the assumption that beliefs about literacy and education vary fundamentally across groups, as well as the need to consider more practical aspects such as the way in which SES influences the materials that families have or the interactions that families are engaged in. The current study demonstrates the need for more research on the potential mediators of the SES influence on literacy skills, beyond family beliefs and home activities.

The model might bring different results with a sample of Korean parents and children. Korean parents with a different SES background may have different beliefs about children's learning, which may greatly influence the use of educational activities. Korean children have been reported to be under great pressure to learn academic skills through in and outside of home activities. With a higher level of parental expectation of the child and with the greater use of home activities, the effect of family SES on Korean children's reading skills may be mediated by parental beliefs and home activities in a greater degree than in the United States. Thus, studying this model with Korean sample might display more stronger evidence of indirect effects of SES on children's reading skills.

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