

# The Varied Educational Effects of Parent-Child Communication: A Comparative Study of Fourteen Countries

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Research done in the United States shows that parental involvement in children's education positively affects such educational outcomes as school persistence (Teachman et al. 1997; McNeal 1999), postsecondary educational attainment (Sandefur et al. 2004), and academic achievement (Muller 1993; Ho Sui-Chu and Willms 1996; Epstein 2001). Of course, parental involvement is multidimensional and comprises such home-based activities as parent-child discussions of school, parenting style, and monitoring children's behaviors. It would also include school-based involvement such as attending parent-teacher organization (PTO) meetings or school events, and parent-teacher interactions (Muller and Kerbow 1993; Ho Sui-Chu and Willms 1996; Downey 2002).

Notwithstanding the generally positive impact of parental involvement, this effect varies across families of different backgrounds, at least in the United States (Teachman et al. 1997; Desimone 1999; McNeal 1999). Not only are lower socioeconomic (SES) parents less likely to participate in educational activities within and outside of the home, as compared with higher SES parents, **but the same amount of parental involvement produces greater benefits among high SES students.** Ralph McNeal (1999) found that lower SES students gain less from parent-child discussion than do higher SES students, even when comparable discussions occur. Parent-child discussion significantly **reduced the likelihood of dropping out of high school for higher SES students, while such a beneficial effect of parent-child discussion did not exist for lower SES students.** Parent-teacher organization involvement **had the similar pattern** of the interaction with SES.

There are policy implications to the unequal effect of parental involvement across family SES. Efforts simply to increase the overall level of parental involvement may not result in overall positive effects. The greater effect of parental involvement for higher SES students, as found in American education, **suggests that educational efforts generally to encourage more parental involvement could actually exacerbate, rather than attenuate, educational inequality by family SES.** Parental involvement could produce greater benefits for higher SES students than for lower SES students. To understand how

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parental involvement enhances children's education, more attention must be paid to sources of variation in the effect of parental involvement across different socioeconomic groups.

To what extent is the differential effect of parental involvement by family SES found beyond the United States? Presently, little is known about whether the greater effect of parental involvement for higher SES students in the United States is contingent upon specific features of its educational system. Researchers now must extend the investigation of the relationship between parental involvement and children's educational success, and its potentially international variation.

In this article, I use data from the Programme for International Student Assessment (PISA) to examine international differences in the effects of parental involvement across their social class. Here I compare the ways in which **parent-child communication**—a major indicator of parental involvement—influences children's educational achievement across 14 countries. Specifically, I investigate how countries vary in the extent to which the effect of **parent-child communication differs between lower and higher SES students**. As a form of home-based parental involvement, parent-child communication indicates the frequency of parental engagement with their child over issues related to schooling and more general issues in everyday life. **Parent-child communication, especially about schooling, is a significant predictor of achievement, often stronger than any other parental involvement variables** (Ho Sui-Chu and Willms 1996; Desimone 1999). Research done in the United States has consistently found a differential effect of parent-child communication by students' socioeconomic background (Desimone 1999; McNeal 1999; Lee and Bowen 2006).

My working hypothesis in this study is that social class differences in the educational effect of parent-child communication are produced by **structural features of educational systems, especially by the level of standardization**. We should expect that **parent-child communication is more beneficial to high SES students in countries with less standardized school systems, such as the United States. By contrast, parent-child communication should be more beneficial to low SES students in countries such as Korea that have highly standardized systems**. The major aim of this study is to assess the extent to which social class differences in the effect of parent-child communication vary and relate to a nation's standardization of the education system.

#### **Differential Effects of Parent-Child Communication by Family SES**

McNeal (1999) suggested that parental involvement operates as a form of social capital. Parental involvement typically consists of dyadic relationships, that is, between the parent and the child. Parents' involvement, like social capital more generally, requires the availability of resources to be effective in influencing the child's educational outcomes.

McNeal's conceptualization of parental involvement as social capital suggests an explanation for why the effects of parental involvement vary by socioeconomic background. In order for social capital to function as an effective force affecting a student's education, parents must possess economic, human, and cultural capital. In other words, the ability of parental involvement to serve as social capital is likely to depend on the availability of other resources that can be drawn within and outside of social networks (Bourdieu 1986; McNeal 1999). Lower SES parents, who have more limited resources and skills, could face difficulties in applying their educational goals and aspirations to promote children's academic achievement.

The notion of differential availability of resources by different SES parents can be specified to account for how as a dimension of parental involvement, parent-child communication specifically may not have the same benefits for students from different SES families. For instance, frequent discussion with the child about schooling may not increase the child's academic performance. In order for parent-child discussions to affect the child's education, parents need detailed knowledge of school processes and effective learning methods, and they must be able to use that knowledge in discussions with their children. Parents with a college education may convey the importance of educational success to the child more effectively through conversation than do parents with less education. Highly educated parents often have better communication skills and styles that are more effective to emphasize the importance of educational success (Steinberg 1996). Moreover, high SES parents can obtain educational information from professional consultants beyond schools. This information can be useful for parents in assisting their child's education through everyday conversation. In short, because of differential resources and skills between higher SES and lower SES parents, even the same amount of communication with the child may vary substantially in its impact on children's educational outcomes.

The greater benefit of parent-child communication for students from higher SES families with greater resources and skills, however, is contingent on the educational and social context. Societies differ in terms of the extent to which cultural and economic resources are distributed equally across social groups. Countries also differ in the distribution of human capital and literacy skills, which are essential capacity for parents to be able to gather information for their child's education and to apply this knowledge to meet the educational needs of their children.<sup>1</sup> Moreover, if schools can effectively deliver relevant information for parents to understand schooling processes and the

<sup>1</sup> In some countries, for instance, people with low levels of formal educational attainment show significantly lower levels of literacy skills than do their counterparts with high levels of educational attainment, while in some countries the literacy gap by educational attainment is not substantial (Park and Kyei 2007). When low educated people have a considerable level of literacy skills, they may not face barriers to navigating educational systems and gathering relevant information to help their children's education as serious as do similarly low educated people with a much lower level of literacy skills.

child's educational need, even low SES parents may manage effective conversation with the child. This aspect of parent-child communication conditioned by educational systems is the main focus of this study and will be discussed in detail later.

It is also possible that parent-child communication may be of different use for different social groups depending on the context (McNeal 1999). For instance, in some countries, high SES students may benefit from parent-child communication, while in other countries high SES students may benefit more from different forms of parental involvement. In Japan and Korea, a distinctive strategy for high SES parents is to support children's education by hiring private tutors or by sending their children to supplemental lessons after the school day (Stevenson and Baker 1992). Similarly, the relative effectiveness of parent-child communication over other forms of parental involvement for low SES students may vary across societies.

For this reason, not all scholars agree that parent-child communication would be more effective for higher than for lower SES students. Some literature on social capital has asked for researchers' attention to potential compensating roles of social capital for those who come from disadvantaged socioeconomic backgrounds (Wong 2002). Parents' interest in children's education, their frequent discussion about schooling, and their encouragement for academic success can be particularly valuable for children who lack other cultural and economic resources. By contrast, for students who already enjoy material advantages or who benefit from other forms of parental involvement, the consequences of parent-child communication may be small.

#### **How Does Educational Standardization Condition Parent-Child Communication?**

Examining the degree and type of parental involvement on children's schooling across different types of German secondary school, Hans Oswald and colleagues (1988) found that the type of secondary school children attended was an important determinant of parental involvement, even after parents' and children's individual characteristics were taken into account. Differences in the variation in the institutional characteristics of schools, especially features of the school charter, led parents to rely on different strategies of involvement. The parents' participation in course selection, homework, and discussion with teachers was most important for ensuring children's educational success in the broad charter of the comprehensive school (*Gesamtschule*), in which students can obtain any of the three traditional degrees (*Arbitur*, *Mittlere Reife*, or *Hauptschule*) by pursuing any of the traditional curricula. However, in the narrow charter of *Gymnasium* or *Realschule*, where students study specific curricula toward clearly defined degrees, parental participation mattered less. Thus, institutional arrangements of schools are relevant for variation in the degree and kind of parental involvement in children's education.

In contrast to Oswald and colleagues (1988), who focused on institutional features of the school system as determinants of parental involvement, Claudia Buchmann and Ben Dalton (2002) linked structural features of educational systems to different effects of parents' attitudes regarding children's academic performance on children's educational aspiration across 12 countries. In highly differentiated systems like German education, school type clearly distinguishes their students' educational and occupational trajectories. In differentiated systems, therefore, it is the type of school (not parents' direct influence) that most determines students' educational aspirations. In undifferentiated systems, by contrast, parents' attitudes are more influential for children's educational aspirations.

The two studies cited above highlight the importance of institutional context for understanding cross-national variation in the determinants and impacts of parental involvement in education. In my own research, I similarly examine the ways that structural features of educational systems affect the ways in which parental involvement relates to children's educational outcomes. This aim can be achieved by comparing differences in the effectiveness of parent-child communication by family SES across countries with different characteristics of educational systems. Here I particularly focus on the standardization of educational systems, which indicates "the degree to which the quality of education meets the same standards nationwide" (Allmendinger 1989, 233). I hypothesize that parent-child communication is more effective in higher SES families in countries having localized and nonstandardized educational systems. By contrast, I expect that parent-child communication is more effective in lower SES families in countries where educational systems are more standardized.

*Parent-Child Communication in Nonstandardized Educational Systems*

Localized and nonstandardized systems, such as that in the United States, have relatively less accountability and transparency in schooling and make it difficult for parents to gain a clear picture of the educational processes. In such systems, it is more difficult for parents to monitor the child's educational achievement or to know how to help them. Without educational standards, it is more difficult for parents to assess whether their child is acquiring the knowledge and skills appropriate for a specific stage of schooling. Parents may not even realize the poor academic performance of their child until they are told from teachers that their child should repeat a grade (Lareau 1989). In such systems, it is difficult for parents to effectively talk with the child about specific educational needs in everyday conversation.

These barriers to parent-child communication would be greater among low SES parents than among high SES parents. High SES parents are often involved in school-related activities and have contacts with teachers and schools. This helps them learn about schooling processes and even assess

their child's academic performance in comparison to other students in class (Stevenson and Baker 1987; Lareau 1989; Lee and Bowen 2006). With confidence in interaction with teachers, resulting from their high educational attainment and occupational success, high SES parents engage with teachers to identify specific educational needs of their child. Consequently, high SES parents tend to have more knowledge of their child's academic performance and educational needs (Baker and Stevenson 1986). In fact, in nonstandardized systems, parents tend to have more control over students' educational careers (such as retention, track placement, school choices, and participation in extracurricular activities). Therefore, in this situation, high SES parents can focus everyday conversation on the child's education-related issues.

In contrast to high SES parents, low SES parents feel much less confident in their interactions with teachers, and they also have less flexibility in their work schedules, which may prevent them from meeting teachers or visiting schools (Heymann and Earle 2000). In addition, lower SES parents tend to consider the child's education as the responsibility mainly of the school and teachers (Lareau 1989). Because nonstandardized school systems require active engagement for parents to understand a complicated process, the greater social distance of lower SES parents makes it difficult for them to know how they can help (Lee and Bowen 2006). In short, even if lower SES parents had the same level of communication with their children and the same interest in their success as did higher SES parents, communication might not translate easily into positive educational effect among lower SES children.

#### *Parent-Child Communication in Standardized Educational Systems*

In more standardized educational systems, lower SES parents may have less difficulty in engaging with schools and teachers. The system is relatively transparent so that specific knowledge about educational processes may be less necessary than in nonstandardized systems. Because of standardized curriculum and instruction, parents have a clearer idea of what students are expected to learn in a year (cf. Bishop 1998). In addition, in some standardized systems, such as those of Japan and Korea, the major educational decisions are made based on scores on standardized tests. Therefore, even lower SES parents can easily monitor their children's progress in schools without a detailed understanding of the system and can concentrate their efforts on boosting children's achievement on standardized tests. In countries with high stakes testing, scores have real consequences for students, and this can be an important incentive for students (Bishop 1998). In this situation, parental involvement can affect the child's motivation and behavior, which will be particularly important for low SES students who are disadvantaged in economic conditions. Higher SES parents in standardized systems have relatively little room to affect what happens to their children in schools, but

the accountability and transparency of standardized educational systems may enable lower SES parents to be more effective in their communication with children. Some empirical evidence shows that the negative effect of less educated parents is less in countries with high stakes testing, as compared to countries without national exams (Woessman 2004). If national exams indicate the level of educational standardization, this finding is likely to reflect the fact that lower social class parents are better informed and can better motivate children in such standardized systems.

### **Selection of Countries**

Standardization of educational systems might be indicated by numerous aspects of schooling, including the curriculum, instruction, school administration, or teacher recruitment. For my research, I focused on the extent to which countries have established national standards for learning and teaching. As emphasized earlier, what is relevant for the effectiveness of parental involvement is the extent to which educational processes are accountable to parents, enabling parents easily to monitor and assess the child's academic performance on known standards. Therefore, I consider standardization of the learning process, of which curriculum, instruction, and testing are major components.

There are several indicators of a country's level of centralization of curriculum and control of textbooks. In general, standardization is higher when the education system is controlled at the national level (Kerckhoff 2001). David Stevenson and David Baker (1991) investigated the relationship between the national versus local control of the curriculum and the content of mathematics instruction across countries and found that teachers in centralized systems were more likely to teach a common curriculum than did teachers in systems with local control. Educational systems with national control of curriculum and instruction are more likely to be uniform across schools and thus to limit the ability of high status families to influence curriculum and instruction.

Because this kind of information is not available from PISA data, I consulted numerous documents from Eurydice Web sites and International Encyclopedia of National Systems of Education (Postlethwaite 1995) in order to classify countries by the level of curriculum standardization. I also referred to a report from the Third International Math and Science Study (TIMSS) that describes the level of centralization of curriculum and textbooks in each participating country (Beaton et al. 1996). M. F. Astiz and colleagues (2002) also rate TIMSS countries in their degree of curricular centralization. Despite minor inconsistency across different sources for a few countries, they are very consistent in the assessment of the degree of standardization across most countries included.

I consulted the TIMSS report (Beaton et al. 1996) and Bishop (1998) to

identify which countries had national-level standardized tests for secondary school students. The research literature is inconsistent regarding the definition of central exams. For instance, the TIMSS report (Beaton et al. 1996) did not distinguish between university entrance exams and curriculum-based exit exams, while Bishop (1998) focused on the latter. Furthermore, even if many countries have them, the national entrance exams for university may vary significantly across countries in term of their competitiveness and weight. Given the complexities of classifying countries, I distinguished between a group of countries that (1) have no national exam (Australia, Canada, and the United States) and (2) all others. Based on this distinction and using additional selection criteria (see the appendix for the classification scheme), I then selected seven countries that have been considered to have highly standardized educational systems and seven other countries with much less standardized systems. The centralized group includes Austria, France, Finland, Greece, Japan, Korea, and Spain. The uncentralized group includes Australia, Canada, Denmark, Hungary, Iceland, the United Kingdom, and the United States. In the former group, both curriculum and textbooks are determined primarily at the national level, while in the latter countries they are determined at the local or regional level. It is important to include diverse countries with a variety of cultural contexts in each group. For example, if we do not include other European countries in the group of highly standardized systems, it is difficult to determine whether a similar pattern found among two East Asian countries is due to their high levels of standardization or their similar cultural contexts.

### Data

In this research I used data on student reading performance from the Programme for International Student Assessment (PISA). PISA was initially conducted in 2000 in 32 countries—28 OECD countries and four non-OECD countries—resulting in a total sample of 265,000 students. The primary focus of the first round PISA was to assess reading literacy of young people at age 15, although mathematical literacy and scientific literacy were also tested (OECD 2001). PISA targeted the population of 15-year-olds enrolled in schools regardless of their grade level, the type of institution (i.e., vocational or academic schools) in which they were enrolled, or whether they were full-time or part-time students. A two-stage stratified sampling design was used to select students for the PISA sample. In the first stage, individual schools in which 15-year-old students were enrolled were selected systematically with probabilities proportionate to size, the size being a function of the estimated number of eligible students enrolled. In the next step, students within sampled schools were selected with equal probability from a list of 15-year-old



students in each selected school. PISA achieved overall high quality of the coverage of the national desired target population.<sup>2</sup>

For research on parental involvement, an essential advantage of PISA over other international surveys of student achievement (such as TIMSS) is that it included comparable measures of the frequency of parent-child communication, which is an indicator of parental involvement (Buchmann 2002). The paucity of comparative research on parental involvement is partly due to data limitation, since cross-national data with comparable measures of parental involvement have been rare. The availability of PISA data provides an excellent opportunity to examine cross-national variation in ways in which parental involvement influences student achievement.

Note, however, that the measures of parental involvement available from PISA are limited in scope, especially compared to a variety of measures frequently contained in educational data in the United States. PISA collected only information on the extent to which parents and children were engaged in conversation at home. Other important aspects of parental involvement at home (e.g., parenting style) as well as parent-school relationship and parent-parent relationships cannot be examined with PISA. Future international comparative surveys of student achievement should try to collect those aspects of parental involvement not covered in PISA.

## Measures

### *Reading Literacy*

This analysis restricts its focus to reading literacy as an outcome variable, given that reading literacy was the primary focus of PISA in 2000. Literacy was measured in a single composite scale having an average score of 500 and a standard deviation of 100 across all students of the OECD countries in PISA 2000. Instead of a fixed value for the reading literacy scale, PISA provides five plausible values for each student, which should be used simultaneously to obtain the estimates of population parameters.

There are important reasons for investigators concerned with social inequality to focus on reading literacy skills, since these skills are closely related to educational and occupational outcomes. The International Adult Literacy Survey (IALS) indicates that adults with higher levels of reading literacy are more likely to be employed and to have higher incomes than those with lower levels, even after educational qualifications are taken into account (OECD and Statistics Canada 2000). A study of adult literacy in the United States similarly has found that educational attainment and literacy skills both independently contribute to occupational status and earnings (Kerckhoff et al. 2001).

<sup>2</sup> For detailed information on PISA, see the report of the first results of PISA 2000 (OECD 2001). For sampling, survey procedures, and methods, in particular, see the technical report (OECD 2002).

*Parent-Child Communication*

In PISA, respondents were asked how often their parents (1) discussed books, films, or television programs with them; (2) discussed with them how well they were doing at school; and (3) spent time just talking to them. In other words, one item specifically measures schooling-related communication, while the other two items indicate parent-child communication about more general and broader issues. Possible responses to each question were “never or hardly ever” (1), “a few times a year” (2), “about once a month” (3), “several times a month” (4), and “several times a week” (5). In this research, I used the respondent’s score on the five-point scale to indicate the degree of communication between parents and the child. Higher values of each variable indicate greater parent-child communication. For multivariate analysis, I standardized the variables so that the mean would be one and the standard deviation would be zero in each country. In addition to the three separate measures of parent-child communication, I used an index that combines all the three measures. Specifically, the index is created as the average of the three measures of parent-child communication. As such, the index indicates the overall degree of communication between parents and the child. For multivariate analysis, the index is standardized within each country.

*Family Socioeconomic Status*

In this study, family SES is measured by a composite variable based on factor analysis of five variables. These included (1) occupation measured by the International Socio-Economic Index of Occupational Status (ISEI; Ganzeboom et al. 1992), (2) parental education, (3) the index of family wealth indicating material items possessed, (4) the index of home educational resources (a dictionary, a quiet place to study, a desk for study, textbooks and calculators), and (5) the index of home possessions of “classical” culture (classical literature, books of poetry, and works of art). This SES measure, thus, reflects an overall level of family’s economic, social, and cultural status. Originally, the variable was scaled to have a mean of zero and a standard deviation of one across students in OECD countries participating in PISA 2000. For multivariate analysis, I standardize the SES variable within each country so that SES did not proxy international differences in these measures.

*Other Individual Characteristics*

The results from various international or local assessments of reading literacy consistently show gender differences in the subject favoring female students (Mullis et al. 2003). In addition to gender, I included three background variables in the models: family structure, number of siblings, and language minority status. I distinguished between intact families and other family types, a category that included single-parent families, stepfamilies, and

other family types. I combined students' reports of the numbers of siblings older than themselves, younger than themselves, or the same age to create an indicator of the total number of siblings. I also distinguished students by their home language, indicating whether they speak the language of the assessment at home or whether, instead, they speak other languages most of the time at home.

#### *Measures of School Context*

Two school-related variables could be controlled in the analysis. First, I took school sector into account by distinguishing whether the student was enrolled in a private or public school (further distinctions within each type of school are not available). I also controlled for urbanicity by taking into account whether students attended a school in a city with a population of more than 100,000 or in a less populated area. Since there are substantial numbers of students who have missing information on the two school variables in some countries, I created a separate dummy variable to indicate those with missing information on school variables.

#### **Methods**

For each country separately, I used ordinary least squares (OLS) regression analysis of students' scores on the reading literacy scale based on measures of parent-child communication, family SES, and other control variables.<sup>3</sup> Five plausible values of reading literacy are simultaneously analyzed to yield correct standard errors. All regression models use survey weights to take into account design effects associated with the cluster of students within schools. My main variable of interest in this analysis is the coefficient indicating the interaction between parent-child communication and family SES. If the coefficient of this interaction is significantly positive, it indicates that the effect of parent-child communication on reading literacy is stronger among higher SES students given that parent-child communication is positively associated with reading literacy. If the coefficient is significantly negative, this suggests greater effectiveness of parent-child communication among lower SES students.

The first part of the analysis is to examine the effect of the overall measure

<sup>3</sup> Another useful analytic strategy would be to use hierarchical linear models (HLM) rather than to estimate separate models for each country. In the HLM framework, the interaction term between SES and parent-child communication estimated at the individual level can be the outcome at country-level equation, which is determined by a dichotomous variable of educational standardization. I conducted this HLM analysis, and the result showed that the interaction between SES and parent-child communication was significantly positive among nonstandardized systems, while the interaction was negative among highly standardized systems (the result can be obtained from the author upon request). But the major goal of this research is to assess the extent to which the pattern of interaction within country, rather than the average strength of interaction within each type of educational standardization, is commonly found across countries with the same kind of standardization. Moreover, due to the small number of observations (i.e., countries) for the second level, the estimates of the second-level variable would be likely unstable. In this aspect, I rely on separate analyses by country.

of parent-child communication using the index. The results show how the effect of the overall level of parent-child communication varies between low and high SES students. Then, I examine each form of parent-child communication separately: communication about books and schools, and just talking. The separate analysis will be useful to highlight potential variations among the three different forms of parent-child communication.

## Results

Table 1 presents descriptive statistics for each variable and the numbers of cases in the analysis for each country. Percentages of students in each category are presented for the categorical variables, while means and standard deviations are presented for continuous variables. Given that the focus of this study is parent-child communication, I concentrate on the discussion of communication variables. A caution is needed, though, to interpret the means of communication measures.<sup>4</sup> The three forms of parent-child communication asked in the PISA data may be culturally specific. Thus, the specific meanings of each form of communication may vary across countries. Moreover, there might be other forms of communication that are widely practiced and effective in some countries but are not measured in the PISA data. We should avoid simply comparing the mean levels of parent-child communication across countries.

Notwithstanding this caution, I find a couple of notable patterns from the comparisons of the mean levels of communication variables. First, the overall level of parent-child communication, as indicated by the index, is substantial in all countries. Note that the index of parent-child communication was constructed on a five-point scale and that the mean of the index ranges from the lowest, 3.4 (Korea), to the highest, 4.5 (Hungary). We can compare the three aspects of parent-child communication and find that a commonality across most countries is that parents are less likely to discuss books, films, or TV programs than they are to discuss school or simply spend time just talking with the child. The variation as measured by the standard deviation is also much larger for this form of parent-child communication than the variations for the other two forms of parent-child communication, which suggests that the level of parent-child communication about books should bear the larger variation by family SES than the other two forms of parent-child communication.<sup>5</sup>

<sup>4</sup> I thank an anonymous reviewer for pointing out this limitation of PISA measures of parent-child communication. Because of the potential varying meanings of parent-child communication across countries, following the reviewer's suggestion, I standardized the communication variables within each country.

<sup>5</sup> The correlation between SES and parent-child communication about books among all countries is 0.25, which is larger than the correlation between SES and parent-child communication about school (0.20) and the correlation between SES and spending time just to talking to the child (0.19).

TABLE 1  
DESCRIPTIVE STATISTICS

	Standardized Educational Systems							Nonstandardized Educational Systems						
	AUT	FIN	FRA	GRE	JPN	KOR	SPA	AUS	CAN	DEN	HUG	ICL	UK	US
Parent-child communication: <sup>a</sup>														
Index	3.67 (.97)	3.97 (.74)	4.11 (.83)	4.07 (.79)	3.80 (1.10)	3.44 (1.15)	4.18 (.85)	3.67 (.95)	3.85 (.88)	4.07 (.79)	4.47 (.67)	3.84 (.93)	4.15 (.85)	4.09 (.97)
Books	2.94 (1.35)	3.41 (1.23)	3.70 (1.29)	3.40 (1.31)	3.63 (1.46)	2.61 (1.53)	3.83 (1.26)	3.07 (1.35)	3.39 (1.28)	3.38 (1.35)	3.92 (1.26)	3.44 (1.33)	3.71 (1.28)	3.57 (1.44)
Schooling	4.05 (1.07)	3.84 (1.00)	4.26 (.99)	4.43 (.93)	3.60 (1.43)	3.77 (1.38)	4.42 (.94)	3.86 (1.13)	4.09 (1.05)	4.24 (.97)	4.63 (.78)	4.14 (1.08)	4.41 (.94)	4.36 (1.07)
Just talking	3.98 (1.26)	4.66 (.78)	4.36 (1.05)	4.36 (.95)	4.16 (1.30)	3.94 (1.48)	4.29 (1.08)	4.08 (1.21)	4.06 (1.16)	4.58 (.81)	4.85 (.56)	3.93 (1.24)	4.34 (1.06)	4.33 (1.16)
Family SES <sup>a</sup>	.11 (.83)	.08 (.89)	-.12 (.91)	-.25 (1.00)	-.04 (.82)	-.31 (.89)	-.24 (1.01)	.34 (.91)	.27 (.87)	.11 (.88)	-.11 (.88)	.69 (.87)	.11 (.90)	.17 (1.03)
Number of siblings	1.56 (1.14)	1.98 (1.33)	1.83 (1.26)	1.48 (1.07)	1.48 (.81)	1.30 (.90)	1.51 (1.06)	2.04 (1.27)	1.85 (1.26)	1.91 (1.28)	1.50 (1.21)	2.49 (1.32)	1.97 (1.35)	2.41 (1.65)
Female	52.3	51.6	51.6	49.9	50.2	43.9	51.0	47.8	50.5	50.2	49.7	50.7	50.6	51.8
Intact family (vs. others)	77.5	71.7	74.7	87.1	87.5	87.7	77.5	72.5	71.7	68.5	71.7	72.2	66.8	53.2
Foreign language spoken at home	9.5	1.3	7.0	3.6	.3	NA	5.3	17.5	11.2	6.3	NA	2.3	5.0	11.4
Private school	12.6	2.8	19.4	7.1	30.9	52.5	39.9	NA	NA	23.3	5.3	.8	8.6	5.4
Missing school			10.1	1.0				NA	NA	5.2	1.3		.5	20.2
School location: city	30.7	28.0	17.0	32.2	56.0	81.6	53.5	60.8	NA	17.8	41.4	NA	32.5	23.3
School location: missing	.6		10.7	1.4	4.0				NA	5.1	.7	NA	8.1	21.6
Unweighted N	4,550	4,800	4,515	4,475	4,885	4,795	5,925	5,005	28,130	4,010	4,775	3,240	8,945	3,560

NOTE.—Numbers in parentheses are standard deviations. NA = not available; SES = socioeconomic status. AUT = Austria, FIN = Finland, FRA = France, GRE = Greece, JPN = Japan, KOR = Korea, SPA = Spain, AUS = Australia, CAN = Canada, DEN = Denmark, HUG = Hungary, ICL = Iceland, UK = United Kingdom, and US = United States.

<sup>a</sup>These variable are standardized within country for multivariate analysis.

*Effects of the Index of Parent-Child Communication*

Table 2 and table 3 present the results of OLS regressions estimating student performance in reading literacy based on the index of parent-child communication and other individual and school variables in countries having standardized and nonstandardized systems, respectively. Our major focus is on the interaction term between parent-child communication and family SES in the top of the table. This interaction term reveals how the effect of parent-child communication on student performance differs between higher SES and lower SES students.

In table 2, for highly standardized educational systems, the interaction term between the index of parent-child communication and family SES is negative in all countries, which implies that the overall communication between parents and children is indeed more beneficial to lower SES students. The negative interaction term is statistically significant in Austria, Japan, and Korea.

In contrast to the negative interaction shown in table 2 for highly standardized systems, the interaction between parent-child communication and family SES is positive in all countries with nonstandardized systems (table 3). However, note that the coefficients of the interaction term are only marginally significant in Canada (note the large sample size) and the United States, while they are not statistically significant for the remaining five countries. In other words, if statistical significance, rather than the overall direction of the interaction effect, should be considered, the result in table 3 does not provide strong evidence for the hypothesis that in nonstandardized systems, parent-child communication should be more beneficial to students from higher SES families. On the other hand, the (weakly) significant positive interaction effect in the United States is consistent with the previous finding that parental involvement has greater payoff for students from high SES families than their counterparts from low SES families (Desimone 1999; McNeal 1999).

In addition to the interaction effect of communication with family SES, it is important to note the independent effects of parent-child communication and family SES. The results (not shown) of a supplementary analysis of the model, but without the interaction term, showed that parent-child communication was associated with an increased reading score in all 14 countries. However, there was no systematic pattern between standardized and nonstandardized systems in regard to the strength of the main effect of parent-child communication.<sup>6</sup>

To illuminate these interaction effects, figure 1*a* (for Korea) and 1*b* (for the United States) show that the socioeconomic gap in reading literacy varies

<sup>6</sup> In two East Asian countries, and to a lesser extent in Iceland, parent-child communication was associated with the reading score as strongly as the association between reading and family SES. In other countries, the positive association of reading scores with family SES was stronger than the association with parent-child communication.

TABLE 2  
OLS REGRESSION OF READING LITERACY: INTERACTION BETWEEN SES AND THE INDEX OF PARENT-CHILD COMMUNICATION (Standardized System)

	Austria	Finland	France	Greece	Japan	Korea	Spain
SES × COMMUNICATION	<b>−4.046</b> <b>(1.516)**</b>	<b>−2.559</b> <b>(2.178)</b>	<b>−1.220</b> <b>(1.092)</b>	<b>−.264</b> <b>(1.580)</b>	<b>−2.531</b> <b>(1.356)<sup>+</sup></b>	<b>−3.826</b> <b>(1.321)**</b>	<b>−1.264</b> <b>(1.404)</b>
SES	27.344 (1.907)***	22.892 (1.790)***	36.983 (1.867)***	31.234 (2.645)***	17.707 (2.362)***	13.941 (1.708)***	27.647 (1.534)***
COMMUNICATION	7.649 (1.637)***	8.451 (1.707)***	4.312 (1.560)**	6.358 (1.552)***	14.936 (1.845)***	14.412 (1.335)***	8.791 (1.262)*
Female (vs. male)	24.892 (4.160)***	49.005 (2.489)***	25.395 (2.950)***	35.726 (3.869)***	15.587 (4.991)**	12.244 (5.030)*	22.290 (2.795)***
Intact family (vs. others)	8.375 (4.044)*	15.629 (5.056)***	10.342 (2.646)***	5.132 (4.720)	7.437 (4.967)	5.511 (3.098) <sup>+</sup>	4.876 (3.059)
Foreign language (vs. native)	−54.642 (5.258)***	−66.028 (11.795)***	−24.490 (6.553)***	−53.916 (12.006)***	−28.342 (24.882)	NA	−26.537 (5.458)***
Number of siblings	−4.258 (1.200)**	−2.528 (.991)*	−6.088 (1.157)***	−8.182 (1.530)***	−4.896 (1.882)*	−3.87 (1.641)*	−7.671 (1.523)***
Attending private school (vs. public)	5.063 (7.327)	6.683 (14.176)	2.295 (9.233)	33.848 (11.698)**	−14.322 (10.875)	.895 (5.482)	14.109 (4.172)**
School location: city (vs. noncity)	3.876 (7.131)	3.587 (5.147)	13.049 (8.696)	1.211 (6.737)	11.838 (9.634)	20.216 (6.745)**	6.671 (4.118)
Intercept	498.842 (4.929)***	516.183 (5.937)***	495.302 (4.944)***	464.727 (8.037)***	516.495 (9.195)***	503.952 (7.620)***	484.743 (4.670)***
Unweighted <i>N</i>	4,550	4,800	4,515	4,475	4,885	4,795	5,925

NOTE.—Numbers in parentheses are standard errors. The coefficients and standard errors of the interaction term between SES (socioeconomic status) and COMMUNICATION are bold for emphasis.

<sup>+</sup>  $p < .10$ .

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

TABLE 3  
OLS REGRESSION OF READING LITERACY: INTERACTION BETWEEN SES AND THE INDEX OF PARENT-CHILD COMMUNICATION (Nonstandardized System)

	Australia	Canada	Denmark	Hungary	Iceland	United Kingdom	United States
SES × COMMUNICATION	<b>1.884</b> ( <b>1.471</b> )	<b>1.491</b> ( <b>.756</b> ) <sup>+</sup>	<b>1.746</b> ( <b>1.337</b> )	<b>.872</b> ( <b>1.452</b> )	<b>.554</b> ( <b>1.652</b> )	<b>1.816</b> ( <b>1.475</b> )	<b>3.370</b> ( <b>1.958</b> ) <sup>+</sup>
SES	34.409 (2.197)***	27.888 (1.039)***	30.170 (1.867)***	39.607 (2.362)***	18.094 (1.546)***	32.997 (1.584)***	37.213 (2.505)***
COMMUNICATION	15.234 (1.859)***	8.308 (.819)***	16.620 (1.560)**	6.595 (1.559)***	11.466 (1.728)***	8.473 (1.382)***	6.136 (2.578)*
Female (vs. male)	28.204 (3.928)***	29.924 (1.555)***	22.405 (3.005)***	30.364 (4.183)***	39.307 (3.119)***	26.127 (3.446)***	24.892 (2.771)***
Intact family (vs. others)	5.593 (4.044)	9.185 (1.611)***	3.867 (3.565)	7.739 (2.848)**	-.233 (3.640)	14.836 (2.834)***	27.488 (3.881)***
Foreign language (vs. native)	-29.592 (5.865)***	-37.227 (3.115)***	-58.705 (6.326)***	NA	-24.621 (12.026)*	-33.299 (9.139)***	-33.068 (7.956)***
Number of siblings	-6.224 (1.388)**	-5.026 (.947)*	-2.134 (1.352)	-9.095 (1.294)***	-.238 (1.150)	-7.412 (1.075)***	-6.528 (1.117)***
Attending private school (vs. public)	NA	NA	-4.486 (4.862)	12.005 (22.188)	24.77 (14.099) <sup>+</sup>	58.683 (8.449)***	21.598 (8.754)*
School location: city (vs. noncity)	8.506 (5.170)	NA	4.476 (5.582)	17.221 (7.215)*	NA	-7.149 (4.383)	-4.506 7.609
Intercept	523.562 (6.060)***	523.228 (2.304)***	494.633 (4.843)***	466.645 (5.423)***	490.438 (4.796)***	513.597 (4.102)***	494.791 (6.617)***
Unweighted <i>N</i>	5,005	28,130	4,010	4,775	3,240	8,945	3,560

NOTE.—Numbers in parentheses are standard errors. The coefficients and standard errors of the interaction term between SES (socioeconomic status) and COMMUNICATION are bold for emphasis.

<sup>+</sup>  $p < .10$ .

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .



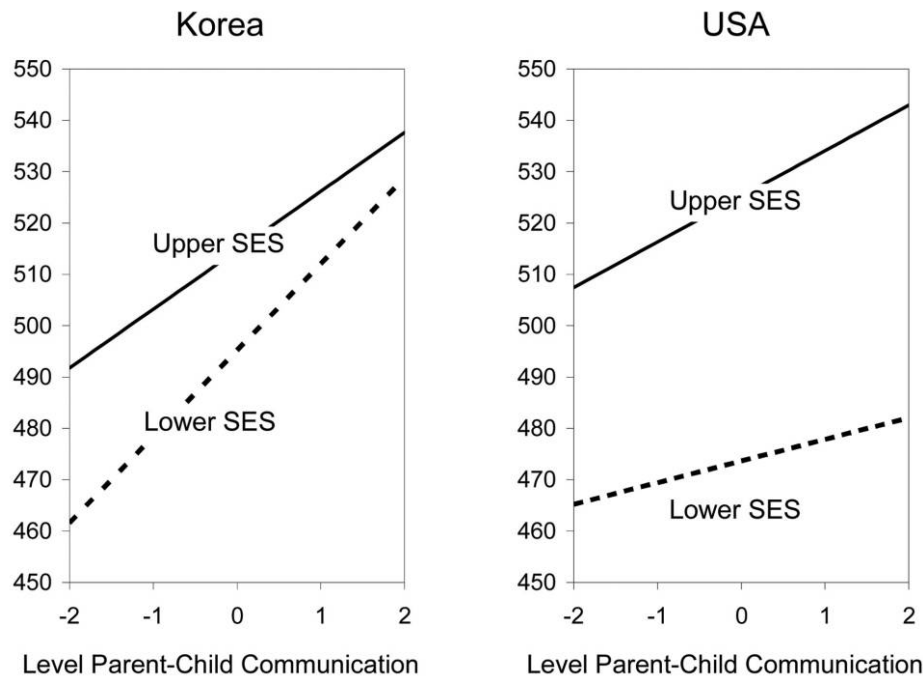


FIG. 1.—Effects of social class and parent-child communication on reading scores in Korea and the United States.

between children from higher and lower SES families (defined as those at the seventy-fifth and twenty-fifth percentiles of the SES distribution) and at different levels of parent-child communication.<sup>7</sup> With its highly standardized system, Korea is representative of countries where there is a statistically significant negative interaction between the index of parent-child communication and SES. Typical of nonstandardized educational systems, the United States' system showed positive interaction between the index of parent-child communication and SES (although only weakly significant statistically).

As we can appreciate from figure 1*a*, the socioeconomic gap in reading literacy decreases in Korea as parental communication with the child increases. This pattern reflects the finding in table 2 that parent-child communication is more beneficial to lower SES students in Korea with the standardized educational system. In contrast to the Korean pattern, figure 1*b* shows that in the United States, the socioeconomic gap in reading literacy increases as the level of parent-child communication increases. The pattern

<sup>7</sup> Specifically, fig. 1*a* for Korea is drawn from the estimates in table 2 by using male, other types of family, public school, and noncity school as reference categories and fixing the number of siblings at zero. Higher SES families are defined as those with the level of SES corresponding to the seventy-fifth percentile of the SES distribution, while lower SES families are those with SES at the twenty-fifth percentile of the distribution. Figure 1*b* for the United States is based on the estimates in table 3 by applying the same methods as in fig. 1.

TABLE 4  
INTERACTION BETWEEN SES AND EACH FORM OF PARENT-CHILD COMMUNICATION

	Books $\times$ SES	Schooling $\times$ SES	Just Talking $\times$ SES
Standardized educational systems:			
Austria	-3.071 (1.317)*	-5.422 (1.649)**	-2.537 (1.581)
Finland	-1.300 (1.447)	-3.967 (2.500)	-.634 (2.228)
France	1.382 (1.212)	-4.482 (1.232)***	-.046 (1.187)
Greece	1.946 (1.691)	-3.724 (1.445)*	-.377 (1.661)
Japan	-2.780 (1.715)	-.962 (1.286)	-2.651 (1.415) <sup>+</sup>
Korea	-1.961 (1.067) <sup>+</sup>	-2.706 (1.244)*	-2.809 (1.485) <sup>+</sup>
Spain	-1.569 (1.293)	-2.947 (1.411)*	.999 (1.408)
Nonstandardized educational systems:			
Australia	2.021 (1.578)	-.273 (1.338)	.931 (1.438)
Canada	2.399 (.878)**	-.472 (.680)	.415 (.810)
Denmark	.871 (1.515)	-.705 (1.491)	1.959 (1.424)
Hungary	1.735 (1.418)	-1.413 (1.701)	.378 (1.379)
Iceland	-.048 (1.601)	-.941 (1.628)	1.177 (1.503)
United Kingdom	2.768 (1.666) <sup>+</sup>	-1.381 (1.231)	.643 (1.249)
United States	2.816 (2.096)	1.946 (1.569)	1.846 (2.158)

NOTE.—Coefficients of other independent variables are not presented for simplicity. Numbers in parentheses are standard errors. SES = socioeconomic status.

<sup>+</sup>  $p < .10$ .

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

is due to the fact that parent-child communication is more effective for higher than for lower SES students in the United States, as was seen in previously in table 3.

#### *The Different Forms of Parent-Child Communication*

The equation estimates presented in tables 2 and 3 are based on an index of parent-child communication that combines three different forms of communication. In order to examine variations among these different forms of communication, I estimated each of their separate interactions with family SES. That is, I analyzed the separate interaction effects of SES with communication about books, communication about schooling, and just spending time talking with the child.

Table 4 presents the result of each form of parent-child communication, separately. For simplicity, coefficients of other independent variables are not presented. It is noteworthy from table 4 that the negative interaction between the index of parent-child communication and SES in standardized systems (seen above in table 2) is primarily driven by the negative interaction between SES and communication about schooling. The interaction term between SES and parent-child communication about schooling is negative in all countries with standardized systems and statistically significant except for Finland and Japan. Although there is also statistical significance in the interaction between SES and parent-child communication about books, as well as between SES and just talking with the child, these effects are weaker than the interaction between SES and parent-child communication about schooling. In other

words, the greater benefit of parent-child communication for low SES than for high SES students in standardized systems is particularly significant when parents focus their conversation on school-related issues.

In table 4, most interaction terms involving separate aspects of parent-child communication are not statistically significant in countries with non-standardized systems. This is consistent with the result of the overall index of parent-child communication in table 3. Although it is not statistically significant in any country, the interaction term between SES and parent-child communication about schooling appears to be negative except for the United States, which contrasts to the mostly positive interactions between SES and the other two forms of parent-child communication. It may be that the relatively more positive effect of parent-child communication among high SES in nonstandardized systems is attenuated when parents talk with the child specifically about schooling.

### Conclusion

Although numerous researchers have investigated the effects of parental involvement on U.S. children, we lack the necessary comparative research to understand how specific features of parental involvement relate to structural features of the U.S. school system. To fill this gap, here I have shown how educational standardization conditions the ways that parent-child communication, as an important dimension of parental involvement, produces varied benefits among students from lower and upper socioeconomic backgrounds.

As an aspect of social capital, frequent communication between parents and their children can help promote educational achievement. Parent-child communication may particularly convey the importance of schooling and encourage hard work among lower SES students who otherwise could suffer from the lack of motivation and low self-esteem associated with cultural and economic disadvantages. However, in order for parent-child communication to result in improvement of the child's academic performance, **parents require resources and skills**. They should possess sufficient knowledge of schooling processes, including course contents and sequence, for their communication with children to be effective. **Greater economic resources should allow parents to obtain additional information relevant for the child's education from educational experts**, which will facilitate parent-child communication about the child's educational need. **The unequal availability of resources and skills by SES hinders the beneficial effect of parent-child communication among lower SES students (McNeal 1999).**

From this study, I conclude that educational standardization may help lower SES parents maximize the positive effect of communication with the child **by improving low SES parents' capacity for navigating the educational system**. In more standardized and transparent systems, lower SES parents

have greater access to the necessary knowledge about schooling, as compared with lower SES parents in nonstandardized systems. The greater accountability and transparency of the standardized education systems enables parents easily to assess and monitor the child's performance in comparison to established standards. The gained knowledge on schooling processes should facilitate parent-child discussion on schooling. At the societal level, moreover, it is much easier for parents to motivate and encourage educational success where there are established educational standards. Meeting the standard pays off more directly in terms of educational and occupational prospects.

In nonstandardized systems, the differential availability of resources and skills by SES seems to constrain the beneficial effect of parent-child communication. In localized and nonstandardized systems of education, low SES parents face more serious barriers to necessary knowledge about schooling, due to the lack of accountability and transparency of the educational system. By contrast, with their greater economic and human capital, higher SES parents are advantaged when navigating the complicated educational system and gaining the necessary knowledge about the child's schooling. Because there is no transparent flow of information on the child's achievement in nonstandardized systems, parental engagement with teachers and schools is particularly important in order to monitor the child's academic performance and to identify the educational needs of the child. Higher SES parents are advantaged because they are more likely to engage with teachers and schools with self-confidence, as compared to lower SES parents. In this situation, it is difficult to obtain a beneficial effect from parent-child communication among lower SES students.

The result of my study for nonstandardized countries is not entirely consistent with my original hypothesis, which was that there would be greater benefits of parent-child communication for higher SES students under those nonstandardized systems. Instead, I found no strong evidence of differential effects by SES in most nonstandardized countries. However, the finding does not counter the argument that the beneficial effects of parent-child communication for lower SES students are hard to achieve in nonstandardized systems because of low SES parents' lack of resources and skills. In the nonstandardized U.S. system, some tentative support is evident for the hypothesis that students from higher SES families benefit more from parent-child communication than do their counterparts from lower SES families.

Cross-national comparisons of economic inequality highlight greater inequality in the United States than in other industrialized countries (Kenworthy 2007). A recent comparative study of literacy skills shows that the distribution of human capital is most unequal in the United States among 19 countries that were compared (Park and Kyei 2007). The relatively large inequality in the distribution of economic and human resources in the United States suggests that lower SES parents face particularly serious barriers when

navigating the educational system. Thus their involvement in children's education may have a limited effect. More research is needed to investigate why the United States stands out in this respect.

The implication of these findings is that, in standardized educational systems, efforts to increase parent-child communication could decrease the achievement gap across family SES because the payoff to parent-child communication is greater for lower SES students, as seen previously in figure 1*a* for the case of Korea. However, in countries with nonstandardized educational systems, similar efforts to increase parent-child communication may not reduce the achievement gap because students, regardless of their family SES, similarly benefit from parent-child communication. In the United States, where the positive effect of parent-child communication appears stronger for higher SES students, the achievement gap by family SES even may diverge with the increase of parent-child communication, as was seen in figure 1*b*.

Analyzing separately the three different forms of parent-child communication reveals that the negative interaction between SES and the overall parent-child communication is primarily due to the negative interaction between SES and parent-child communication about schooling. In other words, lower SES students in highly standardized systems particularly benefit from communication with parents when parents concentrate their discussion on issues related to schooling.

This finding corroborates the argument that the accountability and transparency of educational systems should be particularly beneficial for lower SES families. Communication with the child by lower SES parents appears to be less effective when they discuss books or other issues requiring cultural and human capital. But the accountability and transparency of the educational system may compensate for the disadvantages lower SES parents have in terms of their lower cultural and human capital. In standardized systems, lower class parents at least can effectively communicate with the child about schooling.

The results in highly standardized systems suggest that increasing accountability and transparency of educational systems better to inform parents of the child's performance and progress is a useful strategy in facilitating effective parent-child discussion about schooling. It is important for education policy makers to know that low SES students get significant benefits from discussions with parents when they talk specifically about schooling. In other words, the important issue to be addressed in nonstandardized systems should be on how to increase low SES parents' access to necessary knowledge about schooling.

Due to the limitations of PISA data, in this study I focused exclusively on parent-child communication. However, my research could be extended using different types of data in order to explore whether other aspects of parental involvement (e.g., parent-teacher relationships and parent-parent relation-

ships) similarly affect children's education and whether these effects similarly vary across social class depending on structural features of educational systems. Future research should also look at other forms of parent-child communication not examined in this study, as well as aspects of parental involvement beyond parent-child communication.

Another opportunity for future researchers would be to test for the possibility that the cross-national variation I found in this study can be explained using country-level factors other than the standardization of educational systems. I included within each group of standardized and nonstandardized systems countries that show significant differences in other major aspects of educational systems or societal characteristics. My own belief is that the standardization of education systems largely accounts for cross-national variation, especially since I controlled for the potential effect of stratification of educational systems. Stratification, that is, the degree of between-school tracking, is another important feature of educational systems (Allmendinger 1989; Müller and Shavit 1998), and so I included countries with low levels of stratification both in the group of standardized systems (e.g., Finland and Spain) and in the group of nonstandardized systems (e.g., Austria, Canada, United States). In each group I also included countries with high levels of stratification (standardized systems—Austria, France; nonstandardized systems—Hungary). Because the countries I selected for this study are all wealthy nations, difference in economic development cannot explain the impact of educational standardization. Nor can cross-national differences in economic inequality account for differences in the effect of communication across social class. Finland and Japan, for example, both have low levels of economic inequality, and both had highly standardized systems. However, Denmark and Iceland also have low measures of economic inequality, and both of these countries have nonstandardized systems.

Of course, without controls for prior achievement it is not possible to be sure about the direction of the relationships found in my study or to make causal inferences regarding the impact of educational standardization on the way in which family SES and parent-child communication interactively affect student achievement (see Raudenbush and Kim 2002). Although it is intriguing that parent-child communication seems to compensate for disadvantages associated with socioeconomic disadvantages in highly standardized systems, this does not mean that reforming educational systems toward a high level of standardization necessarily would yield positive results in any context.

In conclusion, it is necessary to emphasize a point made by Stephen Raudenbush and Ji-soo Kim (2002) that the utility of cross-national comparisons of student achievement is to generate useful hypotheses that can subsequently be tested using more appropriate methods that allow for causal inference. The compensating role of parent-child communication for lower SES students, found here in standardized educational systems, **can serve as**

a useful working hypothesis in future studies based on more rigorous research designs, wherein researchers compare student achievement within countries and across schools, districts, or states that have different degrees of educational standardization.

## Appendix

TABLE A1  
THE LEVELS OF EDUCATIONAL STANDARDIZATION

	National Curriculum <sup>a</sup>	Textbook Nationally Determined <sup>a</sup>	National Exam
Standardized systems:			
Austria	2	2	1
Finland	2	2	1
France	2	0	1
Greece	2	2	1
Japan	2	1	1
Korea	2	2	1
Spain	2	2	1
Nonstandardized systems:			
Australia	0	0	0
Canada	1	1	0
Denmark	0	0	1
Hungary	0	0	1
Iceland	0	0	1
United Kingdom	1	0	1
United States	0	0	0

SOURCES.—Beaton et al. (1996); Bishop (1998); Eurydice Database, <http://www.eurydice.org/>.

<sup>a</sup>2, national; 1, regional; 0, not centralized.

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