

UC Irvine

UC Irvine Previously Published Works

Title

Homework: a cross-cultural examination.

Permalink

<https://escholarship.org/uc/item/7z704633>

Journal

Child development, 60(3)

ISSN

0009-3920

Authors

Chen, CS
Stevenson, HW

Publication Date

1989-06-01

DOI

10.1111/j.1467-8624.1989.tb02736.x

License

<https://creativecommons.org/licenses/by/4.0/> 4.0

Peer reviewed

Homework: A Cross-Cultural Examination

Author(s): Chuansheng Chen and Harold W. Stevenson

Source: *Child Development*, Vol. 60, No. 3 (Jun., 1989), pp. 551-561

Published by: Wiley on behalf of the Society for Research in Child Development

Stable URL: <http://www.jstor.org/stable/1130721>

Accessed: 19-06-2015 00:04 UTC

REFERENCES

Linked references are available on JSTOR for this article:

http://www.jstor.org/stable/1130721?seq=1&cid=pdf-reference#references_tab_contents

You may need to log in to JSTOR to access the linked references.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Wiley and Society for Research in Child Development are collaborating with JSTOR to digitize, preserve and extend access to *Child Development*.

<http://www.jstor.org>

Homework: A Cross-cultural Examination

Chuansheng Chen and Harold W. Stevenson

University of Michigan

CHEN, CHUANSHENG, and STEVENSON, HAROLD W. *Homework: A Cross-cultural Examination*. CHILD DEVELOPMENT, 1989, 60, 551-561. Cultural differences in the amount of time spent on homework and in beliefs and attitudes about homework were investigated through interviews with more than 3,500 elementary school children, their mothers, and their teachers. The children lived in 5 cities: Beijing, Chicago, Minneapolis, Sendai (Japan), and Taipei. Chinese children were assigned more homework and spent more time on homework than Japanese children, who in turn were assigned more and spent more time on homework than American children. Chinese children also received more help from family members with their homework than did American and Japanese children. Chinese children were found to have more positive attitudes about homework than American children; Japanese children's attitudes were between those of the Chinese and American children. Relations between amount of time spent on homework by children, amount of time parents spent assisting their children with homework, and children's achievement were also explored. The views of both parents and teachers about the value of homework are discussed.

A common explanation of the poor performance of American children in cross-cultural comparisons of academic achievement is that American children spend little time in study. American children spend fewer hours in school and devote less time in school and after school to academic activities than do children in many other countries (e.g., Garden, 1987; Stevenson, Lee, & Stigler, 1986). Among the after-school activities most relevant for academic achievement is homework.

Despite the strongly held opinions about the usefulness of homework, there are few empirical studies that support or refute these opinions. For example, in their analysis of published research, Paschal, Weinstein, and Walberg (1984) were able to find only 15 studies of homework that contained descriptive or analytical statistics, and among these studies only six appeared in professional journals. Information concerning children's perceptions and attitudes about homework or about such factors as parental assistance and attitudes of parents and teachers about homework is negligible.

We have been unable to find any cross-cultural comparisons of the effects of or reactions to homework, despite the fact that

claims are often made about the large amounts of time spent on homework by children from top-performing countries in international comparisons of academic achievement. More information about these important topics is needed if arguments are to be based on more than opinions and casual observations. Such information should be especially useful at the present time, when special efforts are being made by Americans to assess the value of various approaches to improving children's education.

This article presents data concerned with homework from four cross-cultural studies recently completed by our research group. Our subjects have been American, Chinese, and Japanese elementary school children. Information about homework with children from these cultures is of special interest because of the high level of academic achievement of Chinese and Japanese children and the mediocre performance of American children in cross-national studies of mathematics and science. These comparative data should provide a potentially rich source of information about practices and attitudes concerning homework in cultures that differ greatly in their success in educating their young children. More generally, the data offer opportunities for gaining new insights into cultural

The research was funded by grants to Harold W. Stevenson from the National Institute of Mental Health (MH 30567), the National Science Foundation (8409372 and MDR 8751390), and the William T. Grant Foundation. Members of our research group have included Liu Fan, Chen-chin Hsu, Fang Ge, Susumu Kimura, Seiro Kitamura, Shin-Ying Lee, Tong Lequan, Max Lummis, Lianwen Mao, Michelle Perry, James Stigler, and David Uttal. Requests for reprints should be addressed to either author at the Center for Human Growth and Development, 300 North Ingalls, the University of Michigan, Ann Arbor, MI 48109-0406.

[*Child Development*, 1989, 60, 551-561. © 1989 by the Society for Research in Child Development, Inc. All rights reserved. 0009-3920/89/6003-0019\$01.00]

552 Child Development

attitudes about the expenditure of time and effort on education.

We have divided the discussion of the results into four sections. First, cross-cultural comparisons are made of the amount and characteristics of homework in elementary schools of the three cultures. Does the amount of time children spend doing homework in the three cultures actually differ greatly? Do mothers and teachers agree about the amount of time children spend on homework? What is the relation between amount of time spent on homework and achievement within and between cultures? In the second section, we discuss children's perceptions and attitudes about homework. Knowing only that Chinese and Japanese children may do more homework than American children is insufficient. It also is important to understand the consequences of doing different amounts of homework. Do children who are assigned large amounts of homework develop negative attitudes about homework? Are changes in children's attitudes about homework between first and fifth grades greater if they have been assigned large amounts of homework than if they have not? In the third section, we consider factors related to how parents assist their children with homework. Are there differences among the cultures in the amount of time parents spend in helping their children with homework? Within each culture, what are the characteristics of children who receive greater amounts of help? Are they the more successful or the less successful children in academic achievement? In the final section we discuss cross-cultural differences in perceptions of teachers and parents about the importance and value of homework. How do teachers evaluate the contribution of homework to children's education? Do parents believe that the amount of time their children spend on homework is appropriate? Whose responsibility is it, the parents' or the child's, to see that homework is completed? Do parents believe they are capable of helping their children with homework?

The Studies

During the past 8 years, we have completed four large cross-cultural studies of the correlates of children's academic achievement in two American cities, Minneapolis and Chicago; two Chinese cities, Beijing and Taipei; and one Japanese city, Sendai. In each of the studies we have asked questions about homework. Some questions were asked in each study, thereby making it possible to evaluate the reliability of the reports. Other

questions about homework were asked to meet the purposes of the particular study.

Subjects

Two of the most notable features of the studies we conducted were the representativeness of the samples of subjects and the large numbers of subjects included from each city. We met with local educational authorities prior to selecting the subjects for each study. On the basis of their knowledge and advice, we selected a representative sample of schools in terms of socioeconomic status of the parents and location within each city. In Chicago and Minneapolis, private as well as public schools were included in our samples. In all cases, schools were selected from the metropolitan area rather than solely from the central area of the cities.

Typically, we selected 10 schools within each city, but because of the ethnic diversity that exists within Chicago, 20 schools were selected in Chicago. Within each school, two classrooms at both first and fifth grades were randomly chosen for participation in the study. Depending on the study, a target sample of either three boys and three girls or six boys and six girls was randomly selected from each classroom. Interviews were held with the children and their mothers and teachers, and the children were given tests of academic achievement. The percentage of children from minority families in Minneapolis was small: 1%. The Chicago sample included 24% black, 15% Hispanic, 4% Asian, and 55% white children.

We obtained remarkably high levels of cooperation. The lowest percentage of mothers who were willing to be interviewed was 82% (Chicago) and the highest percentage was 99% (Sendai). The median percentage across all of the studies was 96%. Over 99% of the teachers participated in the interviews.

There were some departures from the procedure that has been described, but they never violated our basic sampling procedure. For example, it was necessary to visit 13 schools in Minneapolis to obtain the requisite number of classrooms, and 11 rather than 10 schools were sampled in Beijing. As will be evident, the number of children in the target samples was sometimes slightly larger or smaller than the desired number. A description of the samples of subjects for the four studies can be summarized as follows:

Study 1.—Data were collected during 1980 in Sendai, Taipei, and Minneapolis. Included in the study were children from 120 classrooms of 33 schools, as well as their par-

ents, teachers, and the principals of the schools the children attended. Approximately half of the children were in grade 1 and half were in grade 5. Our goal was to include six boys and six girls from each of 20 classrooms in each city—a total of 1,440 children. The actual number included was 1,446.

Study 2.—First graders from Study 1 were followed up when they were in fifth grade. It was not feasible to conduct an extensive search for subjects. In Taipei and Sendai, all fifth-grade subjects remaining in the schools they had attended at first grade constituted the follow-up sample. In Minneapolis, where there is higher mobility among schools, an effort was made to find children who attended other schools in the Minneapolis metropolitan area as well as the original schools. As a result, the samples included 447 children (119 American, 164 Chinese, and 164 Japanese children) and 389 of their mothers.

Study 3.—This study was undertaken in 1986 with 951 first and fifth graders in Sendai, Taipei, and Chicago. Information was also obtained from their mothers, fathers, teachers, and principals. Our goal was to include 960 children, three boys and three girls from each of 20 (Sendai, Taipei) or 40 (Chicago) classrooms at each grade.

Study 4.—The subjects were children in grades 1, 3, and 5 from Beijing and Chicago. The children, their mothers, and teachers were interviewed, and their fathers were asked to fill out a questionnaire. Data were collected in 1986. The target sample was to include 1,116 children, three boys and three girls from 22 classrooms in Beijing and 40 classrooms in Chicago at each grade; 1,093 were studied.

Achievement Tests

Achievement tests in reading and mathematics were designed specifically for these studies. They were constructed on the basis of detailed analyses of the textbooks used in each of the cities (see Stevenson et al., 1982; and Stigler, Lee, Lucker, & Stevenson, 1982, for descriptions of the method of construction of the tests).

The reading test used in Studies 1 and 2 was designed to assess the child's ability (*a*) to sight-read single isolated words, (*b*) to read meaningful text presented in clauses, sentences, and paragraphs, and (*c*) to respond to multiple-choice or true-false questions concerning the text. Parts *b* and *c* of the test included phrases or words describing one of three pictures the child was to identify; sen-

tences in which key words were omitted, but for which three alternatives were available; and paragraphs about which questions were asked. A new, longer test for sight-reading of individual words was constructed for Study 3; the comprehension test from Studies 1 and 2 was retained. A completely new reading test was constructed for Study 4. Items were similar to those used in the earlier reading test but were based on analyses of reading tests used in Beijing and Chicago. The reading tests were constructed by teams of researchers from each culture. Strong efforts were made to ensure that the content of the items was culturally fair and appropriate. All reading tests were administered individually to one child at a time, except for the comprehension test used in Study 3, which was administered as a group test.

The mathematics test used in Studies 1 and 2 contained 70 items involving computation or the application of mathematical principles. Items were arranged in order of difficulty. The child began at a level where all of the items should be passed (e.g., fifth graders were started at the third-grade level) and continued until four successive items were failed. The mathematics test administered in Studies 3 and 4 was a group test of computation that contained 79 items. Reliability of all tests was high. For example, at fifth grade the reliabilities (Cronbach alpha) of the mathematics test used in Studies 3 and 4 were .82 and .86 for Beijing and Chicago, respectively.

Interviews

Interviews and questionnaires were constructed simultaneously in Chinese, English, and Japanese by bilingual and trilingual researchers. Strong efforts were made to ensure linguistic comparability and cultural appropriateness of the items. Interviews were conducted with mothers, but difficulties in arranging convenient times with the fathers resulted in our leaving questionnaires with the mothers for the fathers to fill out and return. Interviews lasted approximately 1 hour and included questions concerning the family backgrounds, the child's developmental history, and parental attitudes, beliefs, and child-rearing practices. The interviews with the teachers were concerned mainly with teaching practices and philosophy. The interviews with the children were shorter and dealt primarily with their experiences and attitudes about events at school.

Schools

Schools in the four cities differed greatly in their physical, educational, and psychological characteristics. Schools ranged in size

TABLE 1
MOTHERS' ESTIMATES OF TIME CHILDREN SPENT ON HOMEWORK
(Mean Minutes per Week)

	AMERICAN		CHINESE		JAPANESE
	Chicago	Minneapolis	Beijing	Taipei	Sendai
Study 1:					
Grade 1 . . . . .	...	70	...	494	233
Grade 5 . . . . .	...	252	...	771	362
Study 2:					
Grade 5 . . . . .	...	304	...	585	...
Study 4:					
Grade 1	190	...	442	...	...
Grade 3	276	...	443	...	...
Grade 5	433	...	486	...	...

NOTE.—The following analyses summarize the cross-cultural differences. Study 1: grade 1, $F(2,669) = 264.46$, $p < .001$, Scheffé contrasts, $T > S > M$, p 's $< .001$; grade 5, $F(2,666) = 205.11$, $p < .001$, $T > S > M$, p 's $< .001$; Study 2: $F(1,216) = 75.00$, $p < .001$; Study 4: grade 1, $F(1,304) = 97.70$, $p < .001$; grade 3, $F(1,292) = 27.50$, $p < .001$; grade 5, N.S.

from an average of 498 students in Minneapolis to 2,800 in Taipei. The average class size also varied greatly: 23 in Minneapolis, 24 in Chicago, 37 in Beijing, 39 in Sendai, and 46 in Taipei. Children attend school 5½ days a week in Beijing, Sendai, and Taipei, and the number of hours spent at school each day increases between first and fifth grades; by fifth grade it exceeds the number of hours spent in American schools by 1–2 hours.

As we have shown elsewhere (Stigler, Lee, & Stevenson, 1987), classroom structure and management differ greatly among the cultures. Asian classrooms are more efficiently managed than the American classrooms; greater amounts of time are devoted to academic activities and to imparting information in Asian classrooms. Attentiveness on the part of children is high, transitions from one activity to another occupy little time, and children in Asian classrooms seldom engage in irrelevant activities during class periods. Much less time is devoted to small-group or individual activities in Asian classrooms; most of the class time is devoted to activities where the teacher is in charge. This is in contrast with the organization of American schools, where children are more frequently divided into small groups or left to work on their own.

Levels of Achievement

Our focus in this report is not on the children's levels of achievement, but information about the children's scores on the reading and mathematics tests is useful in interpreting the data concerning homework. The American children consistently received significantly lower average scores on the mathematics tests

than the Chinese and Japanese children at first, third, and fifth grades. The differences between the scores of children in Minneapolis and in Sendai and Taipei were significant, p 's $< .001$, and between children in Chicago and in Beijing, Sendai, and Taipei, p 's $< .001$. Differences among the three Asian cities in the children's scores were not consistently significant.

On the reading tests, children in Taipei consistently received higher scores than the American children, p 's $< .001$. This was not the case in comparisons between the American children and children in Sendai and Beijing, where the differences were either not significant or were higher for the American children at grades one and three.

Results

Time Spent on Homework

We wanted to know whether significant differences in the amount of time Chinese, Japanese, and American children spend on homework do in fact exist. We explored this question by asking the mothers to estimate the amount of time their children spent on homework and the teachers to estimate the amount of time required to complete recent homework assignments.

Mothers estimated how many minutes their child spent doing homework on the preceding weekday, Saturday, and Sunday. These estimates, converted into minutes per week ($5 \times$ estimate for weekday + estimates for Saturday and Sunday), are summarized in Table 1. In general, American mothers reported that their children spent little time on

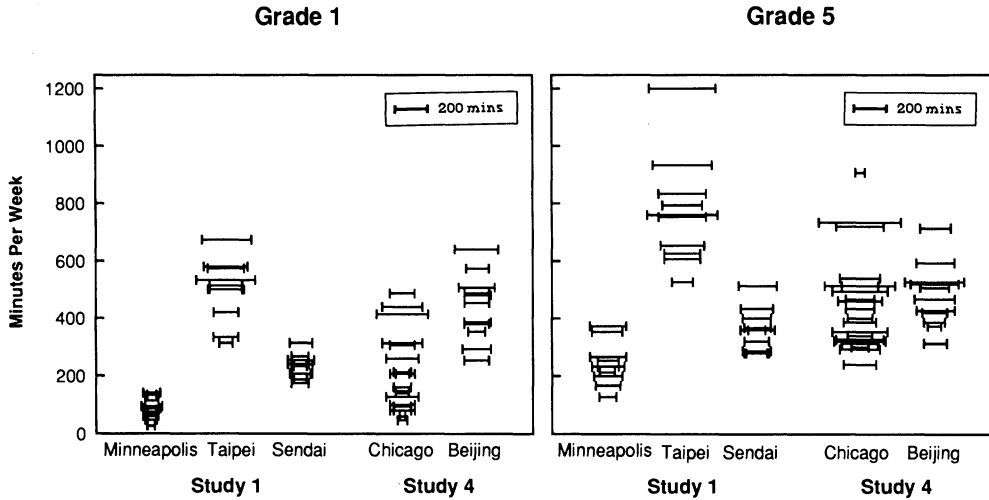


FIG. 1.—Homework time for each school at grades 1 and 5. The height of the line reflects the average time for each school; the length of the line represents 1 SD.

homework. For example, estimates for Minneapolis first graders were one-third as large as those for Sendai first graders, and one-seventh as large as those made for the Chinese children in Taipei. Chinese children in Beijing were also estimated to spend much more time on homework than their counterparts in Chicago at grade 1. By grade 5, however, the amount of time spent on homework by children in Chicago and Beijing did not differ significantly. It should be noted that in 1986 the Chicago Board of Education imposed the requirement of a minimum of 30 min a day of homework for the first three grades and 45 min for grades 4–6.

Whenever sex differences in the amounts of time spent on homework appeared, they consistently represented greater investment of time by girls. This occurred in first grade in Minneapolis, in both first and fifth grades in Sendai, and in fifth grade in Beijing, t 's(117–233) > 4.06, p 's < .05.

There was some indication of changes in the amount of homework done within each culture during the period in which these studies were conducted. Mothers' estimates of the amount of homework done by Minneapolis fifth graders increased from an average of 252 min per week in 1980 to 304 min in 1984, $t(329) = 2.00$, $p < .05$. An opposite trend occurred in Taipei: mothers' estimates of homework time decreased from an average of 771 min per week in 1980 to 585 min in 1984, $t(318) = 4.50$, $p < .001$. The possibility that these differences reflect true changes rather than differences in sampling is supported by the fact that the interviews at the two time

periods were conducted with mothers of children who attended the same schools and that the children followed up in 1984 did not differ from the remaining children in the amount of time they spent on homework in first grade, p 's > .05.

Analyses by school.—The amount of time children spend on homework depends, in part, on how much homework is assigned by the teachers. This, in turn, depends on the philosophy of the school concerning homework. To evaluate the similarity or diversity of time spent on homework by children attending different schools in each city, mothers' estimates were compared for each school within each culture. Estimates for first graders in each of 63 schools and for fifth graders in each of 61 schools appear in Figure 1. The height of each line indicates the average amount of time mothers within each school estimated their child spent on homework, and the length represents 1 SD.

At first grade there was no overlap between the distributions for schools in Minneapolis and those for Chinese and Japanese schools. There was greater overlap among the estimates at fifth grade, but the larger amount of homework completed by the Taipei children is clearly evident. Diversity rather than similarity characterizes the amount of time spent on homework in the schools of Chicago, Beijing, and Taipei. This was not the case in Minneapolis and Sendai, where the average estimates by mothers of children in different schools were similar. We deduce that teachers' attitudes about homework may be more similar in Minneapolis and in Sendai than in

TABLE 2
TEACHERS' ESTIMATES OF AMOUNT OF HOMEWORK ASSIGNED
(Mean Minutes per Week)

	AMERICAN		CHINESE		JAPANESE
	Chicago	Minneapolis	Beijing	Taipei	Sendai
Study 1:					
Grade 1 .....	...	21	...	280	105
Grade 5 .....	...	140	...	546	259
Study 3:					
Grade 1 .....	...	...	...	194	105
Grade 5 .....	...	...	...	333	143
Study 4:					
Grade 1	77	...	187	...	...
Grade 3	206	...	314	...	...
Grade 5	250	...	456	...	...

NOTE.—Data are based on a total of 381 teachers.

the other three cities, since a strong determinant of how much homework children do is the amount of homework they are assigned. We look next at the teachers' estimates.

Homework assignments.—Teachers in Study 1 were asked to estimate the amount of time an average child should take to complete the homework assigned for mathematics, reading, and other subjects on the preceding day and on the day the interview was conducted. In Study 3, teachers were asked how many days per week they assigned homework in reading, mathematics, and in social studies and how many minutes the average child should need to finish each assignment. Estimates for all the school subjects were combined and converted into minutes per week. Table 2 shows the estimates made by teachers.

Teachers' estimates were in line with the mothers' estimates: Chinese teachers said they assigned much more homework than Japanese teachers, who in turn said they assigned more homework than American teachers. According to teachers' estimates, first graders in Taipei were assigned more than twice as much homework as first graders in Sendai, and more than 10 times the amount assigned in Minneapolis. For fifth graders, Chinese teachers assigned more than twice as much homework as Japanese teachers and four times as much as American teachers. Although teachers' estimates were in line with mothers' estimates, a comparison of the data in Tables 1 and 2 indicates that the estimates made by mothers were consistently above those made by teachers.

Homework time and achievement within cultures.—The amount of time children

within a culture spend on homework is determined by other factors in addition to the amounts of homework assigned by the teacher, such as the ease with which the child can complete the assignment and the child's motivation to do homework. Despite the possible operation of these factors, it is of interest to ask whether there was a tendency for the time spent on homework and academic achievement to be related within each culture. The answer was negative. There was no consistent linear or curvilinear relation between the amount of time spent on homework and the child's level of academic achievement. Patterns differed in different cities and at different grades. Of the 14 correlation coefficients that were computed between the estimates of homework time and a combined score representing the child's scores on the reading and mathematics tests, four were statistically significant. Of these, two were positive and two were negative. In Studies 1 and 2 the correlations were positive for fifth graders in Taipei, r 's = .22 and .23. In Study 4 there was a negative relation for Chicago first graders and Beijing third graders, r 's = $-.15$ and $-.20$. The remaining 11 correlations ranged between $-.09$ and $.06$.

A second type of analysis of the relation between homework and academic achievement is possible for the data from Minneapolis and Taipei, where measures of both variables are available for the children when they were in first and in fifth grades. The correlations between the achievement scores for the two periods were high, .73 for Minneapolis and .74 for Taipei, p 's < .001. The relation between the amount of time spent on homework in grades 1 and 5 was significant in Minneapolis, $r(115) = .32$, $p < .001$, but not

TABLE 3
CHILDREN'S RATINGS OF HOW MUCH THEY LIKED
HOMEWORK (5-Point Scale)

	Minneapolis	Taipei	Sendai
Study 1:			
Grade 1	2.5	3.8	3.2
Grade 5	2.2	3.6	2.8
Study 2: ^a			
Grade 5	2.4	3.6	2.7

NOTE.—Study 1: grade 1, $F(2,713) = 63.22, p < .001, T > S > M, p's < .001$; grade 5, $F(2,721) = 133.61, p < .001, T > S > M, p's < .001$. Study 2: $F(2,443) = 63.81, p < .001, T > S > M, p's < .01$.

^aSeven-point scale was transformed into 5-point scale values for illustrative purposes; 1 = "doesn't like homework at all"; 5 (7) = "likes homework very much."

in Taipei, $r(101) = .03$. There was not a significant relation between the amount of time spent on homework in first grade and achievement in fifth grade when the achievement scores in first grade were partialled out, $r's = .13$ (Minneapolis) and $.14$ (Taipei).

Children's Responses to Homework

Attitudes about homework.—Do large amounts of homework lead to a dislike of homework? Children's ratings of how well they liked homework appear in Table 3. Chinese children in Taipei liked doing homework. American children did not like homework. The attitudes of Japanese children fell between those of the American and Chinese children. In all three cities, fifth graders liked doing homework less than first graders.

In Study 1, children indicated how much they liked homework by choosing among five faces with expressions ranging from a deep frown to a wide smile. Among American fifth graders, 61% chose a frowning face, and 16% chose a smiling face. In contrast, 66% of Chinese fifth graders chose a smiling face, and only 16% chose a frowning face. Japanese

children tended to choose a neutral face (60%), but 29% chose a frowning face.

Mothers rated how much their child liked homework on 5-point scales (Study 4). Chinese mothers believed their child liked homework more than did American mothers. This was true at grade 1 (means = 3.9 vs. 3.3), grade 3 (means = 3.8 vs. 2.9), and grade 5 (means = 3.6 vs. 2.9), $F's(1,284-307) = 25.27-51.01, p's < .001$. When mothers were asked how much their child looked forward to doing homework, Chinese mothers gave higher ratings than American mothers (means = 3.2 vs. 2.9), $F(1,890) = 8.55, p < .01$. How much children liked homework was positively related to how much they liked school; the correlations ranged from .40 to .61 for Minneapolis, Taipei, and Sendai.

The predictive value of children's ratings of how much they liked reading, mathematics, and homework for how much they liked school was examined through regression analyses. Of the 10 analyses conducted for the various grades and locations, liking homework entered significantly into nine regression equations (betas = .20–.52, $p's < .01$). How well children liked mathematics was a significant factor in six analyses, and ratings for reading were significant in seven (betas = .12–.29, $p's < .05$). Each factor tended, therefore, to make an independent and significant contribution to children's ratings of how well they liked school, with the strongest contributions coming from how well children liked homework.

Reasons for doing homework.—Children in Taipei, Minneapolis, and Sendai were asked in Study 2 to rate the importance of four common reasons children give for spending time on homework. Chinese children said that they did homework because they liked to as well as because they wanted to avoid their teacher's punishment (see Table 4). The motivation of Chinese children is especially inter-

TABLE 4
CHILDREN'S RATINGS OF REASONS THEY SPENT AS MUCH TIME DOING
SCHOOLWORK AS THEY DID (7-Point Scale)

	Minneapolis	Taipei	Sendai
It takes that much time in order to finish ..	4.6	3.2	3.7
I like doing schoolwork	3.6	4.0	3.1
My parents want me to	4.1	2.3	3.0
I do not want to be punished by the teacher	3.9	4.1	2.7

NOTE.—1 = "not very true"; 7 = "very true." $N's = 119$ (Minneapolis), 164 (Taipei), 164 (Sendai).

TABLE 5
AMOUNT OF TIME MOTHERS HELP WITH HOMEWORK (Minutes per Week)

	AMERICAN		CHINESE		JAPANESE
	Chicago	Minneapolis	Beijing	Taipei	Sendai
Study 1:					
Grade 1 . . . . .	...	96	...	189	160
Grade 5 . . . . .	...	100	...	190	102
Study 2:					
Grade 5 . . . . .	...	138	...	142	187
Study 3:					
Grade 1	282	...	...	449	194
Grade 5	168	...	...	307	90
Study 4:					
Grade 1	221	...	420	...	...
Grade 3	204	...	282	...	...
Grade 5	194	...	264	...	...

NOTE.—The following analyses summarize the cross-cultural differences. Study 1: grade 1, $F(2,603) = 13.79, p < .001, T > M, p < .001, S > M, p < .01; S > C, p < .01, T > S \& M, p's < .001$; Study 2: $F(2,386) = 2.93, N.S.$; Study 3: grade 1, $F(2,389) = 26.16, p < .001, T > C \& S, p's < .001, C > S, p < .05; grade 5, F(2,388) = 26.89, p < .001, T > C \& S, p's < .001, C > S, p < .05$; Study 4: grade 1, $F(1,323) = 68.04, p < .001; grade 3, F(1,315) = 9.13, p < .01; grade 5, F(1,294) = 7.00, p < .01$.

esting. Despite the large amounts of homework they were assigned, they did not develop a negative attitude about homework. American and Japanese children were pragmatic. They spent as much time on homework as was necessary and gave no indication of enjoying what they did.

Parental Assistance

Amount of time.—Estimates of how much time family members helped their child with homework each week were consistently higher for Chinese than for American families (see Table 5). The most surprising aspect of these data were the results for Sendai. Japanese mothers did not report that they spent especially large amounts of time helping their children. The involvement of the well-known *kyoiku mama* (education mom) in the Japanese child's education apparently does not include a great deal of direct assistance with homework. Japanese children were in agreement with their mothers. Among Japanese first graders, 49% said they were given help; among fifth graders, 69%. These percentages were much lower than those reported by Chinese children. In Taipei, 75% of the first graders and 92% of the fifth graders said they received help. The corresponding percentages in Chicago were 66% and 78%.

Separate questions in Study 3 dealt with the help given for homework in mathematics and in reading. Mothers generally believed that they helped their child more in reading than in mathematics. The mean difference be-

tween the mothers' estimates for the two subjects was 48 min per week. Children, in contrast, believed they received more help in mathematics than in reading. When they were asked to rate on a 5-point scale (1 = "not at all" and 5 = "very often") how often they got help with mathematics and reading, the mean ratings were 3.1 versus 2.4 in Chicago, 3.3 versus 2.5 in Taipei, and 2.5 versus 2.1 in Sendai, $t's(119-232) = 4.06-8.16, p's < .001$. Obviously, elementary school children and their mothers have different perceptions about the help children receive. Mothers' answers may reflect what they consider to be important, and children's answers may reflect what they perceive as the subject in which they have the most problems. In other words, reading may be more important to mothers, but mathematics may be the source of the greatest concern for children.

In Study 3, mothers compared the help they gave to their child in relation to the help they believed other mothers gave to their children. The question was asked for both reading and mathematics. Even though Chinese and Japanese mothers gave their children the largest amounts of help, they were most likely to believe they helped their children less than other mothers. Depending on the grade and the subject, from 49% to 88% of the Chinese and Japanese mothers, compared to only 23% to 39% of American mothers, thought they helped their child less than other mothers helped theirs. Compared to American mothers, therefore, Chinese and

Japanese mothers were much more likely to assume that mothers generally provided large amounts of help for their children's academic work.

Fathers in Studies 3 and 4 also were asked how much time they helped their child on mathematics. Estimates were lowest for American fathers and highest for Chinese fathers. In Chicago, 24% of fathers said they helped their child 15 min or more each day. In Beijing, the percentage was 44%; in Taipei, 36%; and in Sendai, 32%.

Fourteen correlations were computed between the amount of help families provided their children and the amount of time children were estimated to spend doing homework. All but one of the correlations were statistically significant, with values of the significant correlations ranging from .17 to .58. The mean correlation was .39. The tendency, therefore, was for children who spent greater amounts of time on homework to receive more assistance.

Homework help and achievement.—The amount of time mothers spent helping their children with their homework tended to be negatively related to children's achievement in all locations. Of 27 correlations that could be computed between these two variables from these data, 24 were negative. Among these, 10 were statistically significant. The three remaining correlations were small, less than .06. If anything, therefore, helping children with their homework had a remedial function. In all of the cultures, therefore, it is children who are doing less well in school who receive the greater amounts of help from their parents in completing homework assignments.

Parental influence.—American mothers who helped their children with homework also believed that their help was an important influence on their child's achievement. Correlations between the amount of time spent helping their child and their ratings of their influence on their child ranged from .24 to .34, p 's < .001 (Studies 2 and 4). Correlations were also significant at grades 1 and 5 in Beijing, r 's = .18 and .28, p 's < .05. In Sendai and Taipei, however, the two variables were not significantly related to each other in Study 1, r 's = .02 to .14.

Attitudes of Teachers and Parents about Homework

Teachers' attitudes.—In Study 1, teachers were asked about how important they considered homework and 15 other items, such as drill, examinations, teacher's availability,

physical punishment, discipline, memorization, and individual instruction, to be for pupil's academic achievement. American teachers assigned homework a mean rating of 4.4 on a 9-point scale (1 = "very unimportant"; 9 = "very important"). This is in contrast with the means of 7.3 for Taipei teachers and 5.8 for Sendai teachers. In fact, the mean rating by American teachers for homework put it second from last among the 16 items; only physical punishment received a lower average rating.

The 260 teachers in Studies 3 and 4 were asked to describe possible positive effects of homework. American teachers most frequently mentioned two major positive effects: reinforcing materials presented in class and developing personality, such as improving children's self-image and independence. Teachers in the other cities agreed with the Chicago teachers on the first point but not on the second. Over 69% of the teachers mentioned the first benefit. Although 41% of the Chicago teachers mentioned the second benefit, it was mentioned by fewer than 8% of the teachers in any of the other cities.

When asked what the negative effects of homework might be, 34% of Chicago teachers, 28% of Beijing teachers, and 40% of Taipei and Sendai teachers thought homework had no negative effects. The major criticisms of homework were that an overload of homework could cause a loss of interest in studying, and that homework could lead to bad study habits.

Mothers' attitudes.—Most mothers believed the amount of homework currently assigned was appropriate. The percentages ranged from 68% in Sendai and 69% in Minneapolis to 83% in Taipei. More Minneapolis (27%) and Sendai (30%) mothers than Taipei mothers (7%) thought that too little homework was currently being assigned.

Responsibility for seeing that homework is completed can be allocated to the child or assumed by the parents. American mothers were less likely than Chinese and Japanese mothers to believe children should assume primary responsibility for completing their homework. Only 8% of American mothers thought it was solely the child's responsibility, but 32% of the Chinese and 43% of the Japanese mothers made this rating. These ratings were made in Study 1 on a scale ranging from 1 ("solely parents'") to 9 ("solely child's").

Mothers in Chicago, Taipei, and Sendai were asked if they believed they were capa-

TABLE 6
CAPABILITY OF HELPING CHILD (% "Yes")

	Chicago	Taipei	Sendai
Mother:			
Grade 1:			
Math	96	89	77
Reading	97	89	89
Grade 5:			
Math	70	57	39
Reading	91	78	71
Father:			
Grade 1:			
Math	98	83	81
Grade 5:			
Math	85	60	64

NOTE.—Mothers' *N*'s = 168–185 (Chicago), 104–110 (Taipei), 112–117 (Sendai); fathers' *N*'s = 78, 90 (Chicago), 88, 100 (Taipei), 104, 114 (Sendai).

ble of helping their child with mathematics and reading. American parents were more confident that they were capable of helping their children than were Chinese and Japanese parents (see Table 6). This was true of both mothers and fathers. In all locations, however, more first-grade mothers than fifth-grade mothers thought they were capable of helping, especially in mathematics.

Discussion

Academic success is strongly emphasized in Chinese and Japanese societies, and parents and teachers in these two societies apparently perceive the additional practice and review provided by homework as a useful contribution to children's success at school. American teachers do not place a high value on the contribution of homework to the learning process and relegate it to a low position in the hierarchy of activities involved in children's success in school. American children do not appear to enjoy doing homework, and their mothers believe they must intercede in order to see that the children complete their homework. These attitudes are in sharp contrast with those of their Chinese counterparts, who perceive homework to be important, useful, and enjoyable. Homework is the primary out-of-school activity for Chinese children, and they devote long hours each day to their homework. Compared to Chinese society, Japanese society is less successful in inculcating an enjoyment of homework in children. Although homework is an important component of Japanese education, attitudes about homework are less positive than they are in Chinese society.

The finding that Japanese children spent less time on homework than Chinese children was unexpected in view of the popular image of a Japanese child being closely supervised at home by an educationally oriented mother. One explanation is that Japanese elementary school children, to a greater degree than American or Chinese children, spend their after-school time attending classes (*juku*), where they may be given additional schoolwork. Among the Japanese fifth graders in Study 1, for example, 46% attended some kind of after-school classes or received private tutoring. The percentages were lower for Chinese (14%) and American (10%) fifth graders. Japanese teachers, knowing that so many children are engaged in these after-school activities, may therefore limit the amount of homework they assign.

Despite the fact that American mothers deemphasized the importance of homework and did not give large amounts of assistance to their children, they had a remarkably favorable view of the contribution they made to their child's education. In comparison to Chinese and Japanese mothers, they believed they were more capable of helping their child with homework, that their help was more important for their child, and that they gave more assistance than most mothers. It seems unlikely, in terms of the children's scores on the achievement tests, that these were valid self-assessments.

In none of the cultures was there a consistently significant relation between the amount of time spent on homework and academic achievement. This is different from the conclusion that comes from comparisons *between* cultures, where time spent on homework appears to be positively related to children's academic success. The lack of a significant relation between homework time and achievement within cultures appears to be due to the fact that the time spent on homework depends on the length of the assignments made by the teachers, as well as on the child's diligence and ability. Large differences in assignments made by teachers in different schools, coupled with the variability that exists within each school in children's levels of ability and motivation, restrict the possibility of obtaining significant relationships between homework time and achievement within cultures. Children within a culture who spend very large amounts of time on their homework are not necessarily the most effective students. Conversely, children who spend too little time on homework may be unable to benefit greatly from the time they do spend.

If we assume that homework has a positive impact on achievement and that children from different cultures have the same average potential for academic success, we would expect children in the cultures with longer homework assignments to obtain higher scores on achievement tests. This was confirmed in the studies discussed. Homework is a form of practice. If the assignments are interesting and children can see they are useful, this form of practice can facilitate academic achievement. Such a situation apparently exists in Taipei, where children have high levels of achievement. They not only do a large amount of homework, but also say they enjoy it. If, however, the quality of the homework assignments is poor and homework consists of repetitive problems and dull drill, increasing the amount of homework is unlikely to have positive effects. Perhaps the negative attitude of American children about homework is a result of the types of homework they are assigned rather than of a dislike of after-school practice. A careful study of the content of homework assignments would clarify this point.

Parental assistance also appears to have a different relation to achievement depending on whether comparisons are made between or within cultures. Although assistance from parents may generally have a positive effect on children's academic achievement, it is children with lower levels of achievement within each culture who received the greater amounts of parental assistance. Thus, the amount of assistance within a culture varies according to the children's needs, but the

amount of assistance generally offered by parents in different cultures appears to depend on the importance placed upon academic achievement. It seems reasonable that teachers and parents in cultures that place great emphasis on academic achievement would have more favorable attitudes about homework than would members of cultures where success in school is not so strongly emphasized.

References

- Garden, R. A. (1987). The second IEA mathematics study. *Comparative Education Review*, *31*, 47–68.
- Paschal, R. A., Weinstein, T., & Walberg, H. J. (1984). The effects of homework on learning: A quantitative synthesis. *Journal of Educational Research*, *78*, 97–104.
- Stevenson, H. W., Lee, S., & Stigler, J. W. (1986). Mathematics achievement of Chinese, Japanese, and American children. *Science*, *231*, 693–699.
- Stevenson, H. W., Stigler, J. W., Lucker, W., Lee, S., Hsu, C., & Kitamura, S. (1982). Reading disabilities: The case of Chinese, Japanese, and English. *Child Development*, *53*, 1164–1181.
- Stigler, J. W., Lee, S., Lucker, G. W., & Stevenson, H. W. (1982). Curriculum and achievement in mathematics: A study of elementary school children in Japan, Taiwan, and the United States. *Journal of Educational Psychology*, *74*, 315–322.
- Stigler, J. W., Lee, S. Y., & Stevenson, H. W. (1987). Mathematics classrooms in Japan, Taiwan, and the United States. *Child Development*, *58*, 1272–1285.