

Impact of children's work on school attendance and performance: a review of school survey evidence from five countries

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**UCW – SIMPOC Working Paper
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As part of broader efforts toward durable solutions to child labor, the International Labour Organization (ILO), the United Nations Children's Fund (UNICEF), and the World Bank initiated the interagency Understanding Children's Work (UCW) project in December 2000. The project is guided by the Oslo Agenda for Action, which laid out the priorities for the international community in the fight against child labor. Through a variety of data collection, research, and assessment activities, the UCW project is broadly directed toward improving understanding of child labor, its causes and effects, how it can be measured, and effective policies for addressing it. For further information, see the project website at www.ucw-project.org.

This paper is part of the research carried out within UCW (Understanding Children's Work), a joint ILO, World Bank and UNICEF project. The views expressed here are those of the authors' and should not be attributed to the ILO, the World Bank, UNICEF or any of these agencies' member countries.

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ABSTRACT

The study helps to understand the nature of the impact of work on the school attendance and performance of children by examining the relationship between children's involvement in work, on one hand, and levels of school attendance and performance, on the other, using data from school-based surveys conducted with ILO/IPEC support in Brazil, Kenya, Lebanon, Sri Lanka and Turkey.

The study will contribute to a broader effort to more effectively identify and target work that is damaging to children's development. It will address two related questions of direct relevance for setting standards relating to child involvement in work (economic activity and/or household chores): first, the extent to which involvement in work is compatible with education; and, second, the time threshold(s) beyond which work interferes with schooling. It will also help provide an empirical basis for recommendations on maximum permissible working time for "light" and "regular" work in accordance with ILO Convention No. 138. The study looks only at working children already in school; the impact of work on the ability of children to enrol in school in the first place was beyond the scope of the paper.

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1. INTRODUCTION

1. Although education authorities are generally aware that working children face additional challenges in the classroom, there is still insufficient understanding of the exact nature of the impact of work on the school attendance and educational performance of children. This study helps fill this information gap by examining the relationship between children's involvement in work, on one hand, and levels of school attendance and performance, on the other, using data from school-based surveys conducted with ILO/IPEC support in Brazil, Kenya, Lebanon, Sri Lanka and Turkey.

2. Most available data on work and education is gathered through household and labour force surveys, and information on educational activities in these surveys is typically limited to whether or not children attend school. School-based surveys can provide an opportunity for obtaining more detailed information on the amount of time children spend in school and doing homework, how often they miss school due to work, their academic progress in relation to other students, their ability to join extracurricular activities, and the direct cost of schooling. This type of data is invaluable in developing effective tools for the retention of working children in the education system and in understanding the school performance of children in general.

3. The study will contribute to a broader effort to more effectively identify and target work that is damaging to children's development. It will address two related questions of direct relevance for setting standards relating to child involvement in work (economic activity and/or household chores): first, the extent to which involvement in work is compatible with education; and, second, the time threshold(s) beyond which work interferes with schooling. It will also help provide an empirical basis for recommendations on maximum permissible working time for "light" and "regular" work in accordance with ILO Convention No. 138. The study looks only at working children already in school; the impact of work on the ability of children to enrol in school in the first place was beyond the scope of the paper.

4. The paper is structured in two parts. The first consists of a descriptive overview of the association between work involvement and schooling. For each of the five countries, summary tabulations are presenting the correlations among working hours, school attendance and school performance, broken down, data permitting, by work sector and gender. The second part attempts to disentangle causal links between work involvement and school through use of regression analyses. These analyses are limited to Brazil, Kenya and Turkey due to data restrictions.²

² The available data-sets for Lebanon and Sri-Lanka have not permitted to conduct a reliable econometric analysis because of the lack of information on some basic control variables.

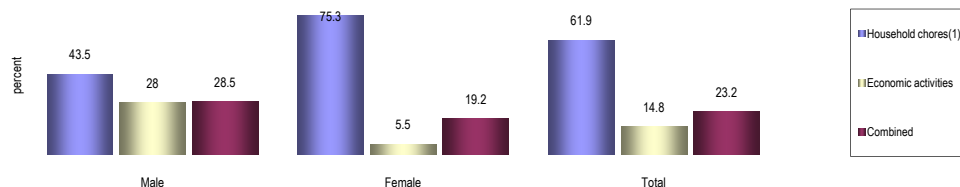
2. IMPACT OF CHILDREN'S WORK ON SCHOOLING: DESCRIPTIVE EVIDENCE

2.1 Brazil

2.1.1 Characteristics of children's work (Brazil)

5. The study sample consisted of 465 working children and 375 non-working children aged 12-15 years drawn from 12 schools located in the cities of São Paulo and Maceió.³ The sampled children were distributed almost equally by sex (53 percent were girls and 47 percent boys). By age, 14 year-olds made up the largest proportion of the sample (38 percent), followed by 13 year-olds (28 percent), 15 year-olds (24 percent) and 12 year-olds (10 percent). In São Paulo, survey schools were selected from districts scoring high on the Government's Youth Vulnerability Index (YVI),⁴ and in Maceió, from schools located in the poorer neighbourhoods.

Figure 1. - Percentage distribution of working children by work type and sex, Brazil



Notes: The category "household chores" refers to children spending at least two hours per day performing chores.
Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

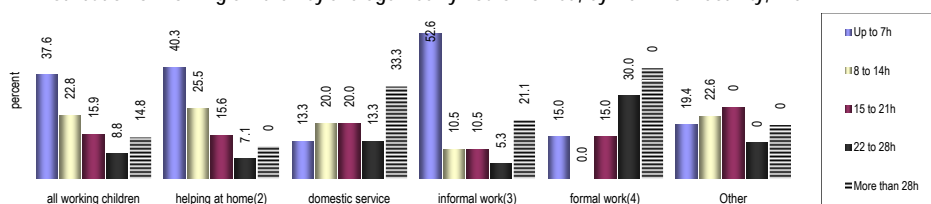
6. Figure 1 indicates that household chores were by far the most important form of work performed by the sampled children. Sixty-two percent of working children performed household chores in their own homes, while 15 percent were involved in various forms of economic activity,⁵ and 23 percent performed both household chores and economic activity simultaneously. There was considerable specialisation by sex among the sampled working children; girls were much more likely than boys to be performing household chores, and much less likely than boys to be involved in economic activity.

³ The survey was developed on a sample extracted from two main cities, São Paulo and Maceió, which represent the most populated cities in Brazil. Moreover Maceió is the capital of Alagoas state, in the Northeast, the state that shows the worst education indicators in the country. The schools were selected in a different way in the two cities. In São Paulo taking in consideration the Youth Vulnerability index³. The districts of São Rafael, São Mateus and Igatemi were selected due to their proximity to each other and to the critical educational indicators. In each of the 3 districts, the final selection of the schools was made with the help of the Eastern Zone coordinator of the Municipal Department of Education, who was able to point the schools where child labor would most likely be found and also the ones whose directors would be more inclined to cooperate. In Maceió were selected the schools located in the poorer neighborhoods, with the help of the State Department of Education, which indicated schools where child labor would probably be found. Finally the classes were selected randomly from each school. The survey involved 1151 students from 12 schools; 840 of them were between 12 and 15 years old and thus had their answers considered valid by the survey team.

⁴ Indicator comprising education and income figures, as well as crime rates and other social indicators.

⁵ Economic activities, in order of importance, included: domestic / babysitting, street market salesman, construction worker / assistant, sales clerk, walking salesman, garbage collector, rural worker –crops, animal husbandry, electrician / repairman, administrative assistant / clerk, washing/ keeping cars, office-boy, sewing, waiter, and shoe polisher.

Figure 2. - Distribution of working children by average weekly hours worked, by main work activity, Brazil



Notes: (1) Total weekly working hours of course higher than type-specific working hours for children performing more than one work type simultaneously. (2) The category "helping at home" includes household chores and home-based economic activity. (3) The category "informal work" refers to work in informal settings, including the street. (4) The category "formal work" refers to work in formal settings, including stores and offices.

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

7. Data on working hours underscores the considerable variation in work intensity by sector and type of work. As shown in Figure 2, children in domestic service and in formal economic activity⁶ are most likely to be logging over 28 hours per week, while children in informal economic activity⁷ and helping at home⁸ are most likely to be working less than seven hours per week. Overall, a little over one-third (38 percent) of working children put in seven hours a week or less, a similar proportion work 8-21 hours per week, and about one-quarter work 22 hours or more per week. It should be recalled, however, that these figures reflect hours in the main work activity; the total work hours put in by children performing both household chores and economic activity simultaneously are of course considerably higher.

2.1.2 Work and school attendance

8. Student feedback regarding attendance indicates that work-related absence from school is a relatively common occurrence among working children. In all, almost one-fifth of working children reported missing one or more days of school in the month covered by the survey because of work. Reported work-related absence from school varied considerably by work type; it was highest among children in formal and informal work and lowest among children helping at home (Figure 3). Reported absence also appeared to depend to an important degree on work intensity. As shown in Figure 4, the proportion of children reporting missing one or more classes due to work rose consistently with weekly working hours, from 11 percent for children working less than seven hours per week to 38 percent for children logging 28 hours or more per week.

9. But actual attendance records for Portuguese and mathematics indicated that only children working exclusively in economic activity were disadvantaged vis-à-vis their non-working counterparts in terms of their ability to attend school regularly (Figure 5). Children performing household chores and children performing combined activities, on the other hand, missed classes in roughly equal proportion to non-working children in both subject areas.⁹

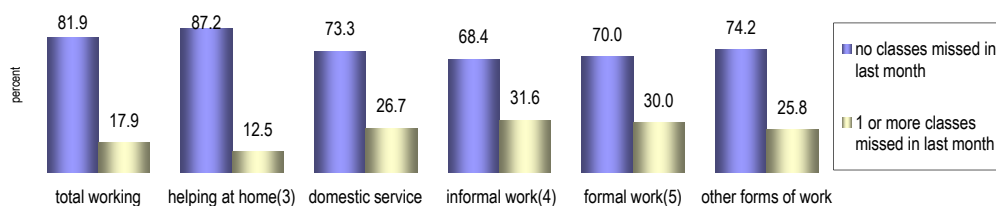
⁶ Refers to work in formal settings, such as store or office.

⁷ Refers to work in informal settings, including the street.

⁸ Refers to household chores and home-based economic activity.

⁹ Education experts indicate that attendance figures are frequently overstated in Brazil, and that evidence based on attendance records therefore should be interpreted with caution.

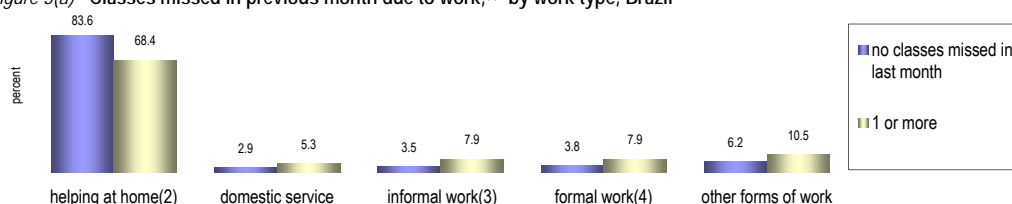
Figure 3. - Classes missed in previous month due to work,⁽¹⁾ by work type, Brazil



Notes: (1) Expressed as percentage distribution of children by whether they report missing "no classes" or "1 or more classes" due to work in the previous month. (2) The "combined" category refers to children both working in economic activity and household chores for more than 2 hours per day. (3) The category "helping at home" includes household chores and home-based economic activity. (4) The category "informal work" refers to work in informal settings, including the street. (5) The category "formal work" refers to work in formal settings, including stores and offices.

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

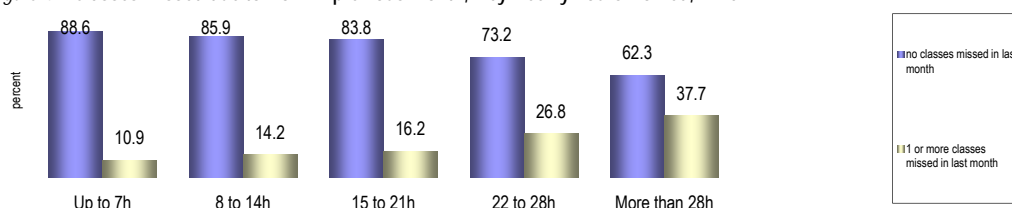
Figure 3(a)- Classes missed in previous month due to work,⁽¹⁾ by work type, Brazil



Notes: (1) Expressed as percentage distribution of children by whether they report missing "no classes" or "1 or more classes" due to work in the previous month. (2) The category "helping at home" includes household chores and home-based economic activity. (3) The category "informal work" refers to work in informal settings, including the street. (4) The category "formal work" refers to work in formal settings, including stores and offices.

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

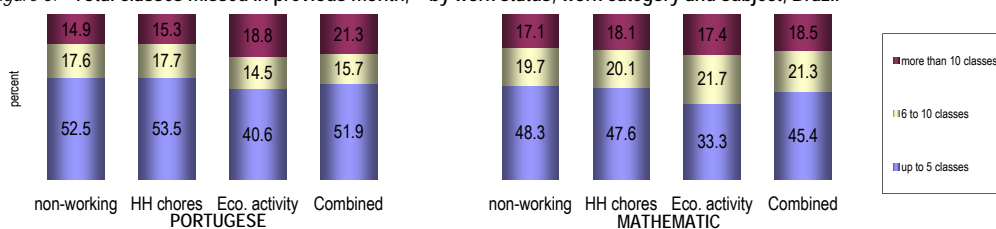
Figure 4. - Classes missed due to work in previous month,⁽¹⁾ by weekly hours worked,⁽²⁾ Brazil



Notes: (1) Expressed as percentage distribution of children by whether they report missing "no classes" or "1 or more classes" due to work in the previous month. (2) Hours worked refers to time spent in both household chores and economic activity.

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

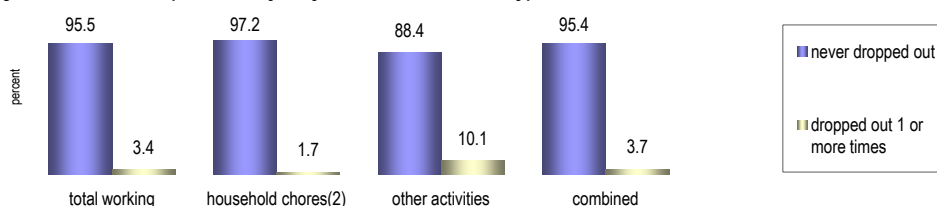
Figure 5. - Total classes missed in previous month,⁽¹⁾ by work status, work category and subject, Brazil



Notes: (1) Expressed as percentage distribution of children by whether miss "up to 5", "6-10" or "more than 10" classes during the previous month as indicated by attendance records; distributions do not sum to 100% because of blank responses.

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

Drop-out history provides an indicator of the how work has affected the ability of children to attend school in the past. As shown in Figure 6, children performing economic activity exclusively were much more likely to have dropped out previously than either non-working children or other groups of working children. Children performing household chores, by contrast, had slightly lower previous drop-out rates than non-working children.

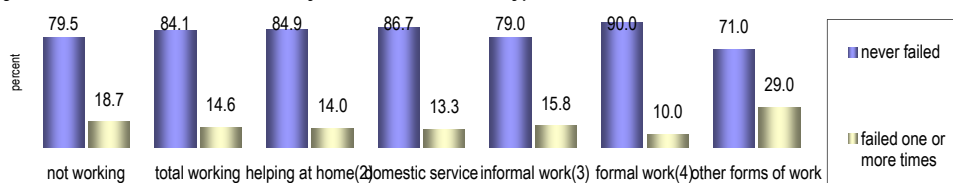
Figure 6. - Student drop-out history,⁽¹⁾ by work status and work type, Brazil

Notes: (1) Expressed as percentage distribution of children by whether they have dropped out “never” or “1 or more times”; distributions may not sum to 100% due to blank responses. (2) The category “household chores” refers to children performing chores for at least two hours per day. (3) The category “other activities” refers to children working in economic activity.

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

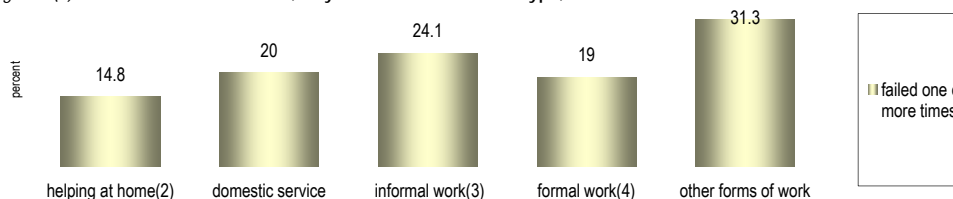
2.1.3 Work and school performance

10. Class repetition rates and grade rankings do not suggest that work adversely affects school performance. Indeed, as shown in Figures 7 and 9, working children actually performed slightly better than their non-working counterparts measured in terms of both repetition rates and grade rankings. Repetition rates and grade rankings appear to depend little on children’s type of work (Figures 7 and 9) or with their work intensity (Figures 8 and 10).

Figure 7. - Rate of academic failure,⁽¹⁾ by work status and work type, Brazil

Notes: (1) Expressed as the percentage distribution of children by whether they report [CLARIFY RESPONDENT] having “never failed” or “failed one or more times”; distributions may not sum to 100% due to blank responses. (2) The category “helping at home” includes household chores and home-based economic activity.. (3) The category “informal work” refers to work in informal settings, including the street. (4) The category “formal work” refers to work in formal settings, including stores and offices.

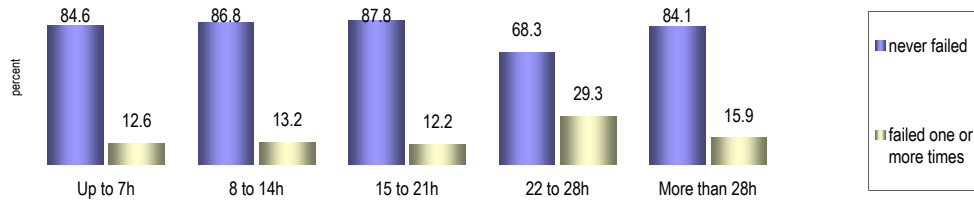
Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

Figure 7(a) - Rate of academic failure,⁽¹⁾ by work status and work type, Brazil

Notes: (1) Expressed as the percentage distribution of children by whether they report having “failed one or more times”; distributions may not sum to 100% due to blank responses. (2) The category “helping at home” includes household chores and home-based economic activity.. (3) The category “informal work” refers to work in informal settings, including the street. (4) The category “formal work” refers to work in formal settings, including stores and offices. Total may exceed 100 because of multiple answer.

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

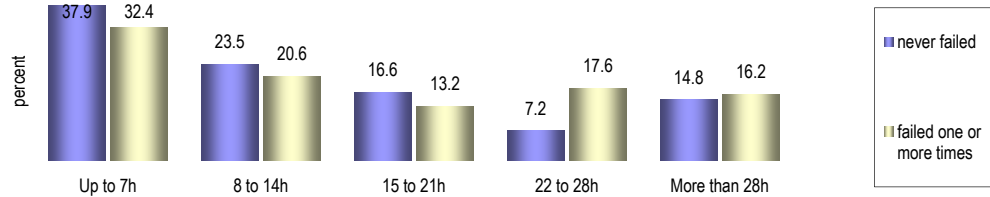
Figure 8. - Rate of academic failure,⁽¹⁾ by weekly hours worked,⁽²⁾ Brazil



Notes: (1) Expressed as the percentage distribution of children by whether they report [CLARIFY RESPONDENT] having "never failed" or "failed one or more times"; distributions may not sum to 100% due to blank responses. (2) Hours worked refers to time spent performing both household chores and economic activity.

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

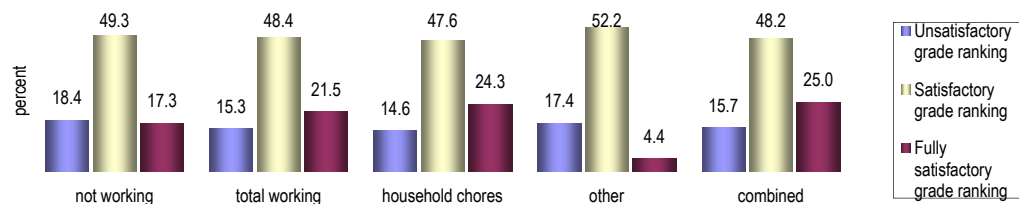
Figure 8(a) - Rate of academic failure,⁽¹⁾ by weekly hours worked,⁽²⁾ Brazil



Notes: (1) Expressed as the percentage distribution of children by whether they report [CLARIFY RESPONDENT] having "never failed" or "failed one or more times"; distributions may not sum to 100% due to blank responses. (2) Hours worked refers to time spent performing both household chores and economic activity.

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

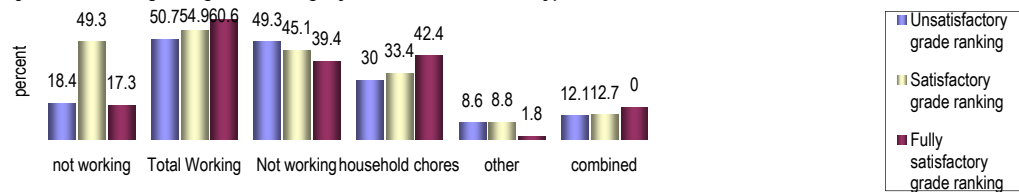
Figure 9. - Portuguese grade ranking, by work status and work type, Brazil



Notes: (1) Expressed as the percentage distribution of children by whether they have an "unsatisfactory" or "satisfactory" or "fully satisfactory" grade ranking; distributions may not sum to 100% due to blank responses. (2)

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

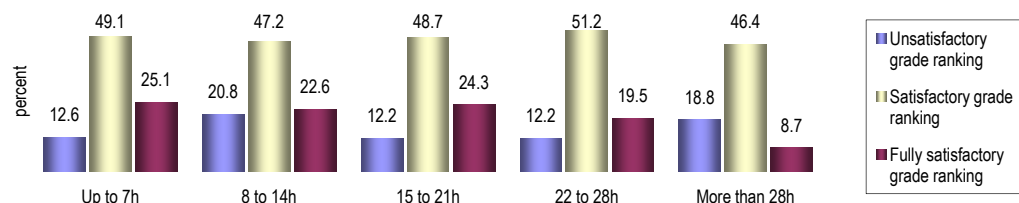
Figure 9(a) - Portuguese grade ranking, by work status and work type, Brazil



Notes: (1) Expressed as the percentage distribution of children by whether they have an "unsatisfactory" or "satisfactory" or "fully satisfactory" grade ranking; distributions may not sum to 100% due to blank responses. (2)

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

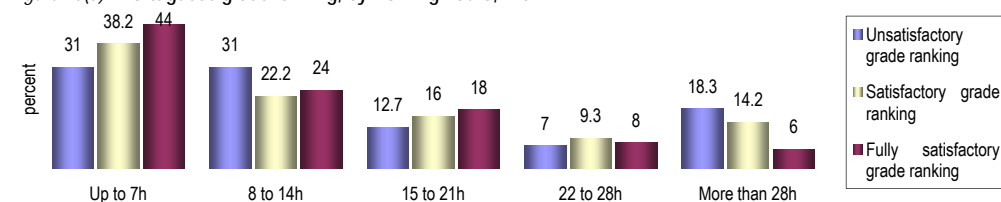
Figure 10. - Portuguese grade ranking, by working hours, Brazil



Notes: (1) Expressed as the percentage distribution of children by whether they report [CLARIFY RESPONDENT] having having an "unsatisfactory" or "satisfactory" or "fully satisfactory" grade ranking; distributions may not sum to 100% due to blank responses. (2) Hours worked refers to time spent performing both household chores and economic activity.

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

Figure 10(a) - Portuguese grade ranking, by working hours, Brazil



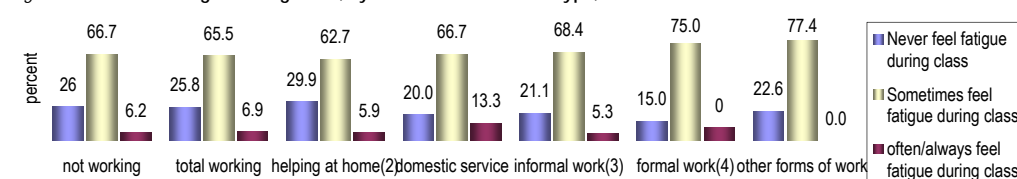
Notes: (1) Expressed as the percentage distribution of children by whether they report [CLARIFY RESPONDENT] having an "unsatisfactory" or "satisfactory" or "fully satisfactory" grade ranking; distributions may not sum to 100% due to blank responses. (2) Hours worked refers to time spent performing both household chores and economic activity.

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

11. Tiredness in class is an important indirect indicator of children's ability to perform well in school. Student feedback suggests that work also has little impact on how tired children feel in class. As shown in Figure 11, working children and non-working children report being "never", "sometimes", and "often/always" tired in class in almost equal proportion.

12. Reported tiredness varied little by work type, with the important exception of children in domestic service, who were almost twice as likely as children in other types of work to report being "often/always" tired. Surprisingly, reported tiredness also appeared to bear little relationship with work intensity. The proportion of children reporting feeling "often/always" tired rises moving from the 8-14 to 22-28 weekly hours ranges, but falls again slightly thereafter (Figure 12).

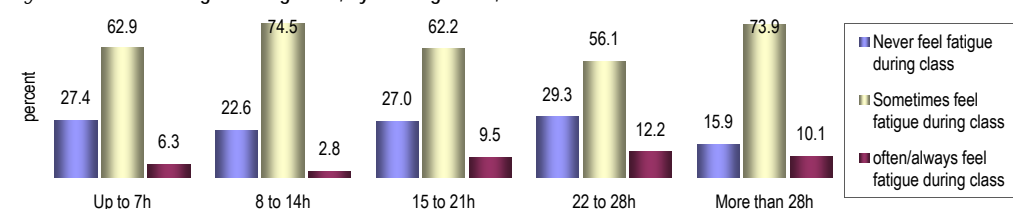
Figure 11. - Student fatigue during class, by work status and work type, Brazil



Notes: (1) Expressed as the percentage distribution of children by whether they report "never", "sometimes" or "often/always" feel fatigue in class; (2) The category "helping at home" includes household chores and home-based economic activity. (3) The category "informal work" refers to work in informal settings, including the street. (4) The category "formal work" refers to work in formal settings, including stores and offices.

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

Figure 12. - Student fatigue during class, by working hours, Brazil



Notes: (1) Expressed as the percentage distribution of children by whether they report "never", "sometimes" or "often/always" feel fatigue in class; (2) Hours worked refers to time spent performing both household chores and economic activity during last month.

Source: Report on Brazil school-based survey (ILO/IPEC, *School Survey Child Labour and Education*, May 2004).

2.1.4 Summary

13. The main findings of the descriptive analysis of work and schooling in Brazil are as follows:

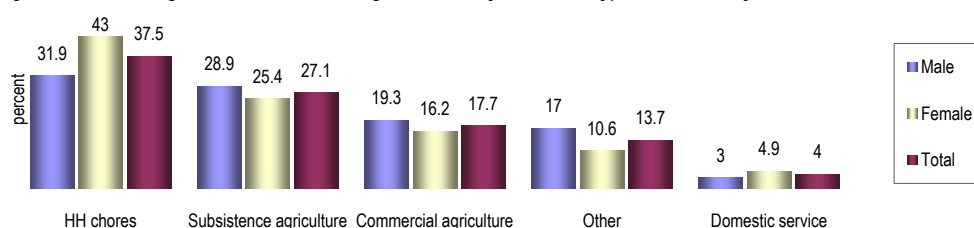
- attendance records indicated that only children working exclusively in economic activity were disadvantaged vis-à-vis their non-working counterparts in terms of their ability to attend school regularly; children performing household chores missed classes in roughly equal proportion to non-working children;
- children performing economic activity exclusively were much more likely to have dropped out previously than either non-working children or other groups of working children; children performing household chores, by contrast, had slightly lower previous drop-out rates than non-working children;
- class repetition rates and grade rankings do not suggest that work adversely affects school performance; working children actually performed slightly better than their non-working counterparts measured in terms of both repetition rates and grade rankings;
- repetition rates and grade rankings appear to depend little on children's type of work and 9) or with their work intensity; and
- student feedback suggests that work also has little impact on how tired children feel in class; working children and non-working children report being "never", "sometimes", and "often/always" tired in class in almost equal proportion.

2.2 Kenya

2.2.1 Characteristics of the sampled working children sample

14. The study sample consisted of 926 working children and 74 non-working children aged 13-15 years drawn from 20 schools randomly selected from 10 education zones.¹⁰ The sampled children were distributed equally by sex. By age, 13 year-olds made up the largest proportion of the sample (38 percent), followed by 14 year-olds (34 percent) and 15 year-olds (28 percent). Sampled children were generally from very large households (60 percent were from households of seven or more members) and from homes with only basic facilities and amenities (50 percent were from households lacking a piped water connection).

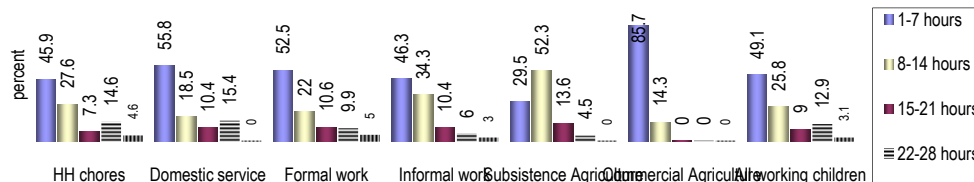
Figure 13. - Percentage distribution of working children⁽¹⁾, by main work type and sex, Kenya



Notes: (1) Expressed as percentage distribution of students by work type according to teacher feedback (sample size for this indicator is therefore limited to the number of teachers interviewed). (2) Note that teachers' responses related to children's *main* work type only; many children, however, perform more than one work type simultaneously.

Source: Report on Kenya school-based survey (Olum G. and Omotto Y., *Child Work, School Attendance and Performance in Kenya*, April 2004).

Figure 14. - Percentage distribution of working children⁽¹⁾ by average weekly hours worked,⁽²⁾ by sector, Kenya



Notes: (1) Based on feedback from children themselves; children answered survey questions on type of duties usually performed, and the time spent per week on each. (2) Total weekly working hours of course higher than type-specific working hours for children performing more than one work type simultaneously.

Source: Report on Kenya school-based survey (Olum G. and Omotto Y., *Child Work, School Attendance and Performance in Kenya*, April 2004).

15. Figure 13 indicates that household chores were the most important form of work performed by the sampled children. Teachers indicated that 38 percent of children performed household chores as their main work activity, while 27 were involved in subsistence agriculture, 18 percent in commercial agriculture and four percent in domestic service in others' homes. There was some specialisation by sex among the

¹⁰ The International Labour Organization (ILO) through the International Program on Elimination of Child Labour (IPEC), promoted the child work, school attendance and performance survey. The survey covered a total of 926 working children (non-controlled) and 74 non-working children (controlled) for a total of 1000 children. The sample was drawn following three different sampling mechanisms. A cluster sampling design was applied to group the provinces in three administrative and ecological groups, selecting a representative sample of provinces in the second stage. Then were selected the district strata followed by a selection of divisions. Finally were selected 20 schools from 10 educational zones following a simple probabilistic sample design. Only children who fell in the age interval 13-15 years were included in the final sample. Further two teachers were selected from each selected school for a total of 40 teachers. Following the scope of the survey were developed two different questionnaires, the child-targeted questionnaire and the teacher-focused questionnaire.

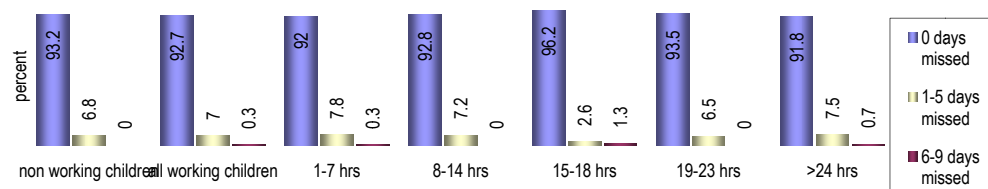
working children; girls were much more involved in household chores and in performing domestic service in others' homes, while boys were more involved in agriculture and other economic activities. About two-thirds of children indicated working throughout the year, while 29 percent indicated working only during holidays and eight percent only during school days.

16. Data on weekly working hours suggest that work does not constitute a major time burden for most working children (Figure 14). Three out of four work for an average of less than 14 hours per week,¹¹ while only 16 percent log 22 or more hours per week. The time burden posed by work varies somewhat by sector. As shown in Figure 2.3.3, long working hours (i.e., 22 or more hours per week) are most common among children performing household chores (19.2 percent), followed by children in domestic service and in formal work (15 percent each). Only five percent of children in subsistence agriculture and none in commercial agriculture put in at least 22 hours per week, surprising in that agriculture is normally considered a particularly time-intensive sector of work.

2.2.2 Children's work and school attendance

17. Student perceptions of attendance do not suggest that working children are at a disadvantage vis-à-vis their non-working counterparts in terms of their ability to attend school regularly. As shown in Figure 15, the proportions of children reporting "0", "1-5" or "6-9" days missed during the school year appear to depend little on whether or not a child works. Among those working children that did report missing school, only a very small share (13 percent) cited work as the primary reason (Figure 16).

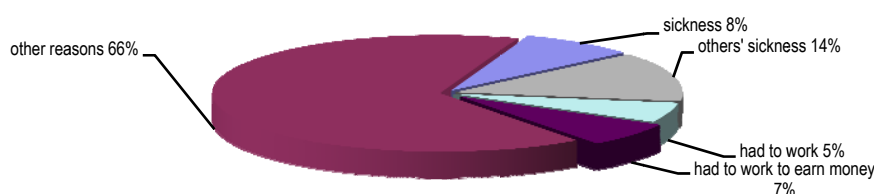
Figure 15. - Student perceptions of school attendance,⁽¹⁾ by work status, working hours⁽²⁾ and sex, Kenya



Notes: (1) Expressed as percentage distribution of students by whether they report missing "0", "1-5", or "6-9" school days during the reference school year. (2) Working hours includes time spent in both household chores and economic activity.

Source: Report on Kenya school-based survey (Olum G. and Omotto Y., *Child Work, School Attendance and Performance in Kenya*, April 2004).

Figure 16. - Main reasons cited by working children for missing class,⁽¹⁾ Kenya



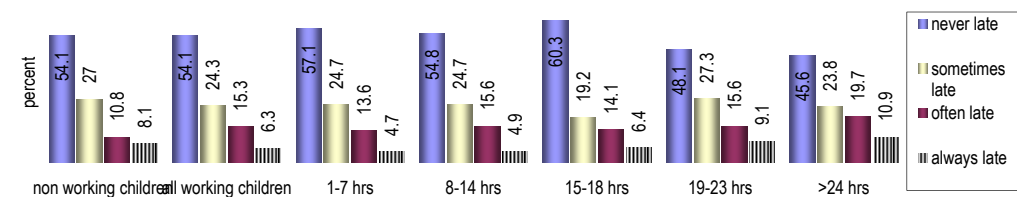
Notes: (1) Expressed as percentage distribution of working children missing class by main reason cited.

Source: Report on Kenya school-based survey (Olum G. and Omotto Y., *Child Work, School Attendance and Performance in Kenya*, April 2004).

¹¹ By comparison, 14 working hours per week is frequently used as the maximum threshold for light work in international child labour estimates. See, for example, International Programme on the Elimination of Child Labour (IPEC), *Every Child Counts: New Global Estimates on Child Labour*, International Labour Office, Geneva, April 2002.

18. Student feedback regarding tardiness suggests that working children are slightly more likely than non-working children to be late for class. Twenty-one percent of working children indicated being “sometimes” or “always” late, compared to 19 percent of non-working children (Figure 17). Tardiness rises with hours worked beyond the 15-18 hours threshold (Figure 18). Children working over 19 hours per week are more likely to report being “often” or “always” late in arriving for school, and less likely to report being “never” late for school, than children with lighter workloads.

Figure 17. - Student perceptions of tardiness,⁽¹⁾ by work status and working hours,⁽²⁾ Kenya

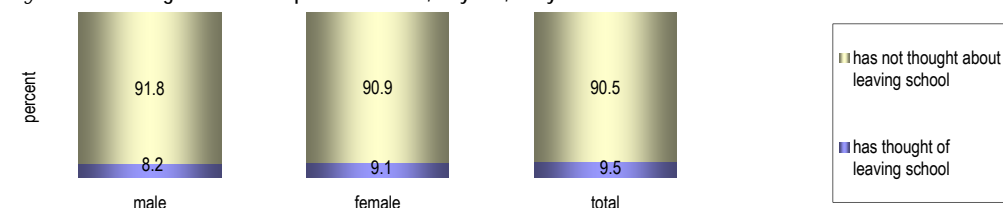


Notes: (1) Expressed as percentage distribution of students by whether they report being “never”, “sometimes”, “often” or “always” late for school during the reference school year. (2) Working hours includes time spent in both household chores and economic activity.

Source: Report on Kenya school-based survey (Olum G. and Omotto Y., *Child Work, School Attendance and Performance in Kenya*, April 2004).

19. Work appears to have little effect on children’s future attendance intentions; only about one in 10 working children report having thought about dropping out (Figure 18). Student feedback also reveals no consistent relationship between work hours and regularity of attendance. Children working over 24 hours per week are equally likely to have a perfect attendance record as children working only 1-7 hours per week.

Figure 18. - Working children’s drop-out intentions,⁽¹⁾ by sex, Kenya



Notes: (1) Expressed as percentage distribution of working children by whether or not they have thought about leaving school.

Source: Report on Kenya school-based survey (Olum G. and Omotto Y., *Child Work, School Attendance and Performance in Kenya*, April 2004).

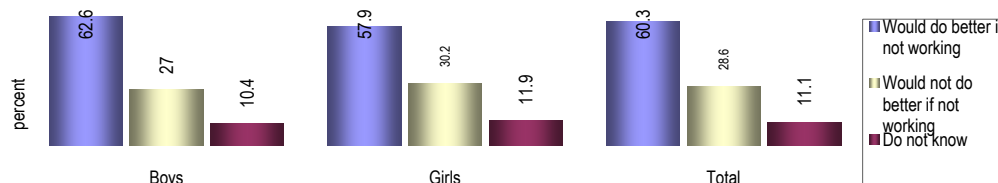
20. Caution, however, must again be exercised in interpreting these findings, as they are based on students’ perceived attendance rather than actual school attendance logs, and do not control for the various external individual, household, work and school factors that may influence the work/attendance relationship (see Section 3 below). In addition, teachers reported that the school attendance of working children was “below average”, suggesting that working children might have understated their absences from school.

2.2.3 Children’s work and school performance

21. Teacher feedback on student learning achievement suggests that working children are disadvantaged academically vis-à-vis their non-working counterparts; teachers indicated that not working would improve academic performance in about 60 percent of cases (Figure 19). As shown in Figure 20, one-third of working children is ranked

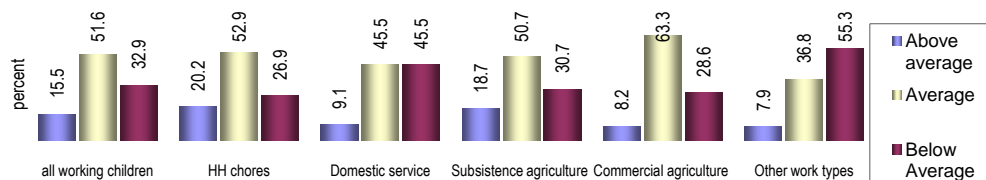
by teachers as “below average” in terms of school performance, while only 15 percent is ranked “above average”.¹²

Figure 19. - Teachers' opinions regarding impact of work on student performance, by sex, Kenya



Notes: (1) Expressed as percentage distribution of students by whether teachers report their performance “would be better” or “would not be better” if the student were not working (sample size for this indicator is therefore limited to the number of teachers interviewed CONFIRM). Source: Report on Kenya school-based survey (Olum G. and Omotto Y., *Child Work, School Attendance and Performance in Kenya*, April 2004).

Figure 20. - Teachers' rankings of student learning achievement⁽¹⁾ by work type,⁽²⁾ Kenya

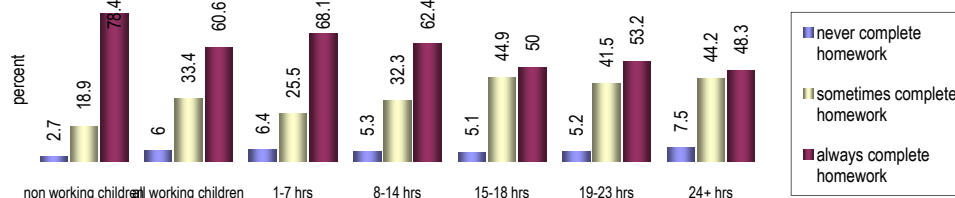


Notes: (1) Expressed as percentage distribution of students by whether teachers report their performance as being “above average”, “average” or “below average” (sample size for this indicator is therefore limited to the number of teachers interviewed CONFIRM). (2) Teacher perceptions of the performance of non-working students was not reported (CONFIRM). Source: Report on Kenya school-based survey (Olum G. and Omotto Y., *Child Work, School Attendance and Performance in Kenya*, April 2004).

22. Teacher feedback indicated that learning achievement depended somewhat on the sector of work (Figure 20). Achievement is highest among children in household chores and subsistence agriculture, not coincidentally the two forms of work that are family-based. “Below average” learning achievement was much more common among children in domestic service, a particularly time-intensive form of work, compared to children in the other sectors.

23. Homework completion and tiredness in class are important indirect indicators of children's ability to perform well in school. Looking first at homework completion, student feedback indicates that work does interfere with meeting homework requirements. A much higher percentage of non-working children than working

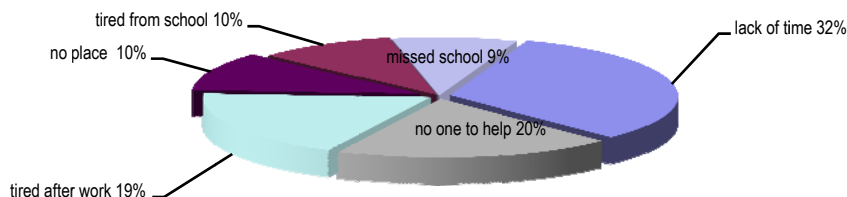
Figure 21. - Student perceptions of homework completion,⁽¹⁾ by work status and working hours,⁽²⁾ Kenya



Notes: (1) Expressed as percentage distribution of students by whether they report “never”, “sometimes” or “always” completing their homework. (2) Working hours refer to time spent in both household chores and economic activity. Source: Report on Kenya school-based survey (Olum G. and Omotto Y., *Child Work, School Attendance and Performance in Kenya*, April 2004).

¹² Information on teacher rankings of non-working children are not available.

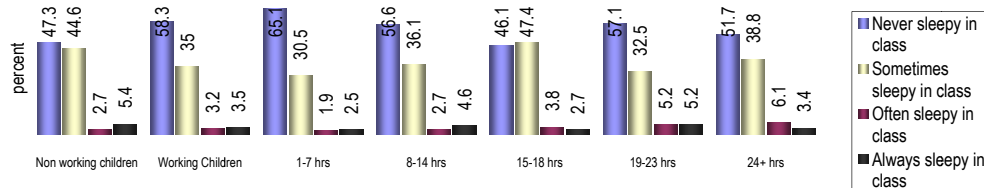
Figure 22. - Main reasons cited for homework non-completion, working children, Kenya



Notes: (1) Expressed as percentage distribution of working children not completing homework by main reason cited.

Source: Report on Kenya school-based survey (Olum G. and Omotto Y., *Child Work, School Attendance and Performance in Kenya*, April 2004).

children reported “always” completing their homework, while fewer non-working children than working children reported “never” completing their homework (Figure 21). Not surprisingly, children working longer hours report completing their homework less frequently than their counterparts with lighter workloads (Figure 21). “Lack of time” and “tired after work” were cited by half of working children as the main reasons for failing to complete their homework (Figure 22).

Figure 23. - Student perceptions of classroom fatigue,⁽¹⁾ by work status and working hours,⁽²⁾ Kenya

Notes: (1) Expressed as percentage distribution of students by whether they report “never”, “sometimes”, “often” or “always” feeling sleepy in class. (2) Working hours refer to time spent in both household chores and economic activity.

Source: Report on Kenya school-based survey (Olum G. and Omotto Y., *Child Work, School Attendance and Performance in Kenya*, April 2004).

Figure 24. - Main reasons cited for classroom fatigue, working children, Kenya



Notes: (1) Expressed as percentage distribution of working children feeling either “often” or “always” sleeping in class by main reason cited.

Source: Report on Kenya school-based survey (Olum G. and Omotto Y., *Child Work, School Attendance and Performance in Kenya*, April 2004).

24. Student tiredness appears to bear little relation to children’s work status. As shown in Figure 23, non-working children are actually more likely to report “often” feeling tired in class, and about equally likely to report “seldom/never” feeling tired in class, as working children. As expected, reported tiredness is higher among children with heavy work burdens (24+ hours) than among children with relatively light workloads (1-7 hours). Only about 10 percent of children reporting being often/always sleepy in class cited work as the main reason (Figure 24).

2.2.4 Summary

25. The main findings of the descriptive analysis of work and schooling in Kenya are as follows:

- student perceptions of attendance do not suggest that working children are at a disadvantage vis-à-vis their non-working counterparts in terms of their ability to attend school regularly;
- among those working children that did report missing school, only a very small share (13 percent) cited work as the primary reason; s
- student feedback also reveals no consistent relationship between work hours and regularity of attendance; children working over 24 hours per week are equally likely to have a perfect attendance record as children working only 1-7 hours per week;
- teacher feedback on student learning achievement suggests that working children are disadvantaged academically vis-à-vis their non-working counterparts; teachers indicated that not working would improve academic performance in about 60 percent of cases; one-third of working children is ranked by teachers as “below average” in terms of school performance, while only 15 percent is ranked “above average”;
- a greater proportion non-working children t reported “always” completing their homework, while fewer non-working children reported “never” completing their homework, compared to their working counterparts; and
- student tiredness appears to bear little relation to children’s work status; non-working children are actually more likely to report “often” feeling tired in class, and about equally likely to report “seldom/never” feeling tired in class, as working children.

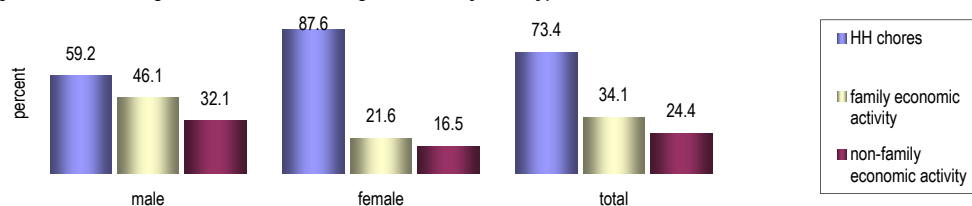
2.3 Lebanon

2.3.1 Characteristics of the sample of working children

26. The study sample consisted of 500 working children and 100 non-working children aged 12-14 years in grades 6-9.¹³ The sampled children were distributed almost equally by sex (52 percent were male and 48 percent female). By age, 14 year-olds made up the largest portion of the sampled children (46 percent), followed by 13 year-olds (30 percent) and 12 year-olds (24 percent). The sampled children were generally from large households (6.8 members, compared to the national average of 4.7 members) and of low socio-economic status (38 percent of households were below the lower poverty line,¹⁴ compared to only seven percent of households nationally).

27. The largest proportion of sampled working children was involved in economic activities outside of the family unit. Sixty-five percent of working children was in non-family economic activity, against 20 percent in family economic activity and 41 percent in household chores (Figure 25). Many children performed double, or even triple, duty: 39 percent of children performed at least two of the three work activities (i.e., household chores, family economic activity or non-family activity) while five percent performed all three simultaneously. Work patterns differently significantly by sex; girls were much more likely than boys to be involved in household chores and much less likely than boys to be involved either in family or non-family economic activity.

Figure 25. - Percentage distribution of working children⁽¹⁾ by work type and sex



Notes: (1) Distributions sum to more than 100% because work types are not mutually exclusive.

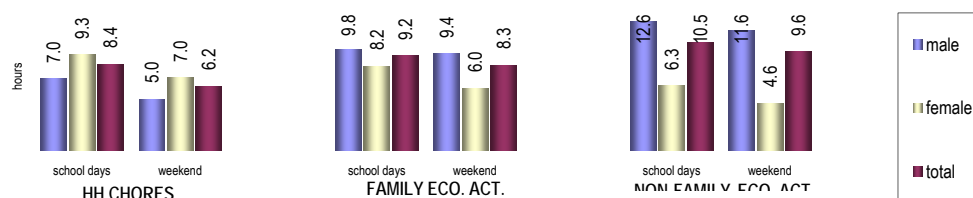
Source: Report on Lebanon school-based survey (Consultation and Research Institute, *Impact of Child Work on School Attendance and Performance*, Ma

¹³ A three-stage sampling was adopted in the context of this survey. The primary sampling unit (PSU) adopted is the district (caza), and the secondary sampling unit (SSU) is the school, while the ultimate sampling unit (USU) being the working student aged 12-14 years. The survey targeted non-working students, households of working students and class advisors/teachers for classes having working students. The sampling was done as follows. The districts that serve as a primary sampling unit are considered as those known to have a concentration of child labor. For this reason, Lebanese districts (cazas) were classified according to two main indices: (1) the severity of the phenomenon of child labor measured by the percent of child labor (less than 17 years old) out of total working population in each district; (2) and the concentration index measured by the number of working children in each district as a percent of total working children nation-wide. These two indices were combined into one index, taking a simple arithmetic average of the two indices. The Lebanese districts were then ranked according to this index. Results of this ranking revealed that five areas are suggested to be targeted by the survey, which are most hit by child labor, namely, Baabda, Tripoli, Akkar, Saida and Baalbeck. The sample distribution of 500 students across the five chosen districts reflected the distribution of child labor along among these districts. Given the a priori data available for each operating school, the choice of schools was based on the following criteria: i) the schools were chosen in a fashion that allocated 80 percent of students to public sector schools, and the remaining 20 percent to private sectors; ii) chosen schools should have grades that correspond to the relative age brackets targeted by the survey (12-14 years); and iii) the selection of schools assumed that at least 20 percent of students in the relevant grades will satisfy the criteria of the survey, i.e., aged 12-14 years and practice light work

¹⁴ Estimated at USD 314 in 2002.

28. Data on working hours indicated that work constitutes a major time burden for working children, especially in light of the large proportion performing at least two work activities simultaneously. Children performing household chores logged an

Figure 26. - Average daily working hours,⁽¹⁾ by work type, sex and period of involvement



Notes: (1) Total/weekly working hours of course higher than type-specific working hours for children performing more than one work type simultaneously.

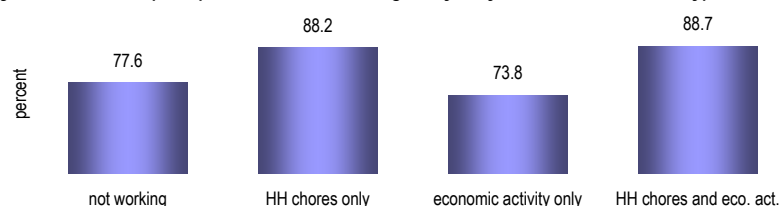
Source: Report on Lebanon school-based survey (Consultation and Research Institute, *Impact of Child Work on School Attendance and Performance*, May 2004).

average of 8.4 hours during the school week and 6.2 hours during the weekend, children in family work put in an average of 9.2 hours during the school week and 8.3 hours during the weekend, and children in non-family work an average of 10.5 hours during the school week and 9.6 hours during the weekend (Figure 26). By comparison, 14 working hours per week is frequently used as the maximum threshold for light work in international child labour estimates.¹⁵ Girls shouldered a slightly higher time burden than boys for household chores, while for family and non-family economic activity the opposite pattern prevailed.

2.3.2 Children's work and school attendance

29. Teacher feedback regarding student attendance suggested that only exclusive involvement in economic activity hindered children's ability to attend class regularly (Figure 27). The attendance of children involved in household chores (either exclusively or in combination with economic activities), by contrast, was actually much higher than the attendance of non-working children. Caution should be exercised in interpreting these results, however, as they reflect teacher perceptions of attendance rather than actual school attendance logs.

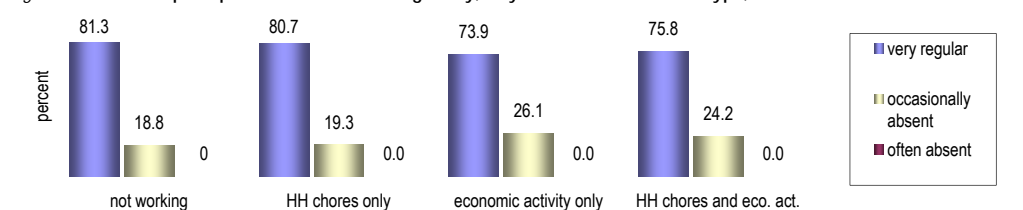
Figure 27. - Teacher perceptions of attendance regularity,⁽¹⁾ by work status and work type, Lebanon



Notes: (1) Expressed as the percentage of students reported by teachers as attending school "regularly" in comparison to average class performance.

Source: Report on Lebanon school-based survey (Consultation and Research Institute, *Impact of Child Work on School Attendance and Performance*, May 2004).

¹⁵ See, for example, International Programme on the Elimination of Child Labour (IPEC), *Every Child Counts: New Global Estimates on Child Labour*, International Labour Office, Geneva, April 2002.

Figure 28. - Student perceptions of attendance regularity,⁽¹⁾ by work status and work type, Lebanon

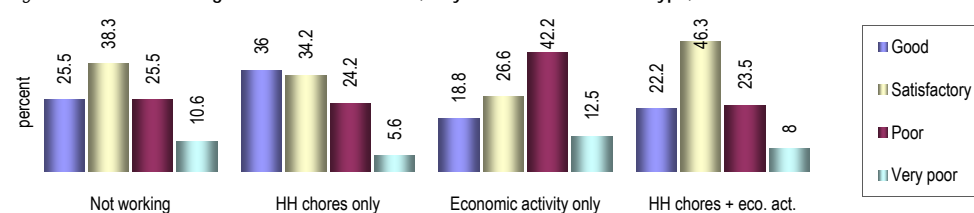
Notes: (1) Expressed as percentage distribution of students by whether they report being "very regular in attendance", "occasionally absent" or "often absent".

Source: Report on Lebanon school-based survey (Consultation and Research Institute, *Impact of Child Work on School Attendance and Performance*, May 2004).

30. Students' perceptions of their attendance differed slightly from the perceptions of their teachers (Figure 28). According to students themselves, levels of "very regular" attendance were similar for non-working children and children performing household chores, but were slightly lower for children in economic activity or in combined activities. Frequent sickness was the most common reason for missing school, cited by 83 percent of working students. Very few working students mentioned household chores or economic activity as main reasons for absence from school.

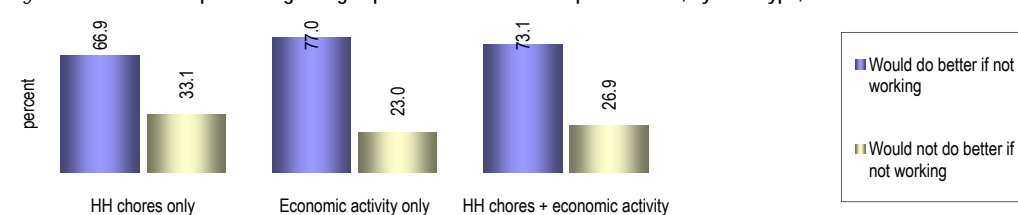
2.3.3 Children's work and school performance

31. Teacher ratings of student achievement levels indicated that only exclusive involvement in economic activity appears to be detrimental to learning achievement; 56 percent involved in economic activities only were rated as either "poor" or "very poor" in terms of academic performance, compared to 37 percent of non-working children. Children involved in household chores rated higher than non-working children in terms of school performance (Figure 29). Teachers indicated, however, that not working would improve student performance for most children in all three work categories (Figure 30).

Figure 29. - Teacher ratings of student test scores,⁽¹⁾ by work status and work type, Lebanon

Notes: (1) Expressed as the percentage distribution of students by whether their test scores were "good", "satisfactory", "poor" or "very poor", as rated by their teachers. Source: Report on Lebanon school-based survey (Consultation and Research Institute, *Impact of Child Work on School Attendance and Performance*, May 2004).

Figure 30. - Teachers' opinions regarding impact of work on student performance, by work type, Lebanon



Notes: (1) Expressed as percentage distribution of students by whether teachers report their performance "would be better" or "would not be better" if the student were not working.

Source: Report on Lebanon school-based survey (Consultation and Research Institute, *Impact of Child Work on School Attendance and Performance*, Ma

32. One possible explanation for these findings is that children performing household chores are more responsible than their non-working counterparts and therefore more likely to take their studies seriously. Another is that the time use of children performing chores is supervised more closely by the elders in the home, helping to ensure adequate time is allocated to study. As shown in Figures 31 and 32, more children performing household chores are rated as either “good” or “satisfactory” in terms of homework completion and home learning than either non-working children or children involved only in economic activity.

Figure 31. - Teacher ratings of student homework completion, by work status and work type, Lebanon

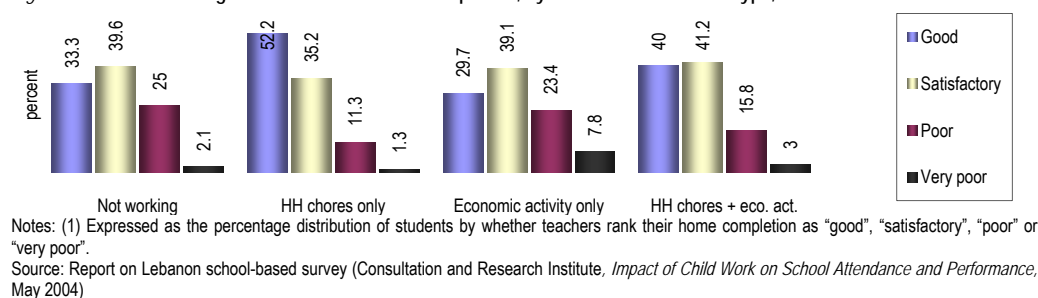
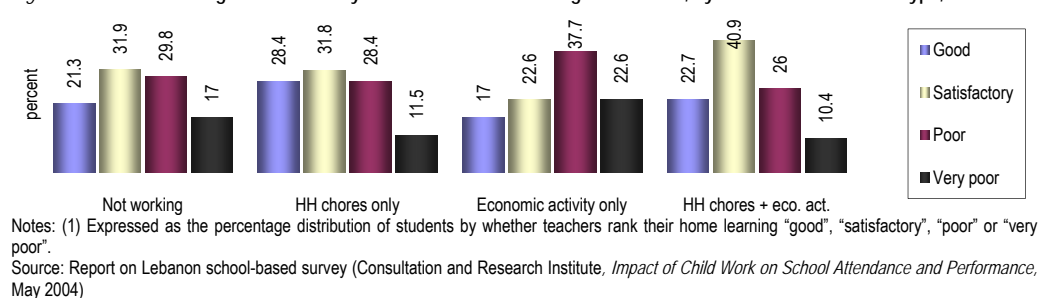
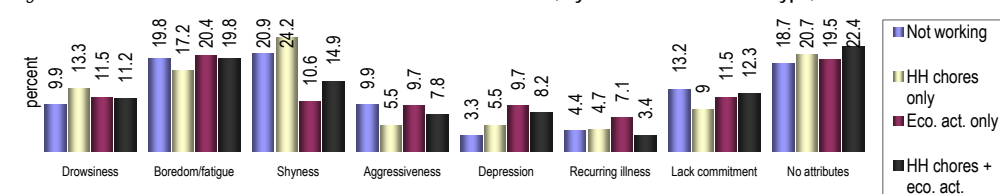


Figure 32. - Teacher ratings of students by evidence of extra learning in the home, by work status and work type, Lebanon



33. Again, however, these findings should be interpreted with caution, as they reflect teacher perceptions rather than actual test scores, and are based on a sample of public schools in low-income areas that are known to have lower overall rates of learning achievement. They also do not control the various individual, household, school and work factors that may confound the relationship between work and school performance.

Figure 33. - Teacher assessment of student behavioural attributes, by work status and work type, Lebanon



34. Teacher ratings of student behavioural attributes varied little by work status (Figure 33). A slightly higher proportion of working children compared to non-working children were identified by teachers as experiencing drowsiness, but teachers

indicated that levels of boredom and fatigue were roughly equal among working and non-working children. Non-working children were rated slightly higher than working children in terms of aggressiveness and lack of commitment. Teachers indicated that children working only in economic activity experienced recurring illness and depression more commonly than other groups of children, suggesting that this type of work takes the largest physical and psychological toll on children.

2.3.4 *Summary*

35. The main findings of the descriptive analysis of work and schooling in Lebanon are as follows:

- teacher feedback regarding student attendance suggests that only exclusive involvement in economic activity hinders children's ability to attend class regularly; the attendance of children involved in household chores (either exclusively or in combination with economic activities), by contrast, was actually much higher than the attendance of non-working children;
- teacher ratings of student achievement levels also indicated that only exclusive involvement in economic activity appears to be detrimental to learning achievement; children involved in household chores rated higher than non-working children in terms of school performance;
- more children performing household chores are rated as either "good" or "satisfactory" in terms of homework completion and home learning than either non-working children or children involved only in economic activity; and
- teachers indicated that children working only in economic activity experienced recurring illness and depression more commonly than other groups of children, suggesting that this type of work takes the largest physical and psychological toll on children.

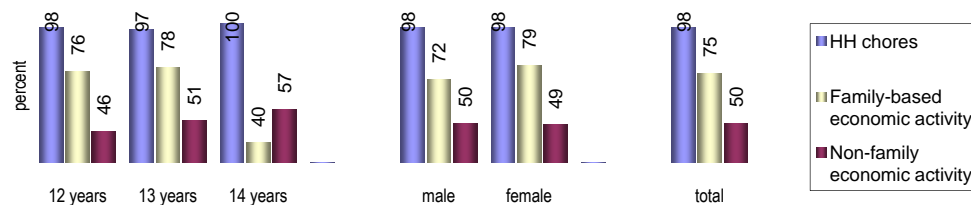
2.4 Sri Lanka

2.4.1 Characteristics of children's work

36. The study sample consisted of 935 working children and 1,002 non-working children aged 12-14 years drawn from 32 schools.¹⁶ Boys accounted for 62 percent of total working children in the sample and girls 38 percent. By age, 12 year-olds made up 51 percent of total working children, followed by 13 year-olds (35 percent) and 14 year-olds (14 percent). The sampled children were typically from large households (79 percent were from households of at least five members) and lived in generally poor conditions with limited amenities and services (over half lacked proper access to drinking water and electricity). Fifty-eight percent lived in urban slum areas.

37. Figure 34 indicates that household chores were by far the most important form of work performed by the sampled children. Ninety-eight percent of working children performed household chores in their own homes,¹⁷ while 75 percent were involved in family economic activities and 50 percent in non-family economic activities.¹⁸ These figures underscore the fact that the different forms of work were not mutually exclusive. Indeed, most of the sampled children performed at least two types of work simultaneously.

Figure 34. - Percentage distribution of working children,⁽¹⁾ by age and sex, Sri Lanka



Notes: (1) Distributions exceed 100% because children perform multiple work types simultaneously.

Source: Report on Sri Lanka school-based survey (Gunawardena *et al*, *Child Work, School Attendance and Performance: Case Study*, Colombo, September 2003).

38. There was little evidence of work specialisation by sex; girls were slightly more likely than boys to be involved in family work, but equally likely to be involved in

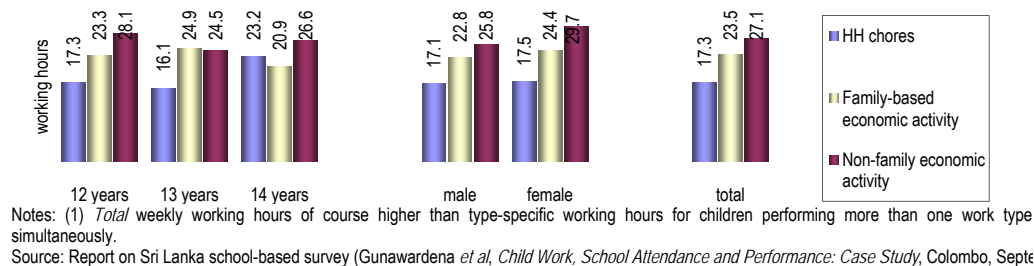
¹⁶ A sample of schools located in communities representing sectors, occupations and activities from six districts was selected for the study. The Child Activity Survey Report of 1999 of the Department of Census and Statistics was perused to identify the occupations in which children between 12-14 years of age are most likely to be engaged in. Accordingly, agriculture, commercial crop agriculture, construction, shop and sales work, hotels and manufacturing were identified. Using the researchers' background knowledge of the geographical locations in which these occupations are mainly practiced, it was decided to select the specific communities from these six districts and Educational Divisions A total of 32 schools were selected in this manner. The principals of the schools were asked to identify in consultation with their teachers a sample of approximately 35 children aged between 12-14 years and who are engaged in some type of work (household work, income generating work for the family or income-generating work outside the family). In order to compare the attendance and performance of these children with a sample of non-working children, a comparable number was selected from the non-working children in the same classes on a random basis. Four teachers teaching in the grades from which the children are studying were selected as the teacher sample. Similarly, four parents were identified from among the parents of the working children in the sample.

¹⁷ Household chores performed by children included going to store, sweeping floors, carrying water, washing clothes, cooking, collecting firewood, and looking after family members (younger children, grandparents).

¹⁸ Economic activities engaged in by working children included: agriculture, animal husbandry, sales of goods and clothes, preparation and sale of food, masonry, brick cutting, cottage industries, fisheries related work, manual labour, welding, working in a garage, pasting books, making bags, tea estate clearing, transporting tea leaves manually, manufacturing crafts, sugar cane planting, clearing, harvesting, weeding and irrigating, looking after children, making jewellery, assistance in traditional religious functions, and tourist industry.

non family work and household chores. Work profiles did vary somewhat by age; fourteen year-olds were slightly more likely to be involved in non-family work, and much less likely to be involved in family work, than their younger counterparts. Agriculture and animal husbandry were by far the most important forms of both family and non-family work, for both sexes and across all ages. Sixty-even percent of all family work, and 87 percent of all non-family work, took place in these two sectors.

Figure 35. - Average weekly working hours⁽¹⁾ of sample of working children, by age and sex, Sri Lanka

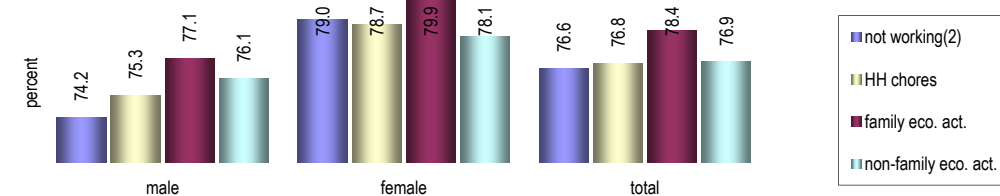


39. Data on working hours indicate that work constitutes a major time burden for the sampled children, especially considering the large number that perform at least two forms of work simultaneously. As shown in Figure 35, children performing household chores put in an average of 17.3 hours per week, children in family work an average of 23.5 hours, and children in non-family work an average of 27.1 hours. By comparison, 14 working hours per week is frequently used as the threshold beyond which work constitutes child labour in international child labour estimates.¹⁹ Girls shouldered a greater time burden than boys for all three work types, with the difference in work intensity by sex greatest for non-family economic activity.

2.4.2 Children's work and school attendance

40. School attendance data do not point to any clear links between attendance levels and work status. As shown in Figure 36, non-working male students actually miss school more often than their working counterparts, while non-working female students miss school in roughly equal proportion to working females students. But the usual caveat again applies in interpreting these figures: various background individual, household, school and work factors that might confound the work-attendance relationship are not controlled for.

Figure 36. - Regularity of school attendance,⁽¹⁾ by work status and sex, Sri Lanka

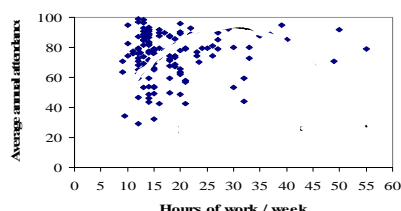


Notes: (1) Attendance regularity is measured as school days attended divided by total school days during the reference semester. (2) The "not working" category refers to children that are neither economically-active nor performing household chores.
Source: Report on Sri Lanka school-based survey (Gunawardena *et al*, *Child Work, School Attendance and Performance: Case Study*, Colombo, Se

¹⁹ See, for example, International Programme on the Elimination of Child Labour (IPEC), *Every Child Counts: New Global Estimates on Child Labour*, International Labour Office, Geneva, April 2002.

41. It may also be that these average attendance figures mask the effect of work intensity, i.e., that it is not work *per se* that interferes with school attendance but work performed beyond a certain weekly hours threshold. But Figure 37, which plots attendance rate against weekly working hours, does not suggest a clear negative relationship between hours worked and attendance.

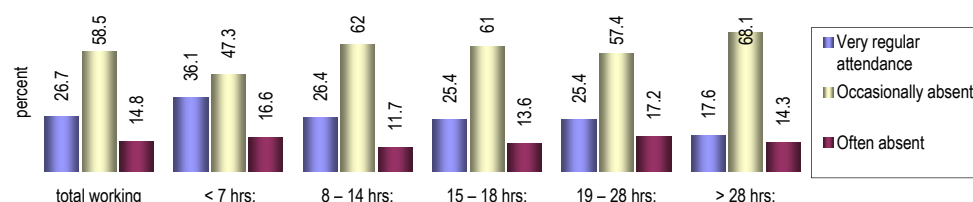
Figure 37. Attendance rates by hours of work per week,⁽¹⁾ Sri Lanka



Notes: (1) Attendance regularity is measured as school days attended divided by total school days during the reference semester. Source: Report on Sri Lanka school-based survey (Gunawardena *et al*, *Child Work, School Attendance and Performance: Case Study*, C September 2003).

42. Student perceptions of attendance, shown in Figure 38, point to lower attendance rates among working children,²⁰ and suggest that school records may be incomplete. Only around one-quarter (27 percent) of working children reported “very regular” attendance, with the remainder reported either being “occasionally” or “often” absent during the reference semester. The proportion of students reporting that they attended “very regularly” fell as weekly working hours rose, from 36 percent among children working less than seven hours per week to 18 percent for children working over 28 hours per week.

Figure 38. Student perceptions of attendance⁽¹⁾ by average weekly working hours,⁽²⁾ Sri Lanka

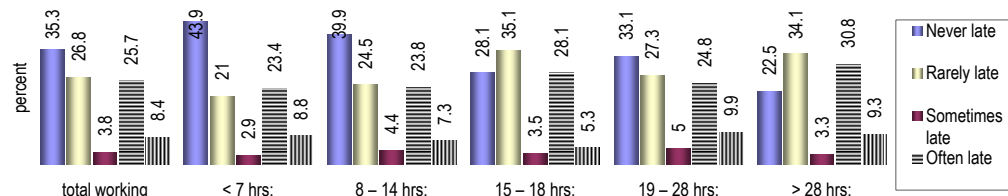


Notes: (1) Expressed as the percentage distribution of students by whether they report their attendance as “very regular”, “occasionally absent”, or “often absent”.

(2) Working hours refer to time spend in both economic activity and household chores. Attendance perceptions of non-working children were not recorded. CONFIRM

Source: Report on Sri Lanka school-based survey (Gunawardena *et al*, *Child Work, School Attendance and Performance: Case Study*, Colombo, Septe

Figure 39. - Student perceptions of tardiness,⁽¹⁾ by work status and working hours, Sri Lanka



Notes: (1) Expressed as the percentage distribution of students by whether they report “never”, “rarely”, “sometimes”, “often” or “always” being late for class.

(2) Working hours refer to time spend in both economic activity and household chores. Tardiness perceptions of non-working children were not recorded. CONFIRM

Source: Report on Sri Lanka school-based survey (Gunawardena *et al*, *Child Work, School Attendance and Performance: Case Study*, Colombo, Septe

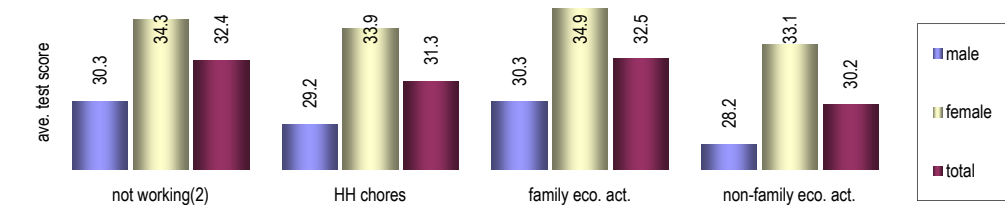
²⁰ Attendance perceptions of non-working children were not recorded.

43. Student feedback also suggests that work may interfere with children's ability to arrive at school on time.²¹ As shown in Figure 39, about one-third of working children report being "often" or "always" late in arriving for class. Reported tardiness also rises slightly with work intensity. Thirty-two percent of children working less than seven hours per week reported being "often" or "always" late, compared to 40 percent of children working more than 28 hours per week.

2.4.3 Children's work and school performance

44. Data from mid- and end-year school exams do not suggest that work is a major detriment to academic achievement. Indeed, for both male and female students, exams scores varied little by whether or not a child worked, or by the type of work a child performed (Figure 40). Examination data also suggest that working hours have little influence on academic performance. Figure 41 shows that academic performance of working children (boys and girls combined) actually rises slightly up to 29-32 weekly working hours and again beyond 43 weekly working hours.

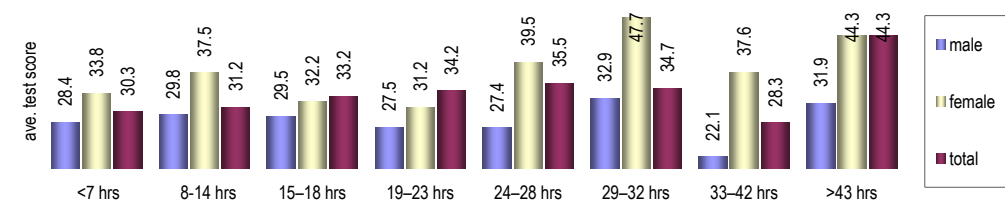
Figure 40. - School performance⁽¹⁾, by work status and sex, Sri Lanka



Notes: (1) School performance is measured as average of mid-year and end-year average test scores. (2) The "not working" category refers to children that are neither economically-active nor performing household chores.

Source: Report on Sri Lanka school-based survey (Gunawardena *et al*, *Child Work, School Attendance and Performance: Case Study*, Colombo, Septe

Figure 41. - School performance⁽¹⁾ by hours worked,⁽²⁾ Sri Lanka



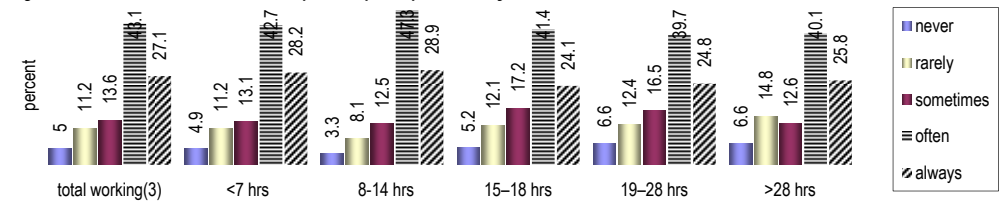
Notes: (1) School performance is measured as average of mid-year and end-year average test scores. (2) Working hours refer to time spend in both economic activity and household chores.

Source: Report on Sri Lanka school-based survey (Gunawardena *et al*, *Child Work, School Attendance and Performance: Case Study*, Colombo, September 2003).

45. Homework completion and tiredness in class are important indirect indicators of children's ability to perform well in school. Looking first at homework completion, student feedback suggests that work has little impact on children's ability to meet homework requirements.²² Seventy percent of working children indicated "often" or "always" completing their homework, and only 17 percent reported "rarely" or "never" doing their homework (Figure 42). Children working longer hours reported completing their homework less frequently than their counterparts with lighter workloads (Figure 42), though relatively few cited work as the primary reason (Figure 43).

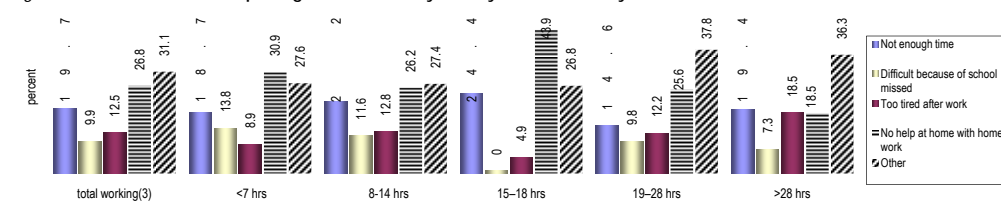
²¹ Tardiness perceptions of non-working children were not recorded.

²² Homework completion perceptions of non-working children were not recorded.

Figure 42. - Student homework completion perceptions,⁽¹⁾ by hours worked,⁽²⁾ Sri Lanka

Notes: (1) Expressed as the percentage distribution of working children by whether they report "never", "rarely", "sometimes", "often" or "always" completed their homework. (2) Working hours refer to time spend in both economic activity and household chores. Homework completion perceptions of non-working children were not recorded. (3) The category "total working" refers to children performing economic activity and/or household chores.

Source: Report on Sri Lanka school-based survey (Gunawardena *et al*, *Child Work, School Attendance and Performance: Case Study*, Colombo, Se

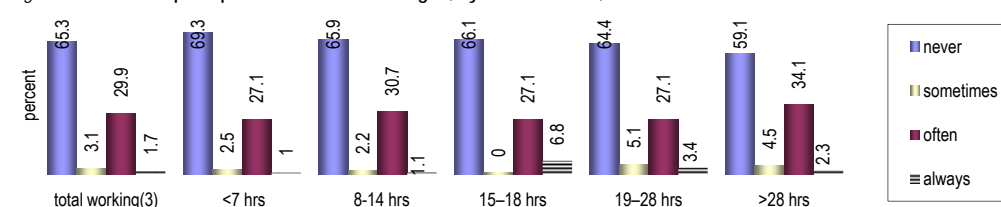
Figure 43. - Reasons for completing homework only "rarely" or "never", by hours worked,⁽¹⁾ Sri Lanka

Notes: (1) Expressed as the percentage distribution of working children that "rarely" or "never" complete their homework by major reason. (2) Hours worked in both economic activity and household chores. (3) The category "total working" refers to children performing economic activity and/or household chores.

Source: Report on Sri Lanka school-based survey (Gunawardena *et al*, *Child Work, School Attendance and Performance: Case Study*, Colombo, Septe

46. Almost one in three working children reported feeling "often" or "always" sleepy or exhausted in class, undoubtedly affecting their ability to derive educational benefit from their time in class (Figure 44). But surprisingly, work intensity appeared to have little influence on reported tiredness (Figure 44). "Work the previous day" is the most important reason cited for feeling sleepy or exhausted in class (Figure 45).

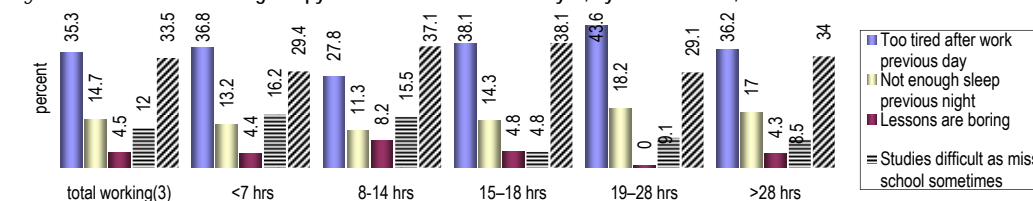
Figure 44. - Student perceptions of classroom fatigue, by hours worked, Sri Lanka



Notes: (1) Expressed as the percentage distribution of working children by whether they report "never", "sometimes", "often" or "always" felt sleepy or exhausted in class. (2) Working hours refer to time spend in both economic activity and household chores. Fatigue perceptions of non-working children were not recorded. (3) The category "total working" refers to children performing economic activity and/or household chores.

Source: Report on Sri Lanka school-based survey (Gunawardena *et al*, *Child Work, School Attendance and Performance: Case Study*, Colombo, Septe

Figure 45. - Reasons for feeling sleepy/exhausted "often" or "always", by hours worked, Sri Lanka



Notes: (1) Expressed as the percentage distribution of working children that "often" or "always" feeling sleepy or exhausted in class by major reason. (2) Hours worked in both economic activity and household chores. (3) The category "total working" refers to children performing economic activity and/or household chores.

Source: Report on Sri Lanka school-based survey (Gunawardena *et al*, *Child Work, School Attendance and Performance: Case Study*, Colombo, Septem

2.4.4 Summary

47. The main findings of the descriptive analysis of work and schooling in Sri Lanka are as follows:

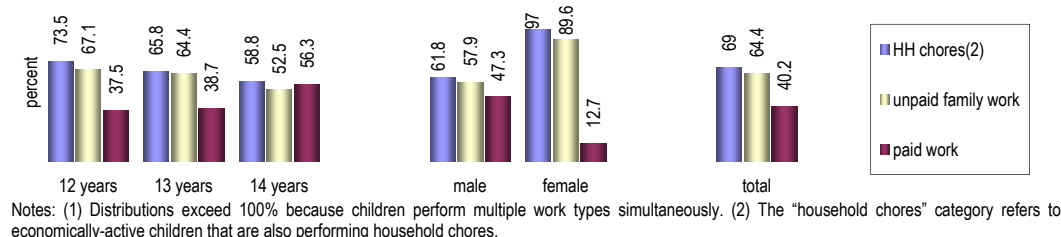
- school attendance data do not point to any clear links between attendance levels and work status; non-working male students actually miss school more often than their working counterparts, while non-working female students miss school in roughly equal proportion to working female students;
- student perceptions of attendance, point to lower attendance rates among working children, and suggest that school records may be incomplete. Only around one-quarter (27 percent) of working children reported “very regular” attendance, with the remainder reported either being “occasionally” or “often” absent during the reference semester;
- the proportion of students reporting that they attended “very regularly” fell as weekly working hours rose, from 36 percent among children working less than seven hours per week to 18 percent for children working over 28 hours per week.
- student feedback suggests that work may interfere with children’s ability to arrive at school on time; about one-third of working children report being “often” or “always” late in arriving for class;
- data from mid- and end-year school exams do not suggest that work is a major detriment to academic achievement; for both male and female students, exams scores varied little by whether or not a child worked, or by work type and work intensity;
- student feedback suggests that work has little impact on children’s ability to meet homework requirements; 70 percent of working children indicated “often” or “always” completing their homework, and only 17 percent reported “rarely” or “never” doing their homework; and
- almost one in three working children reported feeling “often” or “always” sleepy or exhausted in class, undoubtedly affecting their ability to derive educational benefit from their time in class. But work intensity appeared to have little influence on reported tiredness.

2.5 Turkey

2.5.1 Characteristics of the sample of working children²³ in Turkey

48. The study sample consisted of 652 working children and 423 non-working children aged 12-14 years.²⁴ Girls accounted for only one-fifth of the working children sampled, a reflection of the low overall work rates among girls in urban areas in Turkey. Twelve-year-olds made up the 53 percent of working children sampled, 13 year-olds made up 35 percent and 14 year-olds made up 12 percent. The majority of working children in the study were from large households (5-7 persons, compared to the national average of 4.5 persons) of low socio-economic status.

Figure 46. - Percentage distribution of working children,⁽¹⁾ by age and sex, Turkey



Source: Report on Ankara school-based survey (Demir *et al*, *Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

49. The largest proportion of working children in the study worked without wages for their families. Sixty-four percent of the sampled children were in unpaid family work, against 40 percent in paid work. Almost five percent of the children performed both family work and paid work (Figure 46). More than two-thirds (69 percent) of the working children also performed household chores, further eating into time available for study and leisure. There was a considerable degree of work specialisation by sex among the sampled working children; girls were much more likely than boys to perform household chores and unpaid family work, and much less likely than boys to be involved in paid work.

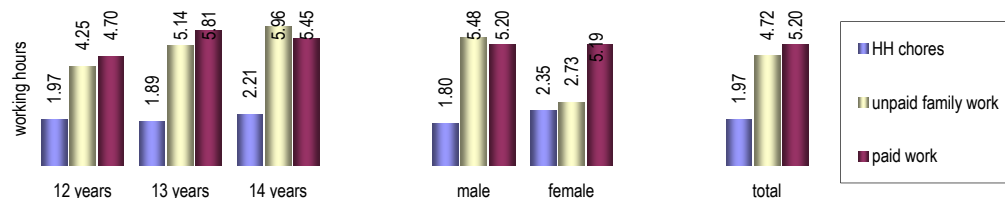
50. Data on working hours indicated that work did not constitute a major time burden for the sampled children. Children performing unpaid family work put in an average

²³ "Working children" for the purposes of the study were defined as children involved in economic activity. This encompasses all market production (paid work) and certain types of non-market production (unpaid work), including production of goods for personal use. This definition does not include children engaged in household chores, because household chores fall outside the "production boundary" as defined by the United Nations System of National Accounts (1993 Rev.3) for measuring GDP (cited in ILO, 2002). Children were considered to be "attending school" only if they attended an educational institution during the reference month, as school enrolment does not necessarily imply school attendance.

²⁴ The study was conducted in 23 primary schools from six districts in urban areas throughout the Greater Ankara Municipality. A cross-sectional survey methodology was used to collect data from the following six groups: children who combine school and work; children currently in school and not working; parents of children who combine school and work; teachers of children who combine school and work; school guidance counsellors; and school administrators. The study interviewed 652 working children (518 boys and 134 girls), 423 non-working children (212 boys and 211 girls), 121 teachers and 106 parents of working children. Interviews were conducted with Turkish language, mathematics and science teachers of working children, 18 school counsellors and 23 school principals. Multi-stage Stratified Systematic Random Cluster Sampling was used in the selection of schools, children who combine school and work, children who are currently in school and not working and parents of children who combine school and work. Prior to conducting interviews, a listing study was conducted in all 6th, 7th and 8th grade classrooms of the selected schools to determine the sex, age, work status, family socio-economic status and neighbourhood developmental level of students as implicit stratification criteria for selecting the final sampling units of working and non-working students.

of 4.7 hours per week, and children in paid work an average of 5.2 hours per week (Figure 47). Children performing household chores in addition to economic activity logged an average of two hours per week on chores. Girls performing chores did so for larger amounts of time each week than boys, while for unpaid family work the opposite pattern prevailed. Older children typically put in more time each week in all three types of activities than their younger counterparts. For most working children, boys as well as girls, work was concentrated in one or two days per week.

Figure 47. - Average weekly working hours⁽¹⁾ of working children, by age and sex, Turkey



Notes: (1) Total weekly working hours of course higher than type-specific working hours for children performing more than one work type simultaneously.

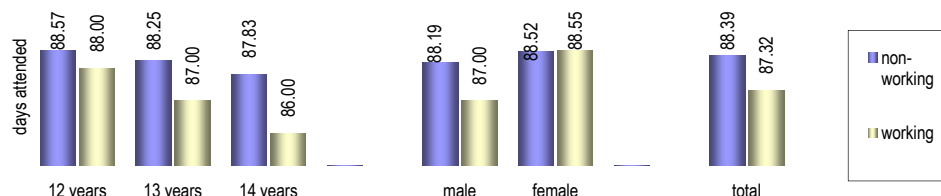
Source: Report on Ankara school-based survey (Demir *et al*, *Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

51. For most working children interviewed (71 percent), the present economic activity was not their first one. Of those who had worked before, the largest proportion of both male and female children started to work at 10 or 11 years of age. The most frequently given reasons for starting work were to help the family financially (33 percent) and to help in the family business (20 percent). Seventeen percent indicated working in order to pay for school expenses. This latter figure suggests that where schooling choices are severely constrained by family resources, there is the possibility that children's work even has a positive effect on education, through providing the resources necessary to pay for schooling.

2.5.2 Work and school attendance

52. Data from school records suggest that work has only a very limited effect on the ability of children to attend school regularly and to arrive at school on time. Indeed, school records show that attendance rates are very high, and tardiness rates very low, for working and non-working children alike. As illustrated in Figure 48, working children attended school 97 percent of total school days during the semester, and non-

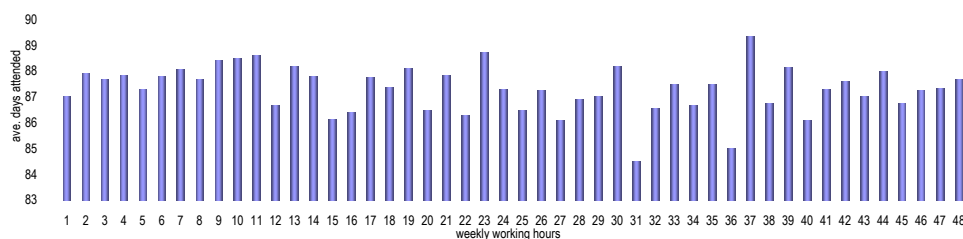
Figure 48. - Attendance⁽¹⁾ during semester according to school attendance logs, by work status,⁽²⁾ sex and age, Turkey



Notes: (1) As measured by average school days attended during 90-day semester as per school attendance logs. (2) "Non-working" children may be performing household chores.

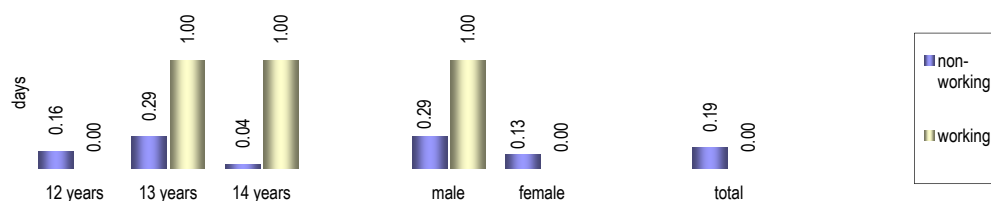
Source: Report on Ankara school-based survey (Demir *et al*, *Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

working children 98 percent of total days. Both working and non-working children were late less than one percent of total days during the reference semester (Figure 50). The number of work hours logged by children appeared to exert little influence on their attendance rates (Figure 49).

Figure 49. - School attendance⁽¹⁾ of working children, by average weekly working hours,⁽²⁾ Turkey

Notes: (1) Expressed as average number of days attended according to attendance logs during 90-day semester. (2) Average working hours include time in both economic activity and household chores.

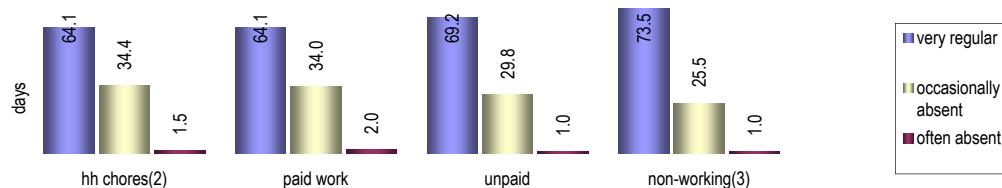
Source: Report on Ankara school-based survey (Demir *et al*, *Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

Figure 50. - Tardiness⁽¹⁾ during semester according to school attendance logs, by work status,⁽²⁾ sex and age, Turkey

Notes: (1) As measured by average no. of school days arrived at school tardy during 90-day semester as per school attendance logs. (2) "Non-working" children may be performing household chores.

Source: Report on Ankara school-based survey (Demir *et al*, *Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

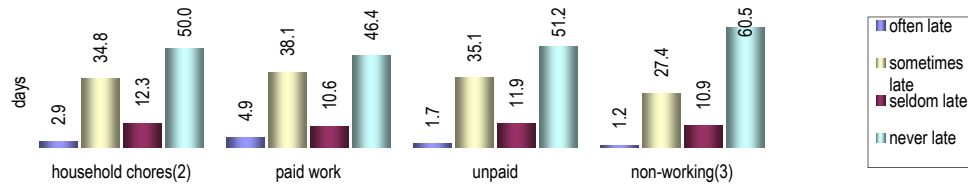
53. Student perceptions of attendance and lateness, however, point to larger differences between working and non-working children, and suggest that school records may be incomplete. As shown in Figure 51, fewer working children than non-working children indicate that their attendance is "very regular", while more working than non-working children indicate that they are "occasionally absent". Almost half of working children indicate being either "sometimes" or "often" late for class, compared to only 27 per cent of non-working children (Figure 52).

Figure 51. - Student perceptions of attendance,⁽¹⁾ by work status and work type, Turkey

Notes: (1) Expressed as the percentage distribution of students by whether they report their attendance as "very regular", "occasionally absent", or "often absent".

(2) The "household chores" category refers to economically-active children that are also performing household chores. (3) "Non-working" children may be performing household chores.

Source: Report on Ankara school-based survey (Demir *et al*, *Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

Figure 52. - Student perceptions of lateness,⁽¹⁾ by work status and work type, Turkey

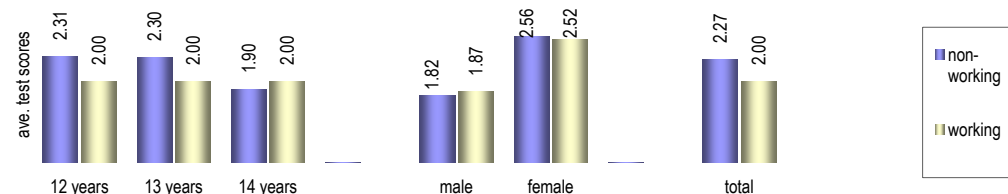
Notes: (1) Expressed as the percentage distribution of students by whether they report being "often late", "sometimes late", "seldom late" or "never late".

(2) The "household chores" category refers to economically-active children that are also performing household chores. (3) "Non-working" children may be performing household chores.

Source: Report on Ankara school-based survey (Demir *et al*, *Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

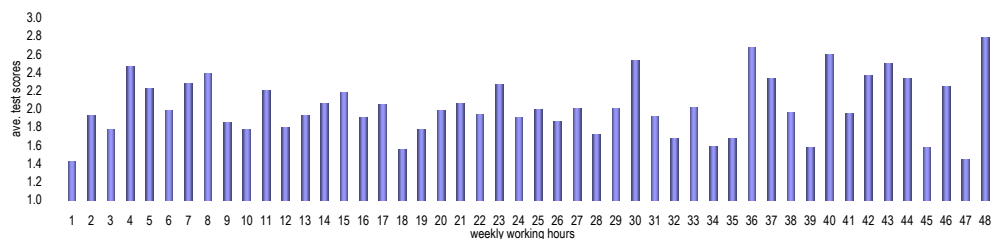
2.5.3 Work and school performance

54. Data from mid-term examination scores²⁵ suggest that work has an adverse effect on school performance in Turkey. Working children are more likely than non-working children to have scores in the "unsatisfactory" range (1.00-1.99), and less likely than non-working children to have scores in the "satisfactory-good" range (2.00-3.99) and "good-very good" range (4.00+). The overall average test score was 2.27 for non-working children compared to 2.00 for working children (Figure 53). The length of children's working week, however, appeared to have little effect on test scores (Figure 54).

Figure 53. - Average test scores⁽¹⁾, by work status, age and sex, Turkey

Notes: (1) As measured by the averages of students' first midterm examination scores in Turkish, science and mathematics for the first semester of the 2003-2004 school year. Test scores in the range 1.00-1.99 reflects "unsatisfactory" result, 2.00-3.99 reflects "satisfactory-good" result, and 4.00+ reflects "good-very good" result. (2) "Non-working children may be performing household chores.

Source: Report on Ankara school-based survey (Demir *et al*, *Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

Figure 54. - Average test scores⁽¹⁾ by average weekly working hours⁽²⁾, Turkey

Notes: (1) As measured by the averages of students' first midterm examination scores in Turkish, science and mathematics for the first semester of the 2003-2004 school year. Test scores in the range 1.00-1.99 reflects "unsatisfactory" result, 2.00-3.99 reflects "satisfactory-good" result, and 4.00+ reflects "good-very good" result. (2) Average working hours include time in both economic activity and household chores.

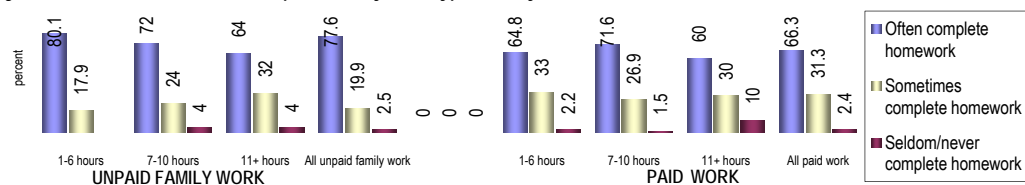
Source: Report on Ankara school-based survey (Demir *et al*, *Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

²⁵ In Turkish, mathematics and science for the first semester of the 2003-2004 school year.

55. Student and teacher perceptions of school performance also pointed to differences between working and non-working children. More non-working children indicated that their performance was “very good” or “good”, while fewer non-working children indicated that their performance was either “moderate” or “poor”, compared to their non-working counterparts. Teachers, for their part, rated most working students as “good” or “moderate” in aspects such as classroom learning, participation in co-curricular activities, interest in school, and completion of homework, but as either “moderate” or “poor” in terms of grades and overall school performance. For over half of working children (56 percent), teachers indicated that stopping working would lead to an improvement in school performance.

56. Homework completion and tiredness in class are important indirect indicators of children's ability to perform well in school. Looking first at homework completion, a relatively high proportion of working children reported not being able to meet their homework requirements (Figure 55). About one-third of children in paid work, and one-quarter of children in unpaid work, reported completing their homework only “sometimes” or “seldom/never”. For both paid and unpaid work, children working longer hours report completing their homework less frequently than their counterparts with lighter workloads. Work-related tiredness appears to play a greater role in homework non-completion for children in paid work than for children in unpaid work or performing household chores (Figure 56).

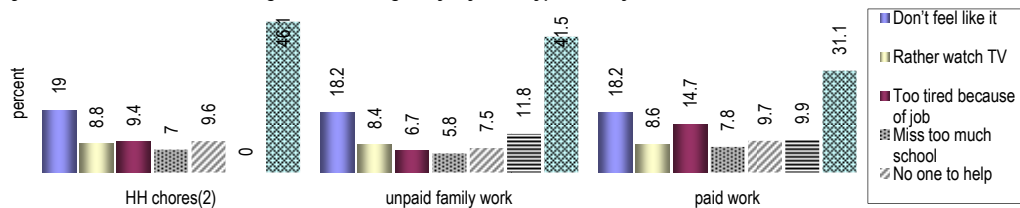
Figure 55. - Student homework completion,⁽¹⁾ by work type, Turkey



(1) Expressed as the percentage distribution of students by whether they report “often”, “sometimes” or “seldom/never” complete their homework. (2) Information on homework completion for the control group, non-working children, was not collected by the survey CONFIRM.

Source: Report on Ankara school-based survey (Demir *et al*, *Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

Figure 56. - Reasons for not doing homework regularly, by work type, Turkey

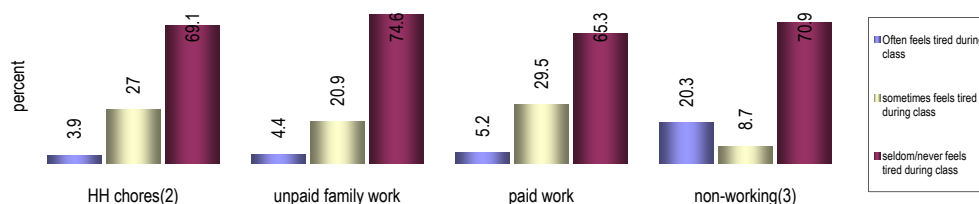


(1) Expressed as the percentage distribution of working students who reported not completing their homework regularly by major reason. Information on homework completion for the control group, non-working children, was not collected by the survey CONFIRM. (2) The “household chores” category refers to economically-active children that are also performing household chores.

Source: Report on Ankara school-based survey (Demir *et al*, *Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

57. Student fatigue levels appear to bear little relation to children's work status. As shown in Figure 57, non-working children are actually more likely to report “often” feeling tired in class, and about equally likely to report “seldom/never” feeling tired in class, as working children. Not surprisingly, tiredness is positively related to hours worked for children in both unpaid and paid work (Figure 58).

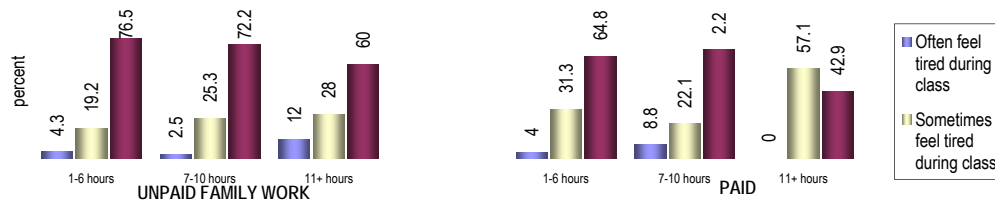
Figure 57. - Student tiredness during class, by work type and work status, Turkey



(1) Expressed as the percentage distribution of students by whether they report "often", "sometimes" or "seldom/never" feel tired during class. (2) The "household chores" category refers to economically-active children that are also performing household chores. (3) "Non-working children may be performing household chores.

Source: Report on Ankara school-based survey (Demir *et al*, *Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

Figure 58. - Student tiredness during class, by work type and hours worked, Turkey



(1) Expressed as the percentage distribution of students by whether they report "often", "sometimes" or "seldom/never" feel tired during class.

Source: Report on Ankara school-based survey (Demir *et al*, *Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

2.5.4 Summary

58. The main findings of the descriptive analysis of work and schooling in Turkey are as follows:

- data from school records suggest that work has only a very limited effect on the ability of children to attend school regularly and to arrive at school on time; school records show that attendance rates are very high, and tardiness rates very low, for working and non-working children alike;
- student perceptions of attendance and lateness, point to larger differences between working and non-working children, and suggest that school records may be incomplete;
- data from mid-term examination scores suggest that work has an adverse effect on school performance in Turkey. Working children are more likely than non-working children to have scores in the "unsatisfactory" range, and less likely than non-working children to have scores in the "satisfactory-good" range and "good-very good" range;
- a relatively high proportion of working children reported not being able to meet their homework requirements; about one-third of children in paid work, and one-quarter of children in unpaid work, reported completing their homework only "sometimes" or "seldom/never"; and
- student fatigue levels appear to bear little relation to children's work status; non-working children are actually more likely to report "often" feeling tired in class, and about equally likely to report "seldom/never" feeling tired in class, as working children.

3. IMPACT OF CHILDREN'S WORK ON SCHOOLING: ECONOMETRIC EVIDENCE

3.1 Overview

59. This section analyses the school survey data from Brazil, Kenya and Turkey²⁶ in more depth in order to disentangle causal links between work involvement and school outcomes. We make use of the information available in the various surveys in order to estimate, by means of a variety of econometric techniques, the effects of the length of the working day on the school achievements of the child. The simple cross tabulations discussed above already shed some light on the issue. However, they do not allow controlling simultaneously for a set of factors that can affect children school outcomes and that can cloud the relationship between working hours and schooling. For example, children from poor household might perform relatively badly at school because of the effect of the socioeconomic characteristics (education of the parents, access to educational facilities, etc.). At the same time, children from poor households might be more likely to be sent to work and to work for long hours. In order to identify the relationship between working hours and school achievements, it is necessary to take into account the set of variables that are likely to influence both.

60. Measures of school achievement as such are difficult to obtain and we use in the estimates several proxies. Most of these proxies do not refer directly to school achievements, but rather to inputs to the production function of learning. For example, missing classes or feeling tired are not direct measures of school achievements, but it is likely that they will influence the learning capability of a child. However, such variables are proxies and hence results based on them should be treated with care when making inference in terms of school achievement. For only one country (Turkey) was possible to match test scores to the individual and household characteristics of the child. In this case we have a more direct measure of the impact of working hours on school achievements.

61. The proxies used differ by country depending on the characteristics of the survey. Table 1 gives a summary of the variable used in the estimates for the different countries. The set of control variables used in the estimations can be grouped in to three categories: 1) household characteristics, 2) child characteristics and 3) work characteristics. We are interested in finding out the effects of this last category on school performance conditioning on the household and individual characteristics. Available information varies in the different datasets, so we used a different set of covariates in each of the three countries. A detailed list of the variables employed is given in Table 1. The reasons for including these variables in the regression are well known and need not be discussed here²⁷. A more detailed discussion of the findings from the three countries is presented in the sections below.

²⁶ Survey data from Sri Lanka and Lebanon did not permit multivariate estimation because of the lack of information on some basic control variables.

²⁷ For an introductory discussion see Cigno, Rosati, Tzannatos (2002).

Table 1. - Summary of variables and estimation strategies, by country

Country	Dependent variable	Independent variables		
		Household characteristics	Child characteristics	Work characteristics
Brazil	1) tiredness/sleepiness during class, 2) number of failures	1) parent education, 2) family structure, 3) household size	1) age and sex, 2) ethnicity,	1) sector, 2) hours, 3) age of entry in the labour market
Kenya	1) tiredness/sleepiness during class, 2) punctuality, 3) regularity of attendance, 4) classes missed and number of days a child missed classes	1) parent education, 2) family structure, 3) household size, 4) housing condition (water and electricity availability)	1) age and sex, 2) school travel time	1) sector of work, 2) working hours, 3) period of the day a child works, 4) age of entry in the labour market
Lebanon	1) punctuality; 2) regularity of attendance	1) Water availability; 2) sanitation;	1) age and sex, 2) school travel time, 3) place of residence	1) working hours in household chores during the school days, 2) working hours in household chores during the weekend, 3) working hours in economic activities, 4) age of entry in the labour market
Sri-lanka	1) test scores 2) tiredness/sleepiness during class, 3) punctuality, 4) regularity of attendance 5) Drop-out expectation	Not available	1) age and sex, 2) place of residence (urban, rural), 3) school travel time	1) working hours in household chores, 2) working hours in household economic generating activities, 3) working hours in activity outside the household
Turkey	1) test scores (by merging the teacher dataset with the student dataset) 2) child perceptions of grades, 3) tiredness/sleepiness during class, 4) punctuality, 5) frequency of early departure from school, 6) regularity of attendance	1) parent education, 2) parent employment status, 3) family structure, 4) household size, 5) housing condition (water and electricity availability);	1) age and sex, 2) someone to help with studies after school, 3) school travel time	1) sector of work, 2) working hours, 3) period of the day child works, 4) age of entry in the labour market

3.2 Brazil

62. In the case of Brazil, we have utilized a variety of indicators to analyze the links between work and school performance. The results for most of these indicators are similarly not well defined. As an illustration we report the results relative to: (a) rate of class repetition (failure); and (b) levels of student fatigue and tiredness in the classroom. The former constitutes a direct measure of learning achievement and the latter an important indirect measure of children's ability to benefit from and perform well in school.

63. In order to control for individual and household characteristics, besides those relating to work, we included in the estimates a set of indicators. In particular, we included the age and the age squared of the child (*age*, *age*²); a gender dummy (*Female*) taken value 1 if a child is female, 0 if is male; the number of younger siblings, the number of older siblings and the number of twins. A set of dummies control for the ethnicity origin of the child. The sector of work is controlled by a set of dummies, and the numbers of hours worked measure the intensity of work.

3.2.1 Repetition and student fatigue

64. Tables 12 and 13 reports the results for the rate of repetition and the level of student fatigue, respectively. Work in the field appears to increase the probability of repetition, while performing household chores apparently reduces the probability of academic failure. But these results are far from being well defined. Intensity and characteristics of work do not appear to affect student fatigue. Similar conclusions can be reached by employing other indicators, like drop out expectations, classes missed, expected effects of reducing work intensity on school achievements.

Table 2. - Determinants of academic failure: Marginal effects after probit estimation, Brazil ⁽¹⁾

Academic failure	Outcome 1 (never)		Outcome 2 (once)		Outcome 3 (twice)		Outcome 4 (three times)	
variable	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
age	-0.630	-1.67	0.439	64	0.165	1.71	0.027	1.58
age2	0.016	1.20	-0.011	8	-0.004	-1.22	-0.001	-1.18
female*	0.024	0.92	-0.017	-0.92	-0.006	-0.92	-0.001	-0.88
n. siblings. Younger	0.007	0.73	-0.005	-0.73	-0.002	-0.73	0.000	-0.72
n. siblingd older	-0.011	-1.50	0.007	50	0.003	1.49	0.000	1.38
n. siblings twin	-0.057	-1.77	0.040	1.76	0.015	1.73	0.002	1.58
Hh chores>2hrs/day*	0.075	2.63	-0.052	-2.61	-0.020	-2.49	-0.003	-2.06
eth1*	0.073	1.09	-0.052	-1.07	-0.018	-1.13	-0.003	-1.13
eth2*	0.027	0.37	-0.019	-0.37	-0.007	-0.37	-0.001	-0.36
eth3*	0.063	0.96	-0.045	-0.93	-0.015	-1.03	-0.002	-1.08
eth4*	0.073	1.13	-0.053	-1.08	-0.017	-1.24	-0.003	-1.33
Hh chores>2hrs/day*	0.075	2.63	-0.052	-2.61	-0.020	-2.9	-0.003	-2.06
Work in a shop*	-0.043	-0.84	0.029	0.87	0.012	0.80	0.002	0.74
Work in the street*	-0.009	-0.18	0.007	0.18	0.003	0.18	0.000	0.18
Work outside*	0.058	1.19	-0.042	-1.15	-0.014	-1.29	-0.002	-1.33
Work in the field*	-0.208	-1.78	0.123	2.18	0.069	1.47	0.017	1.09
Weekly working hours	-0.0003	-0.30	0.0002	0.30	0.0001	0.30	0.00001	0.30

Note: (1) Full probit estimate results provided in Annex 1. Estimations are based on entire sample.

Source: UCW calculations based on data from Brazil school-based survey(*Child Labour and Education School Survey*, May 2004).

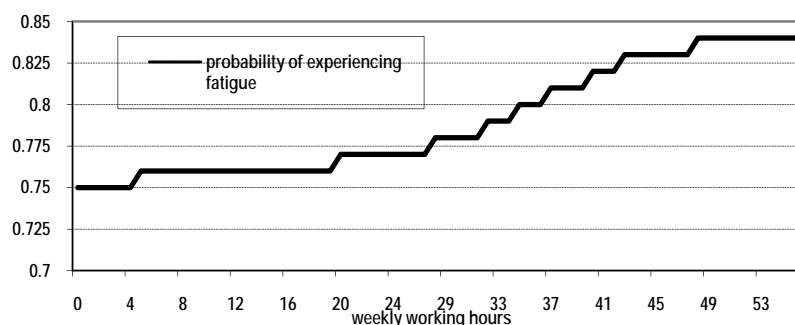
Table 3. - Determinants of classroom fatigue: Marginal effects after probit estimation, Brazil ⁽²⁾

Fatigue variable	Outcome 1 (never)		Outcome 2 (sometimes)		Outcome 3 (often)		Outcome 4 (always)	
	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
age	0.090	0.43	-0.051	-0.43	-0.0198	-0.43	-0.019	-0.43
age2	-0.004	-0.58	0.002	0.58	0.0009	0.58	0.001	0.58
female*	-0.103	-4.18	0.058	3.83	0.0224	3.67	0.022	3.67
n. siblings. Younger	-0.006	-0.61	0.003	0.61	0.0012	0.61	0.001	0.61
n. siblingd older	-0.004	-0.51	0.002	0.51	0.0008	0.51	0.001	0.51
n. siblings twin	0.050	1.52	-0.028	-1.5	-0.0110	-1.49	-0.011	-1.48
eth1*	0.183	2.23	-0.123	-1.98	-0.0316	-2.65	-0.029	-2.72
eth2*	0.096	1.46	-0.053	-1.5	-0.0219	-1.39	-0.022	-1.34
eth3*	0.104	1.18	-0.070	-1.04	-0.0182	-1.47	-0.016	-1.6
eth4*	0.042	0.47	-0.026	-0.44	-0.0083	-0.53	-0.008	-0.56
Hh chores>2hrs/day*	0.022	0.86	-0.013	-0.86	-0.0050	-0.85	-0.005	-0.85
Work in a shop*	-0.063	-1.58	0.029	2.11	0.0167	1.31	0.018	1.21
Work in the street*	-0.036	-0.77	0.018	0.88	0.0089	0.69	0.009	0.66
Work outside*	-0.010	-0.18	0.006	0.18	0.0024	0.17	0.002	0.17
Work in the field*	0.023	0.24	-0.014	-0.23	-0.0047	-0.26	-0.004	-0.27
Weekly working hours	-0.002	-1.75	0.001	1.72	0.0004	1.7	0.0003	1.71

Note: (1) The level of student fatigue is extrapolated from the following question: "Do you ever feel tired or sleepy during class?" (2) Full probit estimate results provided in Annex 1. Estimations are based on entire sample;

Source: UCW calculations based on data from Brazil school-based survey (Child Labour and Education School Survey, May 2004).

Figure 59. - Probabilistic link between classroom fatigue and working hours, Brazil



Source: UCW calculations based on data from Brazil school-based survey (Child Labour and Education School Survey, May 2004).

3.2.2 Test scores

65. The data for Brazil contains information on test scores for Portuguese and Mathematics. The students are classified in three groups: not satisfactory, satisfactory and fully satisfactory. We have used an ordered probit to estimate the effects of work, characteristics of work and working hours on this measure of school achievements. Beside the control variable used also in the other estimates, we have introduced, as customary, school dummies.

66. The results are presented in Table 14 and 15 respectively for Portuguese and Mathematics tests scores²⁸. As it evident neither the sector of employment nor the length of the working day appears to influence in any significant way the student's outcome in terms of test scores.

Table 4. - Determinants of school performance (Portuguese scores): Marginal effects after ordered probit estimation, school dummies omitted, Brazil

Test scores results	Outcome 1 (Not Satisfactory)		Outcome 2 (Satisfactory)		Outcome 3 (Fully Satisfactory)	
variable	dy/dx	z	dy/dx	z	dy/dx	z
age	0.965	1.38	0.132	1.03	-1.097	-1.38
age2	-0.034	-1.36	-0.005	-1.03	0.039	1.36
female*	-0.165	-6.03	-0.019	-1.32	0.184	6.22
n. siblings. younger	0.016	1.53	0.002	1.09	-0.018	-1.53
n. siblingd older	0.010	1.28	0.001	0.99	-0.012	-1.28
n. siblings twin	-0.012	-0.21	-0.002	-0.21	0.013	0.21
Hh chores > 2hrs/day*	-0.007	-0.25	-0.001	0.00	0.008	0.25
eth1*	0.094	1.10	-0.003	-0.16	-0.092	-1.29
eth2*	0.126	1.97	0.029	1.23	-0.155	-1.83
eth3*	0.055	0.59	-0.001	0.00	-0.054	-0.68
eth4*	0.157	1.32	-0.036	-0.62	-0.121	-1.96
Work in a shop*	-0.050	-1.06	-0.017	-0.61	0.067	0.90
Work in the street*	0.009	0.15	0.001	0.20	-0.010	-0.15
Work outside*	-0.046	-0.75	-0.015	-0.44	0.061	0.64
Work in the field*	-0.071	-1.16	-0.034	-0.59	0.106	0.88
Weekly working hours	0.001	0.87	0.000	0.76	-0.001	-0.87
Work in a shop*	0.0001	0.00	0.0001	0.00	0.0001	0.00
Work in the street*	0.046	0.57	-0.013	-0.45	-0.033	-0.63
Work outside*	0.042	0.43	-0.012	-0.35	-0.030	-0.47
Weekly working hours	0.001	0.36	0.000	-0.36	0.0001	-0.36
Work in the field*	0.033	0.28	-0.009	0.23	0.024	-0.30

²⁸ School dummies are omitted for reason of space

Table 5. - Determinants of school performance (Math scores): Marginal effects after ordered probit estimation, School dummies omitted, Brazil

Test scores results	Outcome 1 (Not Satisfactory)		Outcome 2 (Satisfactory)		Outcome 3 (Fully Satisfactory)	
variable	dy/dx	z	dy/dx	z	dy/dx	z
age	1.821	2.06	-0.375	-1.69	-1.447	-2.06
age2	-0.063	-2.01	0.013	1.66	0.050	2.01
female*	-0.102	-3.10	0.021	2.16	0.080	3.10
n. siblings. Younger	0.009	0.66	-0.002	-0.64	-0.007	-0.66
n. siblingd older	0.007	0.69	-0.001	-0.67	-0.005	-0.69
n. siblings twin	-0.018	-0.27	0.004	0.27	0.015	0.27
Hh chores > 2hrs/day*	0.038	1.03	-0.008	-0.97	-0.030	-1.03
eth1*	0.087	0.89	-0.025	-0.70	-0.062	-0.99
eth2*	0.089	1.08	-0.015	-1.21	-0.074	-1.03
eth3*	0.082	0.74	-0.027	-0.56	-0.055	-0.87
eth4*	0.050	0.44	-0.015	-0.35	-0.036	-0.49

3.3 Kenya

69. The survey dataset permitted the examination of causal links between work and three indicators of school achievement and performance: (a) attendance regularity; (b) rate of tardiness and (c) tiredness. As already mentioned, these can only be considered as indirect indicators of school achievements. Regular attendance, punctuality and tiredness are elements that, likely, enter in to the “production” of learning.

70. In order to control for individual and household characteristics, besides those relating to work, we included in the estimates a set of indicators. In particular, we included the age and the age squared of the child (*age*, *age*²); a gender dummy (*Female*) taken value 1 if a child is female, 0 if is male; the number of household members (*hhsiz*) and two variables reflecting the father (*feduc1*) and the mother (*meduc1*) education.

71. A set of variables allow us to control for the nature, the characteristic and the extent of the work carried out by the children. Given the nature of the sample, with only 74 observations for non working children,²⁹ we decided to restrict our estimates only to the group of children working. This implies that we cannot compare working and not working children, but our results will be relevant for assessing how work intensity and work characteristics influence the outcomes of the group of working children. All children carry out household chores, and this is the reference group. A dummy variable (*work_market*) taking value 1 if a child also works in an economic activity, 0 if a child is involved in household chores only; the intensity of child work is measured by the number of hours worked in economic activity and in household chores; finally, a set of dummies control for the period when the work is carried out: during school time, during the holidays or, the reference group, during both school time and holiday.

3.3.1 Attendance regularity

72. None of the variables that control for individual and household characteristics appears to be significant, with the exception of parent’s education. The interpretation of this variable is, however, difficult, because it could also proxy an income effect, given that we have no information on household income.

73. Work status and work intensity do not have a significant effect on the regularity of attendance, as attendance rates were reportedly very high for children working, independently of the duration and characteristics of the work carried out. Indeed, as seen in the Section 2 above, teachers indicated that 93 percent of working children did not miss a single day during the semester covered by the survey, and that less than one percent missed more than six school days.

²⁹ Several of these already few observations on non working children could not be considered in the estimates because of missing values in other variables. This fact reinforced our decision to exclude the non working children from the estimates.

Table 6. - Determinants of regular attendance: Marginal effects after probit estimation, Kenya ⁽¹⁾

Missed one or more classes during term	Dy/dx	Z
Age	0.4431	0.92
age2	-0.0154	-0.89
female*	-0.0232	-1.37
Hhsize	-0.0015	-0.68
Mother's education*	-0.0162	-2.33
Father's education*	0.0109	1.87
Age started to work	0.0024	0.58
time_to school	0.0026	0.16
work_market*	0.0070	0.35
hours of work in economic activity	-0.0005	-0.48
hours of work in household chores	0.0009	0.81
Work during school day	0.0354	0.94
Work during school holidays	-0.0100	-0.54

Note: (1) Full probit estimate results provided in Annex 1.

Source: UCW calculations based on data from Kenya school-based survey (*Child Work, School Attendance and Performance in Kenya*, April 2004).

3.3.2 Rate of tardiness

74. Parents' education, and especially fathers' education, tends to increase punctuality. Household size and distance to school also appear to play important roles in determining tardiness. Involvement in economic activity does not affect the probability of being late, with respect to performing household chores. The intensity of work does appear to influence tardiness, but only in the case of non-market activity. Additional hours in non-market actually increase the probability that a child is late at school. Ten additional hours spent in non-market work, for example, increases the probability of being late by almost 7 per cent. We could not identify any effect from hours spent in economic activity. This, however, could also be due to the small number of children involved in such activities. Finally, working during school days increases the probability of being late by almost 10 percentage points.

Table 7. - Determinants of tardiness: Marginal effects after probit estimation, Kenya ⁽¹⁾

Late to school	Outcome 1 (never)		Outcome 2 (seldom)		Outcome 3 (sometimes)		Outcome 4 (often)	
variable	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
age	-0.3850	-0.43	0.1059	0.43	0.1688	0.43	0.1104	0.43
age2	0.0132	0.41	-0.0036	-0.41	-0.0058	-0.41	-0.0038	-0.41
female*	0.0042	0.14	-0.0012	-0.14	-0.0018	-0.14	-0.0012	-0.14
hhsz	0.0130	3.09	-0.0036	-2.93	-0.0057	-3.01	-0.0037	-2.98
Mother's education*	0.0149	1.28	-0.0041	-1.26	-0.0065	-1.27	-0.0043	-1.27
Father's education*	0.0200	1.88	-0.0055	-1.84	-0.0087	-1.86	-0.0057	-1.86
Age started to work	0.0002	0.03	-0.0001	-0.03	-0.0001	-0.03	-0.0001	-0.03
time_to school	-0.0632	-2.17	0.0174	2.12	0.0277	2.14	0.0181	2.14
work_market*	-0.0175	-0.47	0.0049	0.46	0.0076	0.47	0.0050	0.47
hours of work in economic activity	-0.0019	-1.12	0.0005	1.11	0.0008	1.12	0.0005	1.12
hours of work in household chores	-0.0069	-3.23	0.0019	3.07	0.0030	3.15	0.0020	3.11
Work during school day	-0.0927	-1.65	0.0206	2.12	0.0412	1.62	0.0309	1.42
Work during school holidays	-0.0008	-0.02	0.0002	0.02	0.0004	0.02	0.0002	0.02

Note: (1) Full probit estimate results provided in Annex 1.

Source: UCW calculations based on data from Kenya school-based survey (*Child Work, School Attendance and Performance in Kenya*, April 2004).

3.3.3 Levels of student fatigue

75. The survey dataset permitted the examination of links between work and levels of student fatigue and tiredness in the classroom, an important indirect indicator of children's ability to benefit from and perform well in school. Distance from school is, among the household and individual characteristics, the only one that appear to influence the level of fatigue of the children.

76. Involvement in market activities significantly increases fatigue levels, independent of hours worked, with respect to household chores. Reported levels of fatigue, however, are positively related to hours spent performing both types of work, with the effect strongest for economic activity. However, this effect are not very well identified and, hence, only marginally significant.

Table 8. - Determinants of tiredness: Marginal effects after ordered probit estimation, Kenya ⁽¹⁾

Tiredness	Outcome 1 (never)		Outcome 2 (seldom)		Outcome 3 (sometimes)		Outcome 4 (often)	
Variable	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
Age	-1.459	-1.61	1.004	1.60	0.1922	1.56	0.2624	1.57
age2	0.051	1.58	-0.035	-1.57	-0.0068	-1.53	-0.0092	-1.54
female*	-0.020	-0.63	0.014	0.63	0.0026	0.63	0.0036	0.63
HHsize	0.003	0.64	-0.002	-0.64	-0.0004	-0.64	-0.0005	-0.64
mother's education*	0.008	0.64	-0.005	-0.64	-0.0010	-0.64	-0.0014	-0.64
father's education*	0.019	1.75	-0.013	-1.74	-0.0025	-1.69	-0.0034	-1.70
age started to work	-0.012	-1.45	0.008	1.44	0.0015	1.41	0.0021	1.42
time_to school	-0.088	-3.02	0.061	2.97	0.0116	2.70	0.0158	2.83
work_market*	-0.085	-2.27	0.059	2.23	0.0109	2.17	0.0147	2.24
hours of work (eco. activity)	-0.002	-1.33	0.002	1.33	0.0003	1.30	0.0004	1.32
hours of work (HH chores)	-0.004	-1.63	0.002	1.62	0.0005	1.58	0.0006	1.59
work during school day	-0.020	-0.33	0.013	0.34	0.0026	0.33	0.0037	0.32
work during school holidays	-0.043	-1.24	0.029	1.25	0.0058	1.19	0.0081	1.17

Note: (1) Full probit estimate results provided in Annex 1.

Source: UCW calculations based on data from Kenya school-based survey (*Child Work, School Attendance and Performance in Kenya*, April 2004).

3.4 Lebanon

78. The survey dataset permitted the examination of causal links between work and two indicators of school attendance and performance: (a) being late at school; and (b) regularity of attendance.³⁰ In order to control for individual and household characteristics, we included in the estimates a set of available indicators. In particular, we included the age and the age squared of the child (*age*, *age2*); a gender dummy (*Female*), taking a value of 1 if female, 0 if male; two variables reflecting access to infrastructure (*water*), taking a value of 1 if a household has access to a water public network, 0 otherwise, (*sanitation*) taking a value of 1 if there is a public sanitation network, 0 otherwise; a variable taking into account the time taken to reach school (*time to school*); and the age at which each working children started to work (*age_start_work*). In order to control for the possible differences between the governorates where the survey was carried out, we also included a dummy for each governorate (*gov1*, *gov2*, *gov3*).

79. Additional variables were included to control for the nature and the intensity of work carried out by children. We included children's time spent carrying out household chores, dividing it by hours spent in household chores on school days (*hhchore_hours_sd*) and hours spent in household chores during the weekend (*hhchore_hours_we*). We also included another variable taking into account the weekly hours spent in economic activities (*weekly_hours*).

3.4.1 Rate of tardiness

80. None of the variables that control for individual and household characteristics appears to have a significant effect on tardiness, with the exception of residence in Mount Lebanon (as opposed to South Lebanon).

81. Work intensity in economic activity significantly impacts the probability of tardiness, though the size of the effect is relatively small. An additional hour of work in economic activity reduces the likelihood of “never” being late for school by 0.3 percentage points, and increases the likelihood of at least “sometimes” being late for school by 0.2 percentage. Additional time spent on household chores (on a school day or weekend), on the other hand, does not appear to affect a child's ability to get to school on time.

³⁰ Indicators of classroom fatigue and self-reported school performance were also looked at; however, results were not significant.

Table 9. - Determinants of tardiness: Marginal effects after ordered probit estimation, Lebanon ⁽¹⁾

Tardiness	Outcome 1 (never)		Outcome 2 (rarely)		Outcome 3 (sometimes)		Outcome 4 (often/always)	
variable	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
age	.0280657	0.11	-.0127989	-0.11	-.011647	-0.11	-.0036199	-0.11
age2	-.0021127	-0.21	.0009634	0.21	.0008767	0.21	.0002725	0.21
female*	.0348116	0.98	-.0158674	-0.97	-.0144458	-0.97	-.0044984	-0.94
water*	.017751	0.30	-.0079562	-0.30	-.0074195	-0.29	-.0023753	-0.28
sanitation*	.0110346	0.10	-.0049697	-0.11	-.0046033	-0.10	-.0014616	-0.10
hhchores_hours_sd	.0001341	0.01	-.0000611	-0.01	-.0000556	-0.01	-.0000173	-0.01
Hhchores_hours_we	-.0041642	-0.44	.001899	0.44	.0017281	0.44	.0005371	0.44
weekly_hours	-.0028916	-2.52	.0013186	2.40	.0012	2.41	.0003729	2.08
time_to_school	-.0022549	-1.50	.0010283	1.48	.0009358	1.47	.0002908	1.39
age_start_work	-.0002997	-0.09	.0001367	0.09	.0001244	0.09	.0000387	0.09
Mount Lebanon ⁽²⁾	-.1469844	-2.17	.0591199	2.37	.0634624	2.06	.0244021	1.58
North ⁽²⁾	.0048155	0.10	-.0021969	-0.10	-.001998	-0.10	-.0006206	-0.10
Bekaa ⁽²⁾	-.030712	-0.53	.0136747	0.54	.0128693	0.53	.0041681	0.50

Note: (1) Full probit estimate results provided in Annex 1. Estimations are based on entire sample. (2) Dummy variables for governorate of residence, with South Lebanon serving as the reference governorate.

Source: UCW calculations based on data from Lebanon school-based survey (*Impact of Child Work on School Attendance and Performance*, May 2004)

3.4.2 Attendance regularity

82. None of the variables that control for individual and household characteristics appears to have a significant effect on attendance regularity, again with the exception of residence in Mount Lebanon location, where the effect is large. Additional weekly hours spent on neither household chores nor economic activity affect the probability that a child reports attending school “very regularly”.

Table 10. - Determinants of “very regular” attendance⁽¹⁾: Marginal effects after ordered probit estimation, Lebanon ⁽²⁾

attendance	Outcome 1 (very regular)	
variable	dy/dx	z
age	.2142971	0.67
age2	-.0094271	-0.78
female*	.02468	0.58
water*	.0235331	0.32
sanitation*	-.0680391	-0.65
hhchores_hours_sd	.0018484	0.10
Hhchores_hours_we	.0078542	0.67
weekly_hours	-.0002369	-0.16
time_to_school	-.0005044	-0.27
age_start_work	-.0071718	-1.82
Mount Lebanon ⁽³⁾	-.2522946	-3.32
North ⁽³⁾	-.0598071	-1.07
Bekaa ⁽³⁾	.0646807	1.08

Note: (1) Other attendance outcomes not considered due to too few observations; (2) Full probit estimate results provided in Annex 1. Estimations are based on entire sample. (3) Dummy variables for governorate of residence, with South Lebanon serving as the reference governorate.

Source: UCW calculations based on data from Lebanon school-based survey (*Impact of Child Work on School Attendance and Performance*, May 2004)

3.5 Sri Lanka

83. The survey dataset permitted the examination of causal links between work and a set of indicators of school attendance and performance. Given the nature of the sample,³¹ we were able to study the link between work and direct measures of school performance (i.e., test scores in math, science languages) for the whole sample, but the effects of work on a set of school performance proxies (i.e., drop-out expectation, regularity of attendance, student fatigue, rate of tardiness) only for the sample of working children.

84. The estimated model included among the explanatory variables the age and the age squared of the child (*age*, *age*²); a gender dummy (*Female*) taking the value 1 if female, 0 if male; a residence dummy (*rural*) taking the value 1 if a child resides in a rural area, 0 if he/she resides in an urban area; a dummy variable (*work*) taking the value 1 if a child is working, 0 if the child is only attending school; the number of hours worked in household chores in the week of reference (*hours_hhchores*); the numbers of hours worked in household generating income activities (*hours_hhwork*); and the number of hours worked in paid or unpaid activities outside the household (*hours_outsidework*); finally a variable (*time_to_school*) reflecting the time spent to get to school.

3.5.1 Test Scores

85. Test scores are the results of the year-end examination scores and are attributed to each child in ascending order from 0 to 100.³² We estimated three different ordered probit equations for the test results in mathematics, science and language, respectively. In order to control for other differences among the surveyed schools, we also included school division dummies in the estimates. The results of the estimates are reported in Tables 11-13.

86. The marginal effects calculated after the ordered probit regressions suggest that test scores can be negatively affected by work involvement in some contexts. In the case of mathematics, involvement in work (any kind) has a large detrimental effect on school performance, increasing a child's chances for falling in the poorest performing category by 10 percentage points and decreasing his or her chances of falling into the two highest performing categories by five percentage points. In the case of science, work *per se* does not appear to affect performance, but the intensity of involvement in work outside the home does have a significant but small negative link with test scores. In the case of languages, no form of work involvement appears linked to school performance. It is worth noting that by far the most important factor affecting performance is the sex of the child; being a female significantly raises the likelihood of good results in school examinations in all three subject areas.

³¹ The survey collected information on test scores for working and non working children, while the other basic information (tiredness, getting late to school, expectation of dropping out of school) were collected only for the sample of working children.

³² We grouped the scores in 4 ascending ordered categories. The first category includes scores from 0 to 25, the second category includes scores from 26 to 50, the third category includes scores from 51 to 75 and finally the fourth category includes scores from 76 to 100.

Table 11. - Marginal effect after ordered probit regression: mathematics test scores (school division dummies omitted)

variable	Score group 1		Score group 2		Score group 3		Score group 4	
	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
female*	0.0750	-3.50	0.0367	3.49	0.0278	3.42	0.0104	3.18
rural*	0.0828	2.00	-0.0412	-1.99	-0.0305	-2.00	-0.0112	-1.94
age	1.1345	-1.86	0.5627	1.84	0.4184	1.86	0.1534	1.82
age2	0.0445	1.87	-0.0221	-1.85	-0.0164	-1.88	-0.0060	-1.83
hours_hhchores	0.0023	-2.11	0.0011	2.09	0.0008	2.09	0.0003	2.05
hours_hhwork	0.0015	-1.54	0.0008	1.54	0.0006	1.53	0.0002	1.52
hours_outsidework	0.0001	0.06	0.0000	-0.06	0.0000	-0.06	0.0000	-0.06
work*	0.0965	4.59	-0.0479	-4.46	-0.0355	-4.46	-0.0131	-4.06

Source: UCW calculations based on *Sri Lanka School-Based Survey* (September 2003)

87.

Table 12. - Marginal effects after ordered probit regression: science test scores (school division dummies omitted)

variable	Score group 1		Score group 2		Score group 3		Score group 4	
	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
female*	-0.1071	-5.02	0.0377	4.88	0.0530	4.88	0.0164	4.34
rural*	0.0447	1.14	-0.0163	-1.13	-0.0219	-1.14	-0.0066	-1.14
age	-0.7507	-1.22	0.2726	1.22	0.3676	1.21	0.1104	1.21
age2	0.0288	1.21	-0.0105	-1.20	-0.0141	-1.20	-0.0042	-1.20
hours_hhchores	-0.0018	-1.62	0.0006	1.61	0.0009	1.62	0.0003	1.60
hours_hhwork	-0.0040	-4.09	0.0015	3.93	0.0020	4.04	0.0006	3.80
hours_outsidework	0.0023	2.11	-0.0008	-2.08	-0.0011	-2.10	-0.0003	-2.06
work*	0.0008	0.04	-0.0003	-0.04	-0.0004	-0.04	-0.0001	-0.04

Source: UCW calculations based on *Sri Lanka School-Based Survey* (September 2003)

Table 13. - Marginal effects after ordered probit regression: Language test. School division dummies omitted

variable	Score group 1		Score group 2		Score group 3		Score group 4	
	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
female*	-0.1876	-10.75	-0.0050	-1.05	0.1210	9.94	0.0716	8.71
rural*	-0.0011	-0.03	0.0000	0.03	0.0007	0.03	0.0004	0.03
age	-0.4583	-0.88	0.0013	0.12	0.2964	0.88	0.1606	0.88
age2	0.0177	0.87	-0.0001	-0.12	-0.0115	-0.87	-0.0062	-0.87
hours_hhchores	0.0003	0.29	-0.000001	-0.11	-0.0002	-0.29	-0.0001	-0.29
hours_hhwork	-0.0017	-1.95	0.000005	0.12	0.0011	1.94	0.0006	1.94
hours_outsidework	-0.0005	-0.54	0.000001	0.11	0.0003	0.54	0.0002	0.54
work*	0.0217	1.20	-0.0001	-0.17	-0.0140	-1.20	-0.0076	-1.20

Source: UCW calculations based on *Sri Lanka School-Based Survey* (September 2003)

3.5.2 Attendance Regularity

88. The survey question allowed for three different and ordered answers for the regularity of attendance: very regular attendance, occasionally absent, often absent.

Given the nature of the variable, we estimated an ordered probit model. The marginal effects obtained after the ordered probit estimation suggest that hours logged in all three forms of work (household chores, household economic activity and work outside the home) exert a negative effect on the regularity of attendance, though the size the effects are not large and are of only marginal significance. The distance to school has a highly significant detrimental effect on attendance regularity.

Table 14. - Determinants of regular school attendance: Marginal effects after ordered probit estimation, Turkey⁽¹⁾

	Outcome 1 (very regular)		Outcome 2 (occasionally absent)		Outcome 3 (often absent)	
	dy/dx	z	dy/dx	z	dy/dx	z
Attendance Regularity						
female*	-0.001	-0.04	0.0003	0.04	0.0006	0.04
rural*	-0.022	-0.89	0.0077	0.88	0.0147	0.89
age	0.922	1.29	-0.3160	-1.25	-0.6063	-1.62
age2	-0.035	-1.24	0.0118	1.21	0.0227	1.55
hours_hhchores	-0.002	-1.88	0.0008	1.8	0.0015	1.77
hours_hhwork	-0.002	-1.74	0.0005	1.68	0.0010	1.69
hours_outsidework	-0.002	-1.95	0.0006	1.87	0.0012	1.84
time_to_school	-0.004	-4.61	0.0013	3.76	0.0025	3.62

Source: UCW calculations based on Sri Lanka School-Based Survey (September 2003)

3.5.3 Level of Student fatigue

89.Children reported whether they feel tired during class, with answers ranked in ascending order: never, sometimes, often, always. The results of the ordered probit estimates, reported in Table 15, suggest that additional working hours in household chores and work outside the home have a positive but very small impact on a child's chances of feeling tired in class. Time spent in home-based economic activity, on the other hand, does not appear linked to student fatigue.

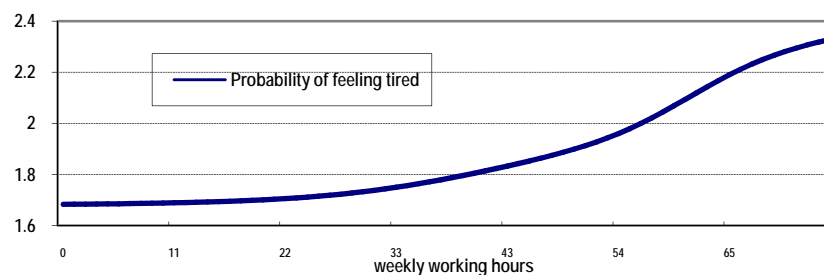
Table 15. - Marginal effects after ordered probit estimates: Level of student fatigue

Level of student fatigue	Outcome 1 (never)		Outcome 2 (sometimes)		Outcome 3 (Often)		Outcome 4 (always)	
	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
female*	-0.017	-0.52	0.00051	0.52	0.014	0.52	0.0018	0.52
rural*	-0.022	-0.71	0.00069	0.71	0.019	0.71	0.0025	0.71
age	0.827	0.93	-0.02578	-1.02	-0.710	-0.93	-0.0917	-1.00
age2	-0.030	-0.88	0.00095	0.97	0.026	0.88	0.0034	0.94
hours_hhchores	-0.003	-2.26	0.00011	1.94	0.003	2.25	0.0004	2.01
hours_hhwork	0.001	1.03	-0.00004	-0.99	-0.001	-1.03	-0.0001	-1.00
hours_outsidework	-0.002	-1.79	0.00006	1.62	0.002	1.78	0.0002	1.65
time_to_school	-0.001	-1.41	0.00004	1.32	0.001	1.41	0.0002	1.34

Source: UCW calculations based on Sri Lanka School-Based Survey (September 2003)

90.We also estimated a kernel density to obtain a synthetic indicator of the relationship between the probability of feeling tired and the numbers of hours worked in household chores. The results, presented in Figure 60, suggest that the probability of being tired increases constantly with the numbers of hours worked.

Figure 60. - Level of student fatigue and working hours in household chores: Kernel estimates, Sri-Lanka



Source: UCW calculations based on *Sri Lanka School-Based Survey* (September 2003)

3.5.4 Rate of Tardiness

91. The survey questionnaire also covered frequency of tardiness, with answers ranked in ascending order: never or rarely, often, always. The results of the ordered probit estimates, reported in Table 16, indicate the intensity of work in economic activity (inside or outside the family) significantly affect a child's ability to arrive at school on time, but that time spend on household chores does not affect a child's probability of being late for class. As expected, the distance to school also has a significant positive link to tardiness.

Table 16. - Marginal effects after ordered probit estimates: Student tardiness

	Outcome 1 (Never or rarely)		Outcome 2 (often)		Outcome 3 (Always)	
	dy/dx	z	dy/dx	z	dy/dx	z
Late to school						
female*	-0.0544	-1.77	0.0341	1.77	0.0203	1.74
rural*	-0.0308	-1.03	0.0194	1.02	0.0114	1.02
age	-0.2166	-0.26	0.1365	0.26	0.0801	0.26
age2	0.0085	0.26	-0.0054	-0.26	-0.0032	-0.26
hours_hhchores	-0.0002	-0.13	0.0001	0.13	0.0001	0.13
hours_hhwork	-0.0022	-2.09	0.0014	2.07	0.0008	2.07
hours_outsidework	-0.0020	-1.99	0.0013	1.97	0.0008	1.97
time_to_school	-0.0039	-4.00	0.0024	3.87	0.0014	3.87

Source: UCW calculations based on *Sri Lanka School-Based Survey* (September 2003)

3.5.5 Drop-Out Expectation

92. The questionnaire asks children about their expectation of dropping out of school. While such a variable does not measure actual drop out, it gives an indication of the expectation the children have about the continuation of their studies. It might also reflect parental attitudes or observed behaviour of their siblings or of children in similar circumstances. The results of the estimates, reported in Table 17, indicate that the drop-out expectation seems to be influenced only by the hours worked outside the household. The age of the children also seems to marginally influence drop-out expectation.

Table 17. - Marginal effect after probit estimate: expectation of dropping out of school

<i>variable</i>	<i>dy/dx</i>	<i>Std. Err</i>	<i>z</i>	<i>P> z</i>
female*	-0.0089	0.01266	-0.7	0.484
rural*	-0.0140	0.01255	-1.12	0.265
age	-0.5995	0.34802	-1.72	0.085
age2	0.0238	0.01342	1.77	0.077
hours_hhchores	0.0008	0.00052	1.53	0.125
hours_hhwork	0.0000	0.00043	0.08	0.939
hours_outsidework	0.0012	0.00035	3.25	0.001
time_to_school	0.0002	0.0004	0.58	0.563

Source: UCW calculations based on *Sri Lanka School-Based Survey* (September 2003)

3.6 Turkey

93. The survey dataset permitted the examination of causal links between work and five indicators of school attendance and performance: (a) attendance regularity; (b) rate of tardiness; (c) drop-out expectation; (d) student fatigue; and (e) test scores.

94. The models estimated below include among the explanatory variables: the age and the age squared of the child (*age*, *age2*); a gender dummy (*Female*) taken value 1 if a child is female, 0 if is male; the number of siblings; a dummy variable (*work_economic*) taking value 1 if a child works in an economic activity, a dummy variable taking value 1 if the child is engaged in household chore (*work_hhchores*), the numbers of hours worked in economic activity (*Hours in market*) and in household chores (*hours in hhchores*), the variable socio-economic status taking values 1 if poor, 2 if middle income and 3 if rich proxies for the household wealth and social position.

95. In what follow we presents a discussion of the results for the available sets of indicators relative to school achievements

3.6.1 Attendance regularity

96. The dependent variable is the regularity of attendance as reported by the students. The question allow for three different answers (very regular attendance, occasionally absent and often absent). We have hence estimated an ordered probit; but results from a probit discriminating between regular and irregular attendance yields very similar results.

Table 18. - Determinants of regular school attendance: Marginal effects after ordered probit estimation, Turkey⁽¹⁾

Explanatory variables	Outcome 1 (very regular)		Outcome 2 (occasionally absent)		Outcome 3 (often absent)	
	dy/dx	z	dy/dx	z	dy/dx	z
female*	-0.0137	-0.32	0.0125	0.32	0.00114	0.31
age	-0.4993	-0.61	0.4587	0.61	0.04067	0.36
age2	0.0182	0.57	-0.0167	-0.57	-0.00148	-0.35
No of sibling	-0.0153	-1.5	0.0140	1.49	0.00124	0.77
Time to school	-0.0021	-1.74	0.0019	1.73	0.00017	0.77
Work_hhchore*	-0.0632	-1.71	0.0584	1.7	0.00487	1.67
work_economic	-0.0463	-1.33	0.0427	1.33	0.00369	1.29
Hours in hhchores	0.0002	0.09	-0.0002	-0.09	-0.00002	-0.09
Hours in Market	-0.0019	-1.38	0.0018	1.37	0.00016	0.73
Socioeconomic status	0.0192	0.66	-0.018	-0.66	-0.002	-0.53

Note: (1) Full ordered probit estimate results provided in Annex 1. Estimations are based on entire sample.

Source: UCW calculations based on data from Ankara school-based survey (*Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

97. As the results reported in Table 2 indicate, few variables appear to exert an influence on the regularity of attendance. Hours worked in household chores or economic activities appear to be unrelated to the likelihood of a child missing school. The fact that a child is working, independently of the number of hours worked, is marginally significant only in the case of household chores. Distance to school seems also to exert some influence on the regularity of attendance, but the coefficient is again only marginally significant. In short, regularity of attendance seems to be random, at least with respect to the available information, with a marginal influence

exerted by work in household chores and distance to school. However, as the variable is self reported by the student, a bias toward a positive answer might distort the results.

3.6.2 Rate of tardiness

The question considered here refers to the late arrival at school. Four answers are possible: never, seldom, sometime and often. We again used an ordered probit to estimate the relationship with the explanatory variables. Different aggregation of the answers in the definition of the dependent variables, as well as the use of a probit for the never being late, bring very similar results to those presented below.

Table 19. - Determinants of lateness: Marginal effects after probit estimation, Turkey⁽¹⁾

Explanatory variables	Outcome 1 (never)		Outcome 2 (seldom)		Outcome 3 (sometimes)		Outcome 4 (often)	
	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
female*	0.064	1.45	-0.0057	-1.21	-0.0514	-1.45	-0.0068	-1.56
age	0.367	0.43	-0.0269	-0.43	-0.2962	-0.43	-0.0436	-0.44
age2	-0.015	-0.44	0.0011	0.44	0.0117	0.44	0.0017	0.45
No of sibling	-0.040	-3.81	0.0029	3.19	0.0325	3.76	0.0048	3.24
Time to school	-0.003	-2.04	0.0002	1.94	0.0021	2.03	0.0003	1.94
Work_hhchore*	-0.013	-0.34	0.0010	0.33	0.0108	0.34	0.0016	0.34
work_economic	-0.014	-0.39	0.0010	0.38	0.0113	0.39	0.0017	0.39
Hours in hhchores	0.000	-0.15	0.0000	0.15	0.0003	0.15	0.00004	0.15
Hours in Market	-0.006	-4.3	0.0005	3.5	0.0050	4.22	0.0007	3.51
Socioeconomic status	0.056	1.86	-0.0041	-1.77	-0.0455	-1.86	-0.0067	-1.77

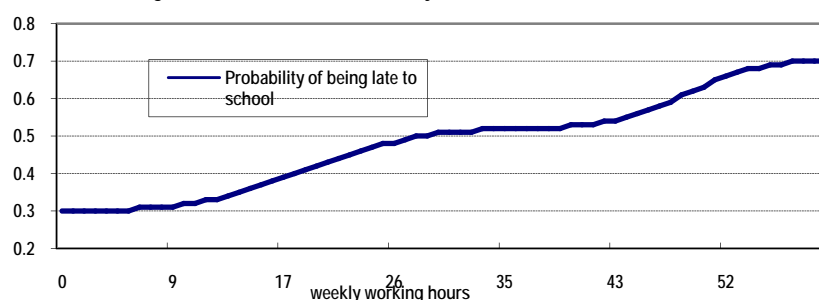
Note: (1) Full probit estimate results provided in Annex 1. Estimations are based on entire sample.

Source: UCW calculations based on data from Ankara school-based survey (*Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

98. The results are summarized in Table 3. Among the control variables, only the socioeconomic status, the number of sibling and the distance to school appears to affect the probability of being late. Children from better off household are less likely to be late, while children with more siblings or living at greater distance from school are more likely to be late. In particular, an increase in the average daily travel time of 10 minutes increases the likelihood of “often” being late by three percentage points

99. Whether or not a child is working (in either household chores or economic activity) has no significant influence on children’s ability to arrive at school on time. Working hours do, however, significantly influence tardiness, though the effect is relatively small and limited to hours spend in economic activity. An increase of 10 hours in the time spent on economic activity, for example, reduces the probability of being on time by 5 percentage points and increases by the almost the same amount that of being sometime late.

Figure 61. - Tardiness and working hours: Kernel estimates, Turkey



Source: UCW calculations based on data from Ankara school-based survey (*Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

100. We have also estimated a kernel density to obtain a synthetic indicators of the relationship between the probability of being late and the numbers of hours worked in economic activities. The results, presented in Figure 59, suggest that the effect of additional working hours is strongest in the range from nine to 26 weekly hours and again beyond 43 weekly working hours.

3.6.3 Dropout expectation

101. The questionnaire asks children about their expectation of dropping out of school. While such a variable does not measure actual drop out, it gives an indication of the expectation the children have about the continuation of their studies. It might possibly reflect also parental *attitudes* or observed behaviour of their siblings or of children in similar circumstances.

102. The results of the estimates are reported in Table 4. The expectation of dropping out seems to be influenced only by the work carried out by children and not by other covariates such as household structure or family socioeconomic status. However, the fact that age seems not influence drop-out expectations (as would appear reasonable to assume) should lead to some care in considering the results, even if the limited age range considered in the survey could offer an explanation for this finding.

103. Involvement in economic activity appears to significantly compromise a child's ability to remain in school in the future, independent of the total working hours a child puts in. Specifically, engaging in economic activity raises by 6 percentage points the likelihood of a child indicating that he or she will drop-out of school prior to completing the relevant schooling cycle. Note that this effect is independent of the number of hours worked. Longer working days in economic activities do not raise the expectations of dropping out, beyond the effect due to the fact of being engaged in an economic activity. Involvement in household chores, on the contrary, is positively linked to a child's expectation of drop-out, but only when these chores are performed for a large amount of time each week. Performing 10 hours of chores each week, for example, raises by two percentage points the probability of a child indicating that he or she expects to drop-out in the future.

Table 20. - Determinants of drop-out expectations: Marginal effect after probit estimation, Turkey ⁽¹⁾

Drop_out	dy/dx	z
female*	-0.00703	-0.39
age	-0.24320	-0.66
age2	0.00976	0.68
No of sibling	0.00085	0.19
Time to school	-0.00005	-0.1
Work_hhchore*	-0.02605	-1.26
work_economic	0.06478	4.47
Hours in hhchores	0.00207	2.22
Hours in Market	0.00005	0.1
Socioeconomic status	-0.00034	-0.02

Note: (1) Full probit estimate results provided in Annex 1. Estimations are based on entire sample.

Source: UCW calculations based on data from Ankara school-based survey (*Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

3.6.4 Levels of student fatigue

104. Students are also asked whether they feel tired during class. The answers are ranked in descending order: always, sometimes, seldom and never. The results of the ordered probit estimates are reported in Table 5. Individual and household characteristics, besides working, are not relevant in determining classroom fatigue. Again, this could be the result of the way the question is posed or interpreted by the children. Involvement in household chores increases the probability of students reporting that they “always” feel tired by almost three percentage points and reduces the probability of student reporting that they “never” feel tired by almost 13 percentage points. These effects are independent of the actual hours put in each week on chores and do not vary with them.

Table 21. - Determinants of classroom fatigue: Marginal effects after ordered probit estimation, Turkey ⁽¹⁾

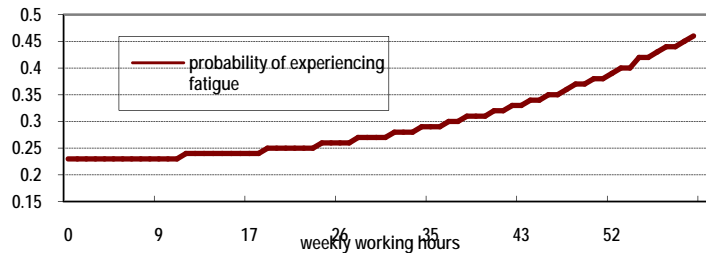
Fatigue	Outcome 1 (always)		Outcome 2 (sometimes)		Outcome 3 (seldom)		Outcome 4 (never)	
variable	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
female*	0.003029	0.34	0.009719	0.35	0.001969	0.36	-0.01472	-0.35
age	0.240646	1.01	0.789394	1.46	0.163681	1.34	-1.19372	-1.42
age2	-0.009266	-1	-0.030394	-1.45	-0.006302	-1.33	0.04596	1.41
No of sibling	0.001749	0.83	0.005737	0.85	0.001190	0.85	-0.00868	-0.85
Time to school	0.000001	0.01	0.000005	0.01	0.000001	0.01	-0.00001	-0.01
Work_hhchore*	0.023288	3.39	0.082773	3.48	0.018843	3.01	-0.12490	-3.51
work_economic	-0.002872	-0.4	-0.009361	-0.41	-0.001928	-0.41	0.01416	0.41
Hours in hhchores	-0.000514	-1.06	-0.001686	-1.12	-0.000350	-1.11	0.00255	1.12
Hours in Market	0.001310	2.6	0.004297	4.67	0.000891	4.05	-0.00650	-4.8
Socioeconomic status	0.005	0.62	0.015	0.63	0.003	0.62	-0.02	-0.63

Note: (1) Full probit estimate results provided in Annex 1. Estimations are based on entire sample.

Source: UCW calculations based on data from Ankara school-based survey (*Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

105. The effect of market work on fatigue levels, on the other hand, is dependent on hours worked. An additional 10 hours per week on economic activity work, for example, reduces the probability that a child never feel tired by almost 7 percentage points, increasing by 5 percentage points the probability that she feel sometime tired.

Figure 62. - Classroom fatigue and working hours: Kernel estimates, Turkey



Source: UCW calculations based on data from Ankara school-based survey (*Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

106. We have also estimated a kernel density to obtain a synthetic indicator of the relationship between the probability of feeling tired and the numbers of hours worked in economic activities. The results, presented in Figure 60, suggest that the probability of being tired increases constantly with the numbers of hours worked.

3.6.5 Test scores

107. The survey dataset permitted the examination of the links between work and a set of indicators of school performance: test scores in math, science and Turkish. Test scores are the results of the first mid term examination scores and are attributed to each child in ascending order from 1 to 5.³³ We have estimated three different ordered probit equations respectively for the tests on mathematics, science and Turkish language. The results of the estimates are reported in Tables 6-8. To the set of explanatory variables already described we have added two indicators of school quality: teachers to pupils ratio and number of pupils per classroom. In order to control for other differences among the surveyed schools, we have also included school dummies in the estimates.

108. In all three cases, background characteristics seem to have very limited explanatory power. Test results do not seem to be correlated with the household structure, the wealth of the family, with the sex or age of the child. The teacher to pupil ratio, where significant, seems to have a negative effect on school achievements. This is puzzling result; the only explanation we can find is that school quality is also correlated with more stringent testing. In such cases, better schools could have a more skewed distribution of test scores. The number of pupils per classroom is significant only in the case of the Turkish test score, indicating that smaller classes have a positive effect on language learning.

³³ Specifically, scores 1 and 2 indicate unsatisfactory outcomes, 3 satisfactory, 4 good and 5 very good.

Table 22. - Determinants of school performance, math scores: Marginal effects after ordered probit estimation, School dummies omitted, Turkey

Test scores results	1		2		3		4		5	
Variable	dy/dx	z	dy/dx	z	dy/dx	Z	dy/dx	z	dy/dx	z
female*	0.160	1.21	-0.038	-0.98	-0.055	-1.19	-0.045	-1.34	-0.021	-1.50
Age	-0.362	-0.39	0.067	0.39	0.122	0.39	0.112	0.39	0.061	0.39
age2	0.018	0.50	-0.003	-0.50	-0.006	-0.50	-0.006	-0.50	-0.003	-0.50
No of sibling	0.011	0.91	-0.002	-0.91	-0.004	-0.91	-0.003	-0.91	-0.002	-0.91
Time to school	0.001	0.72	0.000	-0.71	0.000	-0.72	0.000	-0.72	0.000	-0.71
Work_hhchore*	-0.050	-1.17	0.010	1.11	0.017	1.16	0.015	1.19	0.008	1.21
work_economic	0.056	1.47	-0.010	-1.51	-0.019	-1.47	-0.018	-1.44	-0.010	-1.41
Hours in hhchores	-0.001	-0.50	0.000	0.50	0.000	0.50	0.000	0.50	0.000	0.50
Hours in Market	0.003	1.90	-0.001	-1.85	-0.001	-1.88	-0.001	-1.88	-0.001	-1.86
Socioeconomic status	0.006	0.13	-0.001	-0.13	-0.002	-0.13	-0.002	-0.13	-0.001	-0.13
Mother works*	-0.020	-0.48	0.004	0.50	0.007	0.48	0.006	0.48	0.003	0.47
Father works*	-0.069	-2.00	0.014	1.82	0.024	1.96	0.021	2.03	0.011	2.06
Teacher-pupil ratio	0.022	2.49	-0.004	-2.38	-0.007	-2.44	-0.007	-2.44	-0.004	-2.39
Student per classroom	-0.001	-0.85	0.000	0.85	0.000	0.85	0.000	0.85	0.000	0.85

Source: UCW calculations based on data from Ankara school-based survey (*Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

109. Involvement in economic activity and/or household chores *per se* does not negatively affect learning achievement. The level of intensity of involvement in these activities does, however, appear to significantly influence school performance in the case of Math and, marginally, in the case of science.. Ten additional hours of work per week in economic activity, for example, raises of the probability of scoring “poorly” by almost 4 percentage points in mathematics. Hours spent on household chores, by contrast, do not appear to affect school performance significantly.

Table 23. - Determinants of school performance (Science scores): Marginal effects after ordered probit estimation, School dummies omitted, Turkey

Test scores results	1		2		3		4		5	
variable	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
female*	-0.089	-0.78	0.009	1.18	0.028	0.82	0.025	0.75	0.027	0.69
Age	-2.434	-2.45	0.339	2.17	0.792	2.39	0.657	2.43	0.646	3.49
age2	0.097	2.50	-0.013	-2.21	-0.031	-2.43	-0.026	-2.48	-0.026	-3.58
No of sibling	-0.009	-0.63	0.001	0.63	0.003	0.63	0.002	0.63	0.002	0.63
Time to school	0.003	1.68	-0.0004	-1.62	-0.001	-1.66	-0.001	-1.66	-0.001	-1.60
Work_hhchore*	-0.094	-2.06	0.015	1.78	0.031	2.01	0.025	2.07	0.023	2.14
work_economic	0.048	1.17	-0.006	-1.19	-0.016	-1.17	-0.013	-1.15	-0.013	-1.13
Hours in hhchores	0.002	0.73	-0.0003	-0.73	-0.001	-0.73	-0.001	-0.73	-0.001	-0.73
Hours in Market	0.003	1.44	-0.0004	-1.40	-0.001	-1.43	-0.001	-1.42	-0.001	-1.38
Socioeconomic status	-0.036	-0.77	0.005	0.77	0.012	0.77	0.010	0.77	0.010	0.77
Mother works*	-0.043	-0.98	0.005	1.10	0.014	0.99	0.012	0.95	0.012	0.92
Father works*	0.018	0.44	-0.002	-0.46	-0.006	-0.44	-0.005	-0.44	-0.005	-0.43
Teacher-pupil ratio	0.009	1.05	-0.001	-1.03	-0.003	-1.04	-0.003	-1.04	-0.002	-1.03
Student per classroom	0.002	0.75	0.000	-0.74	-0.001	-0.75	0.000	-0.75	0.000	-0.75

Source: UCW calculations based on data from Ankara school-based survey (*Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

Table 24. - Determinants of school performance (Turkish scores): Marginal effects after ordered probit estimation, School dummies omitted, Turkey

Test scores	1		2		3		4		5	
variable	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
female*	0.135	1.42	0.004	0.73	-0.051	-1.32	-0.056	-1.60	-0.031	-1.82
age	-1.249	-1.67	-0.135	-1.58	0.426	1.66	0.584	1.66	0.374	1.70
age2	0.050	1.71	0.005	1.61	-0.017	-1.69	-0.023	-1.70	-0.015	-1.73
No of sibling	0.009	0.91	0.001	0.89	-0.003	-0.90	-0.004	-0.91	-0.003	-0.90
Time to school	0.002	1.71	0.000	1.60	-0.001	-1.68	-0.001	-1.70	-0.001	-1.69
Work_hhchore*	-0.041	-1.15	-0.004	-1.27	0.014	1.12	0.019	1.17	0.012	1.20
work_economic	0.113	3.77	0.015	2.80	-0.037	-3.73	-0.054	-3.59	-0.037	-3.34
Hours in hhchores	-0.004	-1.78	0.000	-1.67	0.001	1.76	0.002	1.77	0.001	1.76
Hours in Market	0.001	1.00	0.000	0.98	0.000	-1.00	-0.001	-1.00	0.000	-1.00
Socioeconomic status	0.009	0.24	0.001	0.24	-0.003	-0.24	-0.004	-0.24	-0.003	-0.24
Mother works*	-0.019	-0.59	-0.002	-0.54	0.006	0.60	0.009	0.58	0.006	0.57
Father works*	-0.037	-1.27	-0.003	-1.41	0.013	1.24	0.017	1.29	0.011	1.33
Teacher-pupil ratio	0.026	3.76	0.003	2.90	-0.009	-3.53	-0.012	-3.66	-0.008	-3.58
Student per classroom	-0.007	-3.79	-0.001	-2.92	0.002	3.56	0.003	3.69	0.002	3.61

Source: UCW calculations based on data from Ankara school-based survey (*Light Work, Academic Performance and School Attendance of Children in Turkey*, Ankara, May 2004).

110. Summing up the results described above, we can conclude that there is some evidence that work, especially work in economic activity, does affect school outcome. The likely impact, however, does not appear to be particularly strong and well defined.

3.7 Brazil, Kenya and Turkey (pooled data)

111. In order to consider a bigger sample, we pooled the survey data from Brazil, Turkey and Kenya, and restructured variables for missed classes and classroom fatigue as dummy variables. The following tables show probit estimations of a set of covariates on these school performance proxies (i.e., classroom fatigue and missed classes), as well as on drop-out intentions. We also included dummies for countries³⁴ in the regression analysis, in order to capture the potential differences between the considered countries. The estimations suggest that work intensity has a significant effect on school performance, but that this is not translated into a greater drop-out risk.

3.7.1 Attendance regularity

112. Additional hours spent in economic activity significantly affect the chances of a child being late for class, but the magnitude of the effect is relatively small. More hours in household chores appear to have no effect on the ability of children to arrive a school on time. Dummy variables for both country_Brazil and country_Kenya are both significant, suggesting that irregular attendance is greater problem for children in these countries than in Turkey.

Table 25. - Determinants of attendance regularity⁽¹⁾ (pooled data for Brazil, Kenya and Turkey): Probit estimation

<i>Missed_class</i>	Coef.	Std. Err	z	P> z	[95% Con	Interval]	Number of obs=1912 LR chi2(9)=95.49 Prob > chi2=0 Pseudo R2=0.1022 Log likelihood = 419.327
age	1.614	1.550	1.04	0.298	-1.425	4.653	
age2	-0.054	0.056	-0.97	0.334	-0.165	0.056	
female	-0.149	0.100	-1.49	0.135	-0.344	0.046	
meduc	0.096	0.184	0.52	0.600	-0.264	0.457	
feduc	0.235	0.160	1.47	0.142	-0.079	0.550	
weekly_hours	0.009	0.004	2.30	0.021	0.001	0.016	
country_Brazil	1.032	0.189	5.45	0.000	0.661	1.403	
country_Kenya	0.548	0.172	3.18	0.001	0.211	0.886	
hhchore_hours	0.002	0.008	0.25	0.802	-0.013	0.017	
_cons	-14.246	10.608	-1.34	0.179	-35.037	6.546	

Notes: (1) Dummy variable taking value of 1 if one or more classes missed, and value of 0 otherwise. Source: UCW calculations based on data from Brazil, Kenya and Turkey school-based surveys

³⁴ Dummies were included for Brazil and Kenya, with Turkey serving as the reference.

Table 26. - Determinants of attendance regularity⁽¹⁾ (pooled data for Brazil, Kenya and Turkey): Marginal effects after probit estimation

	<i>dy/dx</i>	<i>Std. Err</i>	<i>z</i>	<i>P> z</i>	[95% C.I.]	<i>X</i>
age	0.159	0.151	1.05	0.293	-0.138 0.456	13.409
age2	-0.005	0.006	-0.98	0.329	-0.016 0.005	180.851
female	-0.014	0.009	-1.53	0.125	-0.032 0.004	0.382
meduc	0.009	0.016	0.56	0.576	-0.022 0.040	0.877
feduc	0.020	0.012	1.72	0.086	-0.003 0.043	0.878
weekly_hours	0.001	0.000	2.29	0.022	0.000 0.002	11.576
country_Brazil	0.178	0.046	3.9	0.000	0.089 0.268	0.155
country_Kenya	0.056	0.018	3.16	0.002	0.021 0.091	0.484
hhchore_hours	0.000	0.001	0.25	0.802	-0.001 0.002	6.090

Notes: (1) Dummy variable taking value of 1 if one or more classes missed, and value of 0 otherwise.

Source: UCW calculations based on data from Brazil, Kenya and Turkey school-based surveys

3.7.2 Classroom fatigue

114. Time spent in economic activity appears to affect tiredness in class, but the magnitude of the effect is relatively small. Time spent in household chores appears to have no effect on reported tiredness in class. These results suggest possible differences between household chores and economic activity in terms of the physical demands they place on children. Dummy variables for both country_Brazil and country_Kenya are both strongly significant, pointing to important inter-country differences in levels of classroom tiredness

Table 27. - Determinants of sleepiness⁽¹⁾ (pooled data for Brazil, Kenya and Turkey): Probit estimation

<i>Sleepy2</i>	<i>Coef.</i>	<i>Std. Err</i>	<i>z</i>	<i>P> z</i>	[95% Con . Interval]	Number of obs=2184 LR chi2(9)=532.51 Prob > chi2=0 Log likelihood = -919.53684 Pseudo R2=0.2245
age	1.1004	0.9439	1.17	0.244	-0.7497 2.9504	
age2	-0.0416	0.0353	-1.18	0.238	-0.1107 0.0275	
female	-0.0092	0.0794	-0.12	0.908	-0.1649 0.1465	
meduc	-0.0385	0.0968	-0.40	0.691	-0.2282 0.1511	
feduc	-0.1207	0.1098	-1.10	0.271	-0.3359 0.0944	
weekly_hours	0.0138	0.0027	5.11	0.000	0.0085 0.0190	
country_Brazil	1.2764	0.1185	10.77	0.000	1.0441 1.5087	
country_Kenya	-0.8840	0.1032	-8.57	0.000	-1.0862 -0.6818	
hhchore_hours	0.0072	0.0047	1.53	0.126	-0.0020 0.0163	
_cons	-7.9545	6.2899	-1.26	0.206	-20.2825 4.3734	

Notes: (1) Dummy variable taking value of 1 if student reported ever feeling sleepy in class, and value of 0 otherwise.

Source: UCW calculations based on data from Brazil, Kenya and Turkey school-based surveys

Table 28. - Determinants of sleepiness⁽¹⁾ (pooled data for Brazil, Kenya and Turkey): Marginal effects after probit estimation

<i>Sleepy2</i>	<i>dy/dx</i>	<i>Std. Err</i>	<i>z</i>	<i>P> z</i>	[95% C.I.]	<i>X</i>
age	0.2989	0.2561	1.17	0.243	-0.2031 0.8008	13.31
age2	-0.0113	0.0096	-1.18	0.237	-0.0301 0.0074	178.21
female	-0.0025	0.0215	-0.12	0.908	-0.0447 0.0397	0.35
meduc	-0.0106	0.0269	-0.39	0.694	-0.0634 0.0422	0.86
feduc	-0.0341	0.0322	-1.06	0.289	-0.0971 0.0289	0.88
weekly_hours	0.0037	0.0007	5.10	0.000	0.0023 0.0052	11.46
country_Brazil	0.4442	0.0438	10.14	0.000	0.3583 0.5300	0.13
country_Kenya	-0.2249	0.0238	-9.46	0.000	-0.2716 -0.1783	0.42
hhchore_hours	0.0019	0.0013	1.53	0.126	-0.0005 0.0044	6.30

Notes: (1) Dummy variable taking value of 1 if student reported ever feeling sleepy in class, and value of 0 otherwise.

Source: UCW calculations based on data from Brazil, Kenya and Turkey school-based surveys

3.7.3 Drop-out intentions

116. The intensity of work in economic activity and household chores does not appear to affect the likelihood of a child remaining in school. As shown in Table 20, the marginal effect of working hours on drop-out intentions is insignificant in the case of both household chores and economic activity. Among the background variables controlling for individual and household characteristics, only fathers' education and country_Brazil are significant. Having an educated father greatly reduces the chances of dropping out (by 11 percentage points), although this likely in part reflects a disguised income effect, as income is not controlled for. The strongly significant result for the dummy variable for Brazil suggests children there face a much greater drop-out risk than their counterparts in Turkey.

Table 29. - Determinants of drop-out intentions⁽¹⁾ (pooled data for Brazil, Kenya and Turkey): Probit estimation

<i>Drop-out intention</i>	<i>Coef.</i>	<i>Std. Err</i>	<i>z</i>	<i>P> z</i>	[95% Con . Interval]	Number of obs=2198 LR chi2(9)=1135.27 Prob > chi2=0 Log likelihood =-511.70621 Pseudo R2=0.5259
age	0.912	1.221	0.75	0.455	-1.481 3.305	
age2	-0.034	0.045	-0.75	0.453	-0.122 0.054	
female	0.000	0.097	0.00	1.000	-0.189 0.189	
meduc	0.064	0.131	0.49	0.624	-0.193 0.321	
feduc	-0.393	0.123	-3.19	0.001	-0.634 -0.151	
weekly_hours	0.006	0.004	1.59	0.111	-0.001 0.013	
country_Brazil	3.591	0.204	17.58	0.000	3.191 3.992	
country_Kenya	0.119	0.126	0.94	0.348	-0.129 0.366	
hhchore_hours	0.004	0.006	0.61	0.543	-0.008 0.015	
_cons	-7.464	8.229	-0.91	0.364	-23.592 8.664	

Notes: (1) Dummy variable taking value of 1 if intention to drop-out expressed, and value of 0 otherwise.

Source: UCW calculations based on data from Brazil, Kenya and Turkey school-based surveys

Table 30. - Determinants of drop-out intentions⁽¹⁾ (pooled data for Brazil, Kenya and Turkey): Marginal effects after probit estimation

	<i>dy/dx</i>	<i>Std. Err</i>	<i>z</i>	<i>P> z</i>	[95% C.I.]	<i>X</i>
age	0.218	0.292	0.75	0.455	-0.354 0.789	13.309
age2	-0.008	0.011	-0.75	0.453	-0.029 0.013	178.161
female	0.000	0.023	0.00	1.000	-0.045 0.045	0.351
meduc	0.015	0.030	0.50	0.616	-0.044 0.074	0.859
feduc	-0.108	0.038	-2.85	0.004	-0.182 -0.034	0.879
weekly_hours	0.001	0.001	1.60	0.110	0.000 0.003	11.309
country_Brazil	0.914	0.011	84.02	0.000	0.893 0.936	0.134
country_Kenya	0.029	0.031	0.93	0.352	-0.032 0.089	0.421
hhchore_hours	0.001	0.001	0.61	0.543	-0.002 0.004	6.261

Notes: (1) Dummy variable taking value of 1 if intention to drop-out expressed, and value of 0 otherwise.

Source: UCW calculations based on data from Brazil, Kenya and Turkey school-based surveys

4. CONCLUSIONS

118. If we look at the evidence arising from both the descriptive and the econometric analysis, two main initial conclusions seem to emerge. First, in the samples identified by the school surveys employed in the study, there appear to be some differences between working and non working children in terms “inputs” to the learning process (e.g., regular class attendance, tardiness, tiredness, etc.) but little difference between the two groups in terms of learning “outputs” (i.e., test scores). In other words, the evidence suggests that working children perform at a level equal to that of their non-working counterparts despite the fact that they may encounter greater difficulty coming to class regularly and or that they may be more tired during class.

119. The second initial conclusion is that work appears to reduce the chances that children will be retained by the school system. It was shown in the case of Turkey that future drop-out expectations are very strongly affected by the involvement of children in work and by hours they spend working. These conclusions, taken together, suggest that the strongest impact of work might be more on the ability of children to enrol and remain in school, rather than on the ability of children to perform effectively once enrolled.

120. We have measured school achievement mainly indirectly through inputs to the learning process and only in a few cases directly through the use of tests scores or teacher reports. These various “input” measures employed appear to be influenced to some degree by the kind and extent of work carried out by the children.

121. Looking first at attendance, in two of the five countries, Brazil and Kenya, the descriptive evidence suggested that economically-active children might be disadvantaged in terms of their ability to attend class regularly. In both, however, the apparent link disappeared when other factors were taken into account in the regression analysis. None of the countries pointed to a link between household chores involvement and missed schooling.

122. Tardiness was in some countries more clearly linked to work, and especially to working hours. We observed a significant effect of working hours in household chores on tardiness in Kenya, and a link between working hours and rate of tardiness in Sri Lanka. But evidence from other countries was less clear cut.

123. It should be noted, however, that student perceptions of attendance and tardiness often differed from school record evidence. In Sri Lanka and Turkey, for example, working children, when asked directly, reported that they missed class and arrived late more often than their non working counterparts. The results based on the official records might hence underestimate the effect of work on regular and timely school attendance.

124. Student fatigue appears to be more strongly linked to work and to working hours than attendance. In Kenya and in Turkey, the regression analyses confirmed this linkage, while the evidence is less defined in other countries.

125. Summing up, we can identify some effects of work and working hours on “inputs” to the learning process. But the effects, where clearly identifiable, are not large. For example, in the case of Turkey, 10 additional hours of work reduce the probability of being in time by five percent and the probability of feeling tired in class by seven percent. Similar effects were estimated for Kenya.

126. Differences between working and non-working children in terms of learning inputs did not, however, translate into differences in *actual* learning outcomes. Looking at simple cross tabulations, a negative link between school achievements and work, working hours and type of work emerged in some of the countries. But these

effects were not always very clear. Moreover, they tended to be much less well defined when it was possible to take into consideration background and school characteristics, as in the case of Turkey. This points to the possibility that simple cross tabulations might overestimate of the impact of work and school achievements, as they do not consider other characteristics that might be associated both with school achievement and the decision to send a child to work. For example, children from poor household are more likely to be sent to work, but are also more likely to perform worse than other at school because of the situation in which they live.

127. Based on this evidence, the link between school outcomes and work is not strong and not precisely identifiable, and working children who attend school do not perform much worse than their non working counterparts. But there are a number of reasons why such conclusions should be considered with care, three of the most important of which are outlined below:

- *The sample design.* School and children selected are not always representative at country level, so a selection bias might influence the results.
- *The characteristics of the questionnaire.* Many answers are based on school records that might not fully reflect the actual situation. Moreover, teacher reports and opinion might be biased in favour of working children.
- *The characteristics of working children.* Children observed in the surveys work a rather limited number of hours in most of the countries, and work tends to be concentrated in a few days a week. Average working hours are about five per week in Turkey, less than two per hours during weekdays in Lebanon; almost 80 percent of children work not more than 14 hours per week (including weekends) in Kenya. Obviously, there is a problem of endogenous truncation in these cases. We cannot observe children working long hours in school, as they might be out of school having dropped out or not enrolled. So we might not observe those children for whom the working deeply conflicts with schooling.

128. If we take these conclusions at face value, the effect of work on schooling should be looked at more in terms of enrolment in school and of dropping out, rather than in terms of achievement when in school. The evidence gathered through the school surveys promoted by IPEC seems to point in such a direction. It should be considered, however, more of a working hypothesis rather than an actual conclusion. The outcome of the data collected through IPEC has contributed to focus the necessary extension of analysis and research needed to assess the links between schooling and work.

129. Future research should therefore be focused on two areas. On the one hand, the analysis of effects of work on school achievement should be developed further by piloting measures of school achievement in large size household surveys, possibly integrated with school surveys. On the other hand, more research is needed on the link between child labour and school attendance. The data needed to define causal relationships are extensive. Ideally, panel data would be necessary to try to disentangle such effects. However, retrospective questions about intensity of work and date of dropping out might be very useful. In particular, interviews with recent drop out, whose recall of work characteristics in the recent past will be more prone to errors, could prove useful.

ANNEX 1. DETAILED DESCRIPTIVE TABLES

Brazil

Table 31. - BRAZIL (1). Distribution of working children by hours worked and activity

Activity	Distribution by hours worked (%)					Total
	Up to 7h	8 to 14h	15 to 21h	22 to 28h	More than 28h	
Helps the parents at home	40,27	25,48	15,62	7,12	11,51	100
Domestic labor (outside home)	13,33	20,00	20,00	13,33	33,33	100%
Works in the streets	52,63	10,53	10,53	5,26	21,05	100
Works in store, office	15,00	0,00	15,00	30,00	40,00	100
Other	19,35	22,58	25,81	12,90	19,35	100
(blank)	46,67	6,67	6,67	13,33	26,67	100
Total	37,63	22,80	15,91	8,82	14,84	100

Table 32. - BRAZIL (2). Classes missed in the previous month due to work, by work type

No. of classes missed	Working children						Total	
	Household chores		Other activities		Combined			
	#	%	#	%	#	%	#	%
none	251	87,15%	43	62,32%	87	80,56%	381	81,94%
1 or more	36	12,50%	26	37,68%	21	19,44%	83	17,85%
(blank)	1	0,35%	0	0,00%	0	0,00%	1	0,22%
Total	288	100,00%	69	100,00%	108	100,00%	465	100,00%

Table 33. - BRAZIL (3). Classes missed in the previous month due to work, by workload

No. of classes missed	Average weekly workload										Total	
	Up to 7h		8 to 14h		15 to 21h		22 to 28h		More than 28h			
	#	%	#	%	#	%	#	%	#	%	#	mean
none	155	88,57%	91	85,85%	62	83,78%	30	73,17%	43	62,32%	381	14,54
1 or more	19	10,86%	15	14,15%	12	16,22%	11	26,83%	26	37,68%	83	23,36
(blank)	1	0,57%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	1	2,00
Total	175	100,00%	106	100,00%	74	100,00%	41	100,00%	69	100,00%	465	16,09

Table 34. - BRAZIL (4). Classes missed in the previous month due to work, by work type

No. of classes missed	Work type										Total	
	Helps the parents at home		Domestic labor (outside home)		Works in the streets		Works in store, office		Other			
	#	%	#	%	#	%	#	%	#	%	#	%
none	312	85,48%	11	73,33%	13	68,42%	14	70,00%	23	74,19%	381	81,94%
1 or more	52	14,25%	4	26,67%	6	31,58%	6	30,00%	8	25,81%	83	17,85%
(blank)	1	0,27%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	1	0,22%
Total	365	100,00%	15	100,00%	19	100,00%	20	100,00%	31	100,00%	465	100,00%

Table 35. - BRAZIL (5). Frequency of academic failure, by work status and work type

Frequency of failure	CONTROL GROUP		Working children						Total	
			Household chores		Other activities		Combined			
	#	%	#	%	#	%	#	%	#	%
never	298	79,47%	247	85,76%	59	85,51%	85	78,70%	689	82,02%
1 or more	70	18,67%	38	13,19%	8	11,59%	22	20,37%	138	16,43%
(blank)	7	1,87%	3	1,04%	2	2,90%	1	0,93%	13	1,55%
Total	375	100,00%	288	100,00%	69	100,00%	108	100,00%	840	100,00%

Table 36. - BRAZIL (6). Frequency of academic failure, by workload

Frequency of failure	Average weekly workload										Total	
	Up to 7h		8 to 14h		15 to 21h		22 to 28h		More than 28h			
	#	%	#	%	#	%	#	%	#	%	#	mean
never	148	84,57%	92	86,79%	65	87,84%	28	68,29%	58	84,06%	391	16,04
1 or more	22	12,57%	14	13,21%	9	12,16%	12	29,27%	11	15,94%	68	17,14
(blank)	5	2,86%	0	0,00%	0	0,00%	1	2,44%	0	0,00%	6	6,92
Total	175	100,00%	106	100,00%	74	100,00%	41	100,00%	69	100,00%	465	16,09

Table 37. - BRAZIL (7). Frequency of academic failure, by work type

Frequency of failure	Work type										Total	
	Helps the parents at home		Domestic labor (outside home)		Works in the streets		Works in store, office		Other			
	#	%	#	%	#	%	#	%	#	%	#	%
never	310	84,93%	13	86,67%	15	78,95%	18	90,00%	22	70,97%	391	84,09%
1 or more	51	13,97%	2	13,33%	3	15,79%	2	10,00%	9	29,03%	68	14,62%
(blank)	4	1,10%	0	0,00%	1	5,26%	0	0,00%	0	0,00%	6	1,29%
Total	365	100,00%	15	100,00%	19	100,00%	20	100,00%	31	100,00%	465	100,00%

Table 38. - BRAZIL (8). Portuguese grade ranking, by work status and work type

Grade ranking	CONTROL GROUP		Working children						Total	
			Household chores		Other activities		Combined			
	#	%	#	%	#	%	#	%	#	%
Unsatisfactory	69	18,40%	42	14,58%	12	17,39%	17	15,74%	140	16,67%
Satisfactory	185	49,33%	137	47,57%	36	52,17%	52	48,15%	410	48,81%
Fully satisfactory	65	17,33%	70	24,31%	3	4,35%	27	25,00%	165	19,64%
(blank)	56	14,93%	39	13,54%	18	26,09%	12	11,11%	125	14,88%
Total	375	100,00%	288	100,00%	69	100,00%	108	100,00%	840	100,00%

Table 39. - BRAZIL (9). Portuguese grade ranking, by workload

Grade ranking	Average weekly workload										Total	
	Up to 7h		8 to 14h		15 to 21h		22 to 28h		More than 28h			
	#	%	#	%	#	%	#	%	#	%	#	mean
Unsatisfactory	22	12,57%	22	20,75%	9	12,16%	5	12,20%	13	18,84%	71	16,07
Satisfactory	86	49,14%	50	47,17%	36	48,65%	21	51,22%	32	46,38%	225	16,04
Fully satisfactory	44	25,14%	24	22,64%	18	24,32%	8	19,51%	6	8,70%	100	13,21
(blank)	23	13,14%	10	9,43%	11	14,86%	7	17,07%	18	26,09%	69	20,39
Total	175	100,00%	106	100,00%	74	100,00%	41	100,00%	69	100,00%	465	16,09

Table 40. - BRAZIL (10). Portuguese grade ranking, by work type

Grade ranking	Work type										Total	
	Helps the parents at home		Domestic labor (outside home)		Works in the streets		Works in store, office		Other			
	#	%	#	%	#	%	#	%	#	%	#	%
Unsatisfactory	53	14,52%	1	6,67%	5	26,32%	4	20,00%	8	25,81%	71	15,27%
Satisfactory	175	47,95%	9	60,00%	11	57,89%	9	45,00%	15	48,39%	225	48,39%
Fully satisfactory	91	24,93%	3	20,00%	2	10,53%	0	0,00%	3	9,68%	100	21,51%
(blank)	46	12,60%	2	13,33%	1	5,26%	7	35,00%	5	16,13%	69	14,84%
Total	365	100,00%	15	100,00%	19	100,00%	20	100,00%	31	100,00%	465	100,00%

Table 41. - BRAZIL (11). Frequency of fatigue during class, by work status and work type

Frequency of fatigue during class	CONTROL GROUP		Working children						Total	
			Household chores		Other activities		Combined			
	#	%	#	%	#	%	#	%	#	%
never	112	25,99%	69	29,87%	14	20,29%	32	29,63%	227	27,02%
sometimes	235	66,67%	191	62,67%	47	68,12%	71	65,74%	544	64,76%
often / always	22	6,21%	22	5,87%	7	10,14%	4	3,70%	55	6,55%
(blank)	6	1,13%	6	1,60%	1	1,45%	1	0,93%	14	1,67%
Total	375	100%	288	100%	69	100,00%	108	100,00%	840	100%

Table 42. - BRAZIL (12). Frequency of fatigue during class, by workload

Frequency of fatigue during class	Average weekly workload										Total	
	Up to 7h		8 to 14h		15 to 21h		22 to 28h		More than 28h			
	#	%	#	%	#	%	#	%	#	%	#	%
never	48	27,43%	24	22,64%	20	27,03%	12	29,27%	11	15,94%	115	24,73%
sometimes	110	62,86%	79	74,53%	46	62,16%	23	56,10%	51	73,91%	309	66,45%
often / always	11	6,29%	3	2,83%	7	9,46%	5	12,20%	7	10,14%	33	7,10%
(blank)	6	3,43%	0	0,00%	1	1,35%	1	2,44%	0	0,00%	8	1,72%
Total	175	100,00%	106	100,00%	74	100,00%	41	100,00%	69	100,00%	465	100,00%

Table 43. - BRAZIL (13). Frequency of fatigue during class, by work type

Frequency of fatigue during class	Work type										Total	
	Helps the parents at home		Domestic labor (outside home)		Works in the streets		Works in store, office		Other			
	#	%	#	%	#	%	#	%	#	%	#	%
never	94	25,75%	3	20,00%	4	21,05%	3	15,00%	7	22,58%	115	24,73%
sometimes	239	65,48%	10	66,67%	13	68,42%	15	75,00%	24	77,42%	309	66,45%
often / always	25	6,85%	2	13,33%	1	5,26%	2	10,00%	0	0,00%	33	7,10%
(blank)	7	1,92%	0	0,00%	1	5,26%	0	0,00%	0	0,00%	8	1,72%
Total	365	100,00%	15	100,00%	19	100,00%	20	100,00%	31	100,00%	465	100,00%

Kenya

Table 44. - KENYA (1) Distribution of children by activity and hours worked

Activity	Hours Per Week					Total
	1-7 hours	8-14 hours	15-21 hours	22-28 hours	Over 28 hours	
Domestic Duties Own Home	45.9	27.6	7.3	14.6	4.6	100.0
Domestic Duties Other Homes	55.8	18.5	10.4	15.4	0.0	100.0
Formal Places	52.5	22.0	10.6	9.9	5.0	100.0
Informal Places	46.3	34.3	10.4	6.0	3.0	100.0
Subsistence Agriculture	29.5	52.3	13.6	4.5	0.0	100.0
Commercial Agriculture	85.7	14.3	0	0	0	100.0
Others	100.0	0.0	0	0	0	100.0
Total	49.1	25.8	9.0	12.9	3.1	100.0

Table 45. - KENYA (2). School days missed by weekly working hours

Weekly working hours	No. of children by days missed			total
	0 days	1-5 days	6-9 days	
1-7 hrs	332	28	1	361
8-14 hrs	244	19	0	263
15-18 hrs	75	2	1	78
19-23 hrs	72	5	0	77
24-28 hrs	56	5	0	61
29-32 hrs	22	3	0	25
33-42 hrs	47	3	1	51
43+ hrs	10	0	0	10
Total	858	65	3	926

Table 46. - KENYA (3) [Teachers' perceived?] student performance, by activity, age and sex

Activities	Performance ranking	No. of children by performance ranking						
		13 year-olds		14 year-olds		15 year-olds		Total
		Boys	Girls	Boys	Girls	Boys	Girls	
Household Chores (unpaid)	Above Average	4	5		4	5	3	21
	Average	7	14	11	7	6	10	55
	Below Average	3	6	2	6	5	6	28
Domestic work (paid)	Above Average		1					1
	Average	2			3			5
	Below Average	1	1	1	1		1	5
Subsistence agriculture	Above Average	2		4	1	5	2	14
	Average	3	4	8	13	5	5	38
	Below Average	2	1	6	7	4	3	23
Commercial agriculture	Above Average				1	1	2	4
	Average	6	11	7	2	3	2	31
	Below Average	3	2	1	1	5	2	14
Others	Above Average	2				1		3
	Average	3	6	1	2	1	1	14
	Below Average	6	4	5	2	4		21
Total		44	55	46	50	45	37	277

Table 47. - KENYA (4). Teachers' perceived impact of work on student performance, by age and sex

Age	Sex	Would do better if not working	Would <u>not</u> do better if not working	Do not know	Total
13	Boys	97	42	21	160
	Girls	101	62	21	184
	Total	198	104	42	344
14	Boys	90	46	14	150
	Girls	92	46	20	158
	Total	182	92	34	308
15	Boys	103	37	13	153
	Girls	75	32	14	121
	Total	178	69	27	274
All children	Boys	290	125	48	463
	Girls	268	140	55	463
	Total	558	265	103	926

Table 48. - KENYA (5). Time spent on homework, by weekly working hours and sex

Sex	Hours worked per week	No. of children by hours of homework per day							
		0	1	2	3	4	5	6	7
Boys	1-7 hrs	34	78	36	22	4	2	0	0
	8-14 hrs	23	60	20	15	3	2	0	0
	15-18 hrs	5	26	6	4	1	0	0	0
	19-23 hrs	14	22	5	1	0	1	0	0
	24-28 hrs	12	14	8	1	1	0	0	1
	29-32 hrs	2	7	2	2	0	0	0	0
	33-42 hrs	6	12	4	1	1	0	0	0
	43+	0	1	2	1	0	0	0	0
	Total	96	220	83	47	10	5	0	1
Girls	1-7 hrs	50	88	24	16	3	2	0	0
	8-14 hrs	23	88	16	6	4	2	1	0
	15-18 hrs	8	11	10	5	2	0	0	0
	19-23 hrs	1	27	5	1	0	0	0	0
	24-28 hrs	3	14	4	1	2	0	0	0
	29-32 hrs	1	9	0	2	0	0	0	0
	33-42 hrs	3	8	11	2	2	1	0	0
	43+	1	2	2	0	1	0	0	0
	Total	90	247	72	33	14	5	1	0

Table 49. - KENYA (6). Frequency of feeling sleepy in class, by work status

Frequency of feeling sleepy in class	Working Children	Non working children
Never	58.3	47.3
Sometimes	35.0	44.6
Often	3.2	2.7
Always	3.5	5.4
Total	100.0	100.0

Table 50. - KENYA (7). Frequency of fatigue in classroom, by hours worked in household chores

Hours worked per week in household chores	No. of children by frequency of sleepiness								Total
	Never		Sometimes		Often		Always		
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
0	1	1	2					1	5
1	162	186	96	109	14	1	9	10	587
2	59	45	23	33	6	3	4	3	176
3	25	20	14	19		1	1	4	84
4	7	8	8	3	1	1			28
5	4	3	7	2		1			17
6	6	1	1	2					10
7	4	2	1			1			8
8	4	1	2						7
9		1	2			1			4
Total	272	268	156	168	21	9	14	18	926

Lebanon

Table 51. - LEBANON (1) Teacher evaluation of regularity of attendance, by activity

Activity	Distribution by regularity of attendance (%)			Distribution by frequency of irregular attendance (among those reported as attending irregularly (%))				
	Regular attendance	Irregular attendance	Total	Weekly	Monthly	Seasonally	Occasionally	Total
Non working	22.4	77.6	100	25.0	37.5	0.0	37.5	100
Engaged in HHD chores only	11.8	88.2	100	37.5	50.0	0.0	12.5	100
Engaged in income-generating activities only	26.2	73.8	100	25.0	33.3	16.7	25.0	100
Engaged in HDD chores and income-generating act	11.3	88.7	100	42.9	14.3	0.0	42.9	100
All children	14.9	85.1	100	31.4	34.3	5.7	28.6	100

Table 52. - LEBANON (2) Teacher ratings of overall student performance, by activity

Activity	Distribution by teacher ranking (%)				
	Good	Satisfactory	Poor	Very poor	Total
Non working	25.5	34.0	29.8	10.6	100
Engaged in HHD chores only	36.4	39.0	20.8	3.9	100
Engaged in income-generating activities only	19.0	33.3	42.9	4.8	100
Engaged in HDD chores and income-generating act	28.0	42.9	23.6	5.6	100
All children	29.4	39.1	26.1	5.4	100

Table 53. - LEBANON (3) Teacher ratings of student test scores, by activity

Activity	Distribution by teacher ranking (%)				
	Good	Satisfactory	Poor	Very poor	Total
Non working	25.5	38.3	25.5	10.6	100
Engaged in HHD chores only	36.0	34.2	24.2	5.6	100
Engaged in income-generating activities only	18.8	26.6	42.2	12.5	100
Engaged in HDD chores and income-generating act	22.2	46.3	23.5	8.0	100
All children	27.2	38.0	26.7	8.1	100

Table 54. - LEBANON (4) Teacher ratings of student homework completion, by activity

Activity	Distribution by teacher ranking (%)				
	Good	Satisfactory	Poor	Very poor	Total
Non working	33.3	39.6	25.0	2.1	100
Engaged in HHD chores only	52.2	35.2	11.3	1.3	100
Engaged in income-generating activities only	29.7	39.1	23.4	7.8	100
Engaged in HDD chores and income-generating act	40.0	41.2	15.8	3.0	100
All children	42.2	38.5	16.3	3.0	100

Table 55. - LEBANON (5) Teacher ratings of student by evidence of extra learning in the home, by activity

Activity	Distribution by teacher ranking (%)				
	Good	Satisfactory	Poor	Very poor	Total
Non working	21.3	31.9	29.8	17.0	100
Engaged in HHD chores only	28.4	31.8	28.4	11.5	100
Engaged in income-generating activities only	17.0	22.6	37.7	22.6	100
Engaged in HDD chores and income-generating act	22.7	40.9	26.0	10.4	100
All children	23.9	34.1	28.9	13.2	100

Table 56. - LEBANON (6) Teacher evaluation of student behaviour attributes, by activity

Activity	Distribution of children by teacher evaluation of behaviour attributes (%)								Total
	Drowsiness	Boredom/ fatigue	Shyness	Aggressiveness	Depression	Recurring illness	Lack of commitment	Nothing	
Non working	9.9	19.8	20.9	9.9	3.3	4.4	13.2	18.7	100
Engaged in HHD chores only	13.3	17.2	24.2	5.5	5.5	4.7	9.0	20.7	100
Working in income- generating activities only	11.5	20.4	10.6	9.7	9.7	7.1	11.5	19.5	100
Engaged in HDD chores and income- generating act	11.2	19.8	14.9	7.8	8.2	3.4	12.3	22.4	100
All children	11.8	19.0	18.3	7.6	6.9	4.5	11.1	20.9	100

Sri Lanka

Table 57. - SRI LANKA (1). Daily average working hours, by activity, period of week and sex

Sex	Category of activities performed in addition to studies	Ave. hours per school day	Ave. hours per weekend day/ holiday	Ave. working hours per day
Male	Household duties	2.1	3.3	5.9
	Work in own HH income-generating activity/ family enterprise	2.6	4.9	4.9
	Work for employer outside home	2.8	5.9	4.2
Female	Household duties	2.1	3.5	5.6
	Work in own HH income-generating activity/ family enterprise	2.8	5.2	4.4
	Work for employer outside home	3.1	7.1	3.9
Total	Household duties	2.1	3.4	5.8
	Work in own HH income-generating activity/ family enterprise	2.7	5.0	4.7
	Work for employer outside home	2.9	6.3	4.1

Table 58. - SRI LANKA (2). School attendance by work status, grade and sex

Grade	Sex	School attendance 2002 (%) ⁽¹⁾			
		Children studying only	Children studying and performing household chores	Children studying and performing household economic activities	Children studying and performing economic activities
Grade 6	Male				
	Female				
	Total	73.22	75.52	78.28	76.29
Grade 7	Male				

Table 59. - SRI LANKA (3) Analysis of variance of average annual attendance

	Group of students	Mean scores	Only studying	Doing Household work	Doing family economic work	Doing economic work outside the family
Average annual attendance	Only studying	76.6	0	-2.53	-3.04*	-1.43
	Doing Household work	76.8	2.53	0	-5.57*	-3.96*
	Doing family economic work	78.4	3.04*	5.57*	0	1.61
	Doing economic work outside the family	76.9	1.43	3.96*	-1.61	0

* p ≤ 0.05

Table 60. - SRI LANKA (4). School performance by work status, grade and sex

Grade	Sex	School test scores 2002 ⁽¹⁾			
		Children studying only	Children studying and performing household chores	Children studying and performing household economic activities	Children studying and performing economic activities
Grade 6	Male				
	Female				
	Total	23.36	26.07	26.32	28.69
Grade 7	Male				
	Female				
	Total	29.40	30.42	29.85	30.68
Grade 8	Male				
	Female				
	Total	32.13	33.40	36.36	32.82
Grade 9	Male				
	Female				
	Total	35.44	33.87	35.87	29.80
Total	Male	30.34	29.23	30.31	28.24
	Female	34.34	33.88	34.91	33.12
	Total	32.35	31.32	32.45	30.17

Notes: (1) Average of mid-year and end-year average test scores

Table 61. - SRI LANKA (5) Analysis of variance of average test scores

	Group of students	Mean scores	Only studying	Doing Household work	Doing family economic work	Doing economic work outside the family
Average annual test score (Mid + end term)	Only studying	32.3	0	1.78	-1.29	1.49
	Doing Household work	31.3	-1.78	0	-3.07*	-0.29
	Doing family economic work	32.4	1.29	3.07*	0	2.78*
	Doing economic work outside the family	31.3	-1.49	0.29	-2.78*	0

* p ≤ 0.05

Table 62. - SRI LANKA (6) School performance by hours worked, work type and sex

Average weekly working hours	End-year average test score					
	Children involved in economic activity			Children involved in economic activity and HH chores		
	Male	Female	Total	Male	Female	Total
< 7 hrs	22.82	33.79	35.2	28.41	33.79	30.33
8 - 14 hrs	26.98	37.53	25.1	29.82	37.53	31.18
15 - 18 hrs	19.66	32.20	21.9	29.47	32.20	33.23
19 - 23 hrs	17.46	31.17	22.4	27.51	31.17	34.20
24 - 28 hrs	34.31	39.50	28.2	27.43	39.50	35.54
29 - 32 hrs	1871	47.67	21.2	32.88	47.67	34.69
33 - 42 hrs	31.69	37.58	35.5	22.06	37.58	28.32
> 43 hrs	29.54	44.30	29.2	36.90	31.85	44.30

Table 63. - SRI LANKA (7). Time use patterns, by age, sex , and weekend/weekday

Age in years	Activity	Hours spent, on average, per school day			Hours spent, on average, per weekend day/ holiday			Days spent per week, on average on activity			Hours spent, on average, per week on activity		
		Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
12	Studies	4.6	4.7	4.5	2.3	2.4	2.1	5.4	5.7	5.1	24.9	25.1	24.5
	Household chores	2.2	2.2	2.1	3.4	3.5	3.3	5.7	5.8	5.5	14.1	14.2	13.9
	Economic activities	3.3	3.1	3.7	7.3	6.7	8.5	6.0	6.1	5.9	29.6	27.9	33.0
	Other non- work	2.8	3.1	2.3	4.6	4.8	4.2	5.1	5.1	5.1	2.7	3.0	2.2
13	Studies	3.9	3.8	4.1	2.6	2.7	2.5	5.4	5.7	4.8	22.5	22.0	23.1
	Household chores	2.0	2.0	2.0	3.3	3.0	3.6	5.9	6.1	5.7	13.0	12.7	13.5
	Economic activities	3.4	3.7	3.1	7.1	7.1	7.0	5.6	5.6	5.6	27.8	28.4	27.1
	Other non- work	2.2	2.4	1.8	4.5	4.8	3.9	4.9	5.2	4.3	2.2	2.5	1.8
14	Studies	3.8	4.1	3.4	2.7	2.9	2.4	5.2	5.2	5.2	22.1	24.0	19.5
	Household chores	2.0	2.0	2.2	3.6	3.3	4.0	5.7	5.8	5.6	13.8	13.3	14.6
	Economic activities	3.3	2.9	4.4	7.1	7.0	7.3	5.7	6.5	4.3	27.9	27.0	29.8
	Other non- work	2.6	2.4	2.9	5.2	4.8	5.9	4.2	4.1	4.3	2.6	2.4	3.0

Table 64. - SRI LANKA (8). Homework completion, by hours worked

Hours of economic and non-economic activities performed per week	Sex	How often is home work done?					Reasons for not doing homework regularly [not 'often' or 'always']				
		Never	Rarely	Sometimes	Often	Always	Not enough time	Difficult as school missed	Too tired after work	No help at home with home-work	Other
Total	Total	42	94	114	362	228	105	53	67	143	166
	Male	19	52	70	197	123	53	28	36	74	87
	Female	23	42	44	165	105	52	25	31	69	79
< 7 hrs:	Total	10	23	27	88	58	23	17	11	38	34
	Male	6	14	16	54	32	11	10	5	25	20
	Female	4	9	11	34	26	12	7	6	13	14
8 – 14 hrs:	Total	9	22	34	129	79	36	19	21	43	45
	Male	3	11	22	63	42	17	10	8	19	21
	Female	6	11	12	66	37	19	9	13	24	24
15 – 18 hrs	Total	3	7	10	24	14	10		2	18	11
	Male	2	4	4	13	8	6		2	7	8
	Female	1	3	6	11	6	4			11	3
19 – 28 hrs:	Total	8	15	20	48	30	12	8	10	21	31
	Male	3	5	13	25	14	6	4	7	10	10
	Female	5	10	7	23	16	6	4	3	11	21
> 28 hrs:	Total	12	27	23	73	47	24	9	23	23	45
	Male	5	18	15	42	27	13	4	14	13	28
	Female	7	9	8	31	20	11	5	9	10	17

Table 65. - SRI LANKA (9). Student energy levels, by hours worked

Hours of economic and non-economic activities performed per week	Sex	Does child feel sleepy or exhausted during work?				If 'often' or 'always' the reasons :				
		Never	Some-times	Often	Always	Too tired after work previous day	Not enough sleep previous night	Lessons are boring	Studies difficult as miss school sometimes	Other
Total	Total	535	25	245	14	118	49	15	40	112
	Male	294	13	132	8	69	24	6	20	61
	Female	241	12	113	6	49	25	9	20	51
< 7 hrs:	Total	138	5	54	2	25	9	3	11	20
	Male	82	3	33		19	5	3	8	10
	Female	56	2	21	2	6	4		3	10
8 – 14 hrs:	Total	178	6	83	3	27	11	8	15	36
	Male	95	2	40	2	12	6	2	5	17
	Female	83	4	43	1	15	5	6	10	19
15 – 18 hrs	Total	39		16	4	8	3	1	1	8
	Male	21		7	1	5			1	5
	Female	18		9	3	3		1		3
19 – 28 hrs:	Total	76	6	32	4	24	10		5	16
	Male	36	5	14	2	12	5		3	8
	Female	40	1	18	2	12	5		2	8
> 28 hrs:	Total	104	8	60	4	34	16	4	8	32
	Male	60	3	38	3	21	8	1	4	21
	Female	44	5	22	1	13	8	3	4	11

Table 66. - SRI LANKA (9). Student energy levels, by hours worked

Hours of economic and non-economic activities performed per week	Sex	Does child feels sleepy or exhausted during work(%)?				If 'often' or 'always' the reason (%):				
		Never	Some-times	Often	Always	Toot tired after wok previous day	Not enough sleep previous night	Lessons are boring	Studies difficult as miss school sometimes	other
Total	Total	65.3	3.1	29.9	1.7	35.3	14.7	4.5	12.0	33.5
	Male	65.8	2.9	29.5	1.8	38.3	13.3	3.3	11.1	33.9
	Female	64.8	3.2	30.4	1.6	31.8	16.2	5.8	13.0	33.1
<7 hrs:	Total	69.3	2.5	27.1	1.0	36.8	13.2	4.4	16.2	29.4
	Male	69.5	2.5	28.0	0.0	42.2	11.1	6.7	17.8	22.2
	Female	69.1	2.5	25.9	2.5	26.1	17.4	0.0	13.0	43.5
8-14 hrs:	Total	65.9	2.2	30.7	1.1	27.8	11.3	8.2	15.5	37.1
	Male	68.3	1.4	28.8	1.4	28.6	14.3	4.8	11.9	40.5
	Female	63.4	3.1	32.8	0.8	27.3	9.1	10.9	18.2	34.5
15-28 hrs:	Total	66.1	0.0	27.1	6.8	38.1	14.3	4.8	4.8	38.1
	Male	72.4	0.0	24.1	3.4	45.5	0.0	0.0	9.1	45.5
	Female	60.0	0.0	30.0	10.0	42.9	0.0	14.3	0.0	42.9
19-28 hrs:	Total	64.4	5.1	27.1	3.4	43.6	18.2	0.0	9.1	29.1
	Male	63.2	8.8	24.6	3.5	42.9	17.9	0.0	10.7	28.6
	Female	65.6	1.6	29.5	3.3	44.4	18.5	0.0	7.4	29.6
>28 hrs:	Total	59.1	4.5	34.1	2.3	36.2	17.0	4.3	8.5	34.0
	Male	57.7	2.9	36.5	2.9	38.2	14.5	1.8	7.3	38.2
	Female	61.1	6.9	30.6	1.4	33.3	20.5	7.7	10.3	28.2

Turkey

Table 67. - TURKEY (1) Time spent on work, by work type, age and sex

Activity	Period of week	Average hours					
		Males			Females		
		12 year-olds	13 year-olds	14 year-olds	12 year-olds	13 year-olds	14 year-olds
Household chores	School week	4,09	3,29	4,06	9,14	8,60	9,44
	Weekend	1,53	1,44	1,15	5,33	4,84	5,00
Unpaid family work	School Week	3	3	5	5	5	7
	Weekend	5	5	5	4	4	3
Paid work	School week	3,13	3,10	5,82	1,23	,16	,00
	Weekend	3,10	4,35	5,90	1,34	1,18	,00

Table 68. - TURKEY (2). School attendance and tardiness during semester, by work hours, age and sex

Ave. hours/week activity (eco. HH chores)	work (eco. HH)	Attendance/ tardiness	No. of days ⁽¹⁾				
			Age			Sex	
			12	13	14	Male	Female
1-15		Days attended	88	87	87	88	89
		Days late	0	1	1	1	0
16-30		Days attended	88	87	85	87	89
		Days late	0	1	1	0	0
31+		Days attended	87	87	86	86	88
		Days late	0	1	1	1	1
Total		Days attended	88	87	86	87,00	88,55
		Days late	0	1	1	1	0

Note: (1) Semester was 90 school days in duration.

Table 69. - TURKEY (3). Distribution of children by test score range, economic activity status and sex

Test score average ranges	Distribution across test score ranges (%)					
	Economically active children			Non-economically active children		
	Male	Female	Total	Male	Female	Total
1.00-1.99	60.6	34.3	55.2	54.0	32.7	43.3
2.00-3.99	33.7	51.4	37.4	36.1	48.8	42.4
4.00+	5.5	14.1	7.3	9.9	18.4	14.2
Total	100	100	100	100	100	100

Table 70. - TURKEY (4). Average test scores by weekly hours of work, age and sex

Hours per week of work in economic activity and HH chores	Average test score					
	Age			Sex		Total
	12	13	14	Male	Female	
1-15	2,18	1,82	1,99	1,92	2,67	2,04
16-30	1,99	2,00	1,79	1,86	2,36	1,96
31+	2,11	2,09	1,45	1,77	2,55	1,99
Total	2	2	2	1,87	2,52	2,00

Table 71. - TURKEY(6). Time spent on non-work activities, by work status, age, sex and weekday/weekend

Age	Activities	Period of week	Average hours			
			Economically active children		Non-economically active children	
			Male	Female	Male	Female
12 years	Studies	School week	11	13	10	13
		Weekend	4	5	4	5
	Sports/ playing with friends	School week	7	2	8	3
		Weekend	4	2	5	2
	Other leisure activities	School week	9	8	10	10
		Weekend	4	4	4	5
13 years	Studies	School week	9	12	10	12
		Weekend	3	6	4	6
	Sports/ playing with friends	School week	6	1	8	3
		Weekend	3	1	5	2
	Other leisure activities	School week	9	9	10	10
		Weekend	4	4	5	5
14 years	Studies	School week	8	13	9	11
		Weekend	3	6	5	5
	Sports/ playing with friends	School week	7	1	10	2
		Weekend	4	1	5	2
	Other leisure activities	School week	9	7	13	12
		Weekend	3	3	5	5

Table 72. - TURKEY(7). Homework completion, by work type and work hours

Work type	Average weekly work hours	How often is home work done?			Reasons for not doing homework regularly						
		Often	Sometimes	Seldom/ never	Don't feel like it	Rather watch TV	Too tired because of job	Miss too much school	No one to help	Too much home work	Other
Household chores	1-6	308	88	10	95	44	47		48		230
	7-10	1	--	--							
	11+	1		1	--						
	All	311	88	10	95	44	47	35	48		230
Unpaid family work	1-6	242	54	6	81	39	27	25	34	56	181
	7-10	54	18	3	19	9	11	8	9	11	46
	11+	16	8	1	6	1	1	1	1	2	15
	All	312	80	10	106	49	39	34	44	69	242
Paid work	1-6	114	58	4	51	19	35	21	24	23	82
	7-10	48	18	1	15	12	19	8	11	12	30
	11+	6	3	1	2	1	1		1	2	5
	All	167	79	6	68	32	55	29	36	37	116

Table 73. - TURKEY (8). Student tiredness perceptions, by work status and type, and daily working hours

Daily Hours worked	Do you feel tired or sleepy during class? (no.)											
	Children performing household chores			Children performing unpaid family work			Children performing paid work			Non-working children		
	Often	Sometimes	Seldom/ Never	Often	Sometimes	Seldom/ Never	Often	Sometimes	Seldom/ Never	Often	Sometimes	Seldom/ Never
1-6	16	110	280	13	58	231	7	55	114			
7-10			1	2	20	57	6	15	47			
11+			1	3	7	15	--	4	3			
Total	16	110	282	18	85	303	13	74	164	86	37	300

ANNEX 2. DETAILED REGRESSION RESULTS

Brazil

Ordered probit estimates		Number of obs = 987				
LR chi2(16) = 277.29						
Prob > chi2 = 0.0000						
Log likelihood = -647.29771		Pseudo R2 = 0.1764				
Academic failure	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]	
age	2.328	1.460	1.59	0.111	-0.533	5.190
age2	-0.057	0.050	-1.16	0.246	-0.154	0.040
female*	-0.090	0.097	-0.92	0.355	-0.280	0.100
n. siblings. Younger	-0.026	0.036	-0.73	0.464	-0.096	0.044
n. siblingd older	0.039	0.026	1.5	0.133	-0.012	0.090
n. siblings twin	0.210	0.119	1.77	0.076	-0.022	0.443
Hh chores for more	-0.277	0.106	-2.62	0.009	-0.484	-0.070
Work in a shop*	0.149	0.169	0.89	0.376	-0.181	0.480
Work in the street*	0.034	0.187	0.18	0.854	-0.332	0.400
Work outside*	-0.238	0.222	-1.07	0.285	-0.673	0.198
Work in the field*	0.624	0.305	2.04	0.041	0.025	1.222
eth1*	-0.287	0.280	-1.02	0.306	-0.836	0.262
eth2*	-0.100	0.269	-0.37	0.71	-0.628	0.428
eth3*	-0.256	0.296	-0.87	0.386	-0.836	0.324
eth4*	-0.309	0.315	-0.98	0.327	-0.926	0.309
Weekly working	0.001	0.003	0.3	0.766	-0.006	0.008
_cut1	22.0886	10.738	(Ancillary parameters)			
_cut2	22.9842	10.7367				
_cut3	23.8684	10.7322				

Ordered probit estimates		Number of obs = 987				
LR chi2(16) = 63.49						
Prob > chi2 = 0.0000						
Log likelihood = -800.09732		Pseudo R2 = 0.0382				
Tiredness/sleepiness	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]	
age	-0.300	0.703	-0.43	0.669	-1.678	1.078
age2	0.014	0.025	0.58	0.559	-0.034	0.063
female*	0.344	0.082	4.18	0.000	0.183	0.504
n. siblings. Younger	0.019	0.031	0.61	0.541	-0.041	0.079
n. siblingd older	0.012	0.024	0.51	0.609	-0.034	0.058
n. siblings twin	-0.168	0.111	-1.52	0.129	-0.384	0.049
Hh chores for more	-0.075	0.088	-0.86	0.390	-0.247	0.097
Work in a shop*	0.229	0.159	1.44	0.149	-0.082	0.541
Work in the street*	0.127	0.173	0.74	0.462	-0.212	0.466
Work outside*	0.035	0.204	0.17	0.862	-0.364	0.435
Work in the field*	-0.075	0.300	-0.25	0.803	-0.663	0.513
eth1*	-0.563	0.237	-2.38	0.017	-1.027	-0.099
eth2*	-0.328	0.229	-1.43	0.151	-0.776	0.120
eth3*	-0.320	0.253	-1.26	0.207	-0.817	0.177
eth4*	-0.135	0.272	-0.49	0.621	-0.669	0.399
Weekly working hours	0.005	0.003	1.75	0.080	-0.001	0.011
_cut1	-2.190	5.006	(Ancillary parameters)			
_cut2	0.072	5.005				
_cut3	0.487	5.005				

Ordered probit estimates		Number of obs = 634				
LR chi2(26) = 91.47						
Prob > chi2 = 0.0000						
Log likelihood = -567.41323		Pseudo R2 = 0.0746				
Test score: portuguese	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]	
age	-1.898	1.428	-1.33	0.184	-4.697	0.902
age2	0.066	0.052	1.27	0.206	-0.036	0.168
female*	0.691	0.101	6.82	0.000	0.493	0.890
n. siblings. Younger	-0.065	0.040	-1.62	0.106	-0.144	0.014
n. siblingd older	-0.034	0.030	-1.11	0.268	-0.093	0.026
n. siblings twin	0.091	0.210	0.43	0.666	-0.321	0.503
Hh chores for more	0.040	0.109	0.36	0.717	-0.175	0.254
Work in a shop*	0.056	0.220	0.25	0.799	-0.375	0.487
Work in the street*	0.017	0.231	0.08	0.940	-0.436	0.470
Work outside*	0.187	0.291	0.64	0.521	-0.384	0.758
Work in the field*	0.215	0.342	0.63	0.531	-0.456	0.885
eth1*	-0.218	0.274	-0.80	0.425	-0.755	0.318
eth2*	-0.409	0.263	-1.55	0.120	-0.926	0.107
eth3*	-0.193	0.303	-0.64	0.523	-0.786	0.400
eth4*	-0.435	0.327	-1.33	0.184	-1.076	0.207
Weekly working	-0.003	0.004	-0.68	0.499	-0.011	0.006
sp1	-0.206	0.179	-1.15	0.251	-0.557	0.146
sp2	-0.838	1.162	-0.72	0.471	-3.115	1.439
sp3	0.099	0.192	0.52	0.606	-0.278	0.476
sp4	-0.304	0.169	-1.80	0.072	-0.635	0.027
mac2	-0.097	0.186	-0.52	0.601	-0.461	0.266
mac3	0.008	0.171	0.05	0.961	-0.327	0.343
mac4	-0.025	0.207	-0.12	0.904	-0.430	0.380
mac5	-0.433	0.175	-2.47	0.013	-0.776	-0.090
mac6	0.155	0.197	0.79	0.430	-0.230	0.540
_cut1	-14.70944	9.748864 (Ancillary parameters)				
_cut2	-12.9314	9.746022				

Ordered probit estimates		Number of obs = 628				
LR chi2(24) = 61.64						
Prob > chi2 = 0.0000						
Log likelihood = -588.26386		Pseudo R2 = 0.0498				
Test score: math	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]	
age	-2.088	1.412	-1.48	0.139	-4.856	0.680
age2	0.070	0.052	1.36	0.174	-0.031	0.171
female*	0.300	0.098	3.05	0.002	0.107	0.493
n. siblings. Younger	-0.040	0.040	-1.00	0.316	-0.118	0.038
n. siblingd older	-0.026	0.030	-0.87	0.385	-0.085	0.033
n. siblings twin	0.031	0.208	0.15	0.880	-0.376	0.439
Hh chores for more	-0.061	0.109	-0.56	0.577	-0.274	0.153
Work in a shop*	-0.087	0.218	-0.40	0.689	-0.514	0.340
Work in the street*	-0.125	0.230	-0.55	0.586	-0.576	0.326
Work outside*	-0.173	0.286	-0.61	0.545	-0.733	0.387
Work in the field*	-0.132	0.353	-0.37	0.708	-0.824	0.560
eth1*	-0.160	0.267	-0.60	0.550	-0.683	0.364
eth2*	-0.218	0.257	-0.85	0.396	-0.721	0.285
eth3*	-0.217	0.296	-0.73	0.464	-0.797	0.364
eth4*	-0.108	0.320	-0.34	0.735	-0.735	0.518
Weekly working	-0.002	0.004	-0.44	0.663	-0.011	0.007
sp1	0.117	0.178	0.66	0.510	-0.231	0.465
sp3	0.057	0.190	0.30	0.765	-0.315	0.429
sp4	-0.074	0.168	-0.44	0.659	-0.403	0.255
mac2	0.416	0.184	2.26	0.024	0.055	0.777
mac3	0.536	0.170	3.16	0.002	0.203	0.870
mac4	-0.188	0.207	-0.91	0.365	-0.595	0.218
mac5	0.268	0.171	1.56	0.118	-0.068	0.604
mac6	0.882	0.197	4.48	0.000	0.496	1.268
_cut1	-16.063	9.638				
_cut2	-14.406	9.635				

Kenya

Probit estimates Number of obs = 921 LR chi2(13) = 13.82 Prob > chi2 = 0.3864 Log likelihood = -235.71843 Pseudo R2 = 0.0285						
Missed one or more classes during term	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Age	3.359	3.672	0.91	0.36	-3.837	10.555
age2	-0.117	0.131	-0.89	0.373	-0.374	0.140
female*	-0.175	0.128	-1.37	0.171	-0.426	0.075
Hhsize	-0.012	0.017	-0.68	0.499	-0.046	0.022
Mother's education*	-0.123	0.053	-2.29	0.022	-0.227	-0.018
Father's education*	0.083	0.045	1.85	0.064	-0.005	0.170
Age started to work	0.019	0.032	0.58	0.563	-0.044	0.081
time_to school	0.020	0.126	0.16	0.876	-0.228	0.267
work_market*	0.054	0.156	0.35	0.73	-0.251	0.359
hours of work in	-0.003	0.007	-0.48	0.633	-0.017	0.011
hours of work in	0.007	0.008	0.81	0.419	-0.010	0.023
Work during school	0.232	0.217	1.07	0.284	-0.193	0.658
Work during school	-0.078	0.148	-0.52	0.601	-0.368	0.213
_cons	-25.503	25.663	-0.99	0.32	-75.801	24.795

Ordered probit estimates Number of obs = 926 LR chi2(13) = 44.52 Prob > chi2 = 0.0000 Log likelihood = -1030.7551 Pseudo R2 = 0.0211						
Late to school	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]	
age	0.970	2.252	0.43	0.667	-3.444	5.385
age2	-0.033	0.081	-0.41	0.679	-0.191	0.125
female*	-0.011	0.077	-0.14	0.890	-0.161	0.140
hhsize	-0.033	0.011	-3.08	0.002	-0.054	-0.012
Mother's education*	-0.038	0.029	-1.28	0.202	-0.095	0.020
Father's education*	-0.050	0.027	-1.88	0.060	-0.103	0.002
Age started to work	-0.001	0.020	-0.03	0.979	-0.039	0.038
time_to school	0.159	0.073	2.17	0.030	0.016	0.303
work_market*	0.044	0.094	0.47	0.639	-0.140	0.228
hours of work in	0.005	0.004	1.12	0.263	-0.004	0.013
hours of work in	0.017	0.005	3.23	0.001	0.007	0.028
Work during school day	0.233	0.142	1.64	0.101	-0.046	0.511
Work during school	0.002	0.087	0.02	0.980	-0.168	0.172
_cut1	7.071	15.721			(Ancillary parameters)	
_cut2	7.776	15.721				
_cut3	8.552	15.721				

Ordered probit estimates		Number of obs = 926				
LR chi2(13) = 36.72						
Prob > chi2 = 0.0005						
Log likelihood = -823.68367		Pseudo R2 = 0.0218				
Tiredness /sleepiness	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]	
Age	3.743	2.329	1.61	0.108	-0.821	8.308
age2	-0.132	0.083	-1.58	0.114	-0.295	0.032
female*	0.051	0.080	0.63	0.526	-0.106	0.208
Hhsize	-0.007	0.011	-0.64	0.52	-0.028	0.014
Mother's education*	-0.019	0.030	-0.64	0.521	-0.078	0.040
Father's education*	-0.048	0.028	-1.75	0.08	-0.103	0.006
Age started to work	0.030	0.020	1.45	0.148	-0.010	0.070
time_to school	0.226	0.075	3.02	0.003	0.079	0.372
work_market*	0.220	0.098	2.25	0.025	0.028	0.412
hours of work in economic	0.006	0.004	1.33	0.183	-0.003	0.014
hours of work in household	0.009	0.006	1.63	0.104	-0.002	0.020
Work during school day	0.050	0.150	0.34	0.737	-0.244	0.344
Work during school holidays	0.111	0.090	1.24	0.215	-0.064	0.286
_cut1	27.405	16.258		(Ancillary parameters)		
_cut2	28.730	16.260				
_cut3	29.053	16.260				

Lebanon

Ordered probit estimates						Number of obs = 568
LR chi2(13) = 26.94						
Prob > chi2 = 0.0127						
Log likelihood = -337.86331						Pseudo R2 = 0.0383
Late to school	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
age	-0.115	1.091	-0.11	0.916	-2.252	2.023
age2	0.009	0.041	0.21	0.833	-0.072	0.089
female	-0.143	0.146	-0.98	0.329	-0.429	0.144
water	-0.071	0.232	-0.30	0.761	-0.526	0.385
sanitary	-0.044	0.417	-0.11	0.916	-0.862	0.774
hhchore_ho~	-0.001	0.060	-0.01	0.993	-0.119	0.118
hhchore_ho~	0.017	0.039	0.44	0.661	-0.059	0.093
weekly_hour	0.012	0.005	2.52	0.012	0.003	0.021
time_o_sch~l	0.009	0.006	1.50	0.134	-0.003	0.021
age_start_~k	0.001	0.014	0.09	0.928	-0.026	0.028
gov1	0.519	0.213	2.43	0.015	0.101	0.936
gov2	-0.020	0.195	-0.10	0.919	-0.401	0.362
gov3	0.121	0.219	0.55	0.581	-0.309	0.551
_cut1	1.195	7.259			(Ancillary parameters)	
_cut2	1.688	7.259				
_cut3	2.458	7.260				

Probit estimates						Number of obs = 567
LR chi2(13) = 33.03						
Prob > chi2 = 0.0017						
Log likelihood = -295.85354						Pseudo R2 = 0.0529
regularity of attendance	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
age	0.709	1.063	0.67	0.505	-1.373	2.792
age2	-0.031	0.040	-0.78	0.436	-0.110	0.047
female	0.082	0.140	0.58	0.560	-0.193	0.357
water	0.076	0.230	0.33	0.741	-0.375	0.527
sanitary	-0.247	0.424	-0.58	0.560	-1.078	0.584
hhchore_ho~d	0.006	0.061	0.10	0.920	-0.113	0.125
hhchore_ho~e	0.026	0.039	0.67	0.502	-0.050	0.102
weekly_hours	-0.001	0.005	-0.16	0.872	-0.010	0.009
time_o_sch~l	-0.002	0.006	-0.27	0.787	-0.014	0.010
age_start_~k	-0.024	0.013	-1.82	0.069	-0.049	0.002
gov1	-0.732	0.205	-3.58	0.000	-1.133	-0.331
gov2	-0.197	0.183	-1.08	0.281	-0.556	0.161
gov3	0.227	0.225	1.01	0.313	-0.214	0.668
_cons	-2.690	7.047	-0.38	0.703	-16.501	11.122

Sri-Lanka

Ordered probit estimates		Number of obs = 918				
LR chi2(9) = 42.38						
Prob > chi2 = 0.0000						
Log likelihood = -857.10953		Pseudo R2 = 0.0241				
Regular attendance	Coef.	Std.	z	P> z	[95% Conf. Interval]	
female	0.003	0.077	0.04	0.97	-0.148	0.154
rural	0.067	0.075	0.89	0.38	-0.081	0.214
age	-2.752	2.124	-1.30	0.20	-6.915	1.410
age2	0.103	0.082	1.25	0.21	-0.058	0.264
hhwork	0.007	0.004	1.88	0.06	0.000	0.014
ec_chores	0.005	0.003	1.74	0.08	-0.001	0.010
work_outside	0.005	0.003	1.95	0.05	0.000	0.011
workstudy	-0.082	0.076	-1.07	0.28	-0.232	0.068
q46	0.011	0.002	4.61	0.00	0.006	0.016
_cut1	-18.412	13.65				
_cut2	-16.731	13.651				

Ordered probit estimates		Number of obs = 894				
LR chi2(9) = 15.90						
Prob > chi2 = 0.0691						
Log likelihood = -730.31077		Pseudo R2 = 0.0108				
sleepy	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
female	.0443156	.0849718	0.52	0.602	-	.2108572
rural	.0594454	.0832578	0.71	0.475	-	.2226276
age	-2.209727	2.373476	-0.93	0.352	-	2.442201
age2	.0814763	.0920778	0.88	0.376	-	.2619455
hhwork	.0091156	.0040385	2.26	0.024	.0012003	.0170309
ec_chores	-.0030252	.0029335	-1.03	0.302	-	.0027243
work_outside	.0051611	.0028868	1.79	0.074	-	.010819
workstudy	.0713306	.0845626	0.84	0.399	-.094409	.2370703
q46	.0037395	.0026473	1.41	0.158	-	.0089281
_cut1	-14.20953	15.2555				
_cut2	-14.12974	15.25547				
_cut3	-12.43902	15.25414				

Ordered probit estimates		Number of obs = 914				
LR chi2(9) = 30.91						
Prob > chi2 = 0.0003						
Log likelihood = -733.37341		Pseudo R2 = 0.0206				
Late school	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
female	0.149	0.084	1.77	0.08	-0.016	0.314
rural	0.085	0.082	1.03	0.31	-0.077	0.246
age	0.594	2.313	0.26	0.80	-3.939	5.128
age2	-0.023	0.090	-0.26	0.79	-0.199	0.152
hhwork	0.001	0.004	0.13	0.89	-0.007	0.009
ec_chores	0.006	0.003	2.09	0.04	0.000	0.012
work_outside	0.006	0.003	1.99	0.05	0.000	0.011
workstudy	0.083	0.083	0.99	0.32	-0.081	0.246
q46	0.011	0.003	4.01	0.00	0.005	0.016
_cut1	4.711	14.874				
_cut2						

Probit estimates						
Number of obs = 899						
LR chi2(9) = 24.14						
Prob > chi2 = 0.0041						
Log likelihood = -154.57722						
Pseudo R2 = 0.0724						
expectation of dropping	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
female	-0.110	0.159	-0.69	0.49	-0.422	0.202
rural	-0.172	0.154	-1.12	0.265	-0.474	0.130
age	-7.382	4.310	-1.71	0.087	-15.830	1.066
age2	0.292	0.166	1.76	0.078	-0.033	0.618
hhwork	0.010	0.006	1.54	0.124	-0.003	0.022
ec_chores	0.000	0.005	0.08	0.939	-0.010	0.011
work_outside	0.014	0.004	3.25	0.001	0.006	0.023
workstudy	-0.068	0.157	-0.44	0.663	-0.376	0.239
q46	0.003	0.005	0.58	0.564	-0.007	0.013
_cons	44.463	27.851	1.6	0.11	-10.124	99.050

Ordered probit estimates						
Number of obs = 1922						
LR chi2(15) = 294.23						
Prob > chi2 = 0.0000						
Log likelihood = -1711.9246						
Pseudo R2 = 0.0791						
math	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
female	0.2020	0.0576	3.50	0.00	0.089	0.315
rural	-0.2246	0.1128	-1.99	0.05	-0.446	-0.004
age	3.0654	1.6552	1.85	0.06	-0.179	6.309
age2	-0.1201	0.0644	-1.87	0.06	-0.246	0.006
hhwork	0.0061	0.0029	2.11	0.04	0.000	0.012
ec_chores	0.0041	0.0027	1.54	0.12	-0.001	0.009
work_outside	-0.0002	0.0028	-0.06	0.95	-0.006	0.005
workstudy	-0.2621	0.0575	-4.56	0.00	-0.375	-0.149
division1	-0.8961	0.1235	-7.25	0.00	-1.138	-0.654
division2	-1.2438	0.1648	-7.55	0.00	-1.567	-0.921
division3	-0.8963	0.1232	-7.28	0.00	-1.138	-0.655
division4	-0.8121	0.1082	-7.50	0.00	-1.024	-0.600
division5	-0.9187	0.1058	-8.68	0.00	-1.126	-0.711
division6	-0.9649	0.1650	-5.85	0.00	-1.288	-0.642
division7	-0.0138	0.1637	-0.08	0.93	-0.335	0.307
_cut1	19.032	10.611	(Ancillary parameters)			
_cut2	19.878	10.611				
_cut3	20.682	10.611				

Ordered probit estimates						
Number of obs = 1920						
LR chi2(15) = 415.81						
Prob > chi2 = 0.0000						
Log likelihood = -1991.3633						
Pseudo R2 = 0.0945						
science	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
female	0.270	0.054	4.99	0.000	0.164	0.376
rural	-0.112	0.098	-1.14	0.254	-0.305	0.081
age	1.884	1.542	1.22	0.222	-1.139	4.906
age2	-0.072	0.060	-1.21	0.228	-0.190	0.045
hhwork	0.004	0.003	1.62	0.105	-0.001	0.010
ec_chores	0.010	0.002	4.09	0.000	0.005	0.015
work_outside	-0.006	0.003	-2.11	0.035	-0.011	0.000
workstudy	-0.002	0.054	-0.04	0.971	-0.107	0.103
division1	-0.467	0.115	-4.06	0.000	-0.692	-0.241
division2	-0.703	0.144	-4.89	0.000	-0.985	-0.421
division3	-0.011	0.113	-0.09	0.924	-0.233	0.212
division4	-1.214	0.111	-10.98	0.000	-1.430	-0.997
division5	-1.516	0.112	-13.57	0.000	-1.735	-1.297
division6	-0.936	0.150	-6.25	0.000	-1.230	-0.643
division7	-0.116	0.153	-0.76	0.447	-0.416	0.183
_cut1	11.641	9.892	(Ancillary parameters)			
_cut2	12.636	9.893				
_cut3	13.644	9.894				

Ordered probit estimates			Number of obs = 1922			
			LR chi2(15) = 316.52			
			Prob > chi2 = 0.0000			
Log likelihood = -2310.768			Pseudo R2 = 0.0641			
language	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
female	0.541	0.052	10.46	0.000	0.440	0.642
rural	0.003	0.098	0.03	0.975	-0.188	0.194
age	1.290	1.471	0.88	0.381	-1.593	4.173
age2	-0.050	0.057	-0.87	0.383	-0.162	0.062
hhwork	-0.001	0.003	-0.29	0.775	-0.006	0.004
ec_chores	0.005	0.002	1.95	0.052	0.000	0.009
work_outside	0.001	0.003	0.54	0.590	-0.004	0.006
workstudy	-0.061	0.051	-1.20	0.230	-0.161	0.039
division1	-0.729	0.114	-6.37	0.000	-0.953	-0.505
division2	-0.912	0.142	-6.42	0.000	-1.191	-0.633
division3	-0.451	0.113	-3.97	0.000	-0.673	-0.228
division4	-0.607	0.102	-5.93	0.000	-0.807	-0.406
division5	-1.089	0.102	-10.68	0.000	-1.289	-0.889
division6	-1.204	0.148	-8.14	0.000	-1.495	-0.914
division7	-0.275	0.152	-1.81	0.070	-0.572	0.022
_cut1	7.364	9.435				
_cut2	8.332	9.435				
_cut3	9.371	9.435				

Turkey

Ordered probit estimates		Number of obs = 1075				
LR chi2(10) = 22.75						
Prob > chi2 = 0.0117						
Log likelihood = -712.19145		Pseudo R2 = 0.0157				
Regularity of attendance	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
female	0.039	0.121	0.32	0.75	-0.198	0.275
age	1.415	2.333	0.61	0.544	-3.159	5.988
age2	-0.052	0.091	-0.57	0.57	-0.229	0.126
sibling	0.043	0.029	1.5	0.135	-0.013	0.100
Time to school	0.006	0.003	1.74	0.083	-0.001	0.013
Hhchore	0.183	0.109	1.68	0.094	-0.031	0.396
Work in the market	0.132	0.100	1.32	0.188	-0.064	0.329
Weekly Hours in hh	-0.001	0.006	-0.09	0.927	-0.013	0.012
Weekly hours in ec.	0.005	0.004	1.37	0.169	-0.002	0.013
Hh socio economic	-0.054	0.083	-0.66	0.512	-0.217	0.108
	0.039	0.121	0.32	0.75	-0.198	0.275
_cut1	10.469	14.961		(Ancillary	parameters)	
_cut2	12.268	14.963				

Ordered probit estimates		Number of obs=1075				
LR chi2(10)=69.51						
Prob > chi2 =0						
Log likelihood -1078.7584		Pseudo R2=0.0312				
Late to school	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
female	-0.162	0.114	-1.43	0.153	-0.385	0.060
age	-0.924	2.146	-0.43	0.667	-5.130	3.282
age2	0.037	0.083	0.44	0.661	-0.127	0.200
sibling	0.101	0.027	3.81	0	0.049	0.153
Time to school	0.006	0.003	2.04	0.041	0.000	0.013
Hhchore	0.034	0.099	0.34	0.735	-0.161	0.228
Work in the market	0.035	0.092	0.39	0.7	-0.144	0.215
Weekly Hours in hh chores	0.001	0.006	0.15	0.882	-0.011	0.012
Weekly hours in ec. Activity	0.016	0.004	4.3	0	0.009	0.023
Hh socio economic status	-0.142	0.076	-1.86	0.062	-0.291	0.007
_cut1	-5.417	13.757		(Ancillary	parameters)	
_cut2	-5.114	13.757				
_cut3	-3.451	13.757				

Probit estimates			Number of obs = 1075			
LR chi2(10) = 30.68						
Prob > chi2 = 0.0007						
Log likelihood = -227.27079			Pseudo R2 = 0.0632			
drop-out intentions	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
female	-0.074	0.201	-0.37	0.71	-0.468	0.319
age	-2.455	3.717	-0.66	0.51	-9.741	4.831
age2	0.099	0.144	0.68	0.50	-0.184	0.381
sibling	0.009	0.046	0.19	0.85	-0.081	0.098
Time to school	-0.001	0.006	-0.10	0.92	-0.012	0.010
Hhchore	-0.243	0.178	-1.36	0.17	-0.592	0.106
Work in the market	0.714	0.184	3.88	0.00	0.354	1.075
Weekly Hours in hh chores	0.021	0.009	2.21	0.03	0.002	0.039
Weekly hours in ec. Activity	0.001	0.006	0.10	0.92	-0.011	0.012
Hh socio economic status	-0.003	0.136	-0.02	0.98	-0.270	0.264
_cons	13.171	23.873	0.55	0.58	-33.619	59.960

Ordered probit estimates			Number of obs = 1075			
LR chi2(10) = 44.89						
Prob > chi2 = 0.0000						
Log likelihood = -982.54705			Pseudo R2 = 0.0223			
Tiredness/ sleepiness	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
female	-0.0403	0.1136	-0.35	0.723	-0.263	0.182
age	-3.2886	2.2549	-1.46	0.145	-7.708	1.131
age2	0.1266	0.0877	1.44	0.149	-0.045	0.299
sibling	-0.0239	0.0280	-0.85	0.394	-0.079	0.031
Time to school	-0.00002	0.0033	-0.01	0.995	-0.007	0.007
Hhchore	-0.3567	0.1062	-3.36	0.001	-0.565	-0.149
Work in the market	0.0390	0.0960	0.41	0.685	-0.149	0.227
Weekly Hours in hh chores	0.0070	0.0063	1.12	0.262	-0.005	0.019
Weekly hours in ec. Activity	-0.0179	0.0037	-4.85	0	-0.025	-0.011
Hh socio economic status	-0.0123	0.0771	-0.16	0.873	-0.163	0.139
_cut1	-23.51815	14.44982		(Ancillary	parameters)	
_cut2	-22.37203	14.44841				
_cut3	-22.11106	14.44829				

Ordered probit estimates						
Number of obs = 990						
LR chi2(32) = 202.68						
Prob > chi2 = 0.0000						
Log likelihood = -1162.2262						
Pseudo R2 = 0.0802						
Test Scores: math	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
female	-0.421	0.370	-1.14	0.255	-1.147	0.305
Age	0.918	2.373	0.39	0.699	-3.732	5.568
age2	-0.046	0.092	-0.5	0.617	-0.227	0.135
n. of siblings	-0.027	0.029	-0.91	0.362	-0.084	0.031
Time to school	-0.003	0.004	-0.72	0.473	-0.009	0.004
Involved in Hh chores	0.126	0.108	1.17	0.243	-0.086	0.338
Work in the market	-0.142	0.096	-1.47	0.141	-0.330	0.047
Weekly hours in hh chores	0.003	0.006	0.5	0.617	-0.009	0.015
Weekly hours in ec. activity	-0.008	0.004	-1.9	0.057	-0.016	0.000
Hh socio ec. status	-0.015	0.115	-0.13	0.894	-0.241	0.210
Mother's employed	0.050	0.103	0.48	0.629	-0.153	0.253
Father's employed	0.177	0.089	1.98	0.047	0.002	0.351
Teacher-pupil ratio	-0.055	0.022	-2.49	0.013	-0.099	-0.012
Students per class	0.003	0.004	0.85	0.394	-0.004	0.010
School dummies						
school1	-0.735	0.613	-1.2	0.23	-1.935	0.466
school3	-0.619	0.296	-2.09	0.036	-1.199	-0.040
school4	-0.414	0.408	-1.02	0.309	-1.213	0.384
school5	0.082	0.259	0.32	0.751	-0.426	0.590
school7	-0.358	0.309	-1.16	0.246	-0.963	0.246
school8	0.426	0.257	1.65	0.098	-0.079	0.930
school9	0.755	0.256	2.94	0.003	0.252	1.257
school10	-0.543	0.264	-2.06	0.04	-1.061	-0.026
school11	-0.020	0.290	-0.07	0.945	-0.588	0.548
school12	0.447	0.225	1.99	0.047	0.006	0.888
school13	1.132	0.325	3.49	0	0.496	1.768
school14	0.222	0.256	0.87	0.386	-0.280	0.723
school16	-0.454	0.281	-1.61	0.107	-1.004	0.097
school18	-0.938	0.343	-2.74	0.006	-1.610	-0.266
school19	-0.517	0.232	-2.23	0.026	-0.972	-0.062
school20	0.028	0.432	0.07	0.948	-0.818	0.874
school21	0.837	0.220	3.81	0	0.407	1.268
school22	1.540	0.281	5.48	0	0.989	2.091
_cut1	3.093	15.231	(Ancillary parameters)			
_cut2	3.597	15.231				
_cut3	4.164	15.232				
_cut4	4.834	15.232				

Ordered probit estimates			Number of obs = 840			
			LR chi2(34) = 145.49			
			Prob > chi2 = 0.0000			
Log likelihood = -1054.1302			Pseudo R2 = 0.0646			
Test scores: science	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
female	0.223	0.288	0.78	0.438	-0.341	0.788
age	6.103	2.508	2.43	0.015	1.187	11.019
age2	-0.242	0.098	-2.48	0.013	-0.434	-0.051
n. of siblings	0.022	0.034	0.63	0.526	-0.045	0.089
Time to school	-0.007	0.004	-1.68	0.093	-0.014	0.001
Involved in Hh chores	0.237	0.116	2.05	0.041	0.010	0.463
Work in the market	-0.120	0.103	-1.16	0.244	-0.323	0.082
Weekly hours in hh	-0.005	0.007	-0.73	0.463	-0.019	0.008
Weekly hours in ec.	-0.007	0.005	-1.44	0.150	-0.015	0.002
Hh socio ec. status	0.090	0.117	0.77	0.439	-0.138	0.319
Mother's employed	0.108	0.111	0.98	0.329	-0.109	0.325
Father's employed	-0.044	0.100	-0.44	0.661	-0.240	0.152
Teacher-pupil ratio	-0.024	0.022	-1.05	0.295	-0.068	0.020
Students per class	-0.005	0.006	-0.75	0.452	-0.017	0.007
School dummies						
school2	0.421	0.549	0.77	0.444	-0.656	1.497
school3	0.273	0.505	0.54	0.588	-0.716	1.263
school5	0.807	0.400	2.02	0.044	0.023	1.590
school7	0.706	0.295	2.39	0.017	0.127	1.285
school8	0.567	0.491	1.16	0.248	-0.394	1.529
school9	0.991	0.448	2.21	0.027	0.113	1.869
school10	0.035	0.393	0.09	0.929	-0.735	0.805
school11	0.910	0.478	1.91	0.057	-0.026	1.847
school12	1.565	0.329	4.75	0.000	0.919	2.210
school13	0.859	0.491	1.75	0.080	-0.104	1.822
school14	0.531	0.483	1.10	0.272	-0.416	1.478
school15	0.795	0.453	1.75	0.079	-0.093	1.683
school16	0.115	0.409	0.28	0.778	-0.686	0.917
school18	0.606	0.336	1.80	0.072	-0.053	1.266
school19	-0.058	0.297	-0.20	0.845	-0.640	0.523
school20	0.236	0.244	0.97	0.334	-0.243	0.715
school21	0.562	0.419	1.34	0.180	-0.259	1.383
school22	1.437	0.529	2.72	0.007	0.400	2.474
Ancillary Parameters						
_cut1	38.710	16.057				
_cut2	39.238	16.058				
_cut3	39.808	16.059				
_cut4	40.319	16.059				

Ordered probit estimates		Number of obs = 1044				
LR chi2(33) = 257.72						
Prob > chi2 = 0.0000						
Log likelihood = -1446.9821		Pseudo R2 = 0.0818				
Test scores:	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
female	-0.361	0.246	-1.47	0.142	-0.843	0.121
age	3.488	2.076	1.68	0.093	-0.581	7.558
age2	-0.139	0.081	-1.72	0.086	-0.297	0.020
n. of siblings	-0.024	0.026	-0.91	0.365	-0.076	0.028
Time to school	-0.005	0.003	-1.71	0.088	-0.012	0.001
Involved in Hh chores	0.113	0.097	1.16	0.246	-0.078	0.303
Work in the market	-0.323	0.088	-3.69	0.000	-0.495	-0.151
Weekly hours in hh	0.010	0.006	1.78	0.075	-0.001	0.021
Weekly hours in ec.	-0.004	0.004	-1.00	0.317	-0.011	0.004
Hh socio ec. status	-0.025	0.104	-0.24	0.808	-0.230	0.179
Mother's employed	0.054	0.093	0.58	0.560	-0.128	0.236
Father's employed	0.102	0.080	1.29	0.199	-0.054	0.258
Teacher-pupil ratio	-0.072	0.019	-3.76	0.000	-0.110	-0.035
Students per_class	0.020	0.005	3.80	0.000	0.010	0.031
School dummies						
school2	-0.137	0.473	-0.29	0.773	-1.064	0.791
school3	0.230	0.428	0.54	0.591	-0.609	1.070
school4	-1.034	0.205	-5.05	0.000	-1.435	-0.633
school5	0.560	0.343	1.63	0.103	-0.113	1.234
school7	-0.233	0.258	-0.90	0.368	-0.739	0.274
school8	0.802	0.413	1.94	0.052	-0.009	1.612
school9	1.044	0.366	2.85	0.004	0.327	1.761
school10	-0.799	0.286	-2.80	0.005	-1.359	-0.239
school11	0.216	0.423	0.51	0.609	-0.612	1.045
school12	-0.326	0.277	-1.18	0.239	-0.869	0.217
school13	1.737	0.427	4.06	0.000	0.899	2.574
school14	0.966	0.411	2.35	0.019	0.160	1.773
school15	-1.074	0.394	-2.72	0.006	-1.846	-0.301
school16	0.356	0.348	1.02	0.307	-0.327	1.039
school17	-1.033	0.385	-2.68	0.007	-1.788	-0.279
school18	-1.201	0.317	-3.79	0.000	-1.822	-0.579
school19	-0.781	0.243	-3.22	0.001	-1.257	-0.305
school21	0.010	0.355	0.03	0.978	-0.686	0.706
school22	1.410	0.448	3.14	0.002	0.531	2.288
_cut1	20.619	13.308	Ancillary parameters			
_cut2	21.193	13.309				
_cut3	21.949	13.309				
_cut4	22.706	13.310				