

Adolescent Students Who Work: Gender Differences in School Performances and Self-perceived Health

VILMA S. SANTANA, PHD, SHARON P. COOPER, PHD, ROBERT E. ROBERTS, PHD,
JOSÉ B. ARAÚJO-FILHO

In a prospective cohort study, the hypotheses that adolescent students who work have poorer school performances, more sick days, and poor self-perceived health were examined. From a one-stage random cluster area sampling of 2,512 households in Bahia, Brazil, 888 students 10–21 years of age were asked to answer questionnaires. School dropouts were more common among working students independently of gender. Both full-time ($PR_{adjusted} = 2.43$; 95% CI: 1.49–3.96) and part-time ($PR_{adjusted} = 2.07$; 95% CI: 1.28–3.35) working males were more likely to report frequent class skipping. Among females, paid jobs also were associated with poor self-perceived health, but not after adjustment for age and SES. Brazilian labor legislation for adolescent workers needs to be revised to take into account that jobs can compromise educational achievement. *Key words:* adolescent work; school performance; educational attainment; self-perceived health.

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In Brazil, the government estimates that approximately 13% of children aged 5–14 years and 20% aged 10–14 years have paid jobs,¹ although the labor legislation specifies a minimum age of 14 years for apprenticeships, and ages 16–18 for adolescent work in non-hazardous occupations. Major areas of employment for these children include agriculture, domestic service, construction, and the tourist industry, mostly in the informal sector, where laws are not enforced.² School attendance is compulsory for 5–14-year-old children, but only recently there has been an

increase in school attendance and a fall in the labor-market participation of children and adolescents.³ Nevertheless, a substantial number of youths are still engaged in paid jobs, sometimes having paid jobs and also attending school.²

Adolescent students who work have less time to do homework or other school-related tasks, which may affect their attitudes towards school, attainment, and subsequent educational levels. However, results of studies of the effects of work on school performance have been contradictory. For instance, D'Amico⁴ found that high school students working less than 20 hours per week were less likely to drop out, supporting the idea that teenage work promotes positive behaviors. Later, Mortimer et al.⁵ also found no evidence that employment during adolescence negatively affects school grades. Rather, they reported that low-intensity work was associated with better average grades. In contrast, there are research findings showing that working long hours is related to low levels of school involvement and academic achievement,^{6,7} or school-work conflicts.⁸

Because educational attainment and school performance differ across gender groups,⁹ it is plausible that there exist distinct gender-related patterns of the effects of teenage employment on educational outcomes, but only a few studies have addressed that subject.^{5,9,10} Results show that although school performance is better among girls than among boys, this circumstance is independent of job status,^{9,10} while in a cohort study conducted in the United States, no evidence that gender was an effect modifier for the associations of work hours and school and mental health outcomes was found.⁵

The overload resulting from attending school and having paid work duties has also been found in association with health effects, such as fatigue,⁶ and health behaviors.¹¹ It is plausible that lack of time for leisure and physical activities and exposure to occupational hazards or psychosocial stressors may also affect health status, resulting in worse self-perceived health or well-being. However, Mortimer et al.,⁵ in a prospective study, found that hours of work do not have significant unfavorable effects on self-esteem, or depressive affect, both correlated with self-perceived health. Self-perceived health has been the focus in several recent stud-

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Address correspondence and reprint requests to: Vilma S. Santana, Institute of Collective Health/ Federal University of Bahia, Campus Universitário do Canela, Rua Augusto Vianna, s/n, 2º andar, 40110-040 Salvador, Bahia, Brazil; telephone: +55-71-336-0034; fax: +55-71-237-5856; e-mail: <vilma@ufba.br>.

ies because it is easily obtained, summarizes diverse health aspects, and is also a good indicator of seeking health care.¹² Among adolescents, self-perceived health also was found to be associated with workplace stress.¹³ This study examined the hypothesis that there exist associations of the combination of school and work with educational performance, sick days taken, and self-perceived health. Sociodemographic characteristics of the adolescents, their parents, families, jobs, and schools were also evaluated as potential confounders, and gender as an effect modifier.

METHODS

The study data come from a population-based survey about work and health carried out in the city of Salvador, capital of the State of Bahia. At the time of the study, the year 2000, there were 2.7 million inhabitants, the third largest urban concentration in the country. The population lives mostly in poor slum areas surrounding upper- and middle-class neighborhoods, and has one of the highest unemployment rates in the country. Individuals from 10–21 years of age who were members of the families selected and were living in the study area comprised the study population. To identify the study population, a cluster area single-stage random sample was designed by using 1:12,000 and 1:2,000 maps provided by the state urban development company. For each sampled area, research staff members made detailed handmade maps showing all local constructions, boundaries, and landmarks, to be used as guidance by field workers. The number of selected sub-areas was calculated based on the average number of domiciles (86.6) and the expected mean of family members in the age range of interest (3.8). Three of the 32 selected areas were not inhabited. For the remaining 29, local organizations and community leaders were contacted and asked to participate in the research, and to support operational aspects. The bases for selecting this sampling design included common difficulties in identifying residential addresses with non-traditional housing, concern for field workers' safety, and the design of the ethnographic phase of the original study, which focused in neighborhood and social support networks.

Trained field workers visited each household, enlisted all family members, collected sociodemographic information and scheduled individual interviews, after a written informed consent was obtained for each participant. Data collection was carried from July to December 2000, thus avoiding the summer, a high tourist season, when informal jobs, more common among adolescents, are more intense and have patterns distinct from those during the rest of the year. Supervisors visited domiciles to check collected data. When needed, missing information was obtained by telephone contact. Research instruments were devel-

oped following a conceptual diagram based on relevant contents identified in workshops carried out with members of health and labor institutions, nongovernmental organizations, and the academic community, and questionnaires utilized in previous Brazilian studies.^{3,14} Language adequacy and operational feasibility of overall research strategy were tested in a pilot study.

Dependent variables were whether respondents disliked school and frequent class skipping, both coded as yes or no, and schooling-for-age, which measured adequacy of the adolescent age for school grade analyzed as adequate or delayed. Health-related variables reported were sick days in the preceding 12 months and poor self-perceived health, coded as yes or no. To examine the study hypothesis, the independent variable was constructed using school attendance and having paid jobs, categorized as: 1) school and paid job; 2) paid job only, and 3) school only, the referent category, and analyzed with two dummy variables. Selected covariates were sociodemographic variables: age in years; skin color assessed by trained interviewers who classified each study subject as black (including dark and light mulattoes) and non-black; socioeconomic status (SES), defined according to the number of goods and assets of the family from a checklist containing car, computer, washer, dishwasher, video player, laser disc player, microwave, telephone, and beach house ownership. The number of items was categorized as low (one or two items), medium (three to five items), and high (more than five items); family-related variables: type of family (nuclear, those with both parents/single parent), father's and mother's education (low and elementary or less/high, more than elementary). School-related variables were school shift (daytime or nighttime) and perceived violence at school. Occupation-related variables were duration of worktime in hours per week, coded as none/occasionally, non-paid workers or those who reported spending time in a job occasionally, 1–20 hours of work per week (part-time job) and over 20 hours (full-time job), all coded as yes or no. Because of the importance of school dropout as an outcome that may compromise conclusions about other school outcomes, it was examined separately for adolescents less than 18 years of age, which corresponds to the age in the last year of high school.

Associations were measured by prevalence ratios and statistical inference based on 95% Mantel-Haenszel confidence intervals in the stratified analysis. Proportion differences were statistically evaluated with Pearson's chi-square test. Multivariate analysis was conducted using unconditional logistic regression based on backward modeling, conducted for each school and health outcome separately. The independent variable paid work/school attendance was analyzed as two dummy variables and effect modifiers using corresponding product terms. Confounding was evaluated by considering candidate covariates that changed the main

point estimate by at least 20% when dropped from the saturated model containing all candidates. These covariates were selected for modeling by taking into consideration their putative roles, previous research findings, and results from the stratified analysis.¹⁵ Prevalence ratios were calculated from logistic regression parameters and confidence intervals using the delta method.¹⁶ Double data entry allowed a complete check of the database. Data analysis was performed with SAS 8.11,¹⁷ adjusting final results for sampling design using the Proc Surveymeans.¹⁷ The research protocol was reviewed and approved by the Institutional Review Board of the Hospital Prof. Edgard Santos, Federal University of Bahia, and The University of Texas at Houston. The research staff was informed of all ethical issues involved and their related responsibilities.

RESULTS

In the 2,512 families selected for the study, 2,560 individuals were between 10 and 21 years of age, but because of the purpose of the research project, complete individual questionnaires were administered only to workers, considered to be those who reported having paid jobs or were in charge of household chores at least eight hours a week ($n = 1,049$ adolescents). From this eligible population, adolescents who were both not in school and not working were excluded ($n = 123$, 11.7%). Thirty-eight individuals (3.6%) refused to participate, leaving 888 for the final study population.

The analysis of school dropouts was conducted separately because it required a distinct population ($n=576$), that included of all adolescents (both working and non-working) who were 18 years old or younger, i.e., high school-age ($n = 453$) and school dropouts ($n = 123$) who were left out of the study population under analysis. The proportion of school dropouts was estimated as largely increased among paid workers (28.0%) compared with the non-working group (10.2%) ($p < 0.0001$) with similar patterns among girls and boys. Proportion of dropouts increased with work-time, from 20.7% among part-time workers to 46.1% full-time workers among females ($p < 0.0001$), while corresponding values for males were 20.0% and 30.4% ($p < 0.01$), respectively.

Of the total study population ($n = 888$), 29.2% ($n = 259$) reported attending school and having paid jobs, 21.0% ($n = 187$) had paid jobs only, and 442 (49.8%) reported being students only. Females were less likely to have paid jobs than males, independent of whether they were students ($p < 0.0001$). Female students with jobs were more likely to be older (18–21 years of age), be of lower socioeconomic status, and be members of nuclear families than were those who reported no paid jobs. They also were more likely to be in night school and to work fewer hours than those who held jobs only (Table 1). In the male group, students having jobs were

older (18–21 years of age) and had less educated mothers than those attending school only.

School, Work, and School Performance

Gender was a statistically significant effect modifier for the associations of school/work and dissatisfaction with school (maximum likelihood ratio, $MLR_{1df} = 5.636$, $p < 0.05$) and frequent class skipping ($MLR_{1df} = 3.738$, $p < 0.05$); therefore, all results are presented separately by gender. Table 2 shows that the female adolescents who attended school and had paid jobs were more likely to have schooling-for-age delays than were their counterparts (prevalence ratio, $PR = 1.20$; 95% CI = 1.02–1.41) when crude estimates were examined. However, in the male group, a higher proportion of frequent class skipping was reported among those holding paid jobs than in the referent group ($PR = 3.63$; 95% CI = 1.60–8.23). Estimates were adjusted for SES, school shift, and perceived violence at school, all found as confounders for frequent class skipping and school dislike, but which were kept in the final models of all school outcomes to allow cross comparisons. It is worth noting that the positive association between schooling-for-age delay estimated for females disappeared after adjustment for these confounding variables. Nevertheless, among boys, the association between school/work and cutting classes remained after adjustment ($PR_{adjusted} = 3.21$, 95% CI, 1.36–7.54).

In Table 3, work time is taken into consideration in the analysis. School performance was affected by work-time after adjustment for frequent skipping classes among male adolescents only. Positive associations were found between having paid jobs and frequent skipping classes for both full-time ($PR_{adjusted} = 2.43$; 95% CI = 1.49–3.96) and part-time workers ($PR_{adjusted} = 2.07$; 95% CI = 1.28–3.35). Female students working full time also had an increased prevalence of school-for-age delay ($PR_{unadjusted} = 1.25$; 95% CI = 1.05–1.48), but this finding was limited to the unadjusted model. The increasing pattern of frequent skipping with increased work time was also seen for females, although not statistically significantly. Noticeable is the unadjusted association found between school and part-time work for males with school dissatisfaction that did not remain after adjustment. The same trend was evident for females, with a higher PR for part-time versus full-time work associated with dislike of school.

School, Work, and Self-perceived Health

Table 4 shows that only females who were students and held paid jobs were more likely to report poor self-perceived health when compared with those who were students only ($PR_{unadjusted} = 1.73$; 95% CI = 1.16–2.57), an association that remained positive ($PR = 1.47$; 95% CI = 0.91–2.38) after adjusting for age and SES, but was not

TABLE 1 Sociodemographic Characteristics According to School Status and Work Status by Gender

	School and Paid Jobs N=259		Paid Jobs Only N=187		School Only N=442		Total N = 888	
	No.	%	No.	%	No.	%	No.	%
Female	125	48.3	98	52.4	362	81.9	585	65.9
Age in years								
10-17	38	30.4	18	18.4	255	70.4	311	53.2
18-21	87	69.6	80	81.6	107	29.6	274	46.8
Socioeconomic status								
Low	49	39.2	42	42.8	209	57.7	300	51.3
Medium	45	36.0	33	33.7	109	30.1	187	32.0
High	31	24.8	23	23.5	44	12.2	98	16.7
Family type								
Nuclear	85	72.0	44	53.7	211	63.7	340	64.0
Single parent	33	28.0	38	46.3	120	36.3	191	36.0
Father's education								
Low	72	61.0	61	74.4	211	63.7	344	64.8
High	46	39.0	21	25.6	120	36.3	187	35.2
Mother's education								
Low	79	67.0	40	48.8	229	69.2	348	65.5
High	39	33.0	42	51.2	102	30.8	183	34.5
School shift								
Day time	58	46.4	—	—	295	81.5	353	72.5
Night time	67	53.6	—	—	67	18.5	134	27.5
Work time								
None/work occasionally	4	3.2	—	—	362	100.0	366	62.6
1-20 hours/week	60	48.0	25	25.5	—	—	60	14.5
Over 20 hours/week	61	48.8	73	74.5	—	—	134	22.9
Male	134	51.7	89	47.6	80	18.1	303	34.1
Age in years								
10-17	50	37.3	12	13.5	56	70.0	118	38.9
18-21	84	62.7	77	86.5	24	30.0	185	61.1
Socioeconomic status								
Low	69	51.9	50	56.2	44	55.0	163	54.0
Medium	46	34.6	26	29.2	29	36.2	101	33.4
High	18	13.5	13	14.6	7	8.8	38	12.6
Family type								
Nuclear	72	58.5	46	65.7	45	60.8	163	61.0
Single parent	51	41.5	24	34.3	29	39.2	104	39.0
Father's education								
Low	78	58.2	53	59.6	57	71.2	188	62.1
High	56	41.8	36	40.4	23	28.8	115	37.9
Mother's education								
Low	79	59.0	53	59.6	48	60.0	180	59.4
High	55	41.0	36	40.4	32	40.0	123	40.6
School shift								
Day time	52	38.8	—	—	61	76.2	113	52.8
Night time	82	61.2	—	—	19	23.8	101	47.2
Work time								
None/work occasionally	7	5.0	—	—	80	100.0	87	28.7
1-20 hours/week	40	30.0	17	19.1	—	—	57	18.8
Over 20 hours/week	87	65.0	72	80.9	—	—	159	52.5

longer statistically significant. There were only minor changes when work time is considered, as shown in Table 5. Again, only significant crude associations were observed, but it can be seen that there was an effect for girls attending school and having full-time jobs ($PR_{unadjusted} = 1.53$; 95% CI = 1.07-2.20), or for those who were not students and held part-time jobs ($PR_{unadjusted} = 1.59$; 95% CI = 1.03-2.45). No statistically significant associations were found among male adolescents.

DISCUSSION

Results of this study show that having a job during the school years is associated with unwanted school performance outcomes, with distinct patterns by gender, but no significant association was found regarding self-reported health variables. For both females and males, dropouts from elementary through high school, the most severe endpoint considered, were more common

TABLE 2 Associations of School/Work and School Performance Outcomes by Gender

	Females (n = 585)		Males (n = 303)	
	School/Work PR* (95%CI)	School Only PR* (Referent)	School/Work PR* (95%CI)	School Only PR* (Referent)
Model 1 (unadjusted)				
Dislike school	0.62 (0.31–1.23)	1.0	1.65 (0.96–2.85)	1.0
Frequent class skipping	1.53 (0.89–2.65)	1.0	3.63 (1.60–8.23)	1.0
Schooling-for-age delay	1.20 (1.02–1.41)	1.0	1.11 (0.97–1.27)	1.0
Model 2 (adjusted)†				
Dislike school	0.64 (0.31–1.33)	1.0	1.53 (0.84–2.78)	1.0
Frequent class skipping	1.23 (0.66–2.27)	1.0	3.21 (1.36–7.54)	1.0
Schooling-for-age delay	0.98 (0.78–1.23)	1.0	1.03 (0.87–1.21)	1.0

*Prevalence ratio.

†Adjusted for confounding variables—SES, school shift, and perceived violence at school.

among currently paid workers, and frequency of quitters increased with work time. For those who remained enrolled in school, a distinct gender pattern was observed for school performance when adolescents hold paid jobs. While working females showed no evidence of other poor school performances, males were more likely to report that they disliked school, a subjective measurement of dissatisfaction, and skipped classes. On the other hand, the combination of school enrollment and paid jobs was associated with poor self-perceived health only among female adolescents before adjustment for age and SES. Work time was related to frequent class skipping among males and a nonsignificant increased prevalence of poor perceived health among females who were full-time workers and attended school.

Dropping out of school during adolescence is an important social problem throughout the world, and is known to negatively impact the economy and social and human development.⁹ It is also known to be a common effect of poverty and child or adolescent labor, since early entrance into the labor force is mainly the result of the need to increase the incomes of poor families.⁹ It is worth noticing that dropouts increased with work time,

which should be taken into consideration in labor legislation that would limit the time allowed for paid jobs among apprentices or adolescents in general.

Dropout was not the main target of this study, but it could not be ignored because of its competitive effect on other school performance outcomes and because of the unique opportunity to study this group afforded by our geographic area-based, rather than school-based, sampling. For instance, since dissatisfaction with school and cutting classes were more commonly reported by male adolescents, it was surprising to find the increased schooling-for-age delay in association with paid jobs only among females, although limited to unadjusted estimates. It is possible that male adolescents facing poor grades were more likely to quit school than females, since they also more frequently reported dissatisfaction with school and cutting classes, known as determinants of low school grades,¹⁸ a hypothesis not possible to be examined in this study. The demands of paid jobs may also be more onerous for jobs held by males as compared with females, because they do not allow for flexible arrangements that permit convenient time to attend school or to perform school-related tasks such as homework. It has been reported that female

TABLE 3 Associations of School/Work, Work-time, and School Performances by Gender

	Females			Males		
	School/Work Full Time PR* (95% CI)	School/Work Part Time PR* (95% CI)	School Only (Referent)	School/Work Full Time PR* (95% CI)	School/Work Part Time PR* (95% CI)	School Only (Referent)
Model 1 (unadjusted)						
Dislike school	0.68 (0.27–1.73)	0.53 (0.19–1.46)	1.0	1.43 (0.94–2.16)	1.64 (1.03–2.62)	1.0
Frequent class skipping	1.81 (0.98–3.35)	1.21 (0.61–2.39)	1.0	2.58 (1.65–4.04)	2.08 (1.34–3.23)	1.0
Schooling-for-age delay	1.25 (1.05–1.48)	1.07 (0.93–1.25)	1.0	1.08 (0.97–1.21)	1.08 (0.94–1.23)	1.0
Model 2 (adjusted)†						
Dislike school	0.74 (0.28–2.00)	0.54 (0.19–1.51)	1.0	1.29 (0.79–2.12)	1.66 (0.98–2.79)	1.0
Frequent class skipping	1.39 (0.67–2.89)	1.08 (0.50–2.32)	1.0	2.43 (1.49–3.96)	2.07 (1.28–3.35)	1.0
Schooling-for-age delay	1.01 (0.74–1.39)	0.96 (0.72–1.28)	1.0	0.98 (0.84–1.15)	1.09 (0.92–1.30)	1.0

*Prevalence ratio.

†Adjusted for confounding variables—SES, school shift, and perceived violence at school.

TABLE 4 Associations of School/Work and Health Outcomes by Gender

	Females			Males		
	School/Work PR* (95% CI)	Work Only PR* (95% CI)	School Only (Referent)	School/Work PR* (95% CI)	Work Only PR* (95% CI)	School Only (Referent)
Model 1 (crude)						
Sick days	1.35 (0.81–2.26)	0.82 (0.42–1.59)	1.0	0.93 (0.42–2.06)	1.00 (0.42–2.35)	1.0
Poor health	1.73 (1.16–2.57)	1.41 (0.90–2.22)	1.0	0.85 (0.36–2.01)	0.50 (0.17–1.46)	1.0
Model 2 (adjusted)†						
Sick days	1.29 (0.74–2.25)	0.76 (0.36–1.59)	1.0	0.72 (0.30–1.74)	0.68 (0.25–1.84)	1.0
Poor health	1.45 (0.90–2.33)	1.05 (0.59–1.87)	1.0	0.78 (0.31–1.96)	0.43 (0.13–1.43)	1.0
Model 2 (adjusted)‡						
Sick days	1.24 (0.70–2.20)	0.75 (0.35–1.59)	1.0	0.73 (0.30–1.76)	0.67 (0.25–1.82)	1.0
Poor health	1.47 (0.91–2.38)	1.06 (0.60–1.87)	1.0	0.80 (0.32–2.01)	0.43 (0.13–1.44)	1.0

*Prevalence ratio.

†Adjusted for age.

‡Adjusted for age and SES.

adolescents are more likely than males to have domestic employment or be in the informal sector, where time schedules are more negotiable.^{19,20} Also, female adolescents are more likely than males to value school performance,²¹ so they may be more inclined to give more socially acceptable answers to questions about school satisfaction and attendance, leading to differential misclassification, and as a result no statistically significant association was observed among female adolescents.

This is consistent with results of studies that have evaluated how work compromises school performance and attainment among adolescents in the United States^{6–8} and other American countries.^{9,18} For instance, examining consequences of child labor, Psacharopoulos⁹ reported that children who have paid jobs have an average of two years' schooling delay in Bolivia and Venezuela, a result of grade repetition. Markel and Frone⁸ developed an interesting analysis showing which domains play intermediate roles for school–work conflicts, for this association. This is defined as the extent to which work compromises a student's ability to comply with school demands. According to their study, work–school conflicts arise from job time, reflecting a time dimension of interrole conflict, job dissatisfaction that represents a strain dimension, and workload that expresses intensity of job demands. However, results of this study show that other work dimensions need to be explored since the time dimension was relevant only for dropouts for both females and males and frequently skipping classes among males. It is possible that other factors, such as housework time, early parenting, and job quality or work conditions, e.g., occupation-related demands or psychosocial distress, may need to be taken into account in future research.

Although adolescent work has been reported to have positive effects on psychological development and mental health,^{2,5,19,22} our findings show that the association found among girls was biased by the confounding

effects of age and socioeconomic status, disappearing after adjustment. Although not statistically significant, most of the results show a negative trend for the estimates related to having jobs and health status. It may be a consequence of the alleged benefits that adolescents' work may bring to their own health.^{2,5,19,22} However, it is widely known that active workers tend to be healthier than non-workers, a phenomenon known as healthy-worker effect or workers' survival effect.²⁴ Initially observed in mortality studies, it is supported by evidence from different studies showing that this effect is a consequence of pre-employment screening, the selection component, and the dynamic resulting from occupation-related protective measures targeting exposed individuals within firms, and dismissal or early retirement due to diseases caused by occupational hazards, in their early stages, or when disability becomes detectable.²⁴ It is logical to hypothesize that this effect may be greater among young workers and intensified by increased turnover observed at this life stage, or mostly by self-selection, because most adolescent jobs are known to be unregulated and pre-employment screening is rare. Therefore, being a non-worker during adolescence does not necessarily express an active exclusion from the labor force. In sum, it is not possible to refute a possible positive association because these findings may be biased as a result of the healthy-worker effect or characteristics of adolescents' participation in the labor force.

It has also been hypothesized that self-perceived health varies according to age, as a result of differences in health representations and frames of appraisal from adolescence through adulthood.²⁵ The low morbidity rates found among adolescents in spite of increased poor self-perceived health status²⁵ may be a reflection of these differences. Examining the contributors to self-perceived health among younger individuals, Vingilis et al.¹³ observed that perceptions of physical

TABLE 5 Logistic Regression Models for the Associations of School/Work, Work Time, and Health

	Females		Males	
	Sick Days PR* (95% CI)	Poor Self- perceived Health PR* (95% CI)	Sick Days PR* (95% CI)	Poor Self- perceived health PR* (95% CI)
Model 1 (unadjusted)				
Student /non-workers	1.0	1.0	1.0	1.0
Only paid workers/part time	0.72 (0.19–2.65)	1.59 (1.03–2.45)	0.24 (0.01–3.89)	0.99 (0.89–1.10)
Only paid workers/full time	0.85 (0.40–1.79)	1.11 (0.84–1.46)	1.23 (0.53–2.87)	0.62 (0.22–1.76)
School/part time workers	1.24 (0.63–2.44)	1.26 (0.93–1.69)	0.76 (0.25–2.32)	0.76 (0.25–2.32)
School/full time workers	1.46 (0.76–2.81)	1.53 (1.07–2.20)	1.02 (0.44–2.39)	0.92 (0.38–2.20)
Model 2 (adjusted)†				
Student /non-workers	1.0	1.0	1.0	1.0
Only paid workers/part time	0.63 (0.15–2.55)	1.62 (0.85–3.07)	0.49 (0.09–2.57)	0.55 (0.10–2.96)
Only paid workers/full time	0.79 (0.34–1.88)	0.89 (0.51–1.56)	0.82 (0.26–2.60)	0.43 (0.11–1.74)
School/part time workers	1.15 (0.56–2.39)	1.28 (0.80–2.05)	0.60 (0.20–1.81)	0.72 (0.25–2.13)
School/full time workers	1.36 (0.65–2.85)	1.47 (0.93–2.33)	0.80 (0.32–2.03)	0.78 (0.30–2.04)

*Prevalence ratio.

†Adjusted by age and SES.

health were not distinguished from emotional well-being, and that self-perceived health among adolescents seems to be primarily an expression of an overall functioning awareness, which supports the idea that results may be biased by the healthy-worker effect. Another author¹² evaluated the contributions of variables from distinct domains to self-perceptions of health among adolescents and observed that the most relevant contribution comes from psychological well-being, although physical activity, acute diseases, and psychosomatic symptoms were also associated with perceptions of poor health.

Because of the cross-sectional design of this study, it was not possible to evaluate whether school grade repetition led adolescents to get paid jobs, as demonstrated by Bachman and Schulenberg,²⁶ or whether poor self-perceived health led them to do so, although there is no current evidence that early mental health problems, a known predictor of health status perception, precede adolescent paid-job enrollment.⁵ Adolescents with poor health at the beginning of the follow-up did not have increased job enrollment.

Another limitation of this study is the self-reported nature of the school and health endpoints, which may be affected by memory or reporting biases, as already mentioned. In spite of the subjectivity of self-perceptions of health, however, there are several advantages to this measure, because it represents an overall summary judgment of one's health status, and is strongly associated with diverse objective symptoms, chronic ailments, particularly emotional disorders, sedentary life style, hospitalization, and global health care demand.^{12,13} Since alcohol abuse and mental health disorders have been reported in association with poor self perceived health or employment or work-time among teenaged students, consumption of alcoholic beverages and depressive symptoms also need to be explored.²⁶

The adjustment for SES and age that eliminated some of the associations observed may be questioned, since adolescent work in developing countries is recognized as a matter of survivorship for poor families.^{3,9} Therefore, SES and adolescent jobs are part of the same construct and SES perhaps should not be evaluated for confounding.¹⁵ Age also is part of the conceptual model under analysis, as adolescence is an age stage of life. Despite the possibility of over-adjustment, we present adjusted estimates here, to clarify the relations between school, work and SES among adolescents.

This study adds to the knowledge that school attainment is compromised by work among student adolescents, in different ways among boys than girls, and this situation can affect the economic and social development of the country, particularly since in Brazil the broadening of employment access to young adults is the target of a recent nationwide program. It is understood that adolescent work may have benefits when it is performed in favorable conditions, such as with appropriate training, in limited work hours, in non-hazardous occupations and under close supervision; aspects that need to be reinforced by labor legislation that extends coverage to the informal sector of the economy.

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