

US Child Labor Violations in the Retail and Service Industries: Findings From a National Survey of Working Adolescents

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Working for pay in formal jobs is common among American adolescents.¹ According to the US Bureau of Labor Statistics, the labor force participation rate for 16- and 17-year-olds was 32.5% in 2006, a year in which more than 2.4 million adolescents in that age group were employed.² Substantial numbers of adolescents younger than 16 years also have formal jobs.^{3,4} Working can be beneficial to youths,^{5,6} but it can also be detrimental, especially when work schedules are excessive or when working conditions are dangerous. Working more than 20 hours per week during the school year is associated with several negative health behaviors and decrements to mental health.⁷ In addition, hazardous working conditions cause hundreds of thousands of adolescents to be injured at work every year in the United States; approximately 70 adolescents die as a result of their injuries.^{7,8}

To minimize these risks, the employment of minors is regulated by a system of state and federal child labor laws rooted in the Fair Labor Standards Act (FLSA) of 1938.⁹ The FLSA regulates firms engaged in interstate commerce but does not cover certain enterprises, and there are some exceptions to the provisions discussed here. Further details are available on the US Department of Labor's Web site.¹⁰

The FLSA limits the types of jobs youths aged 14 to 17 years are allowed to perform, the number of hours they may devote to work, and the timing of these hours. The major job restrictions include 17 nonagricultural occupations deemed too dangerous for anyone younger than 18 years to hold and 9 agricultural occupations considered too dangerous for anyone younger than 16 years.^{11,12} These provisions are called hazardous occupations orders, or more commonly, hazardous orders. The hazardous orders apply in all states unless a state has a more stringent law, in which case the state law takes precedence. The hour restrictions of the FLSA apply only

Objectives. We investigated child labor violations among US adolescents working in the retail and service industries.

Methods. We used interview data from a nationally representative sample of working adolescents, and investigated reports of select child labor violations (e.g., hours, equipment, and work permits). We computed weighted percentages of respondents reporting each type of discrete (and aggregated) violation.

Results. Nearly 37% of respondents reported a violation of the hazardous occupations orders (i.e., prohibited jobs or use of equipment), and 40% reported a work permit violation. Fewer than 2% reported working more than the maximum weekly hours allowed during the school year, but 11% reported working past the latest hour allowed on a school night, and 15% reported working off the clock.

Conclusions. Significant numbers of US adolescents are employed in violation of the child labor laws and as a result are exposed to safety risks. Although our data did not allow for an analysis of enforcement, our findings demonstrate gaps in employer compliance with the law. We suggest that closer attention to enforcement policy and practice is needed. (*Am J Public Health*. 2008;98:1693–1699. doi:10.2105/AJPH.2007.122853)

to 14- and 15-year-olds and differ depending on the time of year, with fewer work hours allowed during the school year than in the summer.^{11,12} Hour restrictions for 16- and 17-year-olds are set by individual states and vary widely.¹³

Because child labor laws are age specific, the FLSA requires that employers maintain proof of age for all minor employees to document that these employees are working in compliance with the labor laws.¹² Typically, an employer complies by requiring young workers to obtain state-issued age documentation. Such documentation goes by many names, including age certificate, employment certificate, or working certificate,¹³ but all versions are popularly referred to simply as work permits. Although most state legislatures mandate that work permits be obtained before a minor can be employed (the FLSA itself has no such requirement), a few impose no mandate and only issue a permit upon request; others—Idaho, Mississippi, South Carolina, and Texas—do not issue any permits at all.^{12,13} Complete details of state work permit requirements are available on the US Department of Labor's Web site.¹³

Although the FLSA's original intent in requiring proof of age was to protect employers, many states' work permit systems are designed to help prevent young workers from being illegally employed. For example, some states require that a parent sign the permit application, and the child labor laws are either listed on the application or provided in an accompanying pamphlet.

Ensuring that employers adhere to the FLSA is the responsibility of the US Department of Labor's Wage and Hour Division.³ In recent years, enforcement by this agency has declined,^{14–18} and consequently, many working adolescents may be illegally employed and exposed to safety risks. Young employees are often injured, sometimes fatally, while working in illegal occupations or while performing prohibited tasks.^{19,20} In addition, the late-night and early-morning hours when many minors are prohibited from working are higher-risk periods for work-related homicides.^{8,21–23}

Understanding the scope and patterns of illegal child labor in the United States is a necessary step toward assessing the effectiveness of current regulations and their enforcement.

We examined adolescents' self-reports of working in violation of state and federal hour provisions, select nonagricultural hazardous orders, and state-level work permit requirements. We compared the retail and service industries, and we stratified reports by gender, age, race, and socioeconomic status (SES).⁷ Finally, we explored whether work permit compliance affects the likelihood of engaging in prohibited activities.

METHODS

We used cross-sectional data collected by telephone survey in 2003 from a nationally representative sample of working youths aged 14 to 18 years in the continental United States. Details of the survey are provided elsewhere.²⁴ For our analysis, the study population included adolescents who held a paying job (the referent job) for 2 or more months in the past 12 months and who were aged 14 to 17 years while working in the referent job. Because most US adolescents (and 93% of our respondents) were employed in either the service or retail industry,^{3,7} we restricted our study population to respondents working in those industries.

With the exception of night work violations for 16- and 17-year-olds, all violations were defined by the applicable state or federal laws in place in 2003. Violations were classified according to the state in which the referent job was located and the respondent's age while in the referent job.^{11,25–29}

Violations

Hour violations. Survey questions about working hours concentrated on employment during the school year. Two types of school-year hour violations, weekly hours and night work, were coded. The former was defined as working more hours than the number allowed per week during the school year. For 14- and 15-year-olds, we applied the federal standard of 18 hours, and for 16- and 17-year-olds, we applied the relevant state standard. A night work violation was defined as working beyond the latest hour allowed on a school night (i.e., a night followed by a school day). The federal standard of 7:00 PM was applied for 14- and 15-year-olds. A limitation in the survey instrument necessitated the use of

11:00 PM (a common state standard in 2003) as the limit for 16- and 17-year-olds.

Under the FLSA, employers are required to keep track of and pay employees for all hours worked (regardless of age), making it illegal to have employees work off the clock (i.e., work during periods that are unrecorded and uncompensated, typically before or after a scheduled shift or during break times).^{30,31} Working off the clock was measured dichotomously by responses to the question, "Have you worked off the clock in the last 2 months that you worked at [referent job]?" In addition to these discrete hour violations, an aggregate dichotomous variable measured whether a respondent reported any of the 3 hour violations.

Hazardous orders violations. We defined discrete hazardous orders violations as reports of using a piece of equipment prohibited by federal law for use by anyone younger than 18 years. We examined 2 categories of equipment prohibited by the hazardous orders. The first comprised equipment that could be found in many different work environments, including motor vehicles, power-driven equipment or tools, heavy equipment or machinery, and forklifts or other power-driven hoisting equipment. Respondents were first asked whether they had access to this equipment in the referent job (i.e., equipment was present at the worksite). If they answered yes, they were then asked if they had ever used the equipment.

The second category comprised equipment more commonly found in grocery stores and food-service establishments (both retail settings), including power-driven food slicers or grinders, dough-mixing or dough-rolling machines, box crushers, and paper balers or compactors. Only respondents employed in these establishments were queried, but because of the ubiquitous nature of this equipment in such settings, we did not first establish if respondents had access to this equipment.

In addition to these discrete hazardous orders violations, we created an aggregate dichotomous variable, measuring whether or not a respondent reported any of these hazardous orders violations while in the referent job, and a categorical variable, measuring how many different hazardous orders violations

(1, 2, or ≥ 3) were reported by respondents with 1 or more violation.

Work permit violations. We determined whether or not each respondent was mandated to have a work permit (i.e., employment certificate or age certificate) while in the referent job on the basis of his or her age and the state in which the referent job was held. We cross-referenced this information with responses to the survey question, "Did you have a work permit while working in the referent job?" to identify work permit violations.

Sociodemographic and Industry Variables

Demographic variables included age in referent job, gender, race, and SES. The distribution of races in our sample led us to dichotomize race into White and minority. To measure respondents' SES, we used parental education^{32–35} (categorized as high school diploma or less, some college, 4-year college degree, and graduate education) as reported by the respondents' parent or parental figure (collected in a parallel survey). We categorized industry with the Standard Industrial Classification System into either retail (e.g., division G, food stores, and eating and drinking places) or service (e.g., division I, health, education, or social services).³⁶

Analysis

We used SAS 9.1.3 software (SAS Institute Inc, Cary, North Carolina) with the appropriate survey weighting variables to compute percentages of respondents reporting each type of discrete and aggregated violation. (A detailed explanation of the weighting strategy is available elsewhere.²⁴) Because the aggregated measure of hazardous orders violations was not comparable across retail and service industries, we did not conduct industry comparisons when using this measure. In addition, because gender differences in the use of discrete types of equipment were reported in a previous study,²⁴ we confined our analysis by gender to aggregated measures of hazardous orders violations.

RESULTS

The sample consisted of 858 adolescents employed in either the retail (67.5%) or service (32.5%) industry. Slightly more than 87% of respondents worked during the

TABLE 1—Number and Percentage of US Adolescents Working in the Retail or Service Industry Reporting Select Child Labor Law Violations, by Sample Characteristics: 2003

	Night Work Violations ^a		Off-the-Clock Work		Hazardous Orders Violations ^b		Work Permit Violations ^c	
	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)
All	44	11.1 (7.0, 15.2)	121	15.0 (10.8, 19.3)	297	36.8 (31.3, 42.4)	339	39.0 (32.1, 45.8)
Age, y								
14–15 ^d	22	39.7 (22.8, 56.6)	15	19.3 (3.6, 35.0)	17	15.9 (7.1, 24.8)	48	36.8 (24.9, 48.7)
16–17 ^e	22	7.7 (3.7, 11.7)	106	14.4 (10.1, 18.7)	280	39.7 (33.6, 45.8)	291	39.3 (31.6, 46.9)
Gender								
Male	26	15.1 (8.2, 21.9)	70	15.5 (9.9, 21.1)	192	47.6 (39.5, 55.7) ^f	168	40.7 (31.1, 50.4)
Female	18	8.1 (3.2, 13.0)	51	14.6 (8.3, 20.9)	105	26.7 (19.3, 34.0)	171	37.3 (27.5, 47.1)
Race								
White	34	10.7 (6.1, 15.2)	105	13.8 (9.9, 17.8)	267	38.3 (32.3, 44.2)	296	38.5 (31.3, 45.6)
Minority	10	14.6 (3.2, 26.1)	16	21.4 (6.2, 37.7)	25	29.3 (14.6, 43.9)	38	39.7 (18.8, 60.6)
Parental education								
High school diploma or less	10	8.6 (1.7, 15.4)	27	12.6 (5.3, 20.0)	74	37.2 (26.1, 48.3)	90	37.2 (23.1, 51.3)
Some college	14	15.0 (5.7, 24.3)	29	15.6 (6.7, 24.4)	74	33 (23.6, 42.3)	84	37.0 (22.7, 51.2)
College degree	10	9.0 (2.1, 16.0)	35	20.2 (10.3, 30.2)	88	39.3 (29.5, 49.1)	100	37.4 (26.9, 47.9)
Graduate school	10	16.1 (4.9, 27.2)	29	12.9 (7.1, 18.6)	57	34.1 (23.7, 44.6)	62	48.0 (36.9, 59.0)
Industry								
Service	17	21.5 (8.2, 34.7)	47	12.7 (7.9, 17.4)	...	...	116	35.2 (25.6, 44.8)
Retail	27	9.3 (5.1, 13.4)	74	16.1 (10.3, 21.2)	...	...	223	40.7 (31.8, 49.6)

Note. CI = confidence interval. Ellipses indicate no data (the measure of hazardous orders violations was not comparable across industries).

^aAmong respondents who reported they worked on a night followed by a school day.

^bIncludes those who reported at least 1 hazardous orders violation (i.e., prohibited equipment).

^cAmong respondents who were mandated to have a work permit because of their age and the state in which the referent job was held.

^dWorked past 7:00 PM on a night followed by a school day.

^eWorked past 11:00 PM on a night followed by a school day.

^fBecause a different aggregate measure of hazardous orders violations was used in this study, these figures vary from our previous reported findings²⁴ on the percentages of males and females who ever performed a prohibited task.

school year while in the referent job. The average tenure in the referent job was 12 months. Only 2.5% were aged 14 years, 9.3% were aged 15 years, 19.4% were aged 16 years, and 68.8% were aged 17 years while in the referent job (mean age = 16.5; SD = 0.78). More than half (52.4%) were female, and most were White (81.5%). Approximately 35% of participating parents or parental figures (78% women) had a high school diploma or less, another 26.5% had some college, 22.9% had a 4-year college degree, and 15.8% had some graduate education.

Reported Violations

Distributions of different types of violations reported are shown in Table 1. Among the 588 respondents mandated to obtain a work permit, more than 1 in 3 reported lacking a permit while working in the referent job. Few respondents (1.3%) reported working in

violation of the weekly hour limits during the school year (data not shown). Other hour violations were more common, however. Working beyond the latest hour allowed on a school night was reported by 11% of respondents, and 15% reported working off the clock while in the referent job. Well over one third of respondents reported at least 1 hazardous orders violation.

The most commonly reported hazardous orders violation overall was use of power-driven equipment or tools (46.8% of those with access to this equipment; Table 2). Use of a power-driven food slicer or grinder was the most common violation specific to grocery store and food-service work (17.5%). Among respondents who reported at least 1 hazardous orders violation (Table 3), more than half reported only 1, yet nearly one quarter (22.1%) reported 2 and 22.9% reported 3 or more violations. The mean number of these violations was 1.8.

Differences in Violation Patterns

We noted variations by industry and by sociodemographic characteristics. Respondents working in the service industry were more likely than those working in the retail industry to report night work violations (Table 1). With the exception of use of power-driven equipment or tools, each of the discrete hazardous orders violations applicable to any retail or service establishment was more likely to be reported by service workers (Table 2). Retail workers, however, were somewhat more likely to report work permit violations and to have worked off the clock (Table 1).

Although younger workers (aged 14–15 years) were more likely to report each of the hour violations, older workers (aged 16–17 years) were more likely to report a hazardous orders violation (Table 1) and to report more of them (Table 3). Adolescent boys were more likely than were girls to

TABLE 2—Number and Percentage of US Adolescents Working in the Retail or Service Industry Reporting Select Hazardous Orders Violations, by Sample Characteristics: 2003

	Respondents Working in Any Retail or Service Establishment With Access to Each Piece of Equipment								Respondents Working in Grocery Stores or Food Service Establishments Only							
	Motor Vehicle		Power-Driven Equipment or Tools		Heavy Equipment or Machinery		Forklift or Other Hoisting Equipment		Power-Driven Food Slicer or Grinder		Dough Mixer or Roller		Box Crusher		Paper Baler/Compactor	
	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)
All	56	31.6 (19.5, 43.7)	171	46.8 (38.5, 55.2)	41	17.4 (10.3, 24.5)	36	27.4 (14.9, 39.9)	71	17.5 (11.5, 23.5)	51	11.7 (6.5, 16.8)	41	13.6 (7.8, 19.3)	44	11.1 (7.0, 15.2)
Age, y																
14-15	4	23.7 (0, 49.0)	9	27.7 (9.7, 45.6)	2	12.3 (0, 28.6)	1	14.6 (0, 40.7)	2	3.0 (0, 7.4)	3	3.1 (0, 7.3)	1	0.9 (0, 2.7)	2	4.8 (0, 12.4)
16-17	52	32.9 (19.6, 46.1)	162	48.5 (39.7, 57.4)	39	17.8 (10.2, 25.5)	35	28.7 (15.3, 42.1)	69	19.3 (12.6, 26.0)	48	12.7 (7.0, 18.5)	40	15.2 (8.7, 21.6)	42	11.8 (7.3, 16.4)
Race																
White	51	34.2 (20.7, 47.6)	156	46.8 (38.4, 55.3)	38	17.4 (10.2, 24.5)	33	30.3 (16.2, 44.4)	64	17.6 (11.7, 23.5)	44	12.0 (6.0, 18.0)	36	12.8 (7.6, 18.0)	41	13.0 (8.0, 18.0)
Minority	5	19.0 (0, 42.9)	12	42.7 (15.5, 70.0)	2	6.1 (0, 15.9)	1	10.8 (0, 31.9)	6	17.5 (0, 36.8)	5	9.4 (0, 19.8)	5	18.0 (0, 38.0)	3	5.0 (0, 10.9)
Parental education																
High school diploma or less	14	46.9 (21.5, 72.2)	40	47.7 (30.2, 65.1)	8	13.1 (1.3, 24.8)	11	36.0 (12.3, 59.7)	11	11.9 (1.1, 22.8)	11	6.9 (1.4, 12.5)	17	19.3 (7.3, 31.3)	16	11.9 (4.6, 19.0)
Some college	9	15.5 (1.8, 29.1)	44	46.1 (31.0, 61.2)	14	26.7 (9.9, 43.5)	9	10.9 (2.1, 19.6)	21	19.1 (9.3, 28.9)	19	14.5 (6.5, 22.4)	10	12.0 (3.0, 21.0)	12	9.9 (3.4, 16.4)
College degree	24	28.6 (12.7, 44.5)	51	47.9 (32.0, 63.8)	13	23.6 (9.8, 37.5)	6	20.0 (2.5, 37.6)	30	25.7 (15.8, 35.6)	17	11.9 (5.6, 18.2)	7	8.7 (0.5, 16.9)	8	13.9 (3.0, 24.7)
Graduate school	9	27.6 (7.3, 47.8)	33	42.6 (28.9, 56.4)	6	11.2 (1.4, 21.0)	9	45.8 (20.0, 71.6)	9	24.6 (1.9, 47.3)	3	3.8 (0, 8.5)	6	7.0 (1.0, 13.0)	7	8.0 (1.6, 14.3)
Industry																
Service	27	34.3 (16.8, 51.8)	52	42.4 (28.3, 56.5)	17	19.2 (7.8, 30.7)	10	51.9 (22.0, 81.7)	...	...	...	...	...	...	...	...
Retail	29	29.7 (13.4, 46)	119	48.9 (38.5, 59.3)	24	16.4 (7.5, 25.3)	26	19.7 (10.0, 29.3)	...	...	...	...	...	...	...	...

Note. CI = confidence interval. Ellipses indicate no data because these violations were not comparable across industries.

TABLE 3—Percentage of US Adolescents Working in the Retail or Service Industry Reporting Multiple Hazardous Orders Violations Among Those Reporting 1 or More, by Sample Characteristics: 2003

	Mean No. Violations (95% CI)	1 Violation, % (95% CI)	2 Violations, % (95% CI)	≥ 3 Violations, % (95% CI)
All	1.8 (1.6, 1.9)	55.0 (45.7, 64.4)	22.1 (15.5, 28.7)	22.9 (14.2, 31.6)
Age, y				
14-15	1.5 (1.1, 1.9)	67.3 (40.4, 94.2)	14.1 (0, 30.1)	18.6 (0, 43.2)
16-17	1.8 (1.6, 1.9)	54.3 (44.6, 64.1)	22.5 (15.7, 29.4)	23.1 (14, 32.2)
Gender				
Male	2.0 (1.8, 2.2)	42.0 (30.9, 53.1)	26.8 (17.9, 35.7)	31.2 (19.2, 43.1)
Female	1.3 (1.2, 1.5)	77.0 (65.4, 88.6)	14.2 (5.4, 22.9)	8.8 (0.9, 16.8)
Race				
White	1.7 (1.6, 1.9)	57.0 (47.2, 66.8)	21.6 (14.7, 28.5)	21.4 (13, 29.8)
Minority	1.9 (1.5, 2.3)	46.7 (18.8, 74.5)	20.6 (2.7, 38.6)	32.7 (0, 65.9)
Parental education				
High school diploma or less	2.0 (1.6, 2.3)	42.3 (24.2, 60.5)	23.3 (10.2, 36.5)	34.4 (14.6, 54.1)
Some college	1.9 (1.6, 2.3)	48.0 (34.1, 62)	26.2 (13.3, 39.1)	25.8 (13.4, 38.2)
College degree	1.6 (1.3, 1.9)	62.6 (47.4, 77.7)	25.2 (12.3, 38.2)	12.2 (5.2, 19.2)
Graduate school	1.4 (1.1, 1.7)	73.4 (57.5, 89.3)	13.3 (4.5, 22.1)	13.3 (0, 27.2)

Note. CI = confidence interval.

report work permit violations, night work violations, and hazardous orders violations (Table 1). They were also more likely to report multiple hazardous orders violations (Table 3).

White respondents were less likely than were minority respondents to report each of the hour violations but were more likely to report hazardous orders violations (Tables 1 and 2). However, White respondents reported fewer violations than their minority counterparts in the subsample of those who reported at least 1 hazardous orders violation (Table 3). Within this subsample, we observed a downward trend in the mean number of reported violations by SES (Table 3).

Although no other trends by SES were observed, we found that respondents whose parents had some graduate education were more likely to report being in violation of the work permit requirement than were those whose parents had less education (Table 1).

TABLE 4—Number and Percentage of US Adolescents Working in the Retail or Service Industry Reporting Violations of Select Child Labor Laws, by Status of Compliance With Work Permit Mandates: 2003

Violation Type	In Compliance		In Violation	
	No.	% (95% CI)	No.	% (95% CI)
Hours				
Any	61	39.1 (26.8, 51.4)	54	44.9 (28.3, 61.5)
Night work ^a	20	12.9 (5.8, 19.9)	22	21.7 (9.9, 33.6)
Off-the-clock work	41	12.6 (6.4, 18.8)	31	13.5 (5.1, 22.0)
Weekly limit ^b	6	1.5 (.2, 2.8)	5	2.5 (0, 5.0)
Hazardous orders^c				
Any	108	32.7 (34.2, 41.3)	83	33.0 (23.0, 43.0)
Power-driven equipment or tools	57	47.5 (33.2, 61.8)	53	43.7 (27.9, 59.5)
Forklift/power-driven lifting equipment	17	36.4 (13.1, 59.6)	10	22.5 (8.5, 36.5)
Motor vehicle	14	23.6 (1.7, 45.4)	21	41.6 (15.7, 67.4)
Box crusher	18	15.6 (7.3, 23.8)	10	5.3 (1.1, 9.5)
Paper baler or compactor	19	15.1 (7.1, 23.0)	14	10.0 (3.4, 16.7)
Heavy machinery	15	14.8 (6.6, 23.0)	10	17.0 (2.1, 31.9)
Power-driven food slicer or grinder	26	13.6 (7.2, 20.1)	16	10.0 (3.9, 16.2)
Dough-mixing or dough-rolling machine	14	5.6 (2.2, 8.9)	19	12.6 (5.6, 19.6)

Note. CI = confidence interval.

^aWorking past the latest hour allowed on a school night.

^bWorking more than the maximum weekly hours allowed during the school year.

^cViolating federal rules prohibiting workers younger than 18 years from performing dangerous work.

Work Permit Status and Child Labor Law Violations

Respondents who were in compliance with the work permit regulations (i.e., they had the mandated permit) were less likely to report hour violations than were adolescents who were in violation of these regulations (Table 4). Respondents who were in violation of the work permit regulations were no more likely than were respondents who were in compliance to report a hazardous orders violation, as measured in the aggregate (i.e., ≥ 1 hazardous orders violations; 33.0% vs 32.7%, respectively).

When we analyzed the discrete hazardous orders violations separately, we found that having the mandated permit was protective against the use of some types of prohibited equipment but not others. Respondents who had the required work permits were less likely to report driving a motor vehicle, operating heavy machinery, or operating a dough-mixing or dough-rolling machine, yet they were more likely to report operating power-driven equipment or tools, a power-driven food slicer or grinder, a box crusher, a baler

or compactor, or a forklift or other hoisting equipment.

DISCUSSION

Our findings add to the literature on child labor violations. In 2003, the US Department of Labor Wage and Hour Division identified 7228 minors employed in violation of the FLSA.³⁷ In the same year, a survey of state labor departments carried out by the National Consumers League identified 4755 minors (in 30 states) who were illegally employed.¹⁴ Kruse and Mahoney used data from the US Bureau of Labor Statistics Current Population Survey to estimate that as many as 295 800 15- to 17-year-olds working in nonagricultural industries are illegally employed annually.⁴

Our results—which were derived from self-reported practices that we independently classified as being in violation or compliance—revealed that a substantial proportion of US adolescents working in the retail or service sector were employed in violation of the child labor laws. Extrapolating our findings to the

roughly 2.4 million 16- and 17-year-old workers—a group for which the US Bureau of Labor Statistics reports employment data and who mostly work in retail and service^{2,3,7}—we estimate that as many as 264 000 of these youths may be employed in violation of the FLSA's night work provisions and as many as 888 000 may be employed in violation of the hazardous orders each year.

Though few young people in our study reported working in violation of the hour provisions, the extent of hazardous equipment violations found is troublesome, given the potential for such equipment to inflict serious injury.^{7,20,38,39} Furthermore, the substantial proportion of adolescents going to work without the proper permits is of particular concern in light of previous research showing that adolescents without work permits are less likely to be trained in workplace safety^{40,41} and more likely to be injured at work.⁴⁰

Limitations

We relied on self-reporting, a method with both limitations and strengths. We captured violations that might have gone undetected by enforcement mechanisms. In addition, access to self-reported activities likely allowed us to detect violations more accurately than is possible in studies that rely on broad occupational coding schemes.⁴ The limitation of self-reports, however, is recall bias. Respondents may not have accurately recalled all the types of equipment they used or the exact hours they worked, and thus may have under- or overreported some activities.

A further limitation was our inability to assess compliance with every provision of each state's child labor laws. For example, because we defined night work violations among 16- and 17-year-olds as working after 11:00 PM, we may have missed violations among those who worked beyond an earlier limit of 10:00 PM or 10:30 PM imposed in some states. In addition, because we could not know with certainty respondents' ages during the entire period they were in the referent jobs, we may have undercounted some hour and work permit violations for those who had birthdays after their reported activity and before they completed the survey.

We may have overestimated certain hour and hazardous orders violations. Motor

vehicle, paper baler or compactor, and box crusher violations may have been overcounted because in 2003, 16- and 17-year-olds were allowed to load, but not operate, paper balers or box crushers, and 17-year-olds were allowed to drive under limited circumstances. Because we did not know the circumstances under which this equipment was used, we could not be certain a violation occurred. Further, parents can override hour restriction laws in some states, and when adolescents are employed in certain work-based learning programs the requirements can be more relaxed.¹³ Such overrides are rare¹³; thus, any misclassification of legal activities as violations was probably minimal.

Because national data on employment show higher employment rates for Whites and those of higher SES than for minorities and those of lower SES,⁴² we believe our study population was representative of the adolescent working population; however, our sampling and screening procedures may have excluded some working minority immigrants and very-low-income adolescents because respondents were limited to those who spoke English and who had telephones in the home. Lastly, the sample size in subcategories was limited, and the confidence intervals around some estimates were large.

To our knowledge, this was the first national study to use interviews with adolescents about their employment experiences to detect child labor violations. Although we cannot be sure, we believe that most of the potential biases were conservative, likely resulting in an overall underrepresentation of the extent of violations and the risks to adolescent workers.

Conclusions

It is important to point out that although we reported on the work activities of young people, it was not the young workers who were violating the laws but rather their employers. Workers share the responsibility of following the child labor laws, but employers bear the ultimate obligation to adhere to them.^{3,25} Such laws, however, are only as effective as the efforts put forth to enforce them. Our findings signal a significant failure of employers to fulfill their legal obligations and of current enforcement efforts to ensure

that employers comply with the laws. In addition, our finding that having the required work permit was not universally protective (i.e., the permits prevented only certain violations) calls into question the efficacy of work permit mandates to prevent youths from being illegally employed.

Although our data did not allow for analysis of the enforcement process per se, the gaps in compliance we observed suggest a need to consider changing current enforcement policy and practice documented by the Child Labor Coalition in its 2007 report, *The Government's Striking Decline in Child Labor Enforcement Activities*,¹⁵ and the US General Accounting Office in its 2002 report, *Labor Can Strengthen Its Efforts to Protect Children Who Work*.¹⁶ Among other concerns, the coalition report points out an increasing shift at the US Department of Labor Wage and Hour Division in the time spent on compliance assistance versus active enforcement. In 2005, only 1784 child labor investigations were carried out—the lowest number of annual investigations by the division in the past decade—and the time devoted to compliance assistance was 6815 hours, a nearly 400% increase from the 1314 hours spent in 2001.¹⁵

The US General Accounting Office report criticizes this strategy, saying of the division, "Its efforts to improve employer compliance suffer from limitations that hamper its enforcement of the law."^{16(p33)} This statement is particularly troubling given that under the FLSA there is no private right of action, meaning that only the Wage and Hour Division can enforce the child labor provisions of the act.⁴³ Further research on child labor violations should examine more carefully how shifts in enforcement activities over the past decade are affecting the detection of violations and subsequently the safety of young workers. In addition, more research on the reasons for employer noncompliance will help inform and direct future enforcement efforts. ■

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Contributors

K.J. Rauscher originated the study approach, led the analysis and interpretation of the findings, and led the writing of the article. C.W. Runyan, principal investigator of the original study, provided the data, helped originate the study, helped with the interpretation of the findings, and assisted with the writing of the article. M.D. Schulman and J.M. Bowling, investigators on the original study, assisted with analyses, interpretation of the findings, and writing the article. All authors reviewed and edited drafts of the article.

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