

PROTECTING YOUTH AT WORK

Health, Safety, and Development
of Working Children and Adolescents
in the United States

Committee on the Health and Safety Implications of Child Labor

Board on Children, Youth, and Families

Commission on Behavioral and Social Sciences and Education
National Research Council

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Executive Summary

Today, work is a common part of the lives of many children and most adolescents in the United States. In general, the U.S. public believes that work is beneficial—and at worst, benign—for children and adolescents. Indeed, working provides many young people with valuable lessons about responsibility, punctuality, dealing with people, and money management, while increasing their self-esteem and helping them become independent and skilled. Working during high school may contribute to increased rates of employment and better wages up to a decade after high school completion.

Yet working can be dangerous. Each year, tens of thousands of young people are seen in hospital emergency departments for work-related injuries; hundreds of them require hospitalization; and more than 70 die of work-related injuries. Long work hours during the school year are also associated with problem behaviors, including substance abuse and minor deviance, and with insufficient sleep and exercise. Young people who worked long hours during high school also are more likely to have lower educational attainment a decade later than those who did not.

The Committee on the Health and Safety Implications of Child Labor was established by the Board on Children, Youth, and Families of the National Research Council and the Institute of Medicine, at the request of the National Institute for Occupational Safety and

Health, to examine the research on the positive and negative consequences of working for children and adolescents in the United States. The committee was charged with reviewing the available data on the extent to which children and adolescents work and on the number and types of work-related injuries and illnesses sustained by children and adolescents; reviewing the research on how working during school affects education, development, and behavior; and examining whether the laws and regulations that govern labor by children and adolescents in the United States are adequate to ensure the health and safety of young people at work.

FINDINGS

Scope and Patterns of Work

The U.S. Department of Labor estimates that about 44 percent of 16- and 17-year-olds work at some time during the year, either while in school or during the summer or both. The government estimates do not include children younger than 16 who may work, although the National Longitudinal Study of Adolescent Health found that about 40 percent of 7th and 8th graders were employed during the school year. Children of *any* age may work in family-owned businesses and on family farms. But even the official numbers for 16- and 17-year-olds are likely to be underestimates because they are based on reports by parents or other adults in the household. Research has found that parents systematically understate the involvement in the work force of their children. Department of Labor estimates are also limited by rather specific definitions of work. When high school students are interviewed directly through research surveys, about 80 percent report that they hold jobs during the school year at some point during high school.

A notable characteristic of working adolescents is that they move in and out of the labor market, changing jobs and work schedules frequently, in response to changes in employers' needs, labor-market conditions, and circumstances in their own lives. Children and teens, like adults, work mainly for the money. Children's income, however, no longer goes primarily toward family support, as it once did. The majority of working adolescents spend most of their incomes on discretionary items or on their individual needs.

The biggest employer of adolescents is the retail sector—restaurants, fast-food outlets, grocery stores, and other retail stores—which employs more than 50 percent of all working 15- to 17-year-olds. The next biggest employer is the service sector (e.g., health-care settings such as nursing homes), which accounts for more than 25 percent of working adolescents, followed by 8 percent employed in agriculture. Several of the industries in these sectors of the economy have high rates of injury for all workers. Rates of injury are high, for example, in grocery stores and nursing homes, and agriculture is among the most dangerous industries in the country, with a high rate of fatal injuries.

Some parts of the youth population face unique problems related to work. Children and adolescents who are poor, minority, or disabled are far less likely than white, middle-class young people to be employed and, therefore, to reap the potential benefits of work experience. Furthermore, the jobs that poor and minority young people have tend to be in more dangerous industries. When they do work, the hours they work and the wages they receive are comparable to those of other youngsters.

Consequences and Risks of Work

Adolescence occupies a crucial role in contemporary human development, for several interrelated reasons. It is a period of potentially great malleability and tremendous variability. It is an especially important formative period, during which many developmental trajectories become established and increasingly difficult to alter.

Working has been shown to be associated with both positive and negative consequences for adolescents. Working may increase responsibility, self-esteem, and independence and may help children and adolescents learn valuable work skills. Employment that is limited in intensity (usually defined as 20 hours or less per week) during high school years has been found to promote post-secondary educational attainment. Many studies show positive links between working during high school and subsequent vocational outcomes, including less unemployment, a longer duration of employment after completing schooling, and higher earnings.

However, high-intensity work (usually defined as more than 20 hours per week) is associated with unhealthy and problem behav-

iors, including substance abuse and minor deviance, insufficient sleep and exercise, and limited time spent with families. Moreover, a high level of investment in work during adolescence has been found to be associated with decreased eventual educational attainment. It should be noted that researchers have often chosen the dividing point of 20 hours of work per week as a convenient way to subdivide hours of work into "low-intensity" and "high-intensity" employment; that division is not based on specific research about 20 hours per se.

Children and adolescents may be exposed to many work-related hazards that can result in injury, illness, or death. About 100,000 young people seek treatment in hospital emergency departments for work-related injuries each year. The average of 70 documented deaths that occur among children and adolescents each year as a result of injuries suffered at work is believed to be an underestimate.

The rate of injury per hour worked appears almost twice as high for children and adolescents as for adults—about 4.9 injured per 100 full-time-equivalent workers among adolescents, compared with 2.8 per 100 full-time-equivalent workers for all workers. The industries with the highest injury rates for young workers are retail stores and restaurants, manufacturing, construction, and public-sector jobs. There is virtually no information on the extent to which young people are exposed to toxic or carcinogenic substances in the workplace, exposures that may cause illnesses many years later.

Work-related deaths of workers 17 years and younger are highest in agriculture, followed by retail trade and construction. The most common causes of work-related deaths among 16- and 17-year-olds involve motor vehicles, electrocutions, and homicides.

Many of the industries that employ large numbers of children and adolescents have higher than average injury rates for workers of all ages, but young workers do not receive adequate health and safety training at work—training that has been linked with reduced injuries and acute illnesses when provided to adult workers who are young or inexperienced. Furthermore, children and adolescents often work with inadequate supervision and at tasks for which they may be developmentally unprepared.

Inexperience, as well as physical, cognitive, and emotional developmental characteristics, may also play a part in the risk of injury faced by young workers. Research on adults finds that inexperience on the job contributes to occupational injuries. It should not be surprising, then, if the inexperience of children and adolescents turns

out to be an important factor in their work-related injury rates. Injury may also result from a physical mismatch between the size of the child or adolescent and the task. For example, machinery that was designed for adult males may be too large or heavy for children or adolescents to handle safely.

Child Labor Laws and Regulations and Education

Work by children and adolescents is regulated at both the federal and state levels. The 1938 Fair Labor Standards Act (FLSA), administered by the Employment Standards Administration of the U.S. Department of Labor, is the primary federal law governing child labor. The FLSA sets limits on the number of hours that those younger than 16 may work and restricts those under 18 from being employed in certain hazardous nonagricultural occupations. The standards are much less restrictive for children and adolescents working in agriculture than for those employed in nonagricultural jobs, reflecting the social norms of six decades ago. Each state also has its own child labor standards, which vary widely, with some states permitting 50 or more hours of work per week during the school year for youths under the age of 18. The Occupational Safety and Health Act of 1970, which regulates workplace health and safety protections for workers in the United States, makes no special provisions for the health and safety needs of working children and adolescents.

Education and training is a complement to laws and regulations. Education about the employment of children and adolescents has three purposes: informing young people, parents, educators, employers, and others about child labor laws and regulations; training them to prevent work-related illness and injury and to respond appropriately to workplace hazards; and improving the quality of youngsters' work experiences, minimizing the harmful consequences and maximizing the benefits.

CONCLUSIONS AND RECOMMENDATIONS

Working provides benefits to children and adolescents, but the benefits do not come without potential risks to the workers' physical, emotional, educational, and social development. Because so many children and adolescents participate in the U.S. work force,

and undoubtedly will continue to do so, the issue is not whether they *should* work, but what circumstances cause working to be detrimental, what can be done to avoid those circumstances, and how working can be made more beneficial.

Guiding Principles

The committee's recommendations are guided by the scientific evidence on working and a set of principles. The principles are based on a developmental framework, which recognizes that the needs and abilities of children and adolescents differ from those of adults: The tasks in which children and adolescents engage should be commensurate with their physical, cognitive, emotional, and social abilities. The committee believes that these principles, which represent the judgment and values of the committee, form the basis for ensuring that the work performed by children and adolescents will be safe and healthful.

Guiding Principle 1: Education and development are of primary importance during the formative years of childhood and adolescence. Although work can contribute to these goals, it should never be undertaken in ways that compromise education or development.

Guiding Principle 2: The vulnerable, formative, and malleable nature of childhood and adolescence requires a higher standard of protection for young workers than that accorded to adult workers.

Guiding Principle 3: All businesses assume certain social obligations when they hire employees. Businesses that employ young workers assume a higher level of social obligation, which should be reflected in the expectations of society as well as in explicit public policy.

Guiding Principle 4: Everyone under 18 years of age has the right to be protected from hazardous work, excessive work hours, and unsafe or unhealthy work environments, regardless of the size of the enterprise in which he or she is employed, his or her

relationship to the employer, or the sector of the economy in which the enterprise operates.

With these principles in mind, the committee's recommendations are designed to protect young people in the workplace through updated, enhanced, and adequately enforced laws and regulations and through education and training. Because such efforts require adequate data, the committee also recommends improving data and surveillance systems and more general research. The major recommendations are included below in their entirety; the remaining recommendations in the report are summarized.

Surveillance Systems and Data

The combination of federal data sources and national and local survey research provides a fair amount of information about teenagers who have jobs, where they work, and how much they work. However, definitions and nomenclature often vary from source to source, making it difficult to compare information. Furthermore, little information is available about the extent of work by those under the age of 15, despite evidence that many youngsters begin working for pay before that age. Nor is there much information on subpopulations of young people, such as those who are disabled, poor, or members of minority groups. Information on the quality of the work in which young people engage is also lacking. And the limited data that do exist are not detailed enough to be used for state-level analysis of working children and adolescents, analysis that is needed for targeting prevention and training efforts as well as for regulatory enforcement efforts.

Likewise, information on the adverse health consequences associated with youth employment is limited. The occupational injuries, illnesses, and hazardous exposures to which working youth are subjected can be prevented by proper public health actions. Surveillance systems that provide information about where and how young workers are injured or made ill on the job is essential both for targeting and for evaluating prevention efforts. The current occupational illness and injury surveillance systems are limited and poorly coordinated, and they have not been evaluated to assess the extent to which they may systematically omit young workers or subgroups of young workers.

Recommendation: The Bureau of Labor Statistics should routinely collect and report data on the employment of young people aged 14 and older. Such data should be reported by informative age groupings, by school status (e.g., school year or summer and in-school or not-in-school), and by hours worked per job. For the decennial census, the Bureau of the Census should collect and report similar data on employment for young workers.

Recommendation: The Bureau of Labor Statistics should periodically conduct special studies to document the employment of children under the age of 14 and of special populations of children and adolescents, such as minorities, immigrants, migrant farmworkers, and those who are poor or disabled. Also needed are periodic studies of children and adolescents who are illegally employed.

Recommendation: The Bureau of Labor Statistics should develop methods to generate reliable estimates of youth employment at the state level.

Many agencies—including the National Center for Health Statistics, the Bureau of Labor Statistics, the National Institute for Occupational Safety and Health, the National Center for Education Statistics, the Bureau of Justice Statistics, and the Occupational Safety and Health Administration—collect much information on children and adolescents. Many of these agencies include information on the work experiences of children and adolescents, but there is no standard for what information is gathered or how it is reported. Standard definitions and nomenclature, on such items as work status, age groupings, and hours of work categories, are needed to make the various sources of information more complementary.

Recommendation: Federal agencies that collect data related to work by children and adolescents should establish standardized nomenclature and definitions for such variables as work status, age groups, and hours of work. Those agencies that collect data for health, education, and development purposes should also collect data on the employment of youngsters in their surveys.

Many young workers' occupational injuries, illnesses, and exposures to hazardous substances are preventable if proper public health

actions are taken. Surveillance that provides information about where and how youngsters are injured or made ill while working is essential for both targeting and evaluating prevention efforts. Over the past decade, government agencies have substantially improved the surveillance of illnesses and injuries sustained by adult workers; more recent surveillance initiatives have begun to provide information regarding young workers, at least with respect to their work-related injuries. However, these activities are limited and poorly coordinated. The lack of specific attention to the need for data regarding issues related to the protection of young workers as a special population has often meant that even data on relevant age groups are not available to the public.

Recommendation: The National Institute for Occupational Safety and Health, in collaboration with the Bureau of Labor Statistics and other relevant federal and state agencies, should develop and implement a comprehensive plan for monitoring work-related injuries and illnesses sustained by workers under the age of 18 and for monitoring hazards to which these young workers are exposed. Additional resources should be allocated to the appropriate agencies to implement plan components not currently funded.

Education

Information and Training

The health and safety hazards that children and adolescents face in the workplace and the protections to which they are entitled under the law are little known or understood by children and adolescents themselves, by their parents, and by other adults who are in a position to give them guidance. Although a number of efforts are currently under way around the country to provide information and training related to making workplaces safe and healthy environments for young people, they are scattered and uncoordinated. The committee proposes several plans to begin to remedy the lack of knowledge and to promote understanding of the conditions necessary for safe and meaningful work experiences for children and adolescents.

Recommendation: A national initiative should be undertaken to develop and provide information and training to reduce the risks and enhance the benefits associated with youth employment. Adequate resources should be allocated to an agency to lead this effort.

Occupational Health and Safety in School-to-Work Programs

The purpose of the School-to-Work Opportunities Act of 1994 (to run to October 2001) is to leverage other resources to foster partnerships, at the state and local levels, that will build systems to support the transition of adolescents from school into lifelong careers. An evaluation of the School-to-Work Opportunities Act is under way, but it is unclear if that evaluation will adequately assess the presence and effectiveness of health and safety training or the safety of workplacements under the act.

Recommendation: The Departments of Education and Labor, in their evaluation of the School-to-Work Opportunities Act, should make certain that the evaluation includes comprehensive assessment of the success of different programs in conveying appropriate and effective workplace health and safety information and training. Those practices found to be effective should be continued after the School-to-Work Opportunities Act expires.

Commendable Workplaces for Youth

Commending employers that provide healthy, safe, and beneficial workplaces for young people may be equally as important as fining those that do not. The committee envisions the establishment of a seal of approval for such workplaces, based on nationally developed criteria, but administered at a local level. All workplaces where young people receive publicly supported education and training could be required to meet the criteria (e.g., internships, cooperative education, youth apprenticeship, and placements subsidized by Job Training Partnership Act and other federal funds), with participation by other employers on a voluntary basis.

Recommendation: The Secretary of Labor should convene a prestigious group representing all affected parties to develop cri-

teria for designating "commendable workplaces for youth." These criteria would be used by local groups to identify who would earn the designation and to determine employers who are eligible to employ young people in school-related publicly supported programs.

Protective Measures

Hours of Work

The Department of Labor is not authorized to establish restrictions on working hours for 16- and 17-year-olds. As the vast majority of 16- and 17-year-olds are still attending school, the historical reasons that justified the exemption of those 16 and older from the hour limitations no longer apply. Furthermore, high-intensity work (usually defined as more than 20 hours per week) has been associated with unhealthy and problem behaviors, including substance use and minor deviance, insufficient sleep and exercise, and limited time spent with families, and it is associated with decreased eventual educational attainment.

Care will have to be taken in setting an upper limit in number of work hours for 16- and 17-year-olds. Some circumstances may warrant exemptions from limitations on work hours during school, such as for adolescents in extreme financial need or for emancipated minors. There may also be special circumstances, related to an individual student or to the quality of the work (e.g., high-quality school-to-work placements), under which long hours may be determined to have fewer negative consequences. In addition to the number of hours worked per week, the number of hours per day and start and stop times of work, particularly on school nights, should also be considered for regulation.

Recommendation: The Department of Labor should be authorized by Congress to adopt a standard limiting the weekly maximum number of hours of work for 16- and 17-year-olds during the school year. This standard should be based on the extensive research about the adverse effects of high-intensity work while school is in session.

Hazardous Work

Under FLSA, the Secretary of Labor may prohibit young people under 18 (under 16 in agriculture) from jobs designated as hazardous. The regulations that list these hazardous jobs are referred to as hazardous orders. Many existing hazardous orders refer to machinery and processes that are no longer used, and they fail to address the full range of health and safety hazards and technologies in the contemporary workplaces in which youngsters are now employed. None of the current hazardous orders takes into account the special risks to young workers caused by exposure to carcinogens, biohazards, reproductive toxins, and ergonomic hazards, the health effects of which may not be evident until adulthood; nor are the orders based on research and data on jobs that pose hazards to children and adolescents.

Recommendation: The U.S. Department of Labor should undertake periodic reviews of its hazardous orders in order to eliminate outdated orders, strengthen inadequate orders, and develop additional orders to address new and emerging technologies and working conditions. Changes to the hazardous orders should be based on periodic reviews by the National Institute for Occupational Safety and Health of current workplace hazards and the adequacy of existing hazardous orders to address them.

Minimum Levels of Protection

State regulations vary widely on the maximum weekly hours minors under the age of 16 may work. Although some states have enacted regulations that are consistent with FLSA regulations, 16 states allow minors under age 16 to work more than the federal maximum. A few states regulate the maximum weekly hours that 16- and 17-year-olds may work, and these rules also vary, ranging from 20 to 54 hours per week. States' hazardous orders also differ with regard to coverage and interpretation from the FLSA hazardous orders. Although some states have incorporated the federal standards, other states have adopted their own definitions, as in the case of operating power-driven machinery. Consistent with the principle of equal protection for all children, federal hour limitations and hazardous orders should be considered the minimum safe requirements for working children and adolescents.

Recommendation: All state regulations regarding working hours and hazardous orders for child labor should be at least as protective as federal child labor rules.

Agriculture

Children are permitted to work many more hours and at younger ages in agricultural than in nonagricultural workplaces. Activities that are hazardous for those under the age of 18 in nonagricultural settings are equally hazardous in agricultural settings, yet current regulations do not protect 16- and 17-year-olds on farms from performing hazardous tasks, nor do they protect youths of any age on their parents' farms. The only appropriate justification for a lower minimum age for performing hazardous work would be demonstrably lower risks in the industry. This is not the case for work in agriculture; agriculture is one of the most dangerous industries in the country.

Recommendation: The current distinctions between hazardous orders in agriculture and nonagricultural industries should be eliminated from child labor laws. Furthermore, the minimum age of 18 should apply for all hazardous occupations, regardless of whether the adolescent is working in an agricultural or non-agricultural job and whether the minor is employed by a stranger or by a parent or other person standing in for the parent.

Recommendation: The current distinction in federal child labor restrictions on the total maximum weekly hours youngsters are allowed to work in agricultural and nonagricultural industries should be eliminated in favor of the more stringent nonagricultural restrictions.

Under current law, young workers in agriculture are not entitled to the same health and safety protection as those in other businesses. Only a few Occupational Safety and Health Administration (OSHA) standards apply to agriculture: For example, standards that regulate such things as electrical hazards, unguarded machinery, confined spaces, heat stress, carcinogens, and access to medical and exposure records in other industries do not apply in agriculture. Furthermore, although the enforcement of OSHA standards is more limited in

general industry for businesses that employ 10 or fewer workers, the businesses must nonetheless comply with the standards, but farms that employ 10 or fewer workers (and do not have labor camps) are completely exempt from enforcement.

No health and safety justification for the distinction between agricultural and nonagricultural settings appears to exist. It should be a priority to protect the large number of youngsters working in agriculture to the same extent that young workers are protected in other industries. The committee acknowledges that extending OSHA coverage to agriculture is a complex issue with many possible ramifications. However, the fact that agriculture is one of the most dangerous industries in the country suggests the need to examine health and safety issues in agriculture more closely.

Recommendation: To ensure the equal protection of children and adolescents from health and safety hazards in agriculture, Congress should undertake an examination of the effects and feasibility of extending all relevant Occupational Safety and Health Administration regulations to agricultural workers, including subjecting small farms to the same level of OSHA enforcement as that applied to other small businesses.

Other Regulations and Enforcement

The committee makes a number of other recommendations pertaining to regulations and enforcement, including:

- That the National Institute for Occupational Safety and Health, in consultation with the Occupational Safety and Health Administration and the Environmental Protection Agency, report on the extent to which existing occupational health and safety and pesticide standards take into account special risks to children and adolescents;

- That the Task Force on Environmental Health Risks and Safety Risks to Children, which was created by the President's Executive Order Number 13045, should ensure that its definition of children include older children and adolescents and include exposures to children and adolescents at work.

- That additional resources be provided for the enforcement of child labor and health and safety regulations, as well as for an evalu-

ation of strategies for dealing with serious, willful, and repeated violators;

- That the names of serious, willful, and repeated violators and violations that jeopardize the health and safety of young workers be published;
- That inspectors (compliance officers) receive interagency cross-training;
- That the adequacy of states' workers' compensation systems for young workers be examined; and
- That the potential for work permit or registration systems to enhance the health and safety of young workers be examined.

Research

The committee identified several critical areas in which there is need for increased research in order to adequately protect young workers. Agencies that fund research on children and adolescents should be provided adequate resources to fund the types of initiatives discussed below.

The major focus of research on child and adolescent employment has been on the effect of number of hours worked. Little attention has been paid to the quality of the work environment and its effect on development, workplace injuries, and educational goals. These topics include:

- Longitudinal studies of how individuals who have worked in their youth function as adolescents and adults and how various outcomes are associated with the quality of the work experiences.
- Research to determine whether the developmental characteristics of children and adolescents put them at increased risk from factors in the work environment, including chemical, physical, ergonomic, and psychosocial conditions (such as stress or type of supervision).
- Research on the most efficient and effective strategies to protect working children and adolescents, with an emphasis on primary prevention of injury and other negative outcomes.

Because so many young people in the United States are in the workplace, it is important to determine the strategies that will best serve to make their work experiences safe and healthful.