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# Child Labor and Health

**ADULT EDUCATION WORKSHOP**



**Child Labor Publication Education Project**

**Child Labor Research Initiative  
University of Iowa Labor Center  
University of Iowa Human Rights**



# Child Labor and Health: Handouts

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### Additional components to Child Labor and Health:

- Instructor's Manual
- Overheads

[http://www.continuetolearn.uiowa.edu/laborctr/child\\_labor/](http://www.continuetolearn.uiowa.edu/laborctr/child_labor/)

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**Note:** This module could be taught either as an independent class, or merged within the Child Labor Public Education Project (CLPEP) curriculum to create an international standards emphasis within the broader introduction to child labor. The following manual is designed with the assumption that the class will be taught independently, and incorporates variations of the introductory exercises and materials from the CLPEP curriculum to provide a framework for the health discussion.

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# Is Work that is Safe for Adults also Safe for Children?

## Physical Differences Between Adults and Children

Some cases of hazardous child labor are easy to identify, especially when the same working conditions would be considered dangerous for adult workers. But are jobs that meet adult safety standards necessarily safe for children?

Size is not the only difference that distinguishes children's and adolescents' bodies from those of adults. In fact, at each stage of development through adolescence, environmental factors can pose different risks and benefits for a child's long-term health. Although more research is needed to fully understand the impact of work-related hazards on children's health, some studies have explored the connection between work and the following developmental issues:

### Greater Need for Food and Rest

Long hours of strenuous work pose a greater risk for children than adults. They are vulnerable to malnutrition from inadequate food intake, and suffer fatigue more quickly. Fatigue, in turn, contributes to an increase in accidents and disease.

### Rapid Skeletal Growth

Due to rapid bone growth and development through adolescence, heavy lifting can be linked to skeletal damage, impaired growth, and increased risk of future injury.

### Development of Organs and Tissues

Organs and tissues mature at different rates - the brain, for example, is still developing through adolescence. The effect of chemical exposure on these developing organs is an important concern in studying health risks for working children.

### Higher Chemical Absorption Rates

Studies suggest that when children and adults are exposed to similar doses of chemicals, a greater proportion of the chemical (relative to body weight) is likely to accumulate in the child's body, with a greater chemical concentration in the child's blood and tissues.

### Greater Risk of Hearing Loss

Studies on noise exposure among adult and young workers show that young workers are more susceptible to induced hearing loss. Workplace noise standards designed for adults may be inadequate for children.



*Brick worker, Nepal.*  
(Photo by David Parker)



*Electroplate worker, India, 1993.*  
(Photo by David Parker)

### **Lower Heat Tolerance**

Young children have a lower heat tolerance than adults, in part because their sweat glands are developing. Workplace heat standards that are adequate for adults may cause heat stress in children.

### **Child's Size vs. Work Equipment**

When work methods, tools, and equipment are designed, children's physical proportions are not considered. Working children are at a greater risk of fatigue, injury, and accidents because of ill-fitting tools and safety equipment.

### **Developing Ability to Assess Risks**

The ability to assess potential risks and make decisions about them increases through adolescence, with important transitional periods at about 11-12 years and again at 15-16 years of age. Combined with inexperience, this can be an important factor in injuries.



*Quarry workers, India, 2002.  
(Photo by International Labour Organization)*

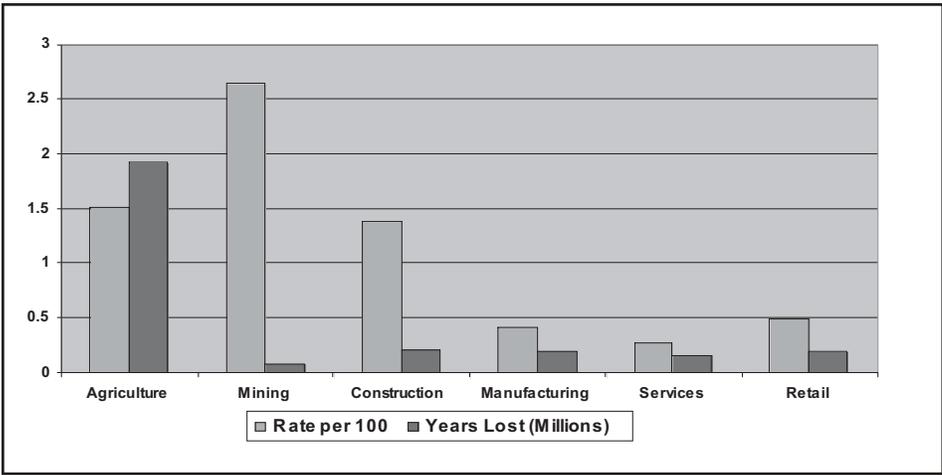
## **Injured at Work: Trends among Young Workers**

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It is very difficult to accurately count the number of working children in general, both globally and in the United States. Gathering statistics about injuries among young workers is even more challenging. Many researchers believe that the actual number of youth injured at work is far greater than current estimates suggest. In the U.S., for example, data from workers' compensation records and hospital emergency rooms only paint a portion of the full picture. Existing statistics, however, can provide useful trends for beginning to understand the problem:

### **Work-Related Injury Rates are Relatively High Among Children and Adolescents**

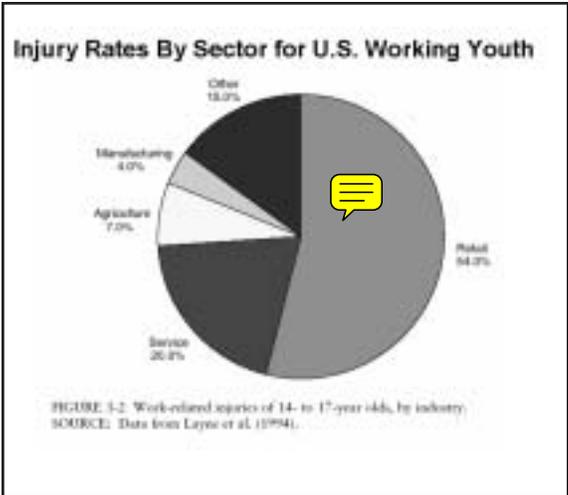
- Surveys in 26 countries, by the International Labor Organization (ILO), found that almost one in four economically active children suffered injuries or illnesses while working.
- Studies in the United States find that working youth appear to have injury rates almost twice as high as adult workers. Among injured young workers in the U.S., 16-17 year olds and adolescent males appear to suffer the highest number of work-related injuries.



## What is the Health Impact of Child Labor-Related Accidents and Fatalities Worldwide?

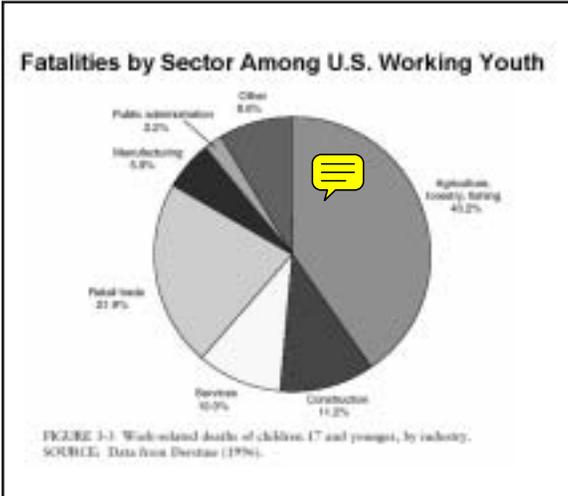
### Lost Years of Healthy Life due to Child Labor Disabilities and Fatalities

- A recent study by the ILO estimates the years of healthy life lost due to child labor-related death and disability.
- The study analyzes both the total years lost, and the rate of lost years in each industry.
- Overall, as many as 2.7 million healthy years of life are lost due to child labor each year.



## Which Sectors Report the Most Injuries of Young Workers in the United States?

- In general, the largest number of injuries occurs in the sectors where most young workers are employed, although the rate and severity of injuries do not necessarily follow the same trend.
- Many of the industries that employ large numbers of young workers have higher-than-average injury rates for workers of all ages, such as grocery stores, hospitals, nursing homes, and agriculture.



## Which Sectors Report the Most Fatalities of Young Workers in the United States?

- Unlike injury statistics, fatalities among young workers do not follow the same trends as overall youth employment. For example, agriculture accounts for about 8% of youth employment, but represents 40% of work-related fatalities.
- The leading causes of occupational fatalities among young workers are motor-vehicle and machine-related accidents, electrocutions, and homicides.



*Match factory worker.  
(Photo by David Parker)*



*Carpet worker.  
(Photo by David Parker)*



*Girl working in a brick factory  
as debt service, India, 1998.  
(Photo by David Parker)*

## Why do Young Workers Have More Accidents than Adults?

- **“Unskilled” and Labor-Intensive Jobs can be Risky**

Globally, young workers are often given the most labor-intensive jobs in a worksite, such as cleaning tools with chemical solvents, painting, applying adhesives, and carrying materials to adult workers. These jobs can increase exposure to chemical hazards and lifting injuries.

- **Inadequate Training and Supervision**

Studies in the United States suggest that about 50% of young workers do not receive health and safety training at work. One study maintained that the average young worker spent only 12% of his or her time in the presence of a supervisor. Another study found that 80% of work-related injuries suffered by adolescents occurred when no supervisor was present.

- **Illegal and Inappropriate Work**

Studies in the United States have concluded that 19% of injuries and 41% of deaths among young workers occurred in jobs violating federal child labor laws. Young workers also report being assigned to fill in on a variety of tasks for which they have no preparation.

- **Inexperience**

Studies suggest that younger and less experienced workers experience higher rates of injuries and more severe injuries than older and more experienced workers.

## Poverty: An Added Risk Factor

- **Low-Income Youth in High-Risk Jobs**

A study in the United States found that youth from low-income families, while less likely to be employed, are more likely to engage in high-risk occupations such as agriculture, mining, and construction.

- **Health Effects of Poverty Increase Job Risks for Children**

The International Labor Organization has found that children who suffer from malnutrition, fatigue, anemia, or other poverty-related health problems are at greater risk when exposed to work-related hazards. The combination of poor health and work hazards can lead to permanent disabilities and premature death.

# Young Workers and Health: Beyond Injuries

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Injury rates are not the only guidelines for determining whether work is beneficial or harmful to children and adolescents. Researchers have also begun to consider the psychological and emotional effects of work on children's health. Light work that integrates the child into family and community life can build a sense of confidence and responsibility. Long hours of work, restricted interaction with family and friends, fear, and anxiety can have far-reaching negative effects on a child's moral and emotional development.

## How much work is too much for teens?

Several studies of working adolescents in the United States have found that the amount of hours that a teen works can have a significant impact on their health and development. Using 20 hours per week as the dividing line between "low intensity" and "high intensity" work, some studies have drawn the following conclusions:

- Adolescents who work less than 20 hours per week seem to have lower high school dropout rates than students who do not work. However, working more than 20 hours per week is linked to higher dropout rates.
- Adolescents who work less than 20 hours per week tend to complete more months of higher education than students who do not work. On the other hand, working over 20 hours per week is associated with completing fewer months of higher education.
- Adolescents who work more than 20 hours per week report more symptoms of sleep deprivation. They are more likely to oversleep and arrive late at school, and report more difficulties staying awake during school.
- Adolescents who work more than 20 hours per week have higher rates of "problem behaviors" including alcohol, cigarette, and drug use, and minor delinquency (such as theft, aggressive behavior, and school misconduct).

## Quality of teen jobs may be as important as the number of hours.

- Studies of teenage workers in the United States suggest that overly stressful or demanding jobs during high school increase the likelihood of depression in the 12<sup>th</sup> grade, and may continue to harm young adults' coping strategies 4 years after high school.
- Teen workers who feel their work gives them money to go out with friends report a greater sense of well-being. This perception of good pay can continue to cause an increased sense of well-being 4 years after high school.
- High school students who view their work and school training as contributing to each other are less likely to be depressed in the 12<sup>th</sup> grade.

# Children's Health and Agricultural Labor

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## Agricultural Workers Face Serious Hazards

### Pesticide Exposure

- Child farm workers in many countries report working in fields as pesticides are sprayed overhead or applying pesticides by hand, without protective equipment.
- Pesticides have been linked to numerous health risks, including: dermatitis, fatigue, headaches, sleep disturbances, anxiety, memory problems, cancers, birth defects, reproductive problems, neurotoxicity, and blood, liver, and kidney disorders.
- According to the ILO, more children in Sri Lanka die from pesticide poisoning on farms and plantations than from other childhood diseases such as malaria and tetanus.

### Working with Machinery and Sharp Tools

- Farm workers routinely use knives and other sharp tools, operate or work near heavy machinery, and work on ladders.
- In the United States, minors working in agriculture experience a higher frequency of severe and disabling injuries than those working in all other occupations. Farm machinery is the leading cause of fatality to youth under the age of 20 years.

### Lack of Clean Water, Hand-Washing Facilities, Toilets

- The risk of pesticide exposure increases when workers are unable to wash pesticide residues from their hands before eating lunch.
- The lack of toilets and hand-washing facilities contributes to the spread of parasites. In the United States, parasitic infections among migrant workers are more common than in the general population.
- Lack of clean water, combined with strenuous work and extreme temperatures, can lead to heat-induced illness, dehydration, and even death.

## Child Agricultural Workers often Lack Protection

### Child Laborers in Agriculture Begin at Young Ages

- Globally, children in rural areas tend to begin working between 5-7 years of age.

### National Labor Laws are often Less Restrictive for Agricultural Work

- Despite the documented hazards of agricultural work, national child labor laws often exempt agriculture, or allow lower standards. For example:

In the United States, federal law allows young agricultural workers to perform hazardous work at age 16, while hazardous work is prohibited for all other young workers until age 18. Federal law also exempts young agricultural workers from most limitations on the number of hours they may work each week, and exempts all agricultural workers from overtime pay requirements.

# Hazardous Agricultural Occupations Prohibited by Federal Law for Youth Under 16

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The Fair Labor Standards Act establishes a 16-year minimum age for those occupations in agriculture that the Secretary of Labor finds and declares to be particularly hazardous. The Hazardous Occupations Orders in Agriculture . . . ban the following work activities in agricultural employment:<sup>1</sup>

- Operating a tractor of over 20 horsepower, or connecting or disconnecting an implement or any of its parts to or from such a tractor;
- Operating or assisting to operate any of the following machines: corn picker, cotton picker, grain combine, hay mower, forage harvester, hay baler, potato digger, mobile pea viner, feed grinder, crop dryer, forage blower, auger conveyor, the unloading mechanism of a gravity-type self-unloading wagon or trailer, trencher, forklift, potato combine, power post-hole digger, power post driver, non-walking type rotary tiller, and power-driven circular, band, or chain saws;
- Working on a farm in a yard, pen, or stall occupied by a bull, boar, or stud horse maintained for breeding purposes; or a sow with suckling pigs; or a cow with newborn calf;
- Felling, buckling, skidding, loading, or unloading timber with a butt diameter of more than 6 inches;
- Working from a ladder or scaffold at a height of over 20 feet;
- Driving a bus, truck, or automobile when transporting passengers, or riding on a tractor as a passenger or helper;
- Working inside a fruit, forage, or grain storage designed to retain an oxygen-deficient or toxic atmosphere; in an upright silo within 2 weeks after silage has been added or when a top unloading device is in operating position; in a manure pit; or in a horizontal silo while operating a tractor for packing purposes;
- Handling (including performing certain related duties) or applying pesticides and other agricultural chemicals classified as Category I or II of toxicity by the Federal Insecticide, Fungicide, and Rodenticide Act;
- Handling or using a blasting agent, including dynamite, black powder, sensitized ammonium nitrate, blasting caps, and primer cord; or
- Transporting, transferring, or applying anhydrous ammonia.

*Report on the Youth Labor Force, U.S. Department of Labor*

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<sup>1</sup> U.S. Department of Labor, Report on the Youth Labor Force, June 2000 (Revised November 2000). P.9 §570.52 permits certain vocational agricultural student learners and those who have successfully completed approved training courses to perform certain tasks otherwise prohibited by the Agricultural Hazardous Occupations Orders when they are 14 years of age.

# Hazardous Non-Agricultural Occupations Prohibited by Federal Law for Youth Under 18

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The Fair Labor Standards Act establishes an 18-year minimum age for those occupations that the Secretary of Labor finds and declares to be particularly hazardous for 16- and 17-year-old minors, or detrimental to their health or well-being. The rules for the Hazardous Occupations Orders (HOs) ... include a partial or total ban on the following:<sup>2</sup>

- Working with explosives and radioactive materials;
- Operating motor vehicles or working as outside helpers on motor vehicles (except in very limited circumstances);
- Mining activities, including coal mining; metal mining; and other mining, including sand and gravel operations;
- Operating most power-driven woodworking, and certain metalworking, machines;
- Operating power-driven bakery, meat processing, and paper products machinery, including meat slicers and most paper balers and compactors;
- Operating various types of power-driven saws and guillotine shears;
- Operating most power-driven hoisting apparatus, such as non-automatic elevators, forklifts, and cranes;
- Most jobs in slaughtering and meatpacking establishments;
- Most jobs in excavation, logging, saw-milling, roofing, wrecking, demolition, and ship-breaking; and
- Most jobs in the manufacturing of bricks, tiles, and similar products.

*Report on the Youth Labor Force, U.S. Department of Labor*

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<sup>2</sup> U.S. Department of Labor, Report on the Youth Labor Force, June 2000 (Revised November 2000). p.8 §570.50 provides a limited exemption from certain of the HOs for bona fide apprentices and student-learners who are at least 16 years of age.