

ADOLESCENTS IN HAZARDOUS WORK

Child labour among children aged 15-17 years

L. Guarcello

S. Lyon

C. Valdivia

July 2016

ADOLESCENTS IN HAZARDOUS WORK:

Child labour among children aged 15-17 years

L. Guarcello*

S. Lyon*

C. Valdivia*

Working Paper

July 2016

Understanding Children's Work (UCW) Programme

International Labour Organization
ILO Office for Italy and San Marino
Villa Aldobrandini
V. Panisperna 28 00184 Rome
Tel.: +39 06.4341.2008
Fax: +39 06.6792.197

Centre for Economic and International Studies
(CEIS)
University of Rome 'Tor Vergata'
Via Columbia 2 - 00133 Rome
Tel.: +39 0672595618
Fax: +39 06.2020.687

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

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

UCW gratefully acknowledges the support provided by the United States Department of Labor and the Global Affairs Canada for the development of the report**.

* The Understanding Children's Work (UCW) Programme and University of Rome "Tor Vergata"

**This report does not necessarily reflect the views or policies of the United States Department of Labor or of the Global Affairs Canada. The mention of trade names, commercial products and organizations does not imply endorsement by the United States Government or by the Government of Canada.

ADOLESCENTS IN HAZARDOUS WORK:

Child labour among children aged 15-17 years

Working Paper

July 2016

ABSTRACT

The latest ILO global estimates for the year 2012 indicate that both the share and absolute numbers of adolescents aged 15–17 years in hazardous work is considerable, with 47.5 million adolescents aged 15 to 17 years in hazardous work, accounting for 13 percent of this age group.

These stark numbers underscore the urgent need to address hazardous work among adolescents. Hazardous work during this crucial period of young persons' lives poses immediate threats to health and safety and can create huge barriers that impede a young person from transiting successfully to adulthood and working life. The policy implications are equally clear: national policies should be directed towards removing youth from hazardous jobs or towards removing the hazardous conditions encountered by youth in the workplace. Alongside these efforts, removed youth and other educationally-disadvantaged youth should be afforded second chance learning opportunities to improve their future prospects of securing jobs meeting basic decent work criteria.

This Report assesses the degree to which adolescents are exposed to hazardous conditions in the workplace, the nature of the hazards they face, and the sectors and occupations in which hazardous conditions are most common. Differences between male and female adolescents are looked at each of these areas, in order to provide some initial insight into the gender dimensions of adolescent hazardous work. It makes use of surveys from the ILO Statistical Information and Monitoring Programme on Child Labour (SIMPOC), national labour force surveys, School- to- Work Transition (SWT) surveys and other data sources from a set of developing countries.

ADOLESCENTS IN HAZARDOUS WORK: Child labour among children aged 15-17 years

Working Paper
July 2016

CONTENTS

Executive summary.....	1
Report highlights.....	1
Conclusion.....	4
1. Introduction.....	5
2. What is hazardous work by children?.....	6
The legal foundation.....	6
Two relevant age groups.....	7
The hazardous work list.....	8
Estimating hazardous work.....	10
3. Prevalence of hazardous work among 15-17 year-olds.....	13
The global picture.....	13
The country picture.....	14
What share of jobs held by adolescents are hazardous?.....	17
Adolescents in hazardous work and the goal of child labour elimination.....	19
Are adolescents at greater risk of hazardous work?.....	20
4. Nature of hazardous work.....	22
Which forms of adolescent work are most hazardous?.....	22
5. Impact of hazardous work.....	27
Work-related illness and injury.....	27
Education.....	28
6. Addressing adolescents in hazardous work: <i>the way forward</i>	31
Removing youth from hazardous work in order that they are protected and afforded second chances for acquiring decent work.....	31
Mitigating risk in order to ensure that youth are not exposed to hazards in their workplace.....	32
Ensuring young persons' rights at work in order that they receive equal treatment and are protected from abuse and exposure to hazards.....	33
Appendix 1. Data sources.....	34
Appendix 2. Additional tables and figures.....	35

Executive summary

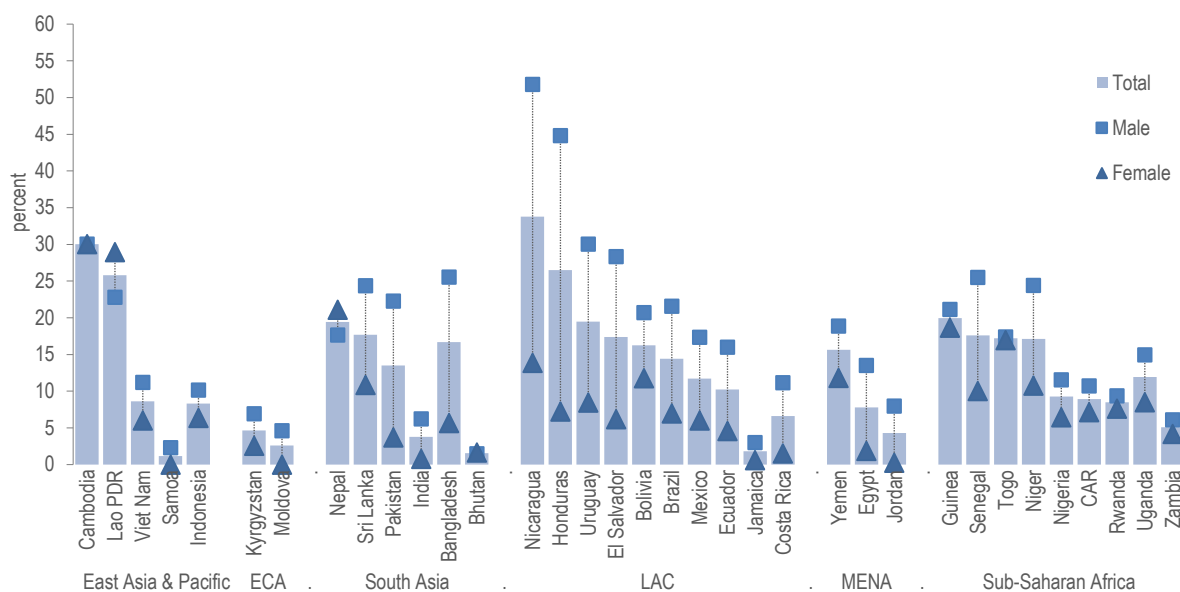
Hazardous work among adolescents who are above the general minimum working age but not yet adults (i.e. those aged 15–17 years) constitutes a worst form of child labour and a violation of international labour standards. The ILO Worst Forms of Child Labour Convention, 1999 (No. 182) calls on countries to take immediate and effective measures to eliminate this and other worst forms of child labour as a matter of urgency. Adolescents in hazardous work constitute the largest share of child labourers in many countries, meaning the progress towards ending child labour in all its forms will not be possible without progress against adolescent hazardous work. This Report is aimed at calling attention to the issue of hazardous work among adolescents and at helping to inform policies and interventions addressing it. It assesses the extent to which adolescents are exposed to hazardous work, the nature of the hazards they face, and the sectors in which hazardous conditions are most common.

Report highlights

- **Adolescents in hazardous work are a concern across most less-industrialised countries and regions.** Globally, a total of 47.5 million persons aged 15 to 17 years, 13 percent of this age group are in hazardous work (ILO, 2012). There are substantial shares of adolescents in hazardous work in most countries where data are available, although there is large cross-country variation in this regard (Figure 1). In almost all countries with data, the share of male adolescents in hazardous work exceeds that of female adolescents. Hazardous jobs appear most common in the industry sector (i.e., manufacturing, electricity, gas, water, mining and construction) and in wage employment arrangements, although again there is substantial variation across countries. It is worth noting that European data on adolescents' job accident rates indicate that adolescent hazardous work is by no means limited to the developing world.

Figure 1. A significant share of adolescents in most countries are in hazardous work

Percentage of adolescents aged 15-17 years in hazardous work, by sex and country

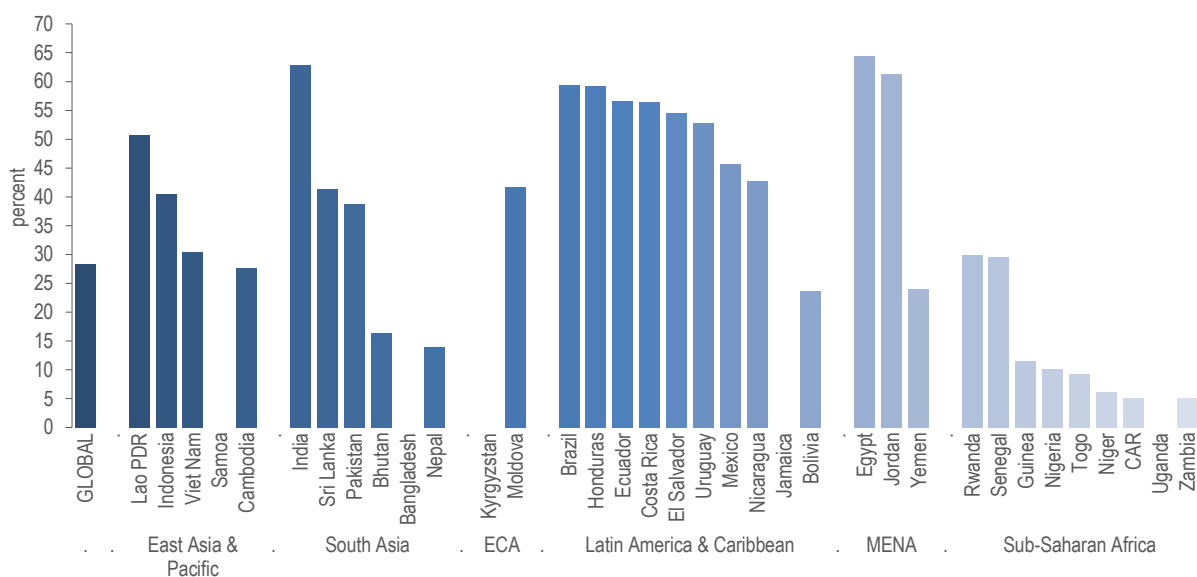


Source: UCW calculations based on national household surveys.

- Adolescents aged 15 to 17 years in hazardous work account for over one-quarter (28 percent) of the overall group of children in child labour, underscoring the importance of this group to overall child labour elimination efforts.** Indeed, adolescent child labourers form the majority of the child labour population in many countries outside Sub-Saharan Africa (Figure 2). What is more, progress in reducing child labour among adolescents has been slower and less consistent than for child labour among younger children, meaning the relative importance of adolescents in the overall child labour population is growing over time.

Figure 2. Adolescents aged 15-17 years in hazardous work form a substantial share of the total child labour population

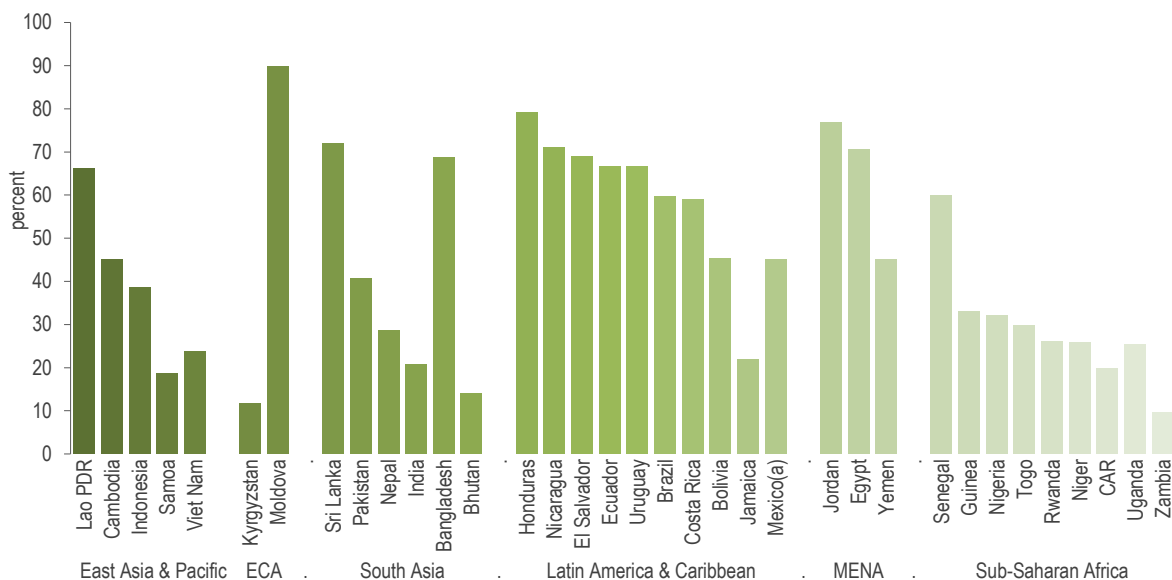
Percentage of 15-17 year-olds in hazardous work as a percentage of the overall child labour population



Source: UCW calculations based on national household surveys.

Figure 3. Adolescents aged 15-17 years in hazardous work constitute the majority of employed adolescents in this age group in many countries

Percentage of employed adolescents aged 15-17 years in hazardous work, by country



Source: UCW calculations based on national household surveys (for details see Appendix Table A1).

- **Adolescents in hazardous work are also a concern in the context of broader efforts towards decent work for youth.** Globally, those in hazardous work account for 40 percent of all employed adolescents. Country-level estimates, reported in Figure 3, indicate that in many countries this share rises to over one-half or even two-thirds (e.g., Moldova, Honduras, Lao PDR, Sri Lanka, Nicaragua, El Salvador, Ecuador, Uruguay, Jordan and Egypt). These results highlight the link between adolescent child labour and the youth decent work deficit, and the need to address the two issues together as part of an integrated strategy.

Conclusion

The statistics presented in this Report call attention to the issue of hazardous work among adolescents and to the need to address it as part of broader efforts towards ending child labour and promoting decent work for youth. While 15-17 year-olds are of common interest to child labour, youth employment and occupational safety and health (OSH), this overlapping group has hitherto rarely been accorded priority attention in any of these fields. This needs to change. An integrated strategy is needed aimed at removing youth from hazardous jobs or towards removing the hazardous conditions encountered by youth in the workplace. These efforts should be framed within a broader emphasis on ensuring young persons' rights at work, in order that they receive equal treatment and are protected from abuse and exposure to hazards. In this context, the ILC's 2012 resolution, alongside OSH standards and practices, can guide governments and their social partners in developing policies effectively addressing adolescents in hazardous work.

1. Introduction

Hazardous work among adolescents who are above the general minimum working age but not yet adults (i.e. those in the 15–17 years age range)² constitutes a worst form of child labour and a violation of international labour standards. The ILO Worst Forms of Child Labour Convention, 1999 (No. 182) calls on countries to take immediate and effective measures to eliminate this and other worst forms of child labour as a matter of urgency.³

The latest ILO global estimates for the year 2012 indicate that both the share and absolute numbers of adolescents aged 15–17 years in hazardous work is considerable:⁴

- adolescents aged 15 to 17 years in hazardous work total 47.5 million, accounting for 13 percent of this age group;
- males constitute 81 percent of total 15-17 year-olds in hazardous work and outnumber girls in hazardous work by 29.8 million (38.7 million versus 8.8 million);
- adolescents aged 15 to 17 years in hazardous work account for 40 percent of all those employed in the 15 to 17 years age group, a clear indicator of the decent work deficit facing this age group; and
- adolescents aged 15 to 17 years in hazardous work account for over one-quarter (28 percent) of the overall group of children in child labour; and

These stark numbers underscore the urgent need to address hazardous work among adolescents. Hazardous work during this crucial period of young persons' lives poses immediate threats to health and safety and can create huge barriers – educational, physical, psychological, social – that impede a young person from transiting successfully to adulthood and working life. The policy implications are equally clear: national policies should be directed towards removing youth from hazardous jobs or towards removing the hazardous conditions encountered by youth in the workplace. Alongside these efforts, removed youth and other educationally-disadvantaged youth should be afforded second chance learning opportunities to improve their future prospects of securing jobs meeting basic decent work criteria.

This Report assesses the degree to which adolescents are exposed to hazardous conditions in the workplace, the nature of the hazards they face, and the sectors and occupations in which hazardous conditions are most common. Differences between male and female adolescents are looked at in each of these areas, in order to provide some initial

² In countries where the general minimum working age is 14 years, the lower age boundary should also technically be 14 years. However, for comparability, in this Report we apply the minimum age boundary of 15 years in all countries.

³ C182 - Worst Forms of Child Labour Convention, 1999 (No. 182). Convention concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour (Entry into force: 19 Nov 2000).

⁴ IPEC: *Global child labour trends 2008 to 2012* / International Labour Office, International Programme on the Elimination of Child Labour (Geneva, ILO, 2013). ISBN: 978-92-2-127183-3 (Print); 978-92-2-127184-0 (Web PDF).

insight into the gender dimensions of adolescent hazardous work. It makes use of surveys from the ILO Statistical Information and Monitoring Programme on Child Labour (SIMPOC), national labour force surveys, School- to- Work Transition (SWT) surveys and other data sources from a set of developing countries (survey sources are provided in Appendix 1).

But before discussing the incidence and nature of hazardous work among adolescents, we need some additional background regarding how this term is defined, why we are interested in it and how we can measure it.

2. What is hazardous work by children?⁵

The legal foundation

The concept of hazardous work derives from three principal international conventions – the ILO Minimum Age Convention, 1973 (No. 138), the ILO Worst Forms of Child Labour Convention, 1999 (No. 182) and the United Nations Convention on the Rights of the Child (CRC) – and refers to work which, by its nature or the circumstances in which it is carried out, is likely to harm or jeopardize the health, safety or morals of children. The use of the term “likely” in the conventions means that it is not necessary to prove through research or other means that the work will *definitely* result in illness or injury or some other negative consequence but, instead, that there is a substantial threat of such an occurrence.

ILO Convention No. 138 represents the most comprehensive and authoritative international norm concerning minimum age for admission to work or employment. This Convention calls on member States to pursue a national policy to ensure the effective abolition of child labour. Within this framework, it calls on member States to set a general minimum age for admission to work or employment of at least 15 years of age (article 2.3), and a higher minimum age of not less than 18 years for employment or work which by its nature or the circumstances in which it is carried out is likely to jeopardize the health, safety or morals of young persons (article 3.1). It is the final category of work that we commonly refer to as hazardous work.

ILO Convention No. 182, adopted in 1999, supplements Convention No. 138 by emphasising the subset of worst forms of child labour requiring priority action. It calls on member States to take immediate and effective measures to secure the prohibition and elimination of the worst forms of child labour as a matter of urgency. For the purposes of the Convention, worst forms of child labour comprise (1) all forms of slavery or practices similar to slavery, (2) child involvement in commercial sexual exploitation, (3) child involvement in illicit activities and (4) other work which, by its nature or the circumstances in which

⁵ This section makes use of materials reproduced from: ILO (2011). *Children in hazardous work: What we know, what we need to know*. International Programme on the Elimination of Child Labour (IPEC), Geneva.

it is carried out, is likely to harm the health, safety or morals of children. Again, it is the final category, phrased similarly to C138, which we commonly refer to as hazardous work. It is also the final category that constitutes the overwhelming majority of adolescents in worst forms of child labour.

The UN Convention on the Rights of the Child (CRC), also using similar language, recognizes the child's right to be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral or social development (article 32.1).

Two relevant age groups

It is helpful to think of hazardous work of children in terms of two distinct age groups: the younger children who are under the minimum age for work and should be in school, and the older children who are of legal working age. Generally speaking, if the very young are in hazardous work, they are the priority for action. If what they do is likely to put their health or development at risk, the only option in the case of younger children is to remove them from the work, while for older children, the focus of the current Report, there is a choice: either they may be removed from the hazardous situation, or the risks may be reduced through improvement in working conditions such that the work is no longer likely to put their health at risk.

A crucial fact to remember is that work in the presence of hazards is not necessarily hazardous work. A child over the minimum working age can work (1) if the hazard can be actually removed, (2) if the child can be separated sufficiently from the hazard so as not to be exposed, or (3) if the risk associated with that hazard can be minimized, so that it is no longer likely to harm the health, safety or morals of children.

The ILO speaks of this as "identifying hazards and reducing risks". In its guidelines for employers, it encourages them "to reduce the risks for all workers, adolescents and adults, through improved workplace safety and health. This will reduce the likelihood that young workers are at risk from hazardous situations. In addition, an employer can determine whether workers below the age of 18 (but above the minimum age) are engaged in tasks where the risks from hazards are high. The employer can then reduce those risks as a way of eliminating hazardous work of children."⁶

The challenge is to know where to draw the line. When has the risk been minimized enough? When, for example, in a vocational training or apprenticeship situation, is instruction and supervision adequate? The application of OSH standards and policies can play a critical role in addressing these questions. OSH standards and policies can require the abatement of hazards, the reduction of risks, and also impose

⁶ ILO-ACT/EMP and IOE: *Eliminating child labour. Guide 2: How employers can eliminate child labour* (Geneva, ILO, 2007), pp. 12–13.
2007), pp. 12–13.

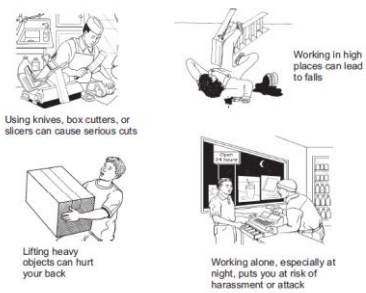
requirements for the training and supervision of employees that benefit young workers. Panel 1 presents one of the many good examples of OSH practices for the benefit of young workers.

Panel 1. ILO "Safe work for youth" Kit

The "Safe work for youth" Kit is an information package designed for administrators, employers and young people about the occupational hazards and risks faced by young workers and what to do about them. These materials are in the form of templates to facilitate their adaption to specific situations. The kit contains three packets.

- **Packet for administrators "Safe work for youth":** The Administrators packet has the "how to" guide for project managers and partners that shows, first, how to adapt the employer- and youth-oriented materials to the local situation and then how to use them. It describes a comprehensive programme for young workers, age 14-18.
- **Packet for employers "Keep them safe":** Employers are responsible for keeping a safe workplace, but many do not realize that young people need special protection. The employers' packet contains a handbook for employers with checklist and fact sheets for different types of work. The handbook is in English, French and Spanish. Other language versions are also available (Swahili, Indonesian, Nepali, Urdu).
- **Packet for young workers "Stay safe!":** The materials in this packet are designed for young people, 14 (or 15) to 18 years old, who are working or getting ready to work. The aim is to raise their awareness about hazards and risks at work. The materials are designed for a training setting (e.g. a vocational training programme) and are ideal for outreach activities organized by employers' or workers' associations.

Below are examples of pages excerpted from the packet for young workers.

<p>Safe Work for Youth</p> <p>5 WAYS TO STAY SAFE AT WORK</p> <ol style="list-style-type: none"> 1. Look for hazards 2. Know your rights 3. Get safety training 4. Follow safety rules 5. Ask questions / get help <p>Are you a worker under 18 years of age? You may be legally old enough to work, but did you know that if the work or working conditions are dangerous, you could be considered child labour?</p> <p>As a young worker, you have a right to special protection. ILO Conventions and the laws in most countries require employers to provide a safe workplace and work that is safe for you. Not all employers know about or follow these laws, and the laws are not always enforced. But it is important for you to know what your employer should provide. These five steps will help you stay safe.</p> <p>TRUE STORIES</p> <p>When Fatima was 14, she got both arms caught in an ice-crushing machine. Now she is permanently disabled and will never have full use of her arms.</p> <p>When Juan was 16, he was attacked and robbed at gunpoint at a food stall. He was working alone all night!</p> <p>16 year old Rahul had a job making bricks. He was not told to use a mask, and after breathing the dust for several months, he now has a hard time breathing and gets sick a lot.</p> <p>Anna is a 17 year old who works on a farm 40 hours a week. Her boss is always yelling at her to work faster. When she told him she was working as hard as she could, he fired her.</p>	<p>Safe Work for Youth</p> <p>1. Look for hazards in your workplace</p> <p>Be aware of the dangers on your job. Some of them may be obvious and can hurt you right away. Others may be "hidden" and might not make you sick until later.</p> <p>Think about some of the ways you might get hurt or become sick in your particular job.</p>  <p>Using knives, box cutters, or slicers can cause serious cuts</p> <p>Working in high places can lead to falls</p> <p>Lifting heavy objects can hurt your back</p> <p>Working alone, especially at night, puts you at risk of harassment or attack</p> <p>These are just examples. Every job has its own health and safety hazards. Learn to look for them, but remember, it's your employer's responsibility to make sure your workplace is safe.</p>	<p>Safe Work for Youth</p> <p>2. Know your rights</p> <p>There are international guidelines and national laws that protect young workers. These say that your workplace must be safe. Youth are NOT allowed to do work which is physically or psychologically dangerous. Laws also limit the hours and times of day that you can work in order that you have time for school and adequate rest. Your employer must follow these rules</p> <p>In principle¹, you should not do work such as:</p> <ul style="list-style-type: none"> • Work underground, such as in a mine, or under water • Work at dangerous heights, such as on roofs, ladders or scaffolds • Work in confined spaces, such as silos or storage tanks • Use powered machinery, equipment, or tools such as saws or tractors • Work near or with hazardous chemicals, loud noises, or vibrations • Work in extreme heat or cold • Work alone, long hours or late at night <p>According to the laws in your country, your employer must:</p> <p>(insert relevant national legislation on each of the following issues)</p> <ul style="list-style-type: none"> • Providing a safe and healthful workplace • Providing training, including information about chemicals • Providing protective equipment if needed (safety glasses, gloves, etc.) • Pay for medical care if you get hurt or sick because of your job • Pay at least the minimum wage • Prohibit harassment, bullying, and discrimination • Allow youth to join or organize a union in the workplace <p><small>¹Exceptions may be made for youth over 16 who are in training and are being closely supervised.</small></p>
--	---	--

Source: ILO (http://www.ilo.org/ippec/areas/Safeworkforyouth/WCMS_120430/lang--en/index.htm)

The hazardous work list

Convention No. 182 does not define what hazardous work includes, instead leaving it to the countries to do so in the form of what we commonly call the "hazardous work list". But the ILO's Worst Forms of Child Labour Recommendation, 1999 (No. 190), the non-binding guidelines that accompany Convention No. 182, gives some indication as to what work should be prohibited. It urges member States to give consideration to:

- work underground, under water, at dangerous heights or in confined spaces;
- work with dangerous machinery, equipment and tools, or that involves the manual handling or transport of heavy loads;

- work in an unhealthy environment, which may, for example, expose children to hazardous substances, agents or processes or to temperatures, noise levels, or vibrations damaging to their health;
- work under particularly difficult conditions such as work for long hours or during the night or work that does not allow for the possibility of returning home each day; and
- work that exposes children to physical, emotional or sexual abuse;

When countries ratify Convention No. 182 and Convention No. 138, they commit themselves to determining work to be prohibited to persons under 18 years of age. Article 4 of Convention No. 182 in this context says:

- The types of work referred to under Article 3(d) (work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children) shall be determined by national laws or regulations or by the competent authority, after consultation with the organizations of employers and workers concerned, taking into consideration relevant international standards, in particular Paragraphs 3 and 4 of the Worst Forms of Child Labour Recommendation, 1999.
- The competent authority, after consultation with the organizations of employers and workers concerned, shall identify where the types of work so determined exist.
- The list of the types of work determined under Paragraph 1 of this Article shall be periodically examined and revised as necessary, in consultation with the organizations of employers and workers concerned.

For short, we refer to this as the “hazardous work list”. This list is extremely important because, once enacted into law, it forms the basis for a wide range of activities – advocacy, services, policies and enforcement – that can protect children and youth from exploitation and provide a clear rule on what children above designated ages can or cannot do. Country-level status in developing hazardous work lists is summarized in Table 1 below.

Table 1. Countries with hazardous work lists

Global distribution of hazardous work lists as of April 2011

Global regions ^(a)	Completed lists	No list but commencing the process	No list but general prohibition	No list
Total	108	47	20	8
Africa	28 (Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of Congo, Egypt, Ethiopia, Gabon, Ghana, Guinea, Libyan Arab Jamahiriya, Madagascar, Mali, Mauritania, Mauritius, Morocco, Namibia, Niger, Senegal, Sierra Leone, South Africa, Togo, Tunisia, Zimbabwe)	13 (Algeria, Botswana, Cape Verde, Comoros, Eritrea, Kenya, Liberia, Malawi, Mozambique, Rwanda, Sudan (and South Sudan), Uganda, Zambia)	9 (Angola, Djibouti, Gambia, Lesotho, Nigeria, Sao Tome and Principe, Seychelles, Swaziland, United Republic of Tanzania)	3 (Equatorial Guinea, Guinea-Bissau, Somalia)

Table 1.Cont'd

Global regions ^(a)	Completed lists	No list but commencing the process	No list but general prohibition	No list
Americas	16 (Brazil, Chile, Columbia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Guyana, Haiti, Honduras, Nicaragua, Panama, Paraguay, Peru, United States)	14 (Antigua and Barbuda, Argentina, Bahamas, Belize, Plurinational State of Bolivia, Canada, Dominica, El Salvador, Jamaica, Mexico, Saint Kitts and Nevis, Suriname, Trinidad and Tobago, Uruguay)	5 (Barbados, Grenada, Saint Lucia, Saint Vincent and the Grenadines, Bolivarian Republic of Venezuela)	0
Arab States	8 (Bahrain, Jordan, Kuwait, Lebanon, Qatar, Syrian Arab Republic, United Arab Emirates, Yemen)	2 (Iraq, Oman)	1 (Saudi Arabia)	0
Asia and the Pacific	14 (Cambodia, China, India, Indonesia, Islamic Republic of Iran, Japan, Republic of Korea, Mongolia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Viet Nam)	11 (Afghanistan, Australia, Brunei Darussalam, Kiribati, Lao People's Democratic Republic, Malaysia, Papua New Guinea, Samoa, Singapore, Solomon Islands, Vanuatu)	4 (Bangladesh, Fiji, New Zealand, Timor-Leste)	4 (Maldives, Marshall Islands, Myanmar, Tuvalu)
Europe	42 (Albania, Armenia, Austria, Azerbaijan, Belarus, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Republic of Moldova, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, Uzbekistan)	7 (Bulgaria, Hungary, Montenegro, San Marino, Serbia, Tajikistan, The former Yugoslav Republic of Macedonia)	1 (Bosnia and Herzegovina)	1 (Turkmenistan)

Notes: (a) As defined by ILO administrative divisions.

Source: Reproduced from: ILO (2011). *Children in hazardous work: What we know, what we need to know*. International Programme on the Elimination of Child Labour (IPEC), Geneva.

Estimating hazardous work

It is important to reiterate that these Conventions state that the specific types of employment or work constituting hazardous work are determined by national laws or regulations or by the competent authority. From a strictly legal standpoint, in other words, there is no standard international list of hazardous jobs and occupations, but rather a series of unique national lists. What constitutes hazardous work in legal terms differs from one country to the next. Following from this, there can be no standard statistical measure of hazardous work that is valid across all countries.

Panel 2. List of hazardous industries and occupations designated as hazardous for the purpose of the ILO global estimates

Industry

- Mining and quarrying (ISIC Rev 3 codes 10-14)
- Construction (ISIC Rev 3 code 45)

Occupation

- Optical and electrical equipment operators (ISCO-88-313)
- Health associated professionals (ISCO-88-322)
- Nursing midwife (ISCO-88-323)
- Protective services (ISCO-88-516)
- Forestry and related workers (ISCO-88-614)
- Fishery, hunters and trappers (ISCO-88-615)
- Miners, shot fires, stone cutters and carvers (ISCO-88-711)
- Building frame and related workers (ISCO-88-712)
- Building finishers (ISCO-88-713)
- Metal moulders, welders and related workers (ISCO-88-721)
- Blacksmith, tool makers and related workers (ISCO-88-722)
- Machinery mechanics and fitters (ISCO-88-723)
- Electrical, electronic equip. mech. & fitters (ISCO-88-724)
- Precision workers in metal (ISCO-88-731)
- Potters, glass makers and related workers (ISCO-88-732)
- Mining, mineral processing plant operators (ISCO-88-811)
- Metal processing plant operators (ISCO-88-812)
- Glass, ceramics and related plant operators (ISCO-88-813)
- Wood processing & papermaking plant operators (ISCO-88-814)
- Chemical processing plant operators (ISCO-88-815)
- Power production, related plant operators (ISCO-88-816)
- Metal and mineral machine operators (ISCO-88-821)
- Chemical machine operators (ISCO-88-822)
- Rubber machine operators (ISCO-88-823)
- Wood products machine operators (ISCO-88-825)
- Textile, fur, leather machine oper. (ISCO-88-826)
- Food machine operators (ISCO-88-827)
- Assemblers (ISCO-88-828)
- Other machine operators (ISCO-88-829)
- Motor vehicle drivers (ISCO-88-832)
- Agriculture, other mobile plant oper. (ISCO-88-833)
- Ships' deck crew, related workers (ISCO-88-834)
- Street vendors and related workers (ISCO-88-911)
- Shoe cleaning, other street services (ISCO-88-912)
- Messengers, porters, doorkeepers. (ISCO-88-915)
- Garbage collectors, related workers (ISCO-88-916)
- Agriculture fishery, related workers (ISCO-88-921)
- Mining and construction labourers (ISCO-88-931)
- Transport and freight handlers (ISCO-88-933)

Source: IPEC, *Global child labour trends 2008 to 2012* / International Labour Office, International Programme on the Elimination of Child Labour (IPEC) - Geneva: ILO, 2013. ISBN: 978-92-2-127183-3 (Print); 978-92-2-127184-0 (Web PDF).

In order to permit international comparisons, in this Report we rely on the hazardous list and estimation methodology utilised by the ILO in producing its global child labour estimates (see Panel 2).⁷ The construction of the ILO list was informed by the national lists, but is not necessarily consistent with the specific list in each country. The resulting national estimates are therefore also not necessarily in line with those derived from the national lists; these estimates do, however, constitute useful benchmarks for the purpose of international comparisons.

The ILO estimation methodology can be summarized as follows. First, among employed 15–17 year-olds, all those engaged in designated hazardous industries are identified. Designated hazardous industries are, for the purpose of ILO global estimates, listed above. Second, among the children engaged in other branches of economic activity, those employed in designated hazardous occupations are identified. Designated hazardous occupations, again for the purpose of ILO global

⁷ For a detailed discussion, see IPEC, *Global child labour trends 2008 to 2012* / International Labour Office, International Programme on the Elimination of Child Labour (IPEC) - Geneva: ILO, 2013. ISBN: 978-92-2-127183-3 (Print); 978-92-2-127184-0 (Web PDF).

estimates, are also listed above. Third, among the children not engaged in either hazardous industries or hazardous occupations, those who worked long hours during the reference week are then sorted out. Long are defined for the present purpose as 43 or more hours of work during the reference week. The 43-hour threshold corresponds to about the mid-point of normal hours of work stipulated in national legislations, mostly in the range of 40 to 44 hours. The final step involves separating among the children not engaged in hazardous industries or occupations, nor in long hours of work, those who were exposed nevertheless to some hazardous work conditions not captured by the designated hazardous industries or occupations, or by long hours of work.⁸

⁸ These hazardous work conditions include night work, exposure to physical, psychological or sexual abuse; work underground, under water, at dangerous heights or in confined spaces; work with dangerous machinery, equipment and tools, or which involves the manual handling or transport of heavy loads; and work in an unhealthy environment which may, for example, expose children to hazardous substances, agents or processes, or to temperatures, noise levels, or vibrations damaging their health (paragraph 24 of the Resolution concerning child labour statistics).

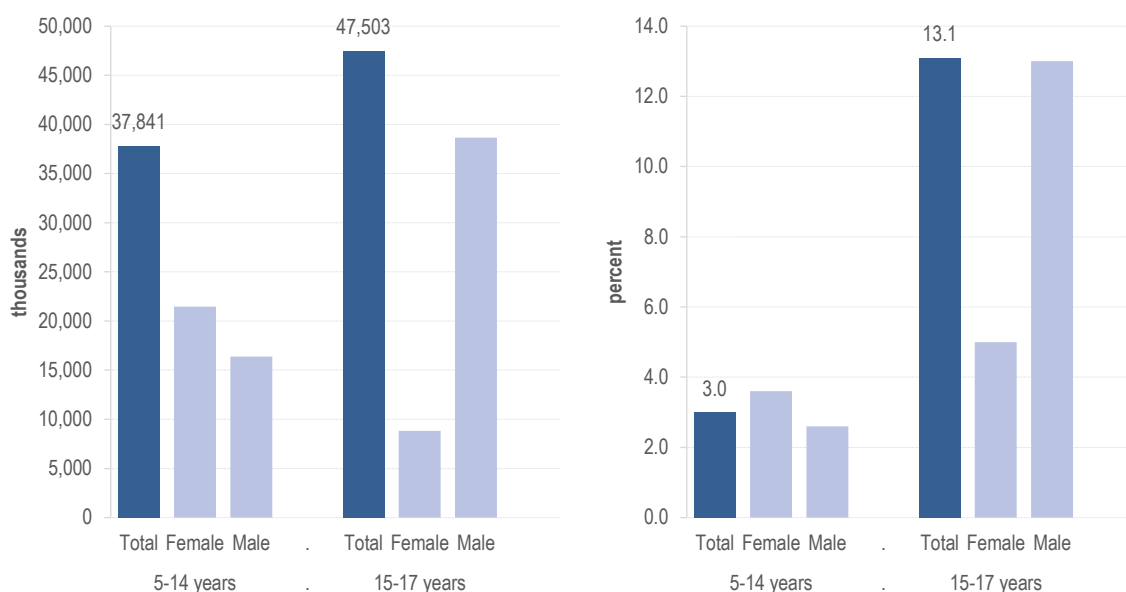
3. Prevalence of hazardous work among 15-17 year-olds

The global picture

The latest ILO global estimates for the year 2012 suggest that both the share and absolute numbers of adolescents in hazardous work remains considerable. A total of 47.5 million persons aged 15-17 years, 13 percent of this age group, were in hazardous work in 2012.⁹ Among younger, 5-14 year-old, children, three percent are found in hazardous work, or 37.8 million in absolute terms.¹⁰

Figure 4. Very large numbers of adolescents are still trapped in hazardous work

(a) Number of children in hazardous work, by age group and sex, 2012 (b) Percentage of children in hazardous work, by age group and sex, 2012



Source: IPEC, *Global child labour trends 2008 to 2012* / International Labour Office, International Programme on the Elimination of Child Labour (IPEC) - Geneva: ILO, 2013.

Differences by sex in the incidence of hazardous work among adolescents are dramatic – globally, males constitute 81 percent of total 15-17 year-olds in hazardous work and outnumber girls in hazardous work by 29.8 million (38.7 million versus 8.8 million). In terms of incidence, over 20 percent of males in the 15-17 years age range are in hazardous work, more than four times that for same-aged females.

It is interesting to note that among younger children, the gender pattern is the opposite: the number of younger girls in hazardous work is greater than that of boys, and by a considerable margin. For 5-14

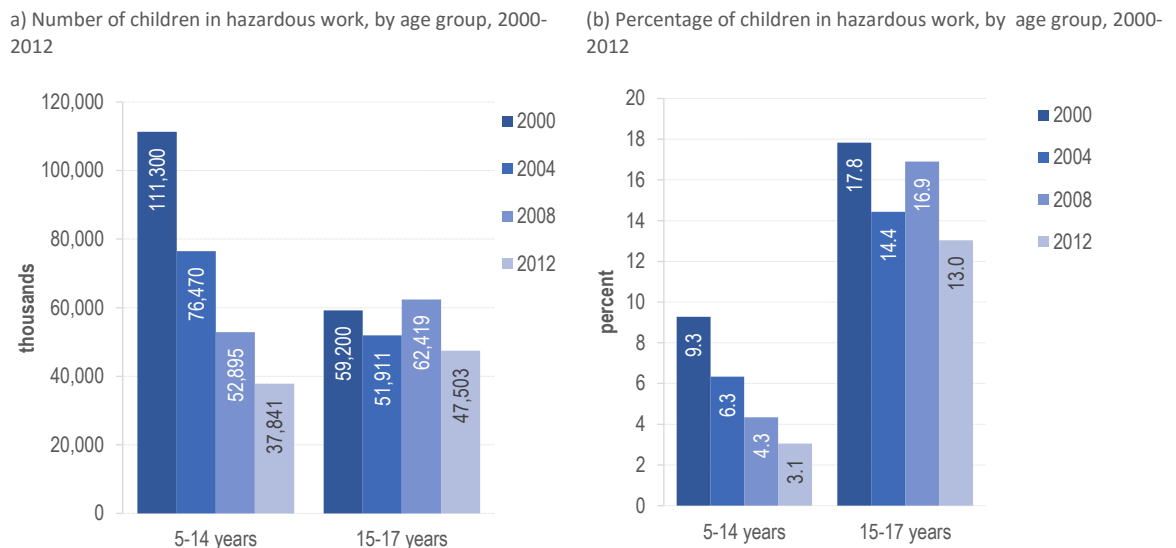
⁹ For a detailed discussion, see IPEC, *Global child labour trends 2008 to 2012* / International Labour Office, International Programme on the Elimination of Child Labour (IPEC) - Geneva: ILO, 2013. ISBN: 978-92-2-127183-3 (Print); 978-92-2-127184-0 (Web PDF).

¹⁰ Incidence of child labour among 5-14 year-olds is much higher, as child labour for this age group is not limited to work that is hazardous in nature.

year-olds, girls account for 57 percent of all children in hazardous work, outnumbering boys by over five million. This suggests that additional differences in the nature of the work performed by boys and girls emerge in the 15-17 years age range, with males more likely, in both relative and absolute terms, to take on work that is hazardous in nature.

The ILO global estimates also show a general decline in the incidence of hazardous work, although this decline has been much slower among older, 15-17 year-old children than among those in the 5-14 years age bracket. While hazardous work incidence among 5-14 year-olds fell by two-thirds over the 2000 to 2012 period, from 9.3 percent to 3.1 percent, the decline among 15-17 year-olds was much less dramatic, going from 17.8 percent in 2000 to 13 percent in 2012. Moreover, hidden in this overall decline was an *increase* in the incidence of hazardous work in the 15–17 years age group in the period from 2004 to 2008, underscoring that progress can be tenuous. While we appear to be moving in the right direction, therefore, in terms of reducing hazardous work among adolescents, we are still moving too slowly to achieve the *elimination* of hazardous work in this group in the foreseeable future.

Figure 5. The decline in incidence of hazardous work has been much slower among older, 15-17 year-old, children



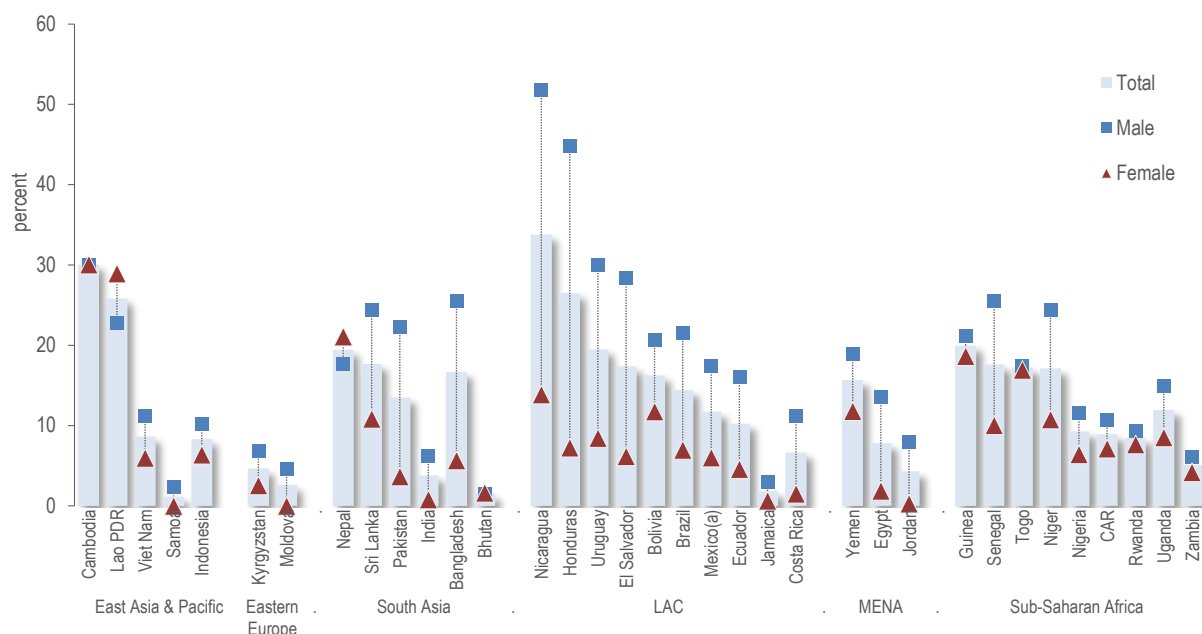
Source: IPEC, *Global child labour trends 2008 to 2012* / International Labour Office, International Programme on the Elimination of Child Labour (IPEC) - Geneva: ILO, 2013.

The country picture

Country-specific numbers and shares of adolescents in hazardous work are reported in Figure 6. The list of countries is limited by data availability and is therefore unfortunately far from complete, underscoring the general need to improve statistics on hazardous work (the country-specific data sources are listed in Appendix 1).

Figure 6. A significant share of adolescents in most countries are in hazardous work

Percentage of adolescents aged 15-17 years in hazardous work, by sex and country



Source: UCW calculations based on national household surveys (for details see Appendix Table A1).

The estimates indicate that there are substantial shares of adolescents in hazardous work in most countries where data are available, although there is large variation across countries and regions.¹¹ The incidence of hazardous work among 15-17 year-olds is highest in Nicaragua (34 percent), Cambodia (30 percent) Honduras (27 percent) and Lao PDR (26 percent). The *number* of adolescents in hazardous work is greatest in populous India (2.4 million), Pakistan (1.3 million) and Indonesia (1.2 million) (not shown).

The gender pattern observed at the global level also holds in most individual countries: a higher share of males in the 15-17 age range are in hazardous work most countries. This is especially the case in the countries of the Latin America and the Caribbean and the MENA regions.

It is worth noting that while we lack data on incidence of hazardous employment among adolescents in industrialised economies, European data on adolescents *job accident* rates, discussed in Panel 3, indicate that hazardous work among adolescents is by no means limited to the developing world.

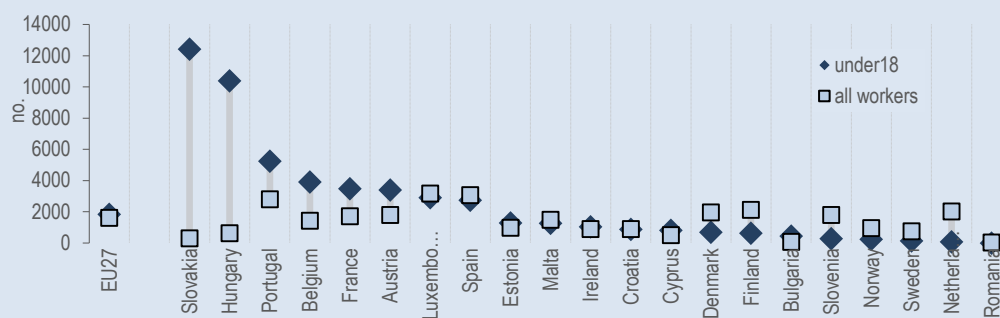
¹¹ As survey instruments and survey reference data differ across countries, national comparisons are indicative only.

Panel 3. Adolescents hazardous work in industrialized economies

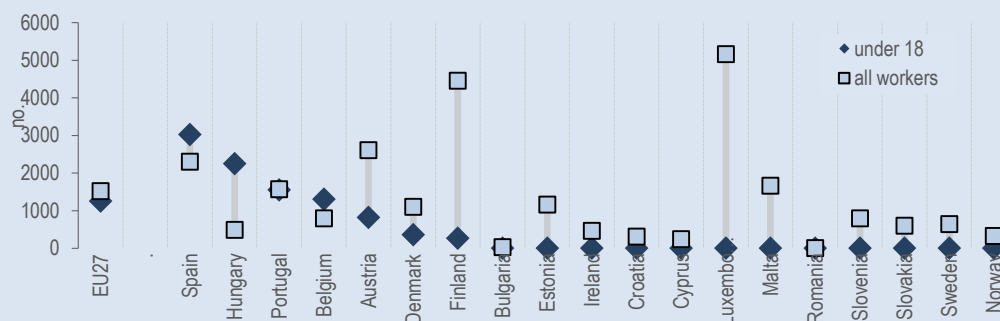
Many employed adolescents in industrialized economies are also affected by hazardous work conditions. European data show that young workers have higher accident rates than adults, although the average severity of accidents concerning young workers is lower.¹² This pattern is not, however, constant across sectors, as illustrated in the figures below. In the industry sector in 2011, the incidence rate in the 27 EU countries of non-fatal accidents at work¹³ stood at 1,518 (per 100,000 persons in employment) for those aged less than 18 years and at 1,251 (per 100,000 persons in employment) for workers generally.¹⁴ By contrast in the agriculture sector, the incidence rate was slightly lower for young workers (1,251 versus 1,518 per 100,000 persons in employment).

Figure. Adolescents in industrialized economies are also affected by hazardous work conditions

(a) Incidence rate of non-fatal accidents, workers aged less than 18 years and total workers, 2011, industry sector



(b) Incidence rate of non-fatal accidents, workers aged less than 18 years and total workers, 2011, agriculture sector



Note: The incidence rate of serious accidents at work is the number of persons involved in accidents at work with more than 3 days' absence per 100,000 persons in employment in the covered population. For France and the Netherlands data refers to 2010
Source: Eurostat (extracted on December 2013)

There are also large differences across countries in the risk of accidents faced by young workers relative to all workers. In the industry sector, the incidence of accidents of adolescents relative to all workers is highest in Slovakia and Hungary. In the former, for instance, the incidence rate is over 12,000 for young workers against only 311 for workers generally. In the agriculture sector, the incidence rate for younger workers is particularly high relative to all workers in Hungary and Spain.

There has been important progress in the EU in terms of reducing accidents in the workplace, particularly for younger workers. The number of non-fatal accidents (with more than three days' absence) has been decreasing since the early 2000s, as a result of the growing culture of safety at the workplace in member countries. Of particular importance for the purpose of this Report, accidents at work in EU15 countries declined almost as twice as fast for young workers (-65%) as for total workers (-34%) between 2001 and 2010. The largest decreases in accidents at work for young workers over the 2001–2011 period occurred in the Netherlands (-95%), Spain (-92%), Italy (-88%) and Luxembourg (-86%).¹⁵

¹² European Statistics on Accidents at Work (ESAW).

¹³ Resulting in more than three days' absence from work.

¹⁴ Eurostat.

¹⁵ Fatal accidents at work in sectors agriculture; industry and construction (except mining); services of the business economy (NACE Rev. 2, A, C-N). Source: Eurostat (extracted on December 2013).

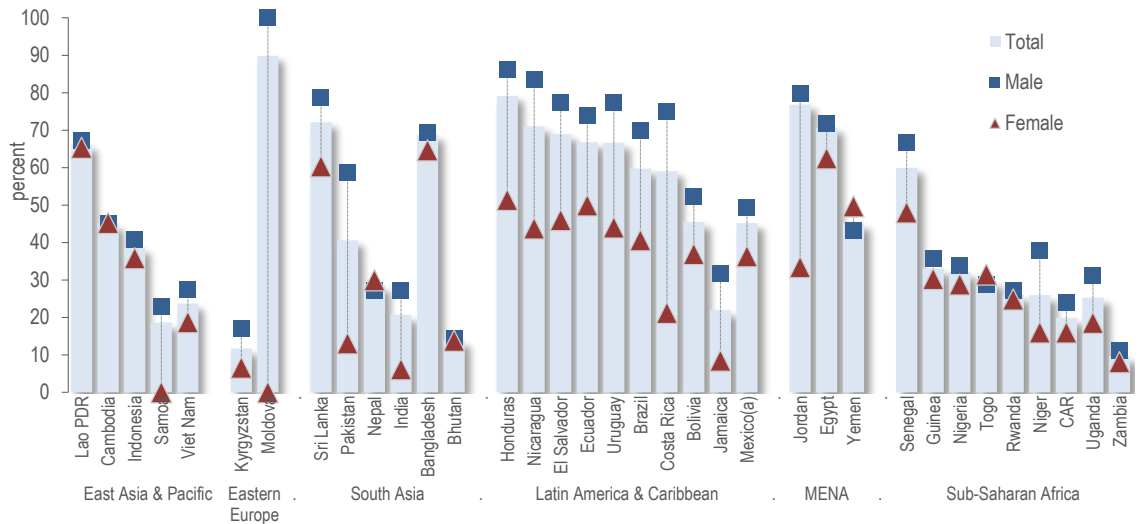
What share of jobs held by adolescents are hazardous?

Another way of viewing the issue of hazardous work is by considering its importance *relative to overall* employment for the 15–17 years age group; in other words, the share of *employed* adolescents in this age group that are in hazardous work. Globally those in hazardous work account for 40 percent of those employed in the 15–17 years age group. Country-level estimates, reported in Figure 7, also suggest that a very high share of employed 15-17 year-olds are in hazardous work. In Moldova, for instance, 90 percent of employed adolescents are in hazardous work, while in Honduras the figure is 79 percent. At least two-thirds of all jobs held by adolescents aged 15-17 years are also hazardous in nature in Lao PDR, Sri Lanka, Nicaragua, El Salvador, Ecuador, Uruguay, Jordan and Egypt.

Gender differences are again pronounced. With only a few exceptions, jobs held by male adolescents are significantly more likely to be hazardous than those held by their female peers. This does not, however, mean that female adolescents are immune from hazardous work. On the contrary, across almost all countries, hazardous work also constitutes very a substantial share of jobs held by female adolescents. In Lao PDR, Sri Lanka, Bangladesh, Ecuador, Honduras, Egypt, Yemen and Senegal, for instance, at least half of jobs held by adolescent females are hazardous.

Figure 7. Adolescents aged 15-17 years in hazardous work in fact constitute the majority of employed adolescents in this age group in many countries

Percentage of employed adolescents aged 15-17 years in hazardous work, by sex and country



Source: UCW calculations based on national household surveys (for details see Appendix Table A1).

These figures underscore the magnitude of the policy challenge associated with addressing the risks faced by adolescents in the workplace. More broadly, the high incidence of hazardous work is another indication of the size of the “decent work deficit” facing those in the 15-17 years age range: two out of five employed adolescents globally are in hazardous work. Undoubtedly many others are in other work that falls short of basic decent work criteria (see Panel 4).

Panel 4. ILO and Decent Work

Decent work sums up the aspirations of people in their working lives. It involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men. Decent work is also safe work that provides protection from work-related accidents, injuries and diseases.

The Decent Work concept was formulated by the ILO's constituents – governments and employers and workers – as a means to identify the Organization's major priorities. It is based on the understanding that work is a source of personal dignity, family stability, peace in the community, democracies that deliver for people, and economic growth that expands opportunities for productive jobs and enterprise development.

Promoting Decent work for all

The ILO has developed a Decent Work Agenda for the community of work. It provides support through integrated Decent Work Country Programmes developed in coordination with its constituents. Putting the Decent Work Agenda into practice is achieved through the implementation of the ILO's four strategic objectives, with gender equality as a crosscutting objective:

Creating jobs – an economy that generates opportunities for investment, entrepreneurship, skills development, job creation and sustainable livelihoods.

Guaranteeing rights at work – to obtain recognition and respect for the rights of workers. All workers, and in particular disadvantaged or poor workers, need representation, participation, and laws that work for their interests.

Extending social protection – to promote both inclusion and productivity by ensuring that women and men enjoy working conditions that are safe, allow adequate free time and rest, take into account family and social values, provide for adequate compensation in case of lost or reduced income and permit access to adequate healthcare.

Promoting social dialogue – Involving strong and independent workers' and employers' organizations is central to increasing productivity, avoiding disputes at work, and building cohesive societies.

Making Decent Work a global goal and a national reality

The overall goal of Decent Work is to effect positive change in people's lives at the national and local levels. The ILO provides support through integrated Decent Work Country Programmes developed in coordination with ILO constituents. They define the priorities and the targets within national development frameworks and aim to tackle major Decent Work deficits through efficient programmes that embrace each of the strategic objectives.

The ILO operates with other partners within and beyond the UN family to provide in-depth expertise and key policy instruments for the design and implementation of these programmes. It also provides support for building the institutions needed to carry them forward and for measuring progress. The balance within these programmes differs from country to country, reflecting their needs, resources and priorities.

Progress also requires action at the global level. The Decent Work agenda offers a basis for a more just and sustainable framework for global development. The ILO works to develop "decent work"-oriented approaches to economic and social policy in partnership with the principal institutions and actors of the multilateral system and the global economy.

Source: ILO (<http://ilo.org/global/about-the-ilo/decent-work-agenda/lang--en/index.htm>).

Adolescents in hazardous work and the goal of child labour elimination

It is in the 15-17 years age group that the goals of eliminating child labour and improving the occupational safety and health (OSH) of young workers intersect most explicitly: simply put, it will not be possible to achieve overall child labour elimination without addressing the OSH of adolescent workers. The multi-country ILO Safe Youth at Work Project is aimed at helping to achieve this (see Panel 5).

Panel 5. Building a culture of prevention: ILO SafeYouth@Work Project

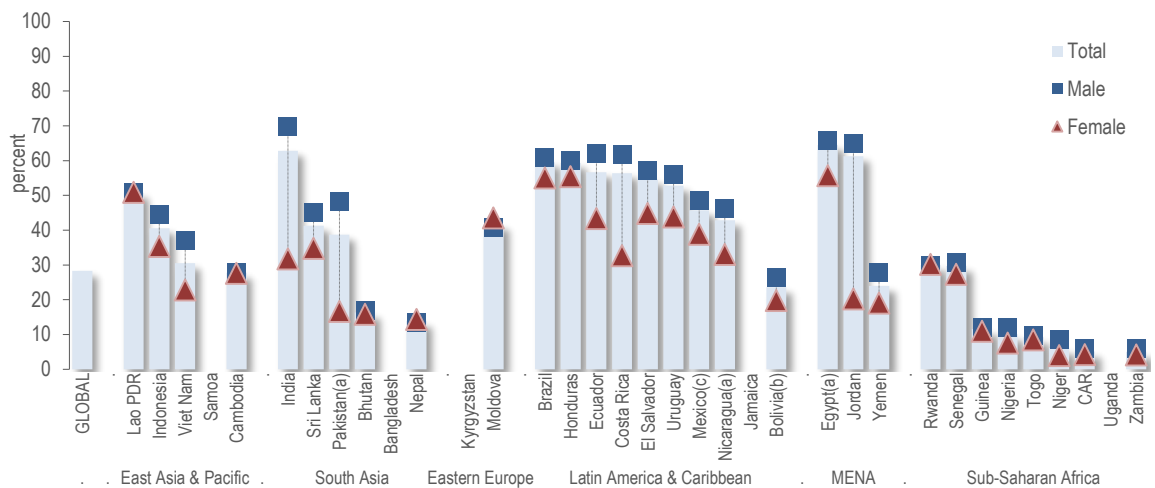


Both global- and country-level estimates indicate that adolescents in hazardous work constitute a substantial share of the overall child labour population. As shown in Figure 8, adolescents in hazardous work make up 28 percent of the total child labour population globally, and a considerable fraction of total child labourers in most individual countries, especially outside the Sub-Saharan Africa region. In Egypt and India, for instance, adolescents in hazardous work constitute almost two-thirds of all child labourers. They make up at least half of the child labour population also in Brazil, Honduras, Ecuador, Costa Rica, El Salvador, Uruguay, Vietnam and Jordan.

Figure 8 also indicates that hazardous work among adolescents constitutes a greater share of total male child labour than total female child labour. This is a product of the greater overall share of male compared to girls in hazardous work *during adolescence*. As noted above, girls are actually more likely the boys to be in hazardous work earlier in childhood.

Figure 8. Adolescents aged 15-17 years in hazardous work also form a substantial share of the total child labour population

Percentage of 15-17 year-olds in hazardous work as a percentage of the overall child labour population for the 5-17 years age range, by sex and country



Source: UCW calculations based on national household surveys (for details see Appendix Table A1).

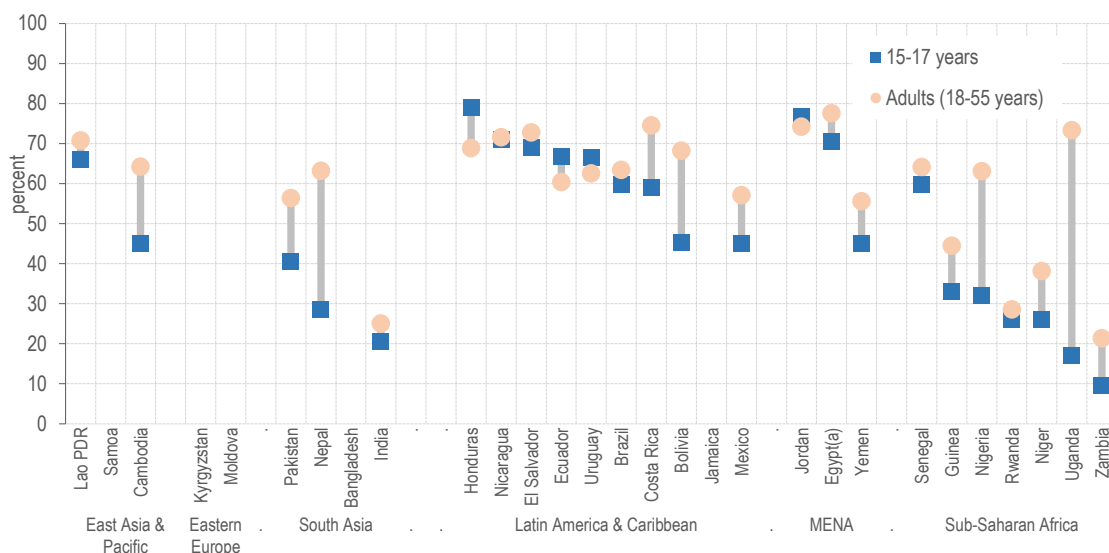
The relative importance of the 15-17 years age group in the overall child labour population is growing over time: this age group constituted 24 percent of the overall child labour population in 2000 but by 2012 their share had grown to over 28 percent. This change is driven by the fact that the decline in child labour among 5-14 year-olds has outpaced the fall in child labour among 15-17 year-olds (Figure 5). Addressing child labour among adolescents is therefore becoming increasingly important over time to overall child labour elimination efforts.

Are adolescents at greater risk of hazardous work?

Another important question is the hazardousness of adolescent employment *relative to that of their adult counterparts*. In other words, whether adolescents are at greater or less risk of hazardous work than older workers. This question is taken up in Figure 9, which compares the shares of 15-17 year-old and adult workers in hazardous work.

Figure 9. There is generally a lower share of adolescent workers than adult workers in hazardous work

Percentage of employed adolescents and adults in hazardous work, by country



Source: UCV calculations based on national household surveys (for details see Appendix Table A1).

The figure indicates that in more than a third of the countries (11 of 27), adolescent workers are just as likely as adults to be in hazardous work, despite their significantly greater physical and psychological susceptibility to its effects (see Panel 6). In four of these countries, i.e. Honduras, Ecuador, Uruguay and Jordan, adolescents are actually slightly *more likely* than adult workers to be in hazardous work.

Panel 6. Children are not little adults

Hazardous work cannot be acceptable for children because of basic biology. Children are not simply smaller adults, they are physically and mentally different; and regardless of cultural perceptions or social construct, the transition to biological adulthood extends past puberty well into the late teen years.

This is the foundation for the argument against hazardous work of children ... the rationale for why it is classed as a “worst form of child labour [that] requires immediate and comprehensive action”.¹⁶

- Children have thinner skin, so toxics are more easily absorbed.
- Children breathe faster and more deeply, so can inhale more airborne pathogens and dusts.
- Children dehydrate more easily due to their larger skin surface and because of their faster breathing.
- Children absorb and retain heavy metals (lead, mercury) in the brain more easily.
- Children’s endocrine system (which plays a key role in growth and development) can be disrupted by chemicals.
- Children’s enzyme systems are still developing so are less able to detoxify hazardous substances.
- Children use more energy when growing and so are at higher risk from metabolized toxins.
- Children require more sleep for proper development.
- Children’s less-developed thermoregulatory systems make them more sensitive to heat and cold.

Source: ILO (2011). Children in hazardous work: What we know, what we need to know. International Programme on the Elimination of Child Labour (IPEC), Geneva.

¹⁶ Preamble to Worst Forms of Child Labour Convention, 1999 (No. 182).

It is important to note, however, that hazardous work is also unacceptable for adult workers. The ILO Conventions on occupational safety and health (OSH)¹⁷ and on labour inspection¹⁸ offer protection for all workers. In fact, nearly half of all ILO instruments deal directly or indirectly with OSH issues. The ILO Constitution itself sets forth the principle that workers should be protected from sickness, disease and injury arising from their employment. These standards promote basic principles, such as assessment of occupational risks or hazards, and promotion of a culture of prevention that includes information, consultation and training that are valid for workers of all ages.¹⁹

The ILO has long made the case that action against child labour can also be action for decent work for adults. As stated in a recent ILO report, “In the case of hazardous work, where economic necessity or deeply ingrained tradition blocks attempts to improve conditions for adult workers, it is sometimes the call to stop child labour that can be the entry point to change. Eliminating hazardous work of children can help improve safety and health of all workers – the ultimate goal.”²⁰

4. Nature of hazardous work

Which forms of adolescent work are most hazardous?

Calculating the share of employed 15-17 year-olds in hazardous jobs in each sector offers insight into where in the economy the risk of hazardous work is greatest. The industry sector, which includes manufacturing, electricity, gas, water, mining and construction, appears to be the most important sector in this regard although there is significant variation across countries and regions (Figure 10)²¹. Adolescents working in industry face the greatest risk of hazards in all regions except Latin America and the Caribbean. In the latter region, the agriculture sector, which comprises fishing, forestry, livestock herding and aquaculture, in addition to subsistence and commercial farming, are where employed adolescents are most likely to find themselves in hazardous jobs. There are only two exceptions to these regional patterns – Bolivia (where work in industry is most hazardous) and Sri Lanka (where work in agriculture is most hazardous).

¹⁷ Occupational Safety and Health Convention, 1981 (No. 155), Promotional Framework for the Occupational Safety on Health Convention, 2006 (No. 187).

¹⁸ Labour Inspection Convention, 1947 (No. 81), or Labour Inspection (Agriculture), 1969 (No. 129).

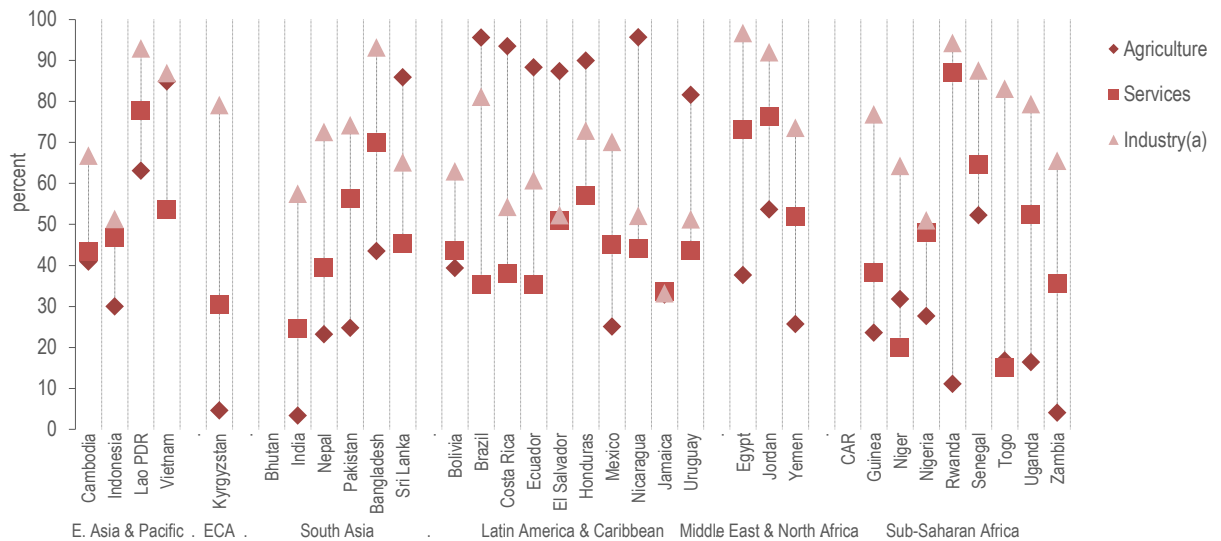
¹⁹ For example, the Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187).

²⁰ ILO (2011). Children in hazardous work: What we know, what we need to know. International Programme on the Elimination of Child Labour (IPEC), Geneva.

²¹ It is worth recalling, however, that these figures relate only to 15-17 year-olds and therefore are not necessarily consistent with published figures on hazardousness for the broader 15-24 years age group. It is the latter group that is typically used analysing youth employment outcomes.

Figure 10. Hazardous work appears especially common among adolescents employed in industry and agriculture

Share of 15-17 year-olds in hazardous work in each sector, by country, total



Source: UCW calculations based on national household surveys (for details see Appendix Table A1).

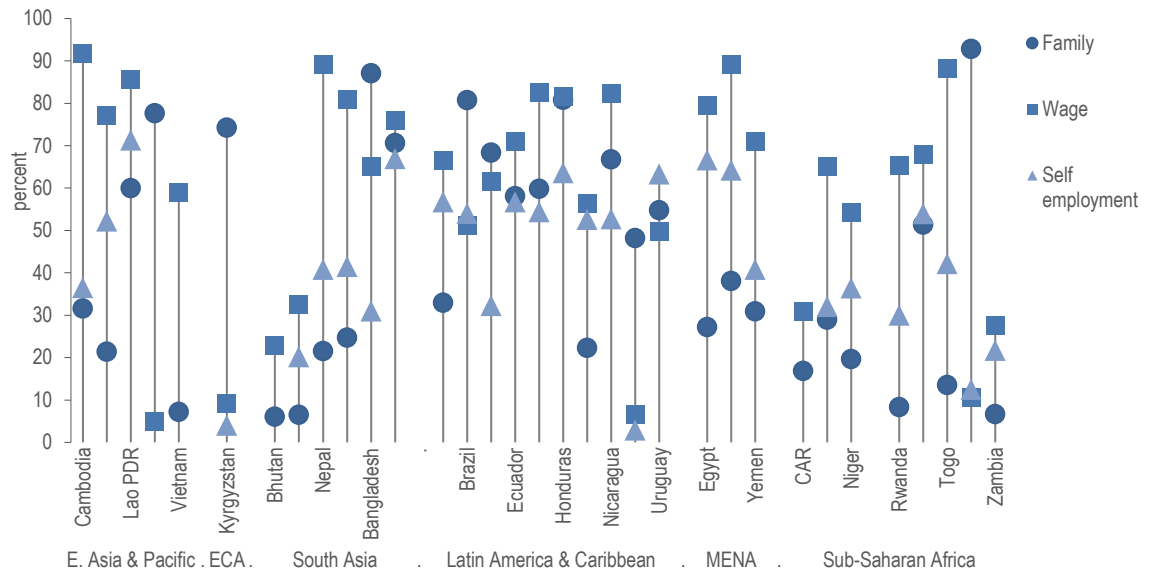
The hazardousness rankings by sector differ little between male and female adolescents in most countries, as reported in Appendix Figure A1. What does differ by sex is the actual share of jobs within each sector that are hazardous. The jobs held by male adolescents in all three sectors – agriculture, services and industry – are more likely to be hazardous than the jobs held by their female peers in the same sector in most countries. India, the most populous country in the sample, illustrates this point. For both male and female adolescents, industry is most hazardous, followed by services and agriculture. But 70 percent of the industry jobs held by adolescent males are hazardous compared to only 22 percent of the industry jobs held by female adolescents. Similarly, in the services sector and the agriculture sector, a much higher share of male jobs are hazardous than female jobs.

In terms of status in employment, hazardous jobs appear most common among adolescents working in paid employment jobs (Figure 11).

Three observations are relevant in the context of these figures. First, the high share of paid employment jobs that are hazardous in many countries is noteworthy, as paid employment is often treated as being higher “quality” or more desirable than other forms of employment. Paid employment jobs are clearly not a guarantee of non-hazardous work and are even less a guarantee, therefore, of decent work, which is an even more restrictive concept. Second, while the figures suggest that the family constitutes a safer workplace for adolescents in most countries (Pakistan, Brazil and Costa Rica are exceptions), family work is far from hazard free in any of the countries where data are available. Third, these results relate to a particular point in time, and do not account for the fact that many adolescents move among different employment modalities over the course of their transition to work.

Figure 11. Hazardous work appears especially common among adolescents working in wage and family employment

Share of 15-17 year-olds in hazardous work in each status category, by country, total



Source: UCW calculations based on national household surveys (for details see Appendix Table A1).

The hazardousness rankings by status in employment also differ little between male and female adolescents in most countries, as reported in Appendix Figure A2. Again, however, a greater share of male adolescent jobs are hazardous *within* each status category in most countries.

Panel 7. Sector-specific risks and hazardous conditions

While the general categories of hazardous work presented above offer us some insight into the nature of this work, they do not provide us with information about the specific workplace hazards and risks faced by 15-17 year-olds in the sectors where they are found. In this panel we turn our attention to these sector-specific hazards, drawing on statistics from a variety of third-party surveys and studies compiled by ILO. We look first at crop agriculture, and then at child domestic work, manufacturing, mining and quarrying, construction and finally the service sector.

Crop agriculture

With globalization, the profile of child work in crop agriculture is rapidly changing. Subsistence farmers in developing countries are adopting the chemicals used by big plantations, but they may have little training in their use and product warning labels may not be in a language they understand.^(a) In developed countries, the greatest danger is in the use of motorized equipment (tractors, loaders, chainsaws), and although adolescents may know the dangers, their lack of judgement and impatience may lead them to take risks. Where outgrowers are producing for the international market (e.g. sugar, bananas, flowers, cocoa, tobacco, tea, coffee), child workers may be exposed to toxic substances particular to that industry, such as methyl bromide, a particularly toxic pesticide used in flower production;^(b) or be expected to use sharp tools, which, although traditional, are being used at an industrial pace, as in cocoa production; or encounter injuries or illnesses from the plants themselves, as when harvesting the sharp leaves of sisal.

Child domestic work

Statistics on child domestic work^(c) are limited due to the hidden nature of the work. However, the ILO has recently carried out statistical work to produce a new global estimate on child domestic labour of 15.5 million children. More than half of these children, approximately 8.1 million, are engaged in hazardous work.^(d) The most common hazards are: long working hours, which create fatigue; lack of public scrutiny, which can provide opportunities for sexual exploitation; and isolation, inhibiting normal social and intellectual development. In addition, domestic service often involves carrying heavy loads (laundry, water, children), being exposed to fires and hot stoves, handling household chemicals and using sharp knives, as well as deprivation of education. Since a proportion of these children, mostly girls, are very young, tasks that seem trivial in wealthier nations, such as collecting water or lighting a stove, in a poor country can be both arduous and dangerous.^(e) These hazards must also be seen in association with the denial of children's fundamental rights, such as access to education and health care, the right to rest, leisure, play and recreation and the right to be cared for and to have regular contact with their parents and peers (UN Convention on the Rights of the Child).

Manufacturing

Around seven percent – approximately 12.1 million of the estimated 168 million child labourers of all ages – are in manufacturing.^(f) What may be surprising to some is the diversity of manufacturing in which children are employed. This includes manufacturing in both the formal and informal sectors, in large- and small-scale enterprises, from vast garment factories to home-based workshops doing piecework or traditional crafts. Hotly reported incidents of child labour abuses at factories owned by or affiliated with multinational companies belie the full extent of the problem: that is, the most hazardous conditions are often found in the thousands of smaller-scale operations – the suppliers of the suppliers and the suppliers to local markets. Manufacturing enterprises often have toxic substances present, such as organic solvents used in furniture work, shoe-making and automobile repair. A cross-sectional evaluation of children engaged in the manufacture of ceramics found that child labourers exhibited very high blood lead levels.^(g) Leather-tanning is another form of work that poses so many risks that it is likely to be hazardous in all respects.^(h) One study, which sampled over 3,000 children, found that those involved in manufacturing had a more than 30 percent higher risk of experiencing pain of various kinds, especially back pain, in comparison with nonworking children, even after controlling for sports and household chores.⁽ⁱ⁾ Another well-designed survey found that children working full time in small industrial shops experienced frequent abuse and experienced two to three times more health complaints and injuries than their non-working counterparts.^(j)

Mining and quarrying

Almost all child miners work in artisanal, small-scale mines. Children working in quarries are more visible – often they are seen along roadsides or near construction areas – and tend to be the poorest of the poor.^(k) Mining and quarrying are forms of work dangerous to children in every way. Being lowered deep through tunnels only as wide as their bodies; hauling loads weighing more than they do; sitting for hours under the sun, pounding boulders into road gravel; squatting the whole day in dirty water, sifting through sand for a precious gem. Mining and quarrying are physically dangerous because of the heavy and awkward loads, the strenuous work, the unstable underground structures, the heavy tools and equipment, the toxic dusts and chemicals and the exposure to extremes of heat and cold. The work is morally and psychologically risky, too, given that mining often takes place in remote areas where law, schools and social services are unknown, where family and community support may not exist.

Construction and associated industries

The construction industries rank among the most dangerous for children; although generally falling behind agriculture and mining, they are in first place in some of the European countries. The risks that adult construction workers face are well known: dangerous machinery, dangerous heights, dangerous materials and ubiquitous dust. And yet children are found on construction

sites around the world, performing support work in this hazardous environment. In many countries, particularly in South Asia, children (including girls) are recruited to carry, stack and align heavy bricks for long hours. In industrialized countries, adolescents of legal working age work with tools designed for full-grown adults. Similar risks abound in the industry of brick manufacturing. Added to the hazards, however, are the extreme temperatures and airborne ash created by the kilns. Children often younger than 10 years old haul bricks – each weighing about two kilograms – from one place to another all day long, breathing air thick with dust.

Notes:

(a) L. Goldmann et al.: *Childhood pesticide poisoning: Information for advocacy and action* (Châtelaine, UNEP, 2004).

(b) IPEC: *Ecuador: Trabajo infantil en la floricultura*, Rapid Assessment No. 35 (Geneva, ILO, 2000).

(c) The member States of the ILO in 2011 adopted an international standard on decent work for domestic workers – the Domestic Workers Recommendation, 2011 (No. 201). Following the text of this instrument, domestic work is defined as work performed in or for a household; and a domestic worker is anyone engaged in domestic work within an employment relationship. Within that context, child labour in domestic work can be defined as domestic work undertaken in the household of a third person by a child below the legal minimum age for work or employment, or by a child above the legal minimum age but under the age of 18 in hazardous or under slavery-like conditions, in which case it would be considered as a worst form of child labour.

(d) *However, it must be noted that this figure represents an extremely conservative estimate as it does not take into account situations involving child domestic workers in slavery-like conditions or within bonded labour.*

(e) ILO: *Decent work for domestic workers*, Report IV (2B), Fourth item on the agenda, Article 1(a) and (b), International Labour Conference, 100th Session (Geneva, 2011).

(f) ILO-IPEC, *Marking progress against child labour - Global estimates and trends 2000-2012* / International Labour Office, International Programme on the Elimination of Child Labour (IPEC) - Geneva: ILO, 2013.

(g) R. Harari and M.R. Cullen: "Childhood lead intoxication associated with manufacture of roof tiles and ceramics in the Ecuadorian Andes", in *Archives of Environmental Health* (1995), Vol. 50, No. 5, p. 393.

(h) S. Awan: *Hazards faced by young workers in textile, garments and leather goods sectors in Pakistan* (Lahore, Pakistan, Centre for the Improvement of Working Conditions & Environment, 2007).

(i) A.G. Fassa et al.: "Child labour and musculoskeletal disorders: The Pelotas (Brazil) epidemiological survey", in *Public Health Reports* (2005), Vol. 120, No. 6, pp. 665–673.

(j) I.A. Nuwayhid et al.: "Health of children working in small urban industrial shops", in *Occupational and Environmental Medicine* (2005), Vol. 62, No. 2, pp. 86–94.

(k) IPEC: *A load too heavy: Children in mining and quarrying* (Geneva, ILO, 2005).

Source: Adapted from ILO (2011). *Children in hazardous work: What we know, what we need to know*. International Programme on the Elimination of Child Labour (IPEC), Geneva.

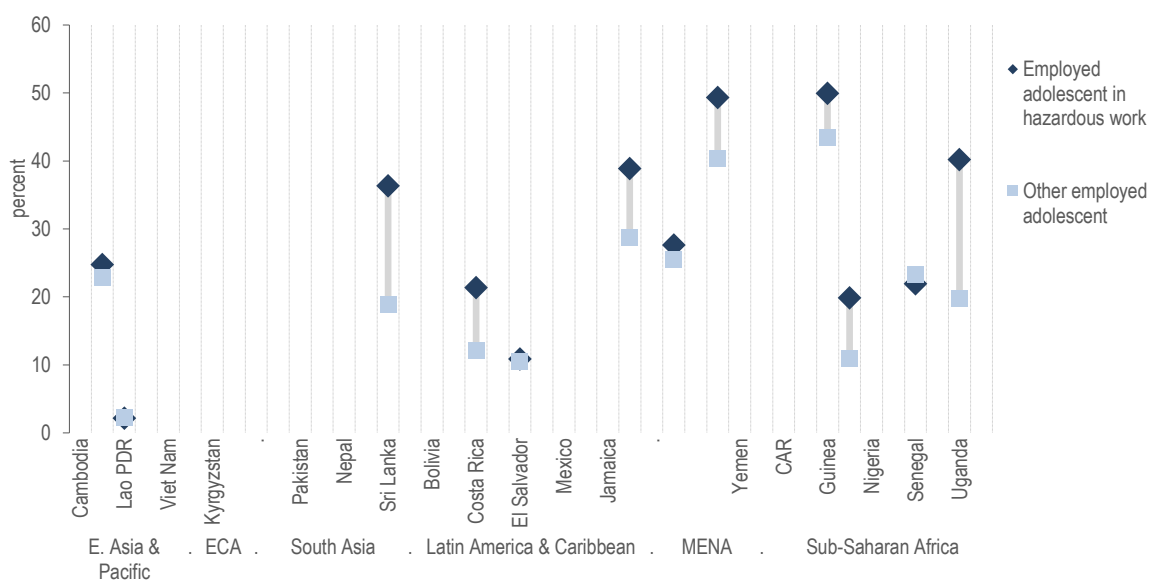
5. Impact of hazardous work

Work-related illness and injury

Hazardous work translates into greater incidence of work-related illness and injury in most countries. This correlation is illustrated in Figure 12, which reports the share of employed adolescents in hazardous and non-hazardous work who suffer adverse health effects resulting from their work. Again, the list of countries is limited by data availability and therefore is far from complete. In some, e.g., Sri Lanka and Uganda, the apparent link between hazardousness and ill health is especially strong.

Figure 12. Those in hazardous work are more likely to suffer adverse health effects resulting from their work

Incidence of work-related injury or illness among employed adolescents aged 15-17 years, by work type (i.e., whether or not employed adolescents are in hazardous work) and by country, total



Notes: (a) Industry includes manufacturing, electricity, gas, water, mining and construction.

Source: UCW calculations based on national household surveys.

The hazardous work performed by male adolescents poses a greater apparent threat to health than that performed by female adolescents in seven of the 11 countries where data are available, while the opposite pattern holds in three (i.e., Costa Rica, El Salvador and Senegal), and there is no difference in terms of health impact in one (i.e., Lao PDR) (Appendix Figure A3).

But these results are from a very general set of survey questions relating to self-reported injuries and episodes of illness. They are reliant on recall and self-perceptions which differ across groups and do not provide a sense of severity or the degree of health risk for a given unit of work time. The results also may systematically understate ill-health episodes in circumstances in which interviewees are reluctant

or unable to talk openly about the health consequences of their work. As such, the estimates of work-related ill-health presented in Figure 12 are at best an imperfect indicator of how hazardous work affects the health of young workers.

The lack of detailed information on the health effects of hazardous work is a problem in most of the developing world, where there is virtually no systematic reporting on occupational injuries and illnesses for children. Even in industrialized countries, the under-reporting of OSH injuries approaches or exceeds 50 percent.

Panel 8. Improving information on hazardous child labour

A consultation among researchers specializing in hazardous child labour met in Turin in early 2011 to recommend a course of action for filling current information gaps. They confirmed that, apart from the specific examples cited above, data on the impact of work on children's health were extremely inadequate and that better estimates were needed based on exposure and outcome data and on the risk of both injury and disease as a result of exposure. Such information would have practical use in that it could be used to:

- support the development/revision of the hazardous work list;
- raise the profile of the problem of hazardous child work;
- guide those working in specific occupational sectors and industries.

As a result of this meeting, the ILO launched an important new study in April 2011 to examine more closely the relationship between children's exposure to work hazards and the occurrence of work-related injuries, particularly in developing countries. This study, using data from a large number of specialized child labour surveys conducted during the last ten years by the ILO, will be a first step in calculating global estimates of work-related injury rates by children.

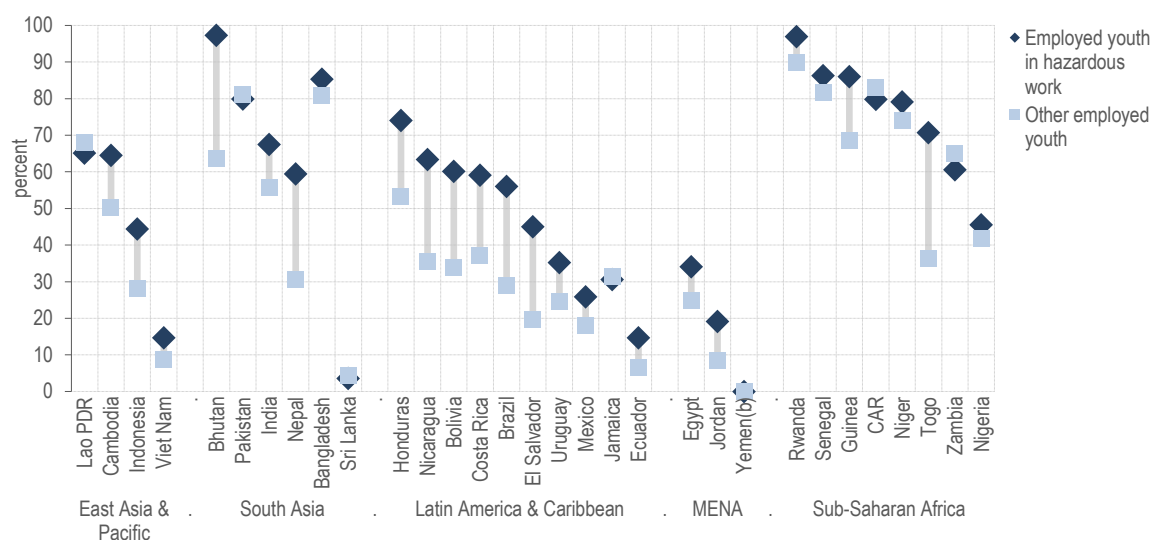
Source: ILO (2011). Children in hazardous work: What we know, what we need to know. International Programme on the Elimination of Child Labour (IPEC), Geneva.

Education

Adolescents in hazardous work appear to have dropped out of school earlier than other employed adolescents, in turn affecting their prospects for upward mobility and for securing decent work in the future. As reported in Figure 13, among those no longer in school, adolescents in hazardous work generally have much lower levels of educational attainment than their peers in other forms of employment. While these simple correlations do not permit an assessment of the causal link between hazardous work and schooling, limited schooling undoubtedly restricts the job options of adolescents and leaves them more vulnerable to hazardous work. This is especially the case if poverty means that these adolescents are unable to "afford" unemployment, and must accept any job available, regardless of its hazardousness.

Figure 13. Those in hazardous work are more likely to have left school early

Percentage of employed adolescents^(a) with primary or less education, by work type (i.e., hazardous or non-hazardous)



Notes: (a) Sample is restricted to those no longer in school.

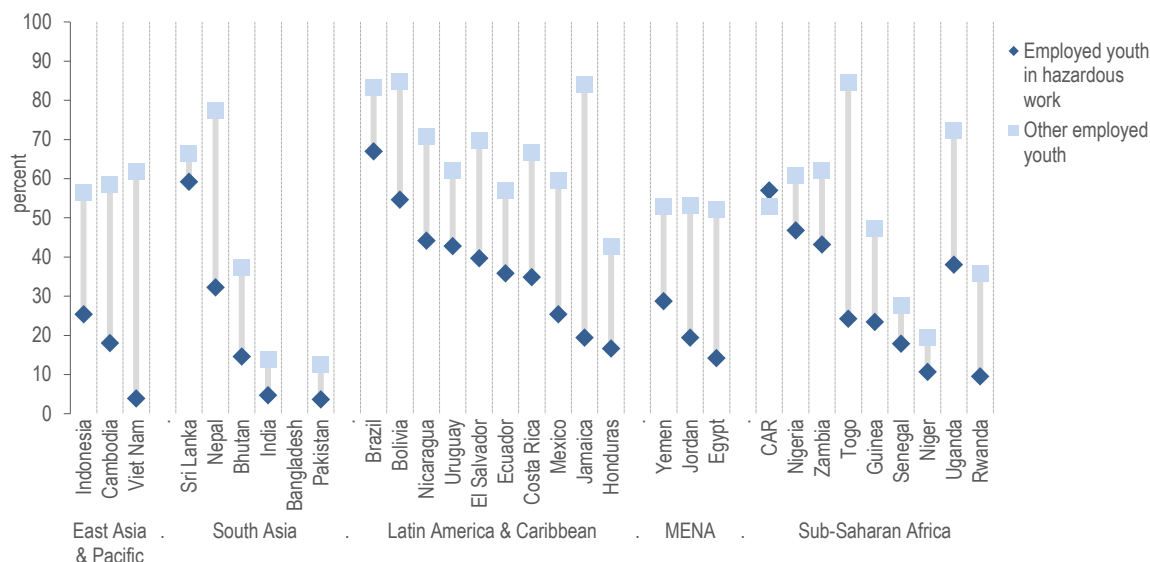
Source: UCW calculations based on national household surveys (for details see Appendix Table A1).

There is no consistent pattern across countries in terms of the relative levels of educational attainment of male and female adolescents in hazardous work, as reported in Appendix Figure A4.

Work and education are not necessarily of course mutually exclusive activities. Many adolescents take an initial job while continuing to invest in their education and to advance their labour market prospects. Adolescents aged 15-17 years in hazardous work, however, appear generally less able to do this than similarly aged adolescents in other employment. As reported in Figure 14, the differences in this regard are often dramatic. In Vietnam, for example, only four percent of adolescents in hazardous work are able to continue with their education against 62 percent of adolescents in other jobs. Similarly in Jamaica, there is a 65 percentage point difference in the education participation between adolescents in hazardous work and adolescents in other employment. In Togo, the difference in education participation between the two groups is 60 percentage points.

Figure 14. Those in hazardous work are much less likely to be continuing with their education

Percentage of employed adolescents aged 15-17 years in education, by work type (i.e., hazardous or non-hazardous) and by country, total

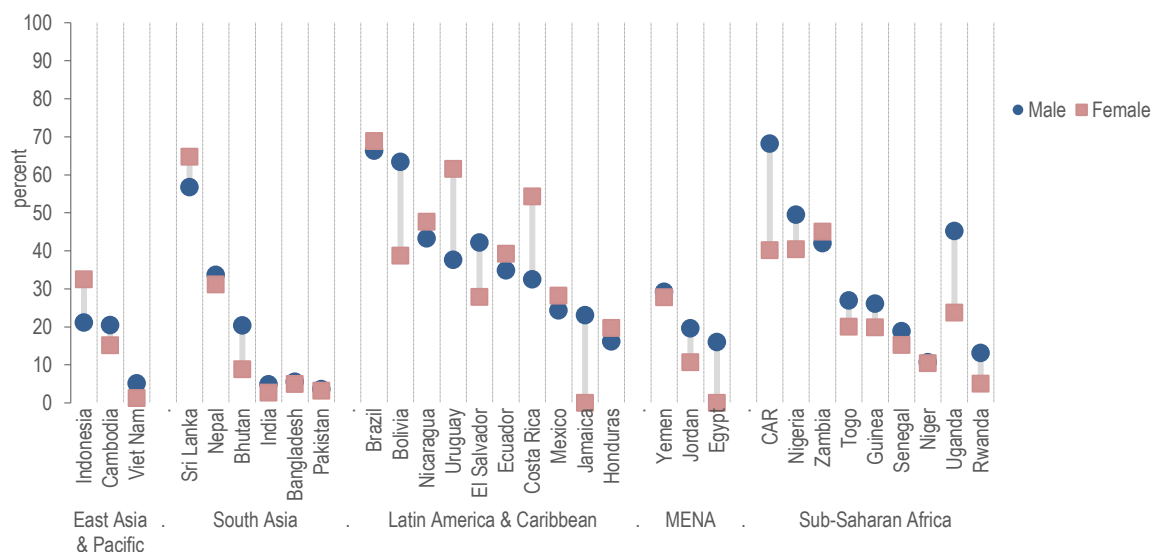


Source: UCW calculations based on national household surveys (for details see Appendix Table A1).

Again, there is no consistent cross-country pattern in terms of the education participation of male and female adolescents in hazardous work. A higher share of adolescent males in hazardous work are in education in 18 countries and a higher share of adolescent females in 10 other countries, while the difference in education participation between male and female adolescents is limited in the remaining three countries (Appendix Figure A5)²².

Figure 15. There is no clear cross-country pattern in terms of the education participation of male and female adolescents in hazardous work

Percentage of out of school adolescents in hazardous work continuing with their education, by sex



Source: UCW calculations based on national household surveys (for details see Appendix Table A1).

²² Less than one percentage point.

6. Addressing adolescents in hazardous work: *the way forward*

The information presented in this Report underscores the urgent need to address hazardous work among adolescents. A total of 47.5 million persons aged 15-17 years are in hazardous work, accounting for 40 percent of all employed 15-17-year-olds and over one-quarter of all child labourers.

It is in the 15-17 years age group that the goals eliminating child labour, addressing the youth decent work deficit and ensuring occupational safety and health intersect most explicitly. In simple terms, it will not be possible to achieve overall child labour elimination without addressing child labour among adolescents. Similarly, 15 to 17 year-olds trapped in hazardous work stand as a major obstacle to achieving decent work for all youth.

Yet, while 15-17 year-olds are clearly of common interest to child labour, youth employment and OSH, this overlapping group is rarely accorded priority attention in efforts in any of these fields. This age group is where there needs to be a concerted effort made to link child labour, youth employment and OSH in practical and effective ways. The ILO Safeyouth@work project, discussed in Panel 5, offers an important model in this regard.

Removing youth from hazardous work in order that they are protected and afforded second chances for acquiring decent work.

In instances in which adolescents in the 15-17 years age range are working in sectors or occupations that are designated as hazardous²³ or where there is no scope for improving working conditions, the policy requirement is clear – they must be removed from the hazardous job. In these instances it is imperative that there is a strategy in place for providing withdrawn youth with adequate support services and second chances for securing decent work.

In the agricultural sector, there is great potential to target 15-17 year olds. Youth at this age are often out of school and are eager to find apprenticeships, training and employment opportunities. Providing these youth with decent employment opportunities that do not expose them to hazards can directly help to prevent child labour.

²³ It is important to reiterate that Convention No. 138 and No. 182 state that the specific types of employment or work constituting hazardous work are determined by national laws or regulations or by the competent authority. When countries ratify Convention No. 182 and Convention No. 138, they commit themselves to determining work to be prohibited to persons under 18 years of age. Article 4 of Convention No. 182 in this context says: The types of work referred to under Article 3(d) [work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children] shall be determined by national laws or regulations or by the competent authority, after consultation with the organizations of employers and workers concerned, taking into consideration relevant international standards, in particular Paragraphs 3 and 4 of the Worst Forms of Child Labour Recommendation, 1999.

Current experience suggests that targeted packages for active labour market policies (ALMPs) are particularly effective in terms of providing withdrawn youth (and other vulnerable youth) with second chances for securing decent work. Many of the elements contained in broader ALMPs, including vocational and technical training, apprenticeships, job search training and support, and entrepreneurial support, are relevant in this context, with the critical difference being that they are tailored to the special needs of this group of particularly vulnerable youth. Not infrequently, adolescents withdrawn from exploitative situations may also need a range of social services: emergency shelter, medical care, psychosocial counselling, legal support, family tracing and assessment and post-reintegration follow-up.

Mitigating risk in order to ensure that youth are not exposed to hazards in their workplace.

Risk mitigation is a strategic option in instances where youth are exposed to hazards in sectors or occupations that are not designated as hazardous in national hazardous work lists and where scope for change work conditions exists. Such a strategy involves measures to remove the hazard, to separate the child sufficiently from the hazard so as not to be exposed, or minimise the risk associated with that hazard. Within existing and potential programmes, there may also be opportunities to change practices/technologies that offer a sustainable solution to occupational safety and health (OSH) concerns for all ages.

The ILO speaks of this as “identifying hazards and reducing risks”. Strategies aimed at improving the working conditions of adolescent workers include various types of protective measures: hours of work can be reduced; work at night, or travel to and from work at night, can be prohibited; workplace policies against harassment can be established and enforced; adolescents can be barred from using dangerous substances, tools or equipment; and adequate rest periods can be provided. OSH standards and policies offer importance guidance in all of these areas.

Especially important in the context of risk mitigation is training and awareness-raising on occupational safety and health for employers and their young workers, master craftspersons and their apprentices, including on adequate and consistent supervision. Another priority is the implementation of adequate monitoring mechanisms. Trade unions, business associations, chambers of commerce, community organizations, social protection agencies – when properly trained and linked with the labour inspectorate – can monitor minimum age guidelines, the safety of the workplace and its adolescent workers.

The institution of a “strategic inspection plan” can be useful in identifying workplace hazards facing adolescents requiring follow-up. Such a plan draws from statistical evidence to direct labour conditions monitoring and compliance resources toward the sectors and occupations where young workers and adolescents are most likely to be found (e.g. agriculture, construction, small-scale manufacturing,

services, etc.). This way, scarce compliance resources can be directed to benefit the most vulnerable worker populations.

Ensuring young persons' rights at work in order that they receive equal treatment and are protected from abuse and exposure to hazards.^{24 25}

Young people continue to suffer disproportionately from decent work deficits and low-quality jobs, measured in terms exposure to occupational hazards and injury or other quality criteria (e.g., working poverty, low pay and/or employment status). Many have limited access to information concerning their job rights, and, particularly for those under the age of 18 years, they can face constraints to participating in unions, cooperatives, etc. Critical to protecting youth from hazardous work are broader national youth employment policies aimed at ensuring that young people receive equal treatment and are afforded rights at work.

The ILC's 2012 resolution identifies a number of key areas that can guide governments and their social partners in developing youth employment policies that are consistent with the provisions of international labour standards. These policies should ensure that young people receive equal treatment and are afforded rights at work.

The enforcement of labour laws and collective agreements should be strengthened, including through a stronger and more effective sanctioning mechanisms, as means to protect young workers and facilitate their transition into stable and decent employment. The development of a coherent wage policy framework that takes account of the observance of minimum wages set by law or collective agreement can give many young people the opportunity to overcome poverty and low-paid work.

Increasing the participation of young people in employers' and workers' organizations and in social dialogue and improving their awareness about young workers' rights – including through modules in school curricula – are key instruments for enabling young people to voice their concerns and for improving the quality of jobs available to them. Promoting the integration of OSH and HCL concerns into the organising and bargaining agendas of trade unions should be another key element of a strategy against hazardous work among youth.

²⁴ A recent learning package to support trade unions, employment services, education and training institutions, as well as youth organizations, in their initiatives aimed at raising young people's awareness of their rights at work, see ILO (2014): *Rights@Work 4 Youth: Decent work for young people: Facilitators' guide and toolkit* (Geneva).

²⁵ Recommendation in this area is adapted from: ILO (2011). *Children in hazardous work: What we know, what we need to know*. International Programme on the Elimination of Child Labour (IPEC), Geneva.

Appendix 1. Data sources

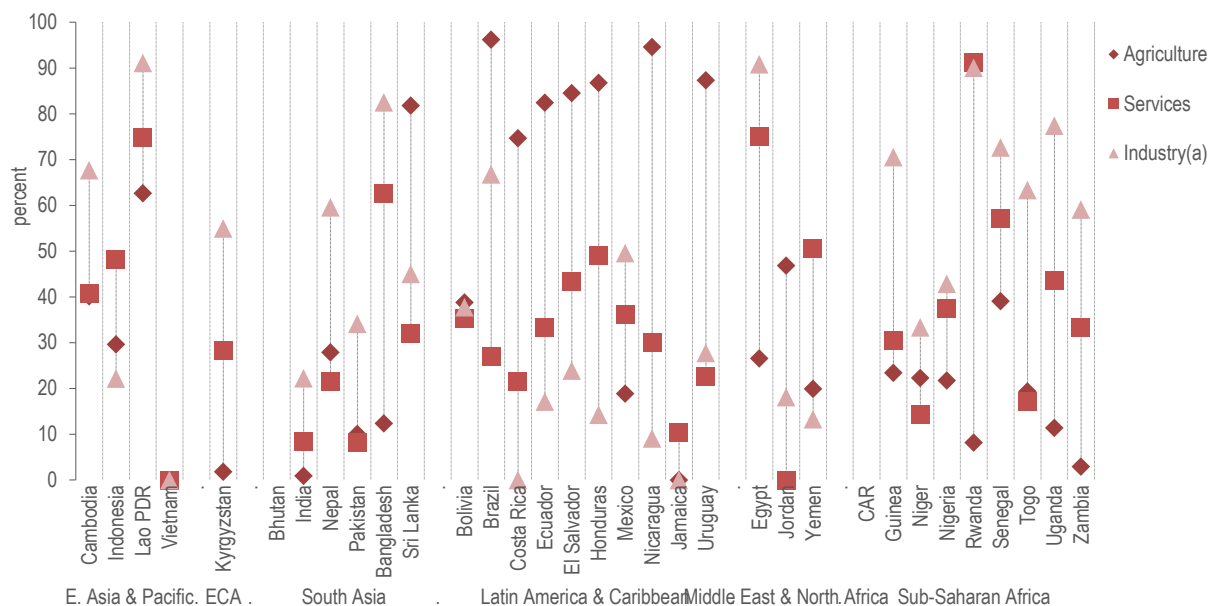
Table A1. Data sources

Region	Country	Survey name	Year
East Asia & Pacific	Bangladesh	School to work transition survey (SWTS)	2013
	Cambodia	Socio Economic Survey (SES)	2009
	Indonesia	Child Labour Survey (SIMPOC)	2009
	Lao PDR	National Child Labor Survey (SIMPOC)	2010
	Samoa	School to work transition survey (SWTS)	2012
	Viet Nam	Multiple Indicator Cluster Survey 4 (MICS)	2010-2011
ECA	Kyrgyzstan	School to work transition survey (SWTS)	2013
	Moldova, Repo of	School to work transition survey (SWTS)	2013
Latin America & Caribbean	Bolivia	Encuesta de Hogares (EH)	2009
	Brazil	Pesquisa Nacional por Amostra de Domicílios (PNAD)	2011
	Costa Rica	Encuesta Nacional de Hogares (ENAHO)	2012
	Ecuador	Encuesta de Empleo, Desempleo y Subempleo (ENEMDU) December	2011
	El Salvador	Encuesta de Hogares de Propósitos Múltiples (EHPM)	2012
	Honduras	Encuesta de Hogares de Propósitos Múltiples (EHPM)	2011
	Jamaica	School to work transition survey (SWTS)	2013
	Mexico	Encuesta Nacional de ocupacion y empleo (ENOE) con modulo de trabajo infantil (MTI)	2011
	Nicaragua	Encuesta Continua de Hogares (ECH)	2010
	Uruguay	Encuesta Nacional sobre las Actividades de Niños, Niñas y Adolescentes	2009
Middle East & North Africa	Egypt	Survey of Young People in Egypt	2009
	Jordan	National Child Labour Survey (NCLS-SIMPOC)	2007
	Yemen	National Child Labour Survey (SIMPOC)	2011
South Asia	Bhutan	Multiple Indicator Cluster Survey 4 (MICS 4)	2010
	India	National Sample Survey Round 66 (NSS-R66)	2009-2010
	Nepal	Nepal Labour Force Survey (LFS)	2008
	Pakistan	Labour Force Survey (LFS)	2010-2011
	Sri Lanka	Child Activity Survey (SIMPOC)	2009
Sub-Saharan Africa	Central African Republic	Multiple Indicator Cluster Survey 4 (MICS 4)	2010
	Guinea	Enquête Nationale sur le travail des enfants (SIMPOC)	2010
	Niger	Enquête Nationale Sur Le Travail Des Enfants -ENTE (SIMPOC)	2009
	Nigeria	Post-Planting Questionnaire for Panel Households (LSMS-ISA)	2010
	Rwanda	National Child Labour Survey (SIMPOC)	2008
	Senegal	Enquete de Suivi de la Pauvrete au Senegal (ESPS)	2011
	Togo	Enquête Nationale sur le travail des enfants - ENTE (SIMPOC)	2009-2010
	Uganda	School to work transition survey (SWTS)	2013
	Zambia	Labour Force Survey (LFS)	2008

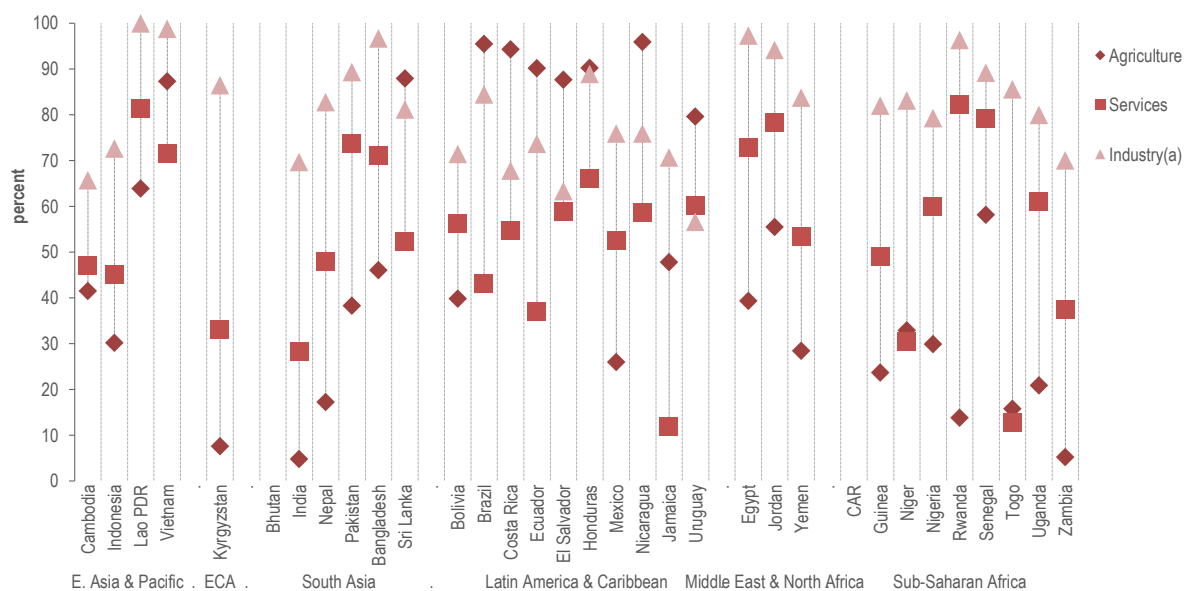
Appendix 2. Additional tables and figures

Figure A1. The jobs by adolescent males are generally more hazardous than those held by adolescent females in each sector

(a) Share of 15-17 year-olds in hazardous work in each sector, by country, female



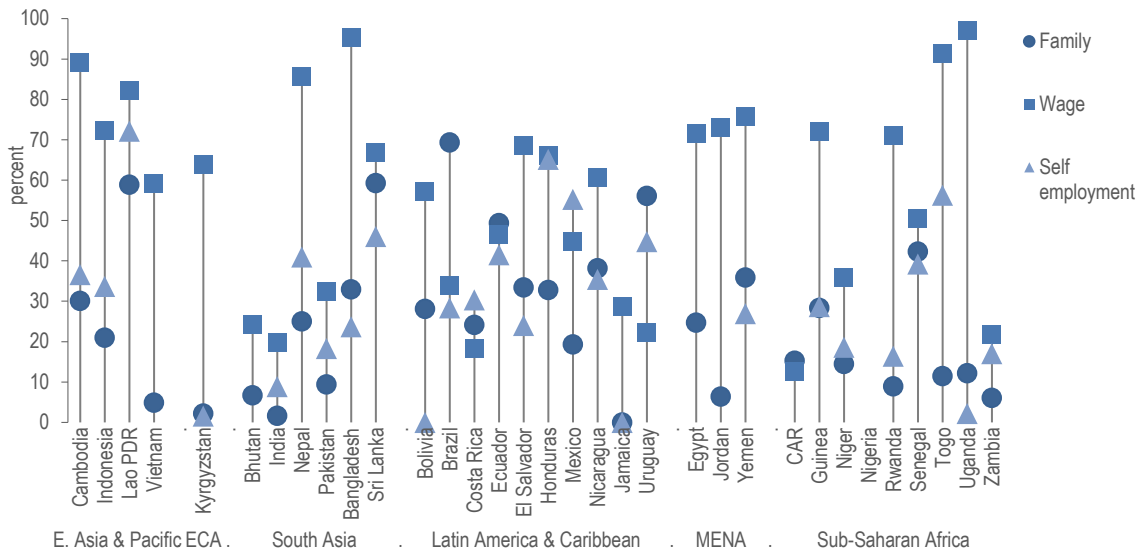
(b) Share of 15-17 year-olds in hazardous work in each sector, by country, male



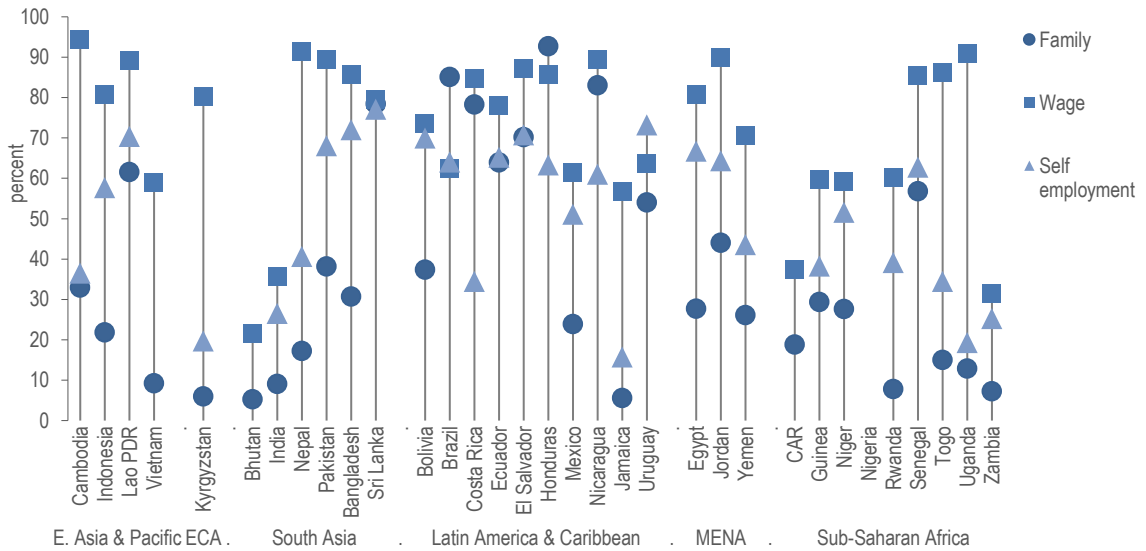
Source: UCW calculations based on national household surveys (for details see Appendix Table A1).

Figure A2. The jobs by adolescent males are generally more hazardous than those held by adolescent females in each status category

(a) Share of 15-17 year-olds in hazardous work in each status category, by country, female



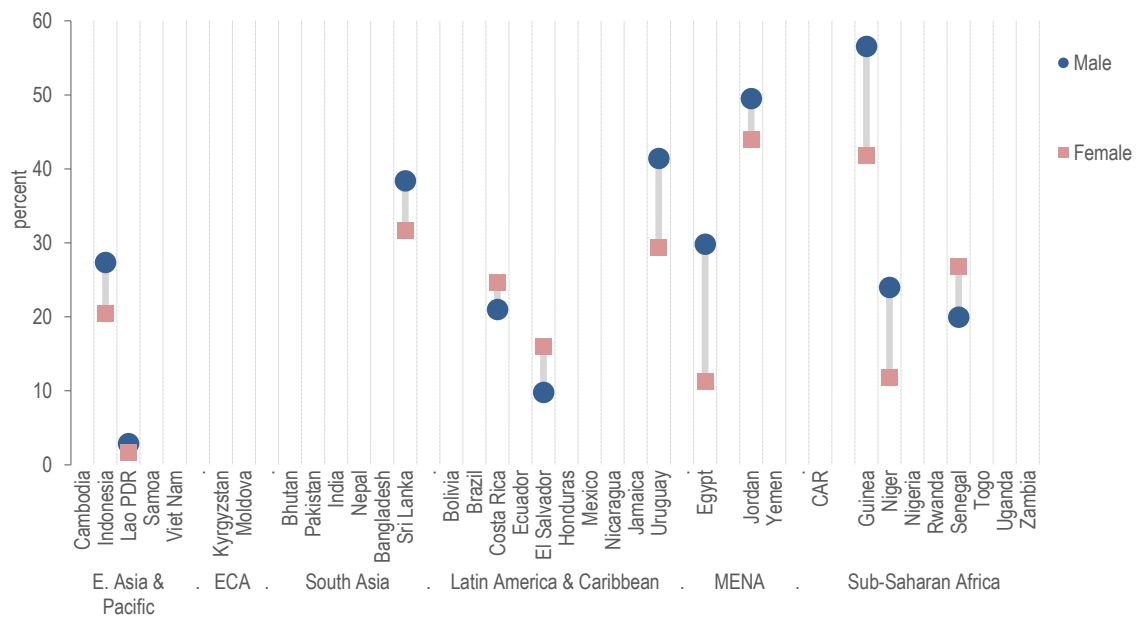
(b) Share of 15-17 year-olds in hazardous work in each status category, by country, male



Source: UCW calculations based on national household surveys (for details see Appendix Table A1).

Figure A3. The hazardous work performed by male adolescents poses a greater health risk in most countries

Incidence of work-related injury or illness among adolescents in hazardous work, by sex

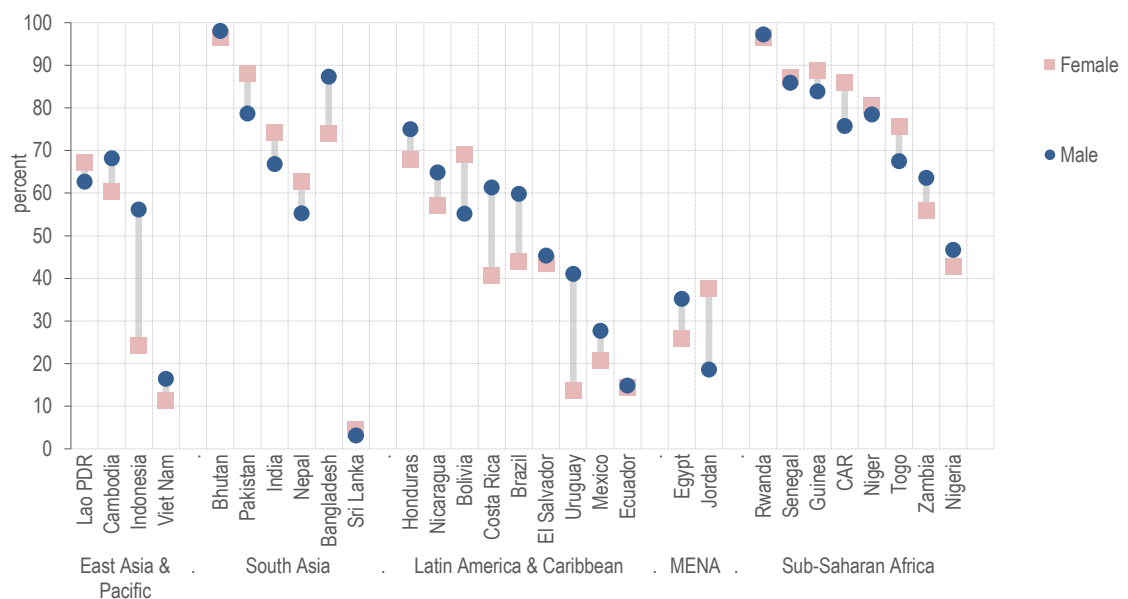


Notes: (a) Industry includes manufacturing, electricity, gas, water, mining and construction.

Source: UCW calculations based on national household surveys

Figure A4. There is no consistent pattern across countries in terms of the relative levels of educational attainment of male and female adolescents in hazardous work

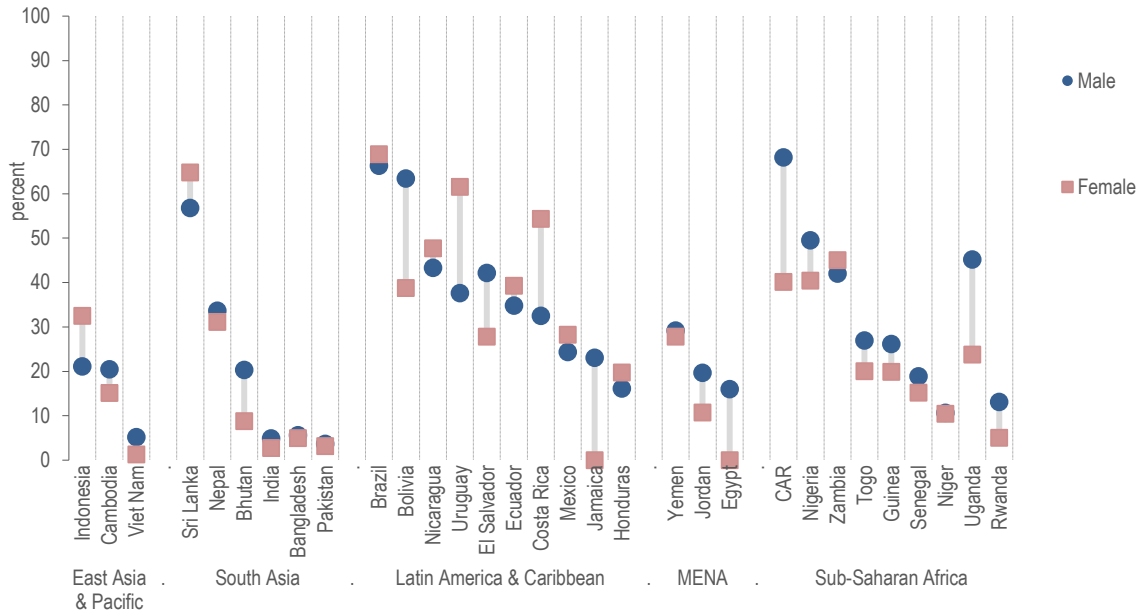
Percentage of out of school adolescents in hazardous work with primary or less education, by sex



Source: UCW calculations based on national household surveys (for details see Appendix Table A1).

Figure A5. There is no clear cross-country pattern in terms of the education participation of male and female adolescents in hazardous work

Percentage of out of school adolescents in hazardous work continuing with their education, by sex



Source: UCW calculations based on national household surveys (for details see Appendix Table A1).