1. INTRODUCTION

1.1 Purpose

Last year, the global community pledged its commitment to put an end to child labor and forced labor when it included their elimination as part of the United Nations (UN) Sustainable Development Goals (SDGs). SDG number eight is “to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all” and Target 8.7 calls for the elimination of forced labor and child labor. Given the urgency of addressing these issues, it is important to frame a strategy for their elimination based on a foundation of evidence. The purpose of this background paper on child labor and forced labor is to provide a general overview of the state of child labor and forced labor research and to begin to identify what research questions need to be asked to strategically fill gaps in response. This paper is divided into the following sections: methodology; international frameworks that guide the research; overview of research; possible future directions.

1.2 Methodology

This literature overview represents the synthesis of a multi-stage process which included 1) searching multiple peer reviewed literature databases 2) reviewing relevant reports from Department of Labor, International Labor Organization, International Organization for Migration, International Initiative for Impact Evaluation, Understanding Children’s Work (UCW), Verité, Human Rights Watch, and UNICEF’s Multiple Indicator Cluster Surveys (MICS) 3) conducting interviews and focus groups with stakeholders from Department of Labor’s (DOL) Bureau of International Labor Affairs (ILAB) staff and grantees as well as academic, NGO, and ILO experts. The resulting aggregated literature on child labor and forced labor is organized into the following categories: descriptive, relational, and causal. Descriptive

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1 Note: the author is responsible for the content of this article, which does not necessarily represent the views of the National Academies of Sciences, Engineering, and Medicine.
literature characterizes the forms and extent of child labor and forced labor. Relational literature explores risk factors for and downstream sequelae of child labor and forced labor. Causal literature describes the impact of an intervention on an outcome relevant to child labor and forced labor. This paper is not meant to serve as a systematic literature review nor a meta-analysis, but rather provide a general overview of the state of child labor and forced labor research.

2. BACKGROUND

2.1 Key Conventions and Definitions on Child Labor

ILO Conventions 138 and 182 set the international framework for defining child labor. The term ‘child labor’ reflects the engagement of children in prohibited work and, more generally, in types of work to be eliminated as socially and morally undesirable as guided by the ILO Minimum Age Convention, 1973 (No. 138), the Worst Forms of Child Labour Convention, 1999 (No. 182) and national legislation. Not all work performed by children is considered ‘child labor.’

Specifically, ILO Convention 138 introduces a distinction between child labor and light work: “National laws or regulations may permit the employment or work of persons 13 to 15 years of age on light work which is—(a) unlikely to be harmful to their health or development; and (b) not such as to prejudice their attendance at school, their participation in vocational orientation or training programs approved by the competent authority or their capacity to benefit from the instruction received (Article 7, section 1).

Under Article 2(3) of ILO C. 138, Minimum Age for Admission to Employment, the minimum age of admission into employment or work in any occupation “shall not be less than the age of completion of compulsory schooling, and, in any case, shall not be less than fifteen.” Countries whose economy and educational facilities are insufficiently developed may initially specify a minimum legal working age of 14 when ratifying the convention. Additionally, under Article 7(1), “National laws or regulations may permit the employment or work of persons 13 to 15 years of age on light work….” Countries that specify a minimum legal working age of 14 years may permit light work for persons ages 12-14 years.

ILO Convention 182 defines the worst forms of child labor as all forms of slavery or practices similar to slavery; the use, procuring or offering of a child for prostitution, the production of pornography, or pornographic purposes; the use, procuring, or offering of a child
for illicit activities; and 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. The last category of the worst forms of child labor is often referred to as “hazardous child labor” and is the most common of the worst forms. Furthermore, ILO Convention 182, Article 4, Recommendation 190 leaves the determination of hazardous forms of work to governments, in consultation with workers and employers. The following are considerations for these entities in making that determination, “(a) work which exposes children to physical, psychological or sexual abuse; (b) work underground, under water, at dangerous heights or in confined spaces; (c) work with dangerous machinery, equipment and tools, or which involves the manual handling or transport of heavy loads; (d) 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; (e) work under particularly difficult conditions such as work for long hours or during the night or work where the child is unreasonably confined to the premises of the employer.

2.2 Key Conventions and Definitions on Forced Labor
ILO Convention 29 defines forced labor as “all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily.” The Abolition of Forced Labor Convention, 1957 (No. 105) supplements Convention 29 by establishing a strict prohibition of recourse to compulsory labor in five specific circumstances: a) as a means of political coercion or education, or as a punishment for holding or expressing views ideologically opposed to the established political, social or economic system; b) as a method of mobilizing and using labor for purposes of economic development; d) as a punishment for having participated in a strike; e) as a means of racial, social, national or religious discrimination.

In 2014, the ILO adopted a new protocol and supporting recommendation regarding Convention 29 on Forced Labor. These instruments aim to advance prevention of forced labor, protections against forced labor, and measures to assist victims such as compensation measures around the world (International Labor Organization; Lu, 2016).

2.3 Definition of Human Trafficking
Human trafficking, or trafficking in persons, is defined in the "Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children" of 2000 (a Protocol to the
United Nations Convention Against Transnational Organized Crime) as "the recruitment, transportation, transfer, harboring or receipt of persons, by means of the threat or use of force or other forms of coercion, abduction, fraud, deception, the abuse of power or a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation." As set out in that Protocol, exploitation includes, at a minimum, "the exploitation of the prostitution of others or other forms of sexual exploitation, forced labor or services, slavery or practices similar to slavery, servitude or the removal of organs" (United Nations, 2000).

3. LITERATURE OVERVIEW

3.1 Child Labor

3.1.1 Descriptive

The ILO, in collaboration with national governments and organizational partners, has supported rapid qualitative assessments of child labor, sectoral child labor surveys, and more than 90 national child labor surveys, and has developed four sets of global estimates on working children since 1995. Child labor is currently felt to affect over 168 million children, with a predominance in sub-Saharan Africa and Asia. Notably, this number reflects a decrease in child labor over the 2000-2012 time period (Diallo et al., 2013; International Labour Organizaiton, 2008a, 2008b; International Labour Organization, 2013a; The World Bank, 2016; UNICEF, 2016; Valdivia, 2015).

The main data sources for country estimates on children’s work are from household surveys from ILO Statistical Information and Monitoring Programme on Child Labour (ILO’s SIMPOC), UNICEF’s Multiple Indicator Cluster Survey (MICS), and the World Bank’s Living Standards Measurement Survey. National estimates on the scope of child labor vary, due to the fact that they are synthesized from heterogeneous datasets, with different purposes, and different definitions (Castro, 2010; International Labour Organization, 2012). Moreover, the frequency of data collection differs from country to country; for example many Latin American countries and the Philippines regularly collect data on the scope and types of child labor (United States Department Of Labor’s Bureau Of International Labor Affairs, 2014).
Recognizing the need for standardized data measurement, the International Conference of Labor Statisticians (ICLS) developed standards for the collection and analysis of national child labor statistics (Understanding Children’s Work, 2016).

The 2008 Resolution on Child Labor Statistics of the International Conference of Labor Statisticians contains guidelines for the measurement of child labor. According to the Resolution, working children (children in employment) are those engaged in any economic activity for at least one hour during the reference period. Economic activity includes market production and certain types of non-market production (principally the production of goods and services for own use). The work children perform may be in the formal or informal economy, inside or outside family settings, for pay or profit. This includes children working in domestic service outside the child’s own household for an employer (paid or unpaid) (ILO, 2009, 2013). Children in child labor are a subset of working children. Child labor includes employment below the minimum age as established in national legislation (excluding permissible light work) and the worst forms of child labor. Child labor is thus a narrower concept than children in employment, as child labor excludes children who work only a few hours a week in permitted light work and those who are above the minimum age who engage in work not classified as a worst form of child labor (ILO, 2008, 2013). The ICLS Resolution also encourages governments to consider including hazardous household chores when developing estimates of child work, child labor and hazardous child labor. Although household chores are not considered economic activities, the ICLS suggests that hazardous household chores constitute a worst form of child labor, and therefore should be counted in estimates of children’s work. There is no universal method for measuring hazardous work or hazardous household chores; it varies by country, based on ILO Recommendation No. 190 accompanying ILO Convention No. 182 on the Worst Forms of Child Labor. This lack of global standardization poses a challenge for the development of comparable estimates (Fors, 2012; Lorenzo Guarcello and Scott Lyon, 2015). Furthermore most measurements of child labor count only that labor which is an “economic activity” which results in undercounting of unpaid labor, such as household work, largely performed by females (Guarcello et al., 2006; Koseleci and Kovrova, 2009; Scott and Valdivia, 2010; Scott Lyon, 2013; Understanding Children’s Work, 2010; UNICEF, 2016).
Child labor estimates are becoming more robust over time, improving in detail and accuracy, including for sector specific trends and common forms (Fassa et al., 2010; International Labour Organizaiton, 2016b; United States Department Of Labor’s Bureau Of International Labor Affairs, 2014a, 2014b). Children are working in a broad spectrum of industries across the globe, with the highest proportions in agriculture, with others found in sectors such as hunting, forestry, fishing, services, the industrial sector and manufacturing (Edmonds, 2007; Hurst, 2007; International Labour Organization, 2003, 2011; International Programme on the Elimination of Child Labour, 2006, 2013). Most children work as part of household income generation efforts, often alongside their parents (Khakshour et al., 2015; United States Department of Labor’s Bureau of International Labor Affairs, 2014).

3.1.2. Relational

Factors that increase the likelihood of child labor include poverty, discrimination, urbanization, shocks (particularly crop failure), lack of access to education, migration, and incomplete social protection systems (Basu and Van, 1998; Bourdillon, 2006; David L. Parker et al., 2010; Furio C. Rosati, 2010; Goel et al., 2012; Guarcello et al., 2008b; Guarcello et al., 2008c; International Labour Organization, 2013b; Manacorda and Rosati, 2007; van de Glind and Kou, 2013). There is also growing information on the deleterious effects child labor has on health and education.

Broadly speaking, child labor is associated with health risks, including adolescent mortality, and infectious diseases (Nafees et al., 2012; Roggero et al., 2007). While causal associations between health outcomes and child labor are not clearly established, some sector specific health risks include: 1) mining: respiratory problems; 2) manufacturing: dangerous machinery, noise, chemical substances, awkward postures, repetitive movements, and heavy loads; 3) commercial sex: leading to substance use disorders and HIV/AIDS in some; and 4) child soldiering: exposure to the trauma of the battlefield (Amorim and Osseiran, 2010; Ayub and Parker, 2010; David L. Parker and Lisa Ide, 2010; Fassa, 2010; Fassa, 2003; Forastieri, 2002; International Labour Organization, 2011; Osorio, 2010). In some sectors, gender differences are emerging, with girls experiencing a double burden of exposure to both the hazardous conditions at work as well as the need to meet household domestic chore responsibilities (International Labour Organization, 2007).
Child injury rates appear to be as high as or higher than adults’ in similar industries, but their severity, as measured by fatalities or the need for surgery, is lower on average (Dorman, 2008). There is a growing understanding of industry, context, and task-related hazardous occupational exposures and health outcomes among laboring children (Gamlin et al., 2015; International Labour Organization, 2011). For example, data from the Philippine Survey of Children 2001 demonstrated that children working in agriculture had a fivefold risk of non-fatal injury relative to children working in other industries (construction work, manufacturing, service, etc.) and that the use of tools was most predictive of the occurrence of non-fatal injury (Castro and Hunting, 2013). A Brazilian study showed that tools and chemical products were associated with work-related injury for children (Kassouf and Hoffmann, 2006).

Other research explores a delayed effect of child labor on mental health and physical health (Rosati and Straub, 2006). For example, analysis of the Vietnam Living Standards Survey, 1992–93 and 1997–98, showed an initial healthy worker selection effect, i.e. that those who are healthier are the ones who work and are less likely to experience contemporaneous negative impacts from child work on health. However, for females, work undertaken during childhood raised the risk of illness up to five years later and for boys, the risk increased with duration of work (Furio C. Rosati, 2010; O'Donnell et al., 2005). Other studies have not found a long-term adverse effect on health especially when controlling for education (Edmonds, 2007; O'Donnell et al., 2002). Overall, the mental health, social/intellectual development (PSID), and developmental outcomes associated with child labor are poorly understood (Edmonds, 2010; Fekadu et al., 2010; Susan Gunn et al., 2010).

Child labor has an unclear effect on time spent on education, but overall it is understood that those who work outside the home, also end up working inside the home, leaving less time to spend on their education. Work also has an unclear effect on school achievement levels (Edmonds, 2007). Some data points towards earlier initiation of work associated with future lost wages (Fors, 2012).

3.1.3 Causal

In order to combat child labor, many policy and programmatic interventions have been implemented, including awareness raising, improving access to quality education, and social protection programs (De Hoop and Rosati, 2013; International labour Organizaiton, 2014a;
International Labour Organization, 2011, 2012c; Onyango, 2010). But what is the impact of these programs on child labor and child wellbeing?

Programs that improve the overall availability of jobs for adults in families, or supply side interventions, may lead to a decreased need for children to work outside the home and increase participation in education; however it may increase child work in the home due to displacement effects (Hoddinott et al., 2009; Juras, 2014; Shah and Steinberg, 2015).

One well-known social protections tool used to combat child labor is conditional cash transfers (CCTs), which financially incentivize (via vouchers, scholarships, etc.) the family unit to send children to school. They are meant to decrease a child’s likelihood to work because of household income, substitution, and displacement effects (Angrist et al., 2002; Behrman et al., 2011; Edmonds and Schady, 2012; Ferreira et al., 2009; Ferro et al., 2010; Kassouf, 2010; Ravallion and Wodon, 2000; Rawlings and Rubio, 2005; Yap et al., 2009). Early research seemed promising, however later studies show effects may be short-lived; sometimes resulting in unintended consequences such as task shifting; may only work for certain age groups or genders; or may simply be ineffective at reducing child labor (Covarrubias et al., 2012; de Carvalho Filho, 2012; De Hoop and Rosati, 2014; Del Carpio and Loayza, 2012; Del Carpio and Macours, 2009; Duryea and Morrison, 2004; Edmonds, 2007; Edmonds and Shrestha, 2014; Heinrich and Cabrol, 2005; Kazianga et al., 2009, 2012; Olinto P, 2005; Olken et al., 2011; Paruzzolo, 2009; Sparrow, 2007). Few studies have looked at the effects of CCT on the worst forms of child labor (Edmonds and Shreshta 2014). Moreover, results are shaped by design, including quality of educational options available, with some studies showing that just increasing the quality of school decreases child labor itself (Andisha et al., 2009; Guarcello and Rosati, 2007; Miller and Tsoka, 2012; Rossi and Rosati, 2007). Furthermore, CCTs may be more effective when they are a portion of a multi-faceted intervention which includes supply side interventions, such as Mexico’s PROGRESA (Skoufias et al., 2001).

Other social protections tools enhance the schooling experience as a strategy to reduce child labor. Providing meals in accessible ways in exchange for education may reduce child labor (Kazianga et al., 2012; Ravallion and Wodon, 2000). The presence of pre-schools show promising results (Martinez et al., 2012). However a combination intervention which provided
meals, textbooks, and new schools in Burkina Faso had no effect on work outside the household for females (Kazianga et al., 2014).

Other social protections models such as securing property land rights show promise (de Moura and da Silveira Bueno, 2010; Moura et al., 2009; Field, 2002). Microcredit loans interventions have mixed outcomes, including increased or decreased child labor and decreased school attendance depending on the study (Augsburg et al., 2015; Islam and Choe, 2013; Khadka, 2009; Shimamura and Lastarria-Cornhiel, 2010). A decrease in child labor was seen as a result of microcredit loans in rural Ethiopia and Morocco (Crépon et al., 2015; Tarozzi et al., 2015; Wydick, 1999). Notably, households which have an increase in household income through remittances may have lower rates of child labor (Coon, 2016).

Policy efforts which do not account for the social and cultural contexts in which children’s work takes place may have unintended consequences (Edmonds, 2007; Fivat, 2008; Lee, 2010; Rosati et al., 2011). Supply chain, consumer boycott and product labeling efforts show promise, but also may have unintended consequences of increasing adult forced labor (Edmonds, 2007; Smith, 2010).

### 3.2 Forced Labor

#### 3.2.1 Descriptive

As of 2012, the ILO reports that almost 6 million working children were exploited in forced labor and just over 15 million adults were also victims of forced labor (International Labour Organization, 2012b). Rigorous methodologies to measure forced labor, conduct forced labor surveys, and develop global forced labor estimates are in ongoing development (Andrees and Van der Linden, 2005; International Labour Organization, 2012a, 2012b). The ILO through the ICLS, has begun developing standards for the collection and analysis of national forced labor statistics (International Labour Organization, 2015).

Forced labor typically occurs in industries such as construction work, services, agriculture, and fishing, sectors which are often under-regulated and underpaid. It also occurs in industries such as electronics and mining, that have various sub-sectors that are often under-regulated and underpaid. Forced labor occurs in commercial sex as well, which is an underground activity (Buller AM et al., 2015; United Nations Office on Drugs and Crime, 2012; Verité, 2014, 2015a).
3.2.2 Relational
General risk factors for forced labor are still being elucidated, but appear to be similar to those which drive child labor including poverty, migration, corruption, lack of freedom of association, and shocks (Andrees and Belser, 2009; International Labour Organizaiton, 2014b; International Labour Organization, 2015; Verité, 2015b, 2016a, 2016b). Recently, more research has focused on understanding unique country and sector specific risk factors for forced labor, for example, the electronic industry in Malaysia (Verité, 2016b).

The health risks and outcomes related to forced labor are based on both a combination of occupational exposures (which vary with sector and task) as well as living conditions, and are both mental and physical in nature (Ottisova et al., 2016).

3.2.3. Causal
While numerous NGOs across the globe are working to combat forced labor through a variety of means, including decreasing demand for forced labor, reducing individual vulnerabilities, rescuing those in forced labor, supply chain efforts, awareness campaigns, community empowerment, microfinance schemes, vocational training, very little is known about “what works” to mitigate risk for forced labor, and programmatic and policy impact studies are virtually nonexistent (The Freedom Fund, 2016). A recent awareness campaign in Nepal showed promise in increasing general population level understanding of trafficking, but showed gaps in individuals understanding their own community’s risk for trafficking (Archer et al., 2016).

4. LOOKING FORWARD

Looking forward
There are many unanswered questions in the field of child labor and forced labor. Tackling child labor and forced labor requires a multidisciplinary response; however much of the data and agenda-setting has come from the economics field as opposed to public health and the current literature reflects this imbalance.

4.1 Descriptive
The scope of child labor and forced labor are still poorly understood, as national level estimates are not universally robust. More needs to be understood about specific sectors, stratified by gender and race. Broadly speaking regions such as Asia and Africa have the least accurate
estimates, and are the least frequently updated (Andrees and Van der Linden, 2005; Guarcello et al., 2008a; Guarcello et al., 2010; Guarcello et al., 2007; Lyon and Valdivia, 2010). In terms of child labor, there is a lack of information about all worst forms of child labor, specific tasks children do, and specific industries in which they work.

Current methodologies used to create global estimates include probability sampling, capture-recapture, multiple systems estimation, network sampling, snowball sampling, adaptive cluster sampling, respondent-driven sampling, and time-space sampling. Each shows promise, but have limitations. In order to improve our understanding of the scope of child labor and forced labor, methodologies must be sensitive to cultural norms, ethical and contextual issues in survey design and implementation, including the respondent’s gender and household role. (Brunner, 2015; Feingold, 2010; Gallagher and Chuang, 2012; Gould, 2010; Howard, 2014; International Labour Organizaiton, 2011, 2016a; Silverman and FAcSS, 2014; (M., 2012), Zhang, 2012, 4.2 Relational

On a global political level, more needs to be understood about the role of freedom of association and access to quality education and risk for child labor and forced labor. Exploring the role of child labor and forced labor in relation to other development goals, such as mitigating malaria has possible synergies. Climate change, humanitarian crises, and disease outbreaks and their relationship to forced labor and child labor are poorly understood. Little is understood about how employers make decisions about employing child labor or forced labor. The role of child agency and decision making in entering employment, and how that changes over time needs further investigation (Fors, 2012). Understanding the most likely causes of morbidity for each major occupation would enable baseline data collection, allowing for future evaluations. Protective factors against child labor and forced labor should be explored.

For child labor, specific risks based on sector, task, context, and tool need to be better understood, particularly around what is hazardous (David L. Parker et al., 2010; Dorman, 2008; O'Donnell et al., 2002). And these risks should be elucidated across the lifespan, including health outcomes based on exposure to hazards at specific doses and durations, during particular developmental ages, including adolescence. Moreover, latency must be considered, i.e. there may be a much delayed health effect to exposures to certain harmful chemicals such as lead and mercury. In general, little is understood about decent work conditions and practices for youth 15-
17. Standardized national survey questions on physical and psychological health, including risks and outcomes, should be based on evidence. They should first be validated, and then recommended for inclusion in national surveys, including the 15-17 age group. Other variables which are critical to explore for children are: fatigue-generating factors, number and types of tasks, family presence, schooling, and nutrition, and migration.

4.3 Causal

Intervention research should be grounded in theories of change and conceptual frameworks. More thought should be given to interventions at the broader household level; as opposed to interventions that target a decrease in adult forced labor and may unintentionally lead to child labor. The long-term sustainability of interventions, including conditional cash transfers and microsavings, requires further study. The impact of education-incentivizing interventions should be analyzed based on whether the home has working-only children or children engaged in a combination of school and work. Creative solutions such as alternative income generation in the home should be studied. More consideration should be given to the impact of activities on domestic work, especially for females.

It may be helpful to understand the impact of “natural” policy experiments, such as the Bolivian child labor law. Investigating the impact of education of parents on child labor policies and work hazards could be considered (Runyan, et al, 2009). More should be elucidated regarding the sustainability and feasibility of community-based interventions. For migrants, the risk and protective elements of documents such as visas, and the role of pre-departure trainings should be explored. Finally, we need to understand the incentives faced by the implementing agents.

Overall, research for child labor and forced labor requires more refined sampling, more appropriate control groups, and more accurate identification and monitoring of mental and physical hazards and outcomes over longer periods of time. Research should be grounded in strong conceptual frameworks, and informed by the communities being studied. Furthermore, in order to improve the multidisciplinary exchange of ideas among practitioners and academics, a shared information platform should be created.


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