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IMPORTANCE OF BEHAVIOR BASED SAFETY: A STUDY ON CHILD LABOR WORKING IN AUTO MOBILE SECTOR

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ABSTRACT

Child labor is an important global issue associated with poverty, inadequate educational opportunities, gender inequality, and a range of occupational risks for not maintaining workplace safety. Most child laborers begin working at a very young age, are malnourished, and work long hours in hazardous occupations. They are exposed to severe physical and health hazards as well as accidental events mainly due to their unawareness about safety and unsafe behavior. This study aim was to find out the risk factors involved in auto-mobile sector for child labor working in Dhaka City, to sort out the type of accident and diseases occurs in this sector that is alarming for their health, to explore whether those accidents and health problems related with their unsafe behavior and to identify the effectiveness of practicing behavior based safety in this sector especially for child labor. The paper produces the findings on different important differentials of the child labour, such as- demographic features of child labour, nature of their works, risk factors that are involved with their living conditions and working environment, types of diseases and accidents and unsafe behaviours lead to accidents and health problems.

KEYWORDS

Behavior based safety, Child labor, Hazardous work, Safety culture, Work safety.

INTRODUCTION

Child labor was (based on ILO Conventions Nos. 138 and 182) defined as:

- all children aged 5-11 who are engaged in economic activity;
- all children aged 12-14 who are engaged in economic activities except those doing light work (less than 14 hours a week, to the exclusion of all hazardous work and other worst forms of child labour); and
- all children aged 15-17 in hazardous work (including working 43 hours or more in a week) and other worst forms of child labour.

Intolerable forms of child labor, as categorized by the International Labor Organization (ILO), are domestic service, slavery or near slavery, hazardous occupations, and sexual exploitation. All of these forms are practiced in Bangladesh. On September 26, 1999 the Bangladesh Minister of Labour and Manpower told a news conference that the "government has plans to eliminate child labour completely by 2005". Earlier, in 1995, the Bangladeshi Garment Manufacturers and Exporters Association, the International Labour Organisation (ILO) and UNICEF signed an agreement to "remove all child labourers from the garment sector". But the facts and figures speak otherwise. Child labour is not disappearing from Bangladesh but is on the increase. According to a 1989 labour force survey in Bangladesh, 6.1 million children aged between 5 and 14 were economically active. Now, the UNICEF survey indicates, the number has increased to 6.3 million, representing 30 percent of the child population in the same age group.

The Bangladesh Today reported on June 21, 2008, that around 1.3 million children are engaged in risky jobs. According to UNICEF's *Asian Child Labour Report (1999)*, there are some 40 industries in Bangladesh which use child labour, often under hazardous conditions and with little regard for health and safety. Children have been injured while engaged in underground mining, in maritime work and while operating or cleaning machinery in motion. Child workers are regularly exposed to dangerous levels of dust, gases, fumes, heat and noise. Muscular-skeletal and respiratory-related ailments are common among child labourers. So it is also a great concern for policy makers to reduce hazard to ensure workplace safety so that children can be safe physically and mentally by eliminating accidental incidents in their workplace.

WORKPLACE SAFETY

Workplace safety is a process that seeks to eliminate or reduce risks of injury or illness to employees. The chief aim of workplace safety is to protect an organization's most valuable asset—its people. Workplace safety is achieved through a variety of methods, including policies, procedures and specific hazard control techniques. Most of the researches indicated that workplace safety can be highly maintained by behavioural based safety. Because although difficult to control, approximately 80-95 percent of all accidents are triggered by unsafe behaviors, which tend to interact with other negative features (termed Pathogens) inherent in workflow processes or present in the working environment.

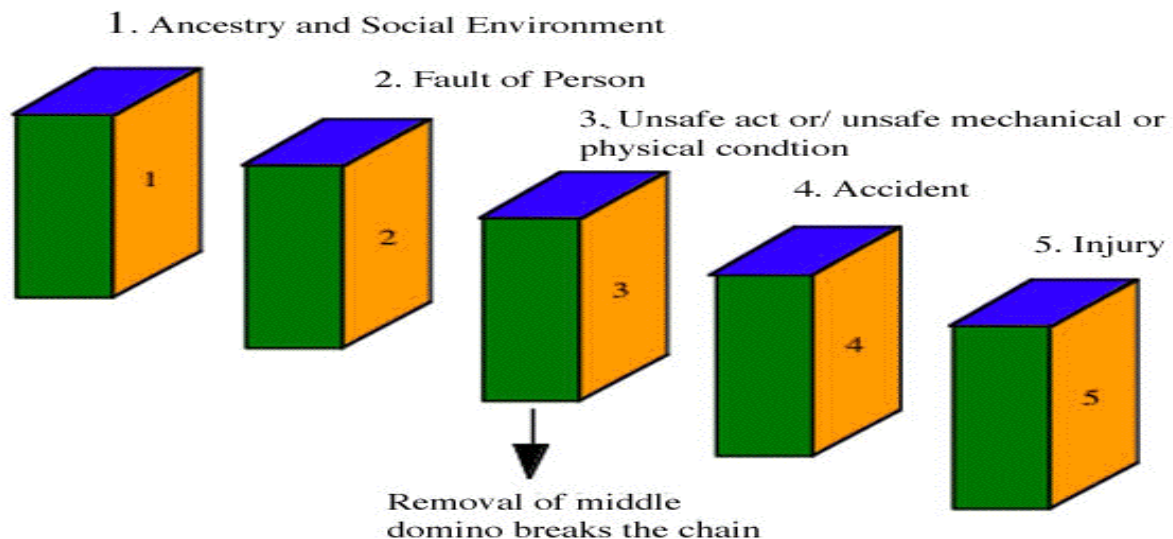
BEHAVIOR BASED SAFETY

Behavioural based safety is a scientifically-based set of strategies designed to help front-line workers engage in safe behaviors more consistently. It involves observations (usually peer-to-peer), real-time feedback and recognition for improvement.

THEORITICAL PERSPECTIVES AND LITERATURE REVIEW

People often behave unsafely because they have never been hurt before while doing their job in an unsafe way: 'I've always done the job this way' being a familiar comment. This may well be true, but the potential for an accident is never far away as illustrated by various accident triangles. Heinrich's triangle, for example, suggests that for every 330 unsafe acts, 29 will result in minor injuries and 1 in a major or lost time incident. Heinrich demonstrated his theory similar to five dominoes placed end-on-end. Knocking over one creates each domino to topple in turn.

FIGURE 1: FIVE DOMINOES ACCORDING TO HEINRICH TRIANGLE THEORY



Source: Heinrich (1959)

Heinrich hypothesised that removing one thus breaking the knockdown sequence could alter factors in an injury-accident. Essentially to prevent 'loss', remove the unsafe act or the unsafe condition (Taylor 2001). Heinrich theorised that modifying human error, given the basis that some worker traits are careless or carefree, can reduce injury because, that the actors have the ability to choose between safe and unsafe acts. Given 'man and machine and/or energy' co-exist and do not act separately; engineering solutions should be designed to relieve cognitive human weakness. (Gibson 1961).

According to B. F. Skinner's reinforcement theory, over an extended period of time, therefore, the lack of any injuries for those who are consistently unsafe is actually reinforcing the very behaviours that in all probability will eventually lead them to be seriously injured. The principle being illustrated here is that the consequences of behaving unsafely will nearly always determine future unsafe behaviour, simply because reinforced behaviour tends to be repeated.

Although it is not unusual to find the continuation of unsafe behaviors being supported by more than one reinforcer, some will exert stronger effects on peoples' behavior than others. This is particularly the case for reinforcers that are soon, certain and positive. Smokers, for example, find it hard to stop because the consequences of smoking are soon (immediate), certain (every time) and positive (a nicotine top up), whereas the negative consequences (e.g. lung cancer) are late (some years away) and uncertain (not every smoker contracts or dies from lung cancer). In exactly the same way, employees will find it hard to follow certain safety rules and procedures if they are consistently (certain) rewarded by an immediate (soon) timesaving that achieves extra production (positive) by behaving unsafely.

In some instances, the actual workflow process also reinforces peoples' unsafe behavior. Unsafe behavior is sometimes further reinforced by managers turning a blind-eye, or actively encouraging employees to take short-cuts for the sake of production. Unfortunately, this has negative effects that are not always immediately apparent: First, employees learn that unsafe behavior pays; Second, it wastes resources as the very behaviors that companies spend a lot of time, money and effort trying to eradicate are reinforced; and third, by condoning unsafe behavior, line managers are transmitting conflicting messages that undermines employee's confidence in the whole of management's commitment to safety.

Researchers from around the globe have consistently reported positive changes in both safety behaviour and accident rates, regardless of the industrial sector or company size. These include studies conducted in construction, mining, engineering, bakeries, food processing, manufacturing, oil & gas, shipbuilding and others (McAfee & Winn, 1989 & Sulzer-Azeroff et al., 1994). Positive results have also been obtained by the author and colleagues over the last decade in many sectors of the UK, Irish and US economies, such as Construction (Duff et al., 1993), Manufacturing (Cooper et al., 1994), Chemicals, Pharmaceuticals, Paper, Foods, Steel, Paints and Offshore Oil & Gas. Typical results include:

1. 40-75 percent reductions in accident rates and accident costs year on year
2. 20-30 percent improvements in safety behaviour year on year
3. Greater workforce involvement in safety
4. Better communications between management and the workforce
5. On-going improvements to safety management systems
6. Improved safety climates
7. Greater 'ownership' of safety by the workforce
8. More positive attitudes towards safety
9. Greater individual acceptance of responsibility for safety.

Based on extensive scientific research examining BBS Process designs & Safety Leadership and their impact on incident rates, National Safety Council Led by world-renowned Scott Geller, has developed a comprehensive Behavioural Safety Maturity Ladder. Reflecting the research findings, the Behavioural Safety Maturity Ladder shows that increasing ownership and coverage leads to greater injury reduction. Each level has been shown to exert an ever-increasing impact on injury rates.

FIGURE 2: BEHAVIORAL SAFETY MATURITY LADDER



Source: Scott Geller, National Safety Council

RATIONAL OF THE STUDY

Bangladesh is one of the poorest countries in the world with about 45 million “very poor” people, (as measured by the Cost of Basic Needs method). In 1996, 48 % of the people of Bangladesh did not consume enough food to obtain their minimum caloric intake recommended for good health, and thus were below what is called the absolute poverty line in most countries. In 1997, 59.3 % of children ages 6 to 59 months suffered from stunting, a long-term nutritional indicator of poverty. This grinding poverty has forced many families to put their children to work at a very young age. It may be stated that child labor, as it is today, cannot be completely eliminated unless the economy of the country is developed creating job opportunities for the vast majority of its adult work force. It is believed that poverty alleviation is a pre condition to elimination or at least minimization of child labor. In other words, child labor is such a major chronic economic issue in Bangladesh that it cannot be stopped simply by a piece of legislation; rather it can be eliminated only by adoption of suitable long term economic measures. In these circumstances, this present study tries to focus on practicing the behaviour based safety issues that may help to ensure at least the hazard free working environment by developing safety culture. It may help to build awareness to reduce the risks in workplace and to decrease accident rate so that we can save our child life.

RESEARCH QUESTIONS

The present study gives rise to some question. Such as-

- What are the risk factors involved in auto-mobile sector for child labor?
- Which type of accident and diseases occurs in this sector that is alarming for their health?
- Are those accidents and health problems related with their unsafe behavior?

OBJECTIVES OF THE STUDY

The objectives of the present study are as follows-

- To find out the risk factors involved in auto-mobile sector for child labor working in Dhaka City.
- To sort out the type of accident and diseases occurs in this sector that is alarming for their health.
- To explore whether those accidents and health problems related with their unsafe behavior.
- To identify the effectiveness of practicing behavior based safety in this sector especially for child labor.

METHODOLOGY

POPULATION SIZE

Based on statistics given by International Labor Organization (ILO), in 2002-03, the estimate of child labor was put at 3.2 million. (These are 19.1% of the 34.4 million children between the ages of 5-14 years) Children were found to work in 200 types of activities, of which 49 were identified as being particularly hazardous as they harmed children’s physical and mental well-being. Auto-mobile sector is one of the most hazardous sectors among them.

SAMPLE SIZE

In this study a sample of 150 working children was interviewed from different sites and locations of the Dhaka City corporation like- New market, Dholaikhal, Hazaribagh, Lalbagh, Mohammadpur, Mirpur, Dhaka University area and from some other places. Considering the facts and requirements of the study it was ensured that all of them are belongs the age under 18 and working in auto-mobile sector.

SAMPLE SELECTION TECHNIQUES

At present, dependable, comprehensive and up-to-date information on child labour working in auto mobile sector in Bangladesh are not available. So choice of sample design was very much limited. There was also severe financial and time constraint too. Under the circumstances it was compelled to use convenience sampling technique, in which I choose the child labours that are belongs the age under 18 and working in auto-mobile sector.

DATA COLLECTION METHOD

To examine the research questions both primary and secondary data obtained from different sources.

Primary Data

The primary data was collected through structured questionnaire survey. Considering the objectives of the study a questionnaire was also carefully designed.

Secondary Data

The secondary data was collected from different sources, such as academic articles, books, journals, earlier research reports and other published documents.

MAJOR FINDINGS OF THE STUDY

DEMOGRAPHIC FEATURES

A total of 150 child labours were participated in this study. The majority (98.0%) of respondents were male and only (2.0%) were female. Their ages ranged between 7 and less than 18 years. (16.7%) of the working children never ever attended any school education. Also (83.3%) of the working children who were lucky enough to attend school, forced to drop out from school before completing their studies due to several causes. About 68% of the working children sampled in this survey attributed economic hardship as main cause for their disruption in education. Table 1 shows the general characteristics of the subjects.

TABLE 1: GENERAL CHARACTERISTICS OF THE SUBJECTS (n = 150)

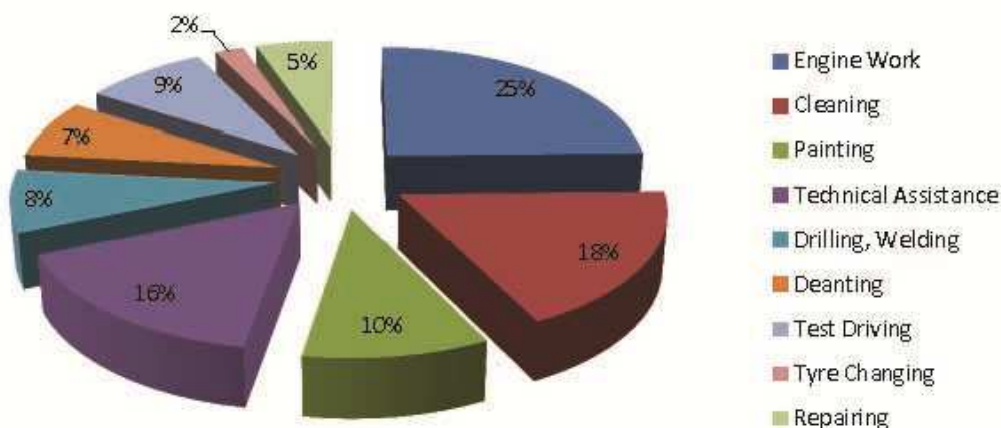
Subjects	No. of respondents (%)
Sex distribution	
Male	147 (98.0)
Female	3 (2.0)
Age distribution	
7 to 10 years	16 (10.7)
11 to 14 years	73 (48.6)
15 to 18 years	61 (40.7)
Level of education	
Never attend school	25(16.7)
Class 1 to Class 5	106 (70.6)
Class 6 to Class 9	19(12.7)

NATURE OF WORKS

In this survey different categories of child labourers in auto-mobile sectors were interviewed. Not all of them were full time employees. Child labourers are involved varieties of work in this sector and well known as motor mechanic. Depending on the work varieties the study found different nature of works in this sector that is performed by the child. Figure 3 shows the nature of works for child labours working in auto mobile sector in percentage.

FIGURE 3: NATURE OF WORK

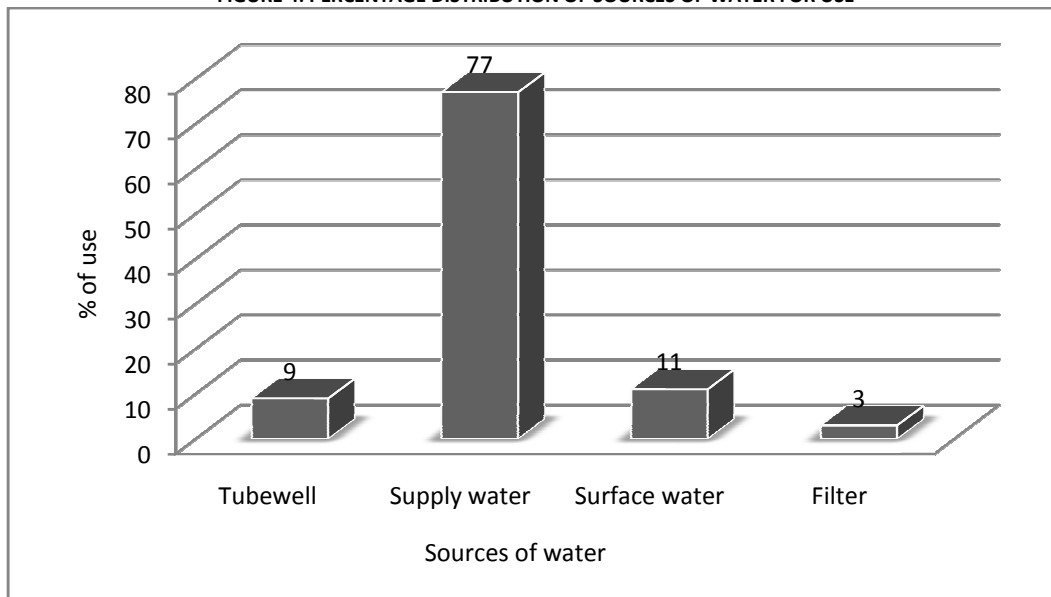
Nature of work



RISK FACTORS INVOLVED WITH LIVING CONDITIONS AND HEALTH CARE FACILITIES

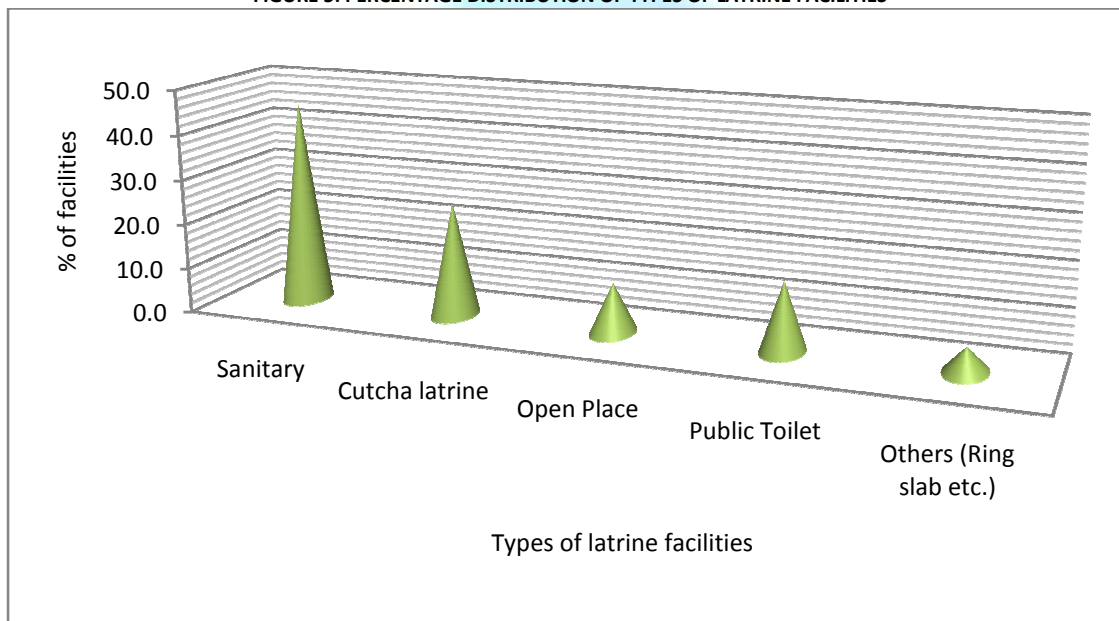
Access to Pure water and Sanitation Facilities: Supply water was found to be main source of water used for daily purpose especially for drinking in workplace and home. Some working children were compelled to depend on surface water for different purposes. Figure 4 shows the sources of water for drinking purpose.

FIGURE 4: PERCENTAGE DISTRIBUTION OF SOURCES OF WATER FOR USE



The working children had inadequate access to modern and hygienic sanitary facilities. Only 45.0 percent of the working children were found to be lucky enough to use sanitary latrine, while the rest have to depend on kachha latrine, ring slab, open places and other unhygienic means.

FIGURE 5: PERCENTAGE DISTRIBUTION OF TYPES OF LATRINE FACILITIES



RISK FACTORS INVOLVED WITH WORKING ENVIRONMENTS

As observed the working environment of the child labour was very unhygienic in most cases. Also the workers were not very much concerned about their own safety and hygiene. Even while working with sharp machinery tools or at the time of welding or carrying battery with full of acid they hardly maintain any safety measures. The risks that were found in their working condition in this sectors given below:

1. Burn with acid when carrying battery
2. Burn for extra heat of engine
3. Injuries by cut in hand while preparing or repairing parts or cutting steel
4. Pain in backbone for carrying heavy parts, tires etc.
5. Electric short circuit while welding
6. Injuries while engaged in cleaning machinery in motion.
7. Burn or injury in eyes with flames while welding
8. Respiratory-related ailments for releasing fumes and gases while painting or using grease
9. Headache or ear pain for exposing severe sound pollution
10. Injuries by burst out while pumping tyres.

TYPES OF ACCIDENTS AND DISEASES

While asked about the health problems of the working children 42 % of them were found to suffer different sorts of health problem such as fever, stomach problem, dysentery, diarrhoea, dengue, headache, breathing problem, measles etc. during the course of three-month period previous to the study period. They usually depend on available low cost treatment facilities, like homeopathic doctor, local community clinic, local medicine seller etc. The data reveals that 64 % of the working children received some sorts of occupational injuries while at work.

UNSAFE BEHAVIORS LEAD TO ACCIDENTS AND HEALTH PROBLEMS

The data revealed majority (78%) of the working children as well as their families do not boil water at all to purify the water. The working children had inadequate access (55%) to modern and hygienic sanitary facilities. Moreover 96% children do not use soap to wash hands after using toilet or before taking meals. 83% of them do not use any safety precautions. While they were asked the reasons of not using of safety precautions, most of them replied that safety

precautions are not delivered by their employer as well as the employer are not interested to maintain those. Only 32% of children are able to recognize the symbols of safety precautions that are used in hazard communication.

RECOMMENDATIONS

In the light of the experience while conducting the practical survey it was strongly felt for the eradication of the curse of child labour problem and its consequences from our society the following recommendations may be considered for implementation:

- First we have to create opportunity for identifying the reasons of why and how the children get themselves involved in risks and hazards that are alarming for their existence.
- Arrange strategies and action plan for both the short term as well as long-term basis for practicing behaviour based safety.
- We should enforce the provision of compulsory primary education including safety education about using safety precautions, hazard communication program, behaviour based safety program etc.
- Proper implementation and enforcement of the existing laws related to maintain workplace safety for child labor, if necessary introducing the new law.
- To change employer's attitude and to create and increase social awareness regarding the safety culture and consequences of practicing behaviour based safety.
- Ensure the better working conditions; building awareness regarding health related issues could enable creating a welfare condition for these distressed children.

LIMITATIONS OF THE STUDY

In conducting this Practical Survey Project the following problems were encountered –

- Lack of financial and logistic support
- Problems in determining the sample design and sample size.
- Non-cooperation: It was difficult to collect information from the working children because most of them thought that answering the questions as the waste of time. Many employers were also doubtful about the objective of the survey and did not let me interview the children working in the office.
- Though the scope of the study was much broader but it was not possible for me to carry out extensive research work involving several differentials that may be important in this context.

CONCLUSION

The prevalence of child labour has, in recent years, become a serious problem throughout the world and especially in many poor developing countries. Being one of the most densely populated poverty-stricken countries of the world the problem of child labour has become one of the prime concerns for the government and people of Bangladesh. If we properly take care of them by giving proper training about their work and reduce occupational hazards by developing safety culture according to behavioural based safety, we will be able to create efficient labour populaces. This trained labour force obviously will develop our economy and will provide their contribution to reduce child labour from our country.

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