SOCIOLOGICAL ANALYSIS OF HEALTH AND SAFETY PROTOCOLS AMONG CONSTRUCTION WORKERS ISLAMABAD PAKISTAN.

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Abstract

The key purpose of this research is to examine the sociological analysis of health and safety protocols among construction workers in Islamabad, Pakistan. Health and safety in the construction industry have always been a major problem. Wherever consistent archives are accessible, construction is found to be one of the most dangerous to health and safety, mostly in emerging nations. The researchers used an interview schedule to collect the data. A sample of 150 respondents was taken for the data collection. Then the data were analyzed through SPSS (statistical package for social sciences). The questionnaire was signified with the help of frequency distribution tables. Cross tabulation and hypothesis testing. A survey including 150 respondents from construction companies in Islamabad has been conducted for this research and primary research has been done to get a better outcome. The results show a positive association relationship between potential injuries and safety measures. Safety measures play a vital role in the control of occupational injuries on construction sites.

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Chapter No. 1

INTRODUCTION

Urbanization raises the process of growth in the number of people to live in urban areas and the traditions in which the population adjusts to the change. Urbanization grows with industrialization. As urbanization grows, the number of towns and cities increases, and people begin to live and work in Metropolitan areas. The industrial and economic structures of the Industrial Revolution took about important sociocultural changes. Job safety was lacking industrial developments and a large Labour pool often-emigrant workers. Lack of worker protections and regulations meant long work hours for down wages, living in unhygienic residences in the workplace.

Workplace safety is an extremely significant thing for construction workers. Injuries at work have certain features. These features include the age, date, time, and location of the injured person and their causes and consequences. The number of accidents is minor as a skilled worker. Accident time and hours worked as well as the regular relationship between the age of the injured person and his working experience. With increased age and work experience, the number of occupational accidents is decreasing. (Szóstak 2019)

The construction industry leads to an industry that plays an important role in the country's economy and is highly dynamic. To maintain a safe work environment, a high level of commitment to safe working conditions and safe attitudes is important. Occupational accident prevention is a measure of management and vision. Proper safety goals, safety analysis, and emergency procedures in agreement with current safety standards. Workplace accident prevention promotes safe working conditions, such as proper care at work, availability in the workplace, good communication, and personal behaviors (Ayob 2017).

The construction industry increases humble performance risks and safety problems for construction workers around the world. The construction industry faces many problems, such as severe weather and altitude safety issues (falling from a height, colliding with an object on-site). Construction

workers face the world's highest risk of occupational injury and disease (Shafique and Rafiq 2019).

According to the report of the International Labor Organization, further, than 270 million workers are injured in Pakistan, an estimated 160 million suffer from occupational accidents and diseases. Pakistan is not working properly in the formal and informal health and safety sectors. The majority of construction companies are ignorant of occupational safety and health risks and risks. The physical and mental conditions of the workplace largely control the working conditions. Employment accidents do great harm to people, society, and the economy and protection that all workplaces are safe. (ILO 1919).

Additional effects of working hours on health and safety. Consequences on workers' working hours at risk of occupational injury and illness. Control the relationship between overtime and the increased risk of workforce injury. Workplace at work longer hours than usual, which increases the risk of injury or illness. (Dembe et al. 2021).

Approximately aged people are alive longer, around whom the risk of occupational injury increases. In the fields of smoking, alcohol consumption, being overweight, fatigue, sleep, and poor health, individual injury rates were shown to be linked to individual factors. The results show that the risk of injury is increased when exposed to an increased number of physical jobs, particularly for workers. (Chau et al. 2015)

The construction industry is additional hazardous because of the high workload associated with other industries. In the average- and low-income states, despite low occupational injury reports, the injury rate is low. (Arthur et al. 2019)

For construction workers in developing countries, the impact of occupational health and safety risks on industrial countries is 10-20 times higher than among construction workers. Aware of low occupational risk, a

lack of job safety, healthcare, and inefficient safety management systems, Ethiopia is facing great challenges. These factors are the result of exclusive and measurable costs for employers, workers, and the government. It is a good way to start the day. (Tadesse and Israel 2016)

One of the main factors, which influences the image, is the safety of the project manager and the company. Injuries to skilled and unskilled employees or different diseases on a building site are likely to be affected. The work in question should be safe and the conditions at the building site should not harm life, health, and professional qualifications. “Workers should be subject to safety and health standards; workers at construction sites should follow safety practices. For example, if a worker breathes small amounts of asbestos fibers, he may not notice the effect of that, because there are no acute effects. Workers neglect health hazards that have chronic effects. Mostly reported chronic health hazards are "exposure to hazardous substances. Chronic health hazards include exposure to corrosive materials, skin sanitizers. To enhance safety practices, one of the major needs in the construction industry is to enhance professionals’ interests in active safety management and implementation of awareness programs, which must be developed and implemented among construction workers. (Vitharana 2016).

Construction sites are a key and complex system in the workplace. Moving and interacting with people is extremely difficult, and goods security measures between building workers. A safe working environment is likely to lead to lower insurance rates, better jobs, and, above all, to the safe return of employees. Sensory injuries and building accidents. Injuries. Apart from planning and training for safety, it is more important to implement safety measures. All employees should have personal safety equipment to guarantee their safety. Appropriate remedies and measures must be taken at every building site to prevent events (Thanaraj and Priya 2019).

1.1 Pakistan Occupational Health and Safety law 2018

The Occupational Health and Safety Act (OH & Slaw) was first passed in the 17th century after the British Factory Act introduced the Factory Act of 1884, the first OH & S Act. The act was important because it proposed a ban on employment activities for children, women, and a limit on working hours for all employees. Employers supported the act because it did not mean limiting production, yet it made production more secure. Eighty years have passed with this little safeguard. Performance to safeguard safe and healthy working conditions for people at the workplace; by authorizing enforcement of the rules and regulations developed under the action; by assisting and encouraging the governments, institutions, and geographic areas governed by the federal management in their efforts to ensure healthy and safe working conditions; and by providing for research, information, education, and training in the field of occupational health and safety.

(1) Protecting workers and other persons against harm to their health, safety, and welfare through the elimination or minimization of risks arising from work or specified types of substances or plants.
(2) Providing for fair and effective workplace representation, consultation, co-operation, and issue resolution concerning work health and safety; and
(3) Encouraging unions and employer organizations to take a constructive role in promoting improvements in health and safety practices at work and assisting persons conducting businesses or undertakings and workers to achieve a healthier and safer working environment.

(4) Promoting the provision of advice, information, education, and training about work health and safety.

(5)) Securing compliance with this Act through effective and appropriate compliance and enforcement measures.

(6) Ensuring appropriate scrutiny and review of actions taken by persons exercising powers and performing functions under this Act.

(7) Providing a framework for continuous improvement and progressively higher standards of health and safety at the workplace.

(8) Maintaining and strengthening the national harmonization of laws relating to work health and safety and facilitating a consistent national approach to work health and safety in this jurisdiction.

1.2 Statement of Problem

Occupational injuries lead to serious health and social-economic consequences for construction workers and their employers, following key public health and development challenges in the construction industry. Workers' injuries are the world's most serious problem. Compared with other industries, the construction industry is hazardous (Arthur et al. 2019). The construction industry in terms of occupational health and safety. Pakistan's construction industry is of no significance to occupational health and safety. The management measures to implement the occupational health and safety protocols are not suitable. (Kanchana et al. 2015).

1.3 Research Questions

- To find out the protocols are made by the government of Pakistan.
- Are the health and safety protocols are practiced by construction workers?

1.4 Research Objectives

- To investigate health and safety protocols that exist in Pakistan
- To investigate workers' opinions regarding safety personal protective equipment.
- To find out the relationship if exist between occupational injuries and safety protocols.

1.5 Significance of Research

Urbanization increases the number of people living in urban areas and the growing development of societies in which the people alterations. Increasing urbanization with industrialization. The Construction development Apartments, Road and towers. Therefore, this study is beneficial regarding health and safety protocols between constructions. The majority of construction companies are unaware of occupational safety and health hazards and risks. The physical and mental conditions of the workplace control the working conditions largely. Employment accidents are so damaging to people, society, the economy, and security that all workplaces are safe.

Chapter No. 2

LITERATURE REVIEW

Reviewing the literature is the major and very important part of the research. The main objective of the literature is to the investigate purpose of the existing and present research. Further, conducting the literature review is helping his or her fields to do the research on their topics. The prime motive of the literature review is aware of the perceptions of the different scholars and authors about the research topics. This helps the investigator and others to comprehend the topic.

2.1 Historical Background of Occupational Health and Safety

Health and safety issues affect a broad range of life areas, including employment, work, and business. The industry plays a major role for companies, educational institutions, entertainment centers, and offices. (Eurostat 2010).

The health and safety problem is certainly substantial. Problems relating to health and safety can be seen as human, environmental and economic concerns. Because the welfare of the individual and the environment, in general, are closely connected. The problems of health and safety cover all industrial progress and regulations that determine and govern the progress made in this field. (Eurostat 2010).

Although safety and safety issues are primarily environmental or human issues, their effects on the economy of each country, in general, are wider and more negative. The cost of accidents and diseases is relatively small, partly due to the increasingly widespread damage. (Hughes 2009).

Hundreds of workers have been killed, and the European Agency for Safety and Health at Work has reported thousands of accidents in three days' work absences. The loss of these business days generally caused massive damage to the European economy. This annual loss of employment generally affects the European economy. (OSHA 2010).

2.2 Occupational Health and Safety

Health and safety is part of a country, especially when it comes to defining working conditions for people. For example, literature in the general sense refers to the idea of "good" or "fitness". Therefore, it is vital to be healthy when you use the term. A healthy workforce is an essential element in any work situation. Therefore, health and safety must be managed together at work. It can also refer to environmental management in collaboration with the workplace. Recently, we have become aware of the need to address and manage environmental issues. The same code, methods, and procedures must be properly applied to monitor the site and the environment.

2.3 Health and Safety Basic Terms

a) Accident

The word refers to any event and the effects of that on the health and safety of a building. Therefore, an accident with unforeseen physical, environmental, or ambient results is unwanted in this context (Hughes and Ferret 2007).

b) Hazard

The word refers to the ability to damage or threaten life, health, property, or the environment. Component interaction in the chemical file can sometimes lead to dangers (Hughes and Ferret 2007).

c) Injury

The word refers to an accident's physical effect. There are hundreds of incidents in the construction industry that cause injuries (Hughes and Ferrett 2007).

d) Risk

The word "risk" refers to the chance or probability of loss or profit from the risk. (Hughes and Ferrett 2007)

2.4 Global Construction Safety Performance

Various construction companies around the world implement safety, health, and environmental management systems for injury prevention, disease prevention, and safety at work for their employees (Choudhry et al.2008).

Construction Work shall be regulated to protect against occupational disease and injury; major contractors shall, for instance, appoint seven complete safety inspectors for sites with an area exceeding ten thousand m2, two to three safety inspectors with sights exceeding five million m2 and one principal contractor shall stack for sites with an area exceeding 50 thousand m2. Legislation shall lay down protection (Fang et al 2004).

2.5 Common Problem Areas in the Construction industry of Pakistan

a) Accidents caused by cave-ins occur often during excavations in deep trenches (through no proper shoring or bracing).

b) The lack of protection of gloves and boots causes betting, mainly by farm laborers.

c) Low-quality and non-availability of safety belts lead to higher levels of workers falling.

d) Workers suffer head, finger, eye, feet, and face injuries because of the lack of personal protective devices.

e) Housing and water are insufficient to drink and wash.

f) Important causes of accidents are also fail to understand jobs and poor equipment maintenance.

g) Injuries are generally unreported but first aid or preliminary medical care may be provided to a worker if needed. In most cases, there is no specialized therapy or compensation. Workers think construction is a dangerous job and accidents occur because of their own negligence. However, major accidents involving the death of a worker usually occur due to financial costs and litigation.

h) Maintenance and inspection schedules are often ignored, and only after an absence is an equipment repaired. The result is low morale, a loss of time, idle employees, and project delays. It may also cause damage to property.

i) The use of substandard power equipment and underground cables is also a major hazard for electrocution.

2.6 Causes of Accidents on Construction Sites

Working conditions and employee conduct are the direct causes of accidents. Proper management can manage these causes throughout the workplace as far as management can create an appropriate work environment or maintain it. Health and safety management usually reduces the risk of accidents at work by introducing and implementing regulations and standards and therefore protects employees from the risk of injury or even death in their workplaces. Management 15 of this kind must commit to a safe workplace (European agency for safety and health at work 2005).

Unsafe acts such as:

Unauthorized work, no warning signs, unpaired equipment, misuse or misuse of equipment, lack of protective equipment, inappropriate load lifting, and poor maintenance in the workplace or non-supervision of workers who use, drink, or drink medicines during working hours.

Unsafe conditions such as:

Default equipment and tools, missed platforms, missing quads, poor fire systems, bad environment, poor light, and excessive noise.

Secondary causes of accidents:

As for management, it can include the lack of a clear health and safety policy, the neglect of minimum standards for a safe workplace, a lack of funding, and the lack of education and information. On the social side, the need for investment in the protection of working habitats, contractors do not often take bad workplace behavior and lax social attitudes to risk, trade and business into consideration (Phil Hughes & Ed Ferret 2007)

2.7 Development of Health and Safety on Construction Sites

The goal in the early 20th century was for employers who managed projects to make a profit. Employers have paid little or no attention to the health and safety of their workers. It could be said that health and security are nobody's concern. In order to obtain compensation from their employer, for instance, US employees who had been injured at work had to bring their case to trial. It was more often than not impossible in view of the costs of the court proceedings. Cases handled by the court system often failed if the employer was able to show that the employee had been notified of risks or decided to disregard medical information. (Alli 2008).

A health and safety policy is the direct result of recognizing that health and safety are a concept in the workplace. This concept should be taken into account to raise awareness in a working environment. Moreover, for all construction participants, including customers, contractors, managers, and staff, health and security policy should be a source of information (HSE 2000).

Information about all aspects of building health and safety is included in a health and safety policy. The terms and conditions of the knowledge that are to be supplied and known to the employee who performs the job. Information about health and safety duties should be provided for on-site workers, such as structural stability, energy supply installations, roads, emergency procedures, and fire hazards (HSE 2000).

2.8 Role & Responsibilities of Employers and Employees

In the health and safety field, the safety and safety of the workforce on the construction site should be ensured. Procedures that contribute to the safety and health of employees are the responsibility of employers; therefore, the employer should consider the following tasks: Maintenance record preparation: ~ Notifications of health and safety and information should be

published. Accident report preparation. Employees should be trained and trained in health and safety measures. It is not only the responsibility of employers but also of employees to ensure the safety and health of their workplaces, in particular (Dessler 2001).

2.9 Legislation and Legal Enforcement.

- The employer should be presented with a healthy and safe work system on building sites.
- In building sites such as transportation, storage, and use of materials, aspects of health and safety shall be present and clear.
- The employer should supervise the employees and provide them with the necessary training, training, and training to maintain the employees.

2.10 Overcoming Problems of Health and Safety.

- Risks, earliest design steps
  and all other engineering steps should be identified from the beginning.
- Workers should be isolated from dangerous materials.
- Workers should be trained and checked before work. Before work.
- At construction sites that develop health and safety standards, medical programs should be available.

2.11 Health & Safety on Construction Site.

Employers must present health, safety, and safety expectations at construction sites to their employees. However, some employers explain the incidence of accidents or illness on construction sites, as is the case with things, which cannot be prevented.

Emotional, psychological, and physical balance is defined as health. Health management means protecting the health of people in buildings. Safety is

just as important and safety measures prevent accidents at work. The result is the so-called safety program. (Armengol and Jackson 2004).

Therefore, safety means providing safety to employees in all aspects of their construction work in the workplace. In addition, the collaboration between managers and health and safety representatives will lead to safer and healthier jobs. This healthy and safe space can be achieved in many ways, such as risk research and risk reduction, worker education, and training programs on the importance of safe construction sites that lead to the best available work environment (Armengol and Jackson 2004).

While maintaining a healthy and safe site, the role of department managers and supervisors should not be underestimated. An example is the role of warehouse caretaker, which requires employees to wear protective clothing and shovels, keep the workplace clean, and replace defective and perishable equipment (Armengol and Jackson 2004).

2.12 Organizational Commitment and Safety Culture.

Safety management focuses on organizational security engagement. It is all part and should be seen as part of the workplace. By providing the right machinery and equipment, employers can prevent some accidents. For example, emergency lights or heating switches maybe provide. (Armengol and Jackson 2004).

Jobs should be properly designed to focus on where the work is to be done. It ensures employee performance and satisfactory results. Safety usually depends on numerous and varied factors such as material usage, area size, space between work areas, noise level, and traffic level. Efforts to protect all existing regulations, procedures, or policies are important to the workplace and affect all employee (Armengol and Jackson 2004).

Injuries and deaths are very high in the construction industry, and this is not a loss. As a result, continuous efforts to improve security depend on an

effective security management system. The safety management system should be properly defined, and the components of the safety management system used by practitioners to improve safety. Researchers and organizations have developed several security management systems. The main causes of injury and death in organizations are basically. Safety management systems and types of safety measures were introduced. While the majority of the elements discussed were similar within the security management system, the basis of each element was different. Some models have only been developed by highly reliable organizations and some have been developed through accident analysis. Details and calculations of the most common methods were discussed in the marking indicators. In contrast to these factors, the number and number of studies conducted by organizations have recently increased the use of key indicators (Jazayeri et al. 2017).

Construction is one of the most damaging industries. In the past, the death rate of Spanish construction workers has consistently exceeded the overall national mortality rate. Building safety and health research are still very limited among Spanish workers. Hispanics are fatally injured in their jobs and more non-fatally injured than any other American ethnic group, and as construction, workers (18%) are increasingly joining the Spanish industry. This shows that safety and medical research are essential for this population. The social, economic, and cultural backgrounds of employees in Latin America should be taken into account if initiatives are to promote safety and health by participatory approaches, proper methods of translation, and collaborative research. This study proposes a research agenda that includes surveillance, risk research, assessment of intervention efficiency, design and development of efficient and adequate safety, education, and educational materials, and understanding of the economic and socio-economic impacts of injuries (Brunette 2004).

Construction delays are a common occurrence worldwide and are considered one of the most persistent issues. The construction sector in Pakistan is no exception. The effect of such delays on the time, cost, quality, and safety of the project is fundamentally manageable. Delays in the construction business have caused many problems. Extending time, increasing costs, disagreements, arbitration, and litigation are just a few of the negative consequences. In this analysis, the top 10 relevant elements in Pakistan's construction sector were selected based on their relative suitability. Coordination with the country's law enforcement authorities, effective security arrangements, currency depreciation compensation, proper planning before project awards, and proper financial arrangements are just a few of the benefits that can delay construction if implemented. The effects of can be reduced (Gardezi et al. 2014).

The construction industry has long been considered the most efficient, with a number of accidents occurring. Incidents or accidents at construction sites have resulted in a number of project performance concerns, including delays in project completion and cost overruns. Increasing project costs, reducing productivity, and tarnishing a company's image. Construction safety management is a way of enforcing safety rules, procedures and practices on construction sites. This process involves making small or large changes to the site environment to move from dynamic to normal business. Furthermore, safety should be part of a management concept or cross-organization effort at every level of the firm. Safety culture and safe working environment should be important for construction management (Abas et al. 2020).

The construction project team is a temporary organization consisting of several sub-organizations and sub-groups in which a diverse organizational culture has been developed for a given project. More importantly, the evolution of the company's culture is that as different parties develop sub-security cultures, those sub-security cultures will interact with each other. During the construction phase of the project. As a result, the safety culture of each construction project must be different. Subculture civilizations that are their own creation. As part of a safety culture study and construction

safety, a separate definition of construction on project safety culture is presented, addressing the characteristics of construction on projects. Construction project safety culture is defined as a mix of attitudes, beliefs, values, behaviors, and norms held by individuals and groups from various parties in a construction project (for both workers and managers), and it is gradually formed and evolved in the construction project environment, influencing the commitment to, as well as the style and proficiency of how all parties involved in the project and its personnel act and react in threatening situations (Fang and Wu 2013).

Injuries and deaths are high in the construction industry, and the goal of zero injuries is still a long way off. As a result, effective security management systems are critical to long-term security efforts. To enable practitioners to use security management systems to improve safety, a proper definition of the security management system as well as the components that make up the security management system is needed. Researchers and businesses have developed numerous security management methods. Most of them focus on the root causes of occupational injuries and deaths. The research in this review looks at the different security management systems of different industries to see how they compare and contrast. The purpose of this review is to present current research on various security management systems and related measurement methods. The study also includes a background study on the establishment of security management systems. The main contribution of this review to the Knowledge Body is that it provides insights into existing security management systems and their key elements, as well as appropriate methods of measuring safety performance, which provide owners, contractors, and decision makers. Provides assistance in selection and implementation. Elements (Jazayeri and Dadi 2017).

Safety performance measurement is an important part of safety management systems. Its purpose is to provide feedback in order to adopt proactive safety management and continual improvement. Building site safety performance has traditionally been measured and evaluated using objectives and simple safety outcomes (e.g., accident rates, TRIFR (Total

Recordable Injury Frequency Rate), and fatality rates). Auditing has become a frequent approach to measuring safety performance as more firms build and implement safety management systems. Despite the fact that the development of safety indicators is still at a pre-scientific stage and remains a difficult problem in the safety field, leading indicators have recently received more attention. Measuring safety performance is an important part of a safety management system. It aims to provide feedback for the adoption of active safety management and continuous improvement. Safety has always been emphasized at the top. The performance of construction sites has long been measured and evaluated (Umer 2019).

Due to the lack of government authority for safety and health in Pakistan, the implementation of injury / death rate in construction work is debatable, but research studies suggest major improvements. Accident investigations provide a backlash indicator of safety performance that construction companies typically do not use. The safety environment, on the other hand, is an important indicator that reflects employees' safety considerations and attitudes towards safety management systems. The purpose of this study is to see if there is a link between lagging behind and important safety indicators. Accidents were classified according to their degree of vulnerability, and the environment in which they occurred was assessed (Masood et al 2014).

They are in danger of losing their jobs, as well as a variety of additional duties. Injuries come in a variety of shapes and sizes. The ways in which labourers die have an influence on their families. A wide range of exposures It's also probable that the high rate of fatalities among labourers has something to do with it.They might not be able to do so because of the broad definition of "labourer"; they might not be able to do so because of the broad meaning of "labourer. “Having the same level of education or experience as skilled workers in more narrowly defined crafts or responsibilities Employees from underrepresented groups may be forced to work at an entry-level position due to a lack of training and experience job example is that of a labourer. Tasks that focus on individual training and talents are important. The alarming death rates should be investigated

further. Workers in the construction industry, minorities, and younger employees are all impacted. More training may be necessary for prevention. Employers should ensure that all employees have received enough training to do their tasks safely. More training and a focus on a limited scope of work for labourers may lower the risk of a fatal injury in this industry. Despite advances in survey methods that have improved the quality of data on occupational injuries, epidemiologically, this topic is still poorly understood. Death certificates, which are often used for monitoring and research, may undercount the incidence of fatal workplace accidents and offer insufficient information regarding the causes of death. According to various studies, medical examiner's records provide more detailed information on the decedent and the circumstances of his or her death (Jackson and Loomis 2002).

Although improving health and safety performance is a widely accepted and accepted idea, there is insufficient data to back it up. Suggestions on how to improve H&S in the workplace the problem is exacerbated by the fact that Continuous with a range of H&S cultural models whether culture can be measured or not is a matter of controversy. Unfortunately, this phrase is still being debated. Because of the measurement and measurement of culture, some have discounted the need for in-depth research into the concept in order to put it into practice. This makes an important partnership especially in the construction industry to the detriment of increasing health and safety efficiency because a large number of personnel are involved in building operations; the construction site is a very essential location. Construction site jobs are divided into three categories: "management and technical" workers, "skilled" workers, and "semi-skilled and unskilled" workers. Personnel with advanced educational credentials, often graduates, who are educated to develop, manage, and instruct building processes are classified as "management and technical" workers. “Skilled" workers are those who have a great deal of knowledge and expertise in their construction operations or vocation. Site labourers with little or no building experience are classified as "semi-skilled and unskilled." In general, all skilled, semi-skilled, and unskilled employees on a construction site are at

danger of being wounded, dying, or contracting different illnesses; however, the amount of risk varies depending on the activities they perform (Vitharana et al. 2015).

Construction accidents and injuries can be decreased by utilizing sensor-based technology. Safety management has long been regarded as the most important part of a construction project since it protects construction workers' health while also reducing the occurrence of a variety of hazards and accidents. In this project, the main criteria that are addressed in safety management were specified. Safety management has been examined and monitored at various levels. Various building site disasters were observed, and solutions that should be used to prevent these occurrences were determined. The study discovered that putting in place safety measures is more important than planning and training. A safety engineer or officer should be present at all times at the construction site to inspect the safety measures in place to ensure safety (Samuel et al 2019).

The vulnerability of various temporary structure systems is a common cause of construction accidents. Construction accidents on the job site are frequently caused by the collapse of construction sections or pieces, hazardous working conditions, employee behavior, and the misuse of machinery and tools. Adopting a health and safety culture is without a doubt a key component in the construction industry. The techniques and stages of building projects have altered because of technological and societal improvements in the twenty-first century. As a result, many more advanced management solutions are employed to reduce and eliminate construction-related accidents and deaths, therefore increasing the construction industry's efficiency and effectiveness by reducing waste and increasing profit. By implementing basic safety practices, accidents and injuries on construction sites may be minimized, if not prevented entirely. Because of this catastrophe, the timetable, plants, equipment, and related properties have all been affected. It is critical to have a good safety management system in place (Hasnain et al 2018).

Construction workers, especially in developing countries, are in bad health. They work in an environment where they are vulnerable to chronic

diseases. Most delicate physical health issues, such as musculoskeletal sickness and Construction workers have a higher risk of chronic lung disease than those in other occupations. “A good physical performance is complemented by a good mental performance,” established a link between physical and mental performance. A worker who is suffering from mental illness will act in an unhealthy manner. Construction is the industry with the greatest rate of disability of any other. Employees in the construction industry regularly leave before their shift is finished. He had to retire due to health issues. Because they were mentally weak, to perceive hazards and not mentally strong, enough to withstand the work, older employees had higher psychological challenges. Despite widespread perception, by declaring that employees' health is important, you are making a statement (Shafique et al , 2019).

Highest rate of work-related fatal injuries due to the rapid economic boom in the construction sector in these states. The high prevalence of fatal occupational injuries in these states might be related to a lack of safety and health standards, as well as insufficient risk management tactics. Given the varying implications of occupational safety and health on the construction industry, understanding the causes of accidents and eliminating worksite hazards is critical. Furthermore, the development of safety ideas should be regarded as a means of reducing workplace risk. The work environment's lack of safety has an impact on risk assessment. As a result, all parties involved should maintain the workplace's safety in order to avoid any unintentional occupational injuries. To safeguard employees, senior management should focus on adopting safety standards and good management practices in the workplace (Ayob et al 2017).

2.13 Assumptions

- Occupational health and safety training is often accessible as a basic intervention policy to reduce the risk of work-related accidents and injuries.
- Occupational health and safety are radical thoughts among construction workers.

Chapter No. 3

THEORETICAL FRAMEWORK

In this chapter, researchers are going to explain the theoretical framework. The theoretical framework is a vital part of scientific research. In this section, researchers read and study many theories about their research topics, and then they come up with a strong theoretical basis that will help them define the variables of their research. The researcher has extracted propositions of theories and he will try to check them on the targeted population and study area.

3.1 Cultural Lag Theory

The cultural lag theory was postulated by fielding Ogburn in his book social change with respect to culture change and original nature published in1922. According to Ogburn, “problems of social adjustments are two sorts. One concerns the adaption of man culture or perhaps the adapting of culture to men the various parts of modern culture are not changing at the same rate, some parts are changing much more rapidly than the others and that since there is correlation and interdependence of parts, a rapid change is one part of our culture requires readjustment through other changes in the various correlated parts of culture (Ogburn 1922)”.From this excerpt, it can be deduced that in the every, changing and developing world there is an issue of adjustment whether it would be the adjustment of man to the environment or the other way around, environment adjustment to the man.

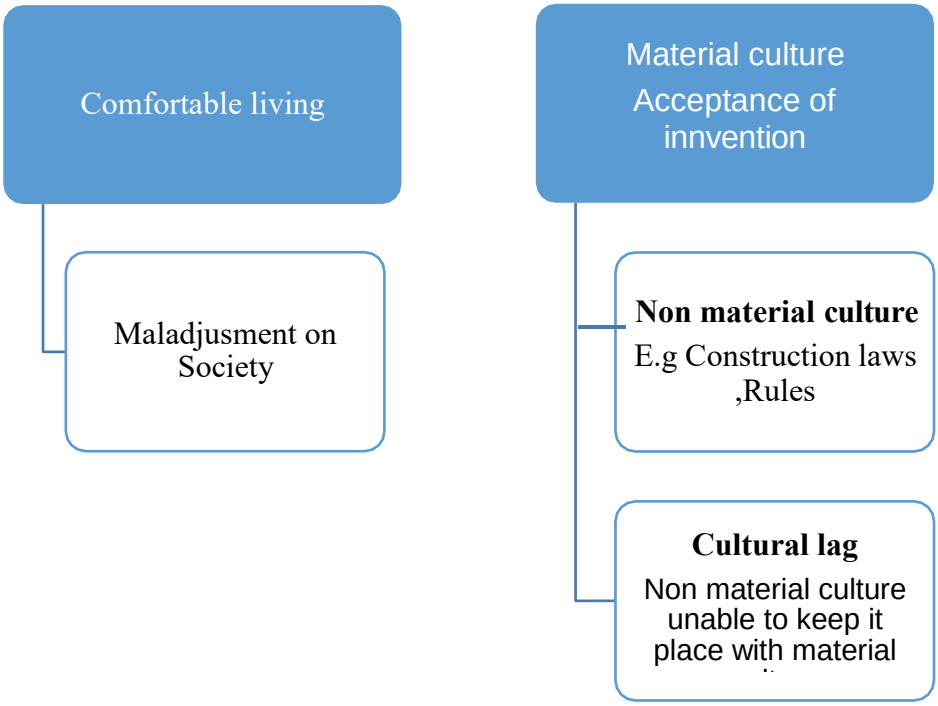

Figure 3.1. Cultural Lag Theory Model

Figure 3.1 describes that some of the parts of the society in modern culture (material culture) are changing much more rapidly due to the discovery or invention than their other parts (non-material culture) and this creates maladjustment in the society. because due to the correlation of various parts the changes in one part requires some changes to be made in other parts as well so that the society does not lose its natural balance. The changes in the material culture, as a result, will bring changes in the adaptive culture.

3.2 Application of Theory in the Figure

Cultural gap theory between the people of Pakistan. Significant safety innovations in the construction field are now being given the attention they deserve after the Industrial Revolution. Heavy backup cameras, for example, are known to cause a large number of injuries and deaths due to heavy construction buildings in the workplace. To make the procedure safer, security measures are in place, but there are still some risks. One is the lack of backup to ensure that heavy machinery, such as skid steering and forklifts, is fatal to mining, highways, and tank trucks. Their hat lamps can easily identify people who work at night. The lack of light minimizes the risk of accidents and not seeing anyone moving towards a heavy kit. Before it was too late, the people of Pakistan have created a technological innovation but were still firmly attached to their immaterial culture, which gave rise to the country's cultural recession, embraced this material change. People use innovation in technology but are not ready to change their understanding, attitudes, and building safety practices. These activities lead to a large number of building accidents because people are not forced to comply with construction safety laws. The theory is that when one part of the culture changes, the other is expected to make significant changes, otherwise a state of cultural backwardness prevails. This is where the theory of construction safety comes into play. The situation in Pakistan is very similar to the changes that have taken place due to the acceptance of building safety facilities, but failure to comply with building safety standards creates long-term cultural delays in Pakistan.

3.3 Risk Society Theory

Beck presented a theory of risk society (1986) in his book Risikogesellesehaft published in 1986 which was translated into English by Mark Ritter under the name of Risk society towards a new Modernity, published in 1922 According to Beck our world is moving towards a phase of complete modernity due to which newest invention is taking place in this new era. These new inventions on one hand help the person in easing their way of life but on the other hand, they are making our lives prone to the dangerous outcome of such products. The invention in the modern/industrial society is depleting the natural resources which are increasing the global warming as well as the air, land, water pollution which is injurious to the health of individuals. The modernity's later stage is called a risk state by Beck, he is of the opinion that the societies of the world are in the transition process towards becoming a risk society. He argues that these inventions are putting the lives of people in danger, as it is risky to use such advanced forms of the invention without any proper caution. He is against the modernization concept life was simple and less risk-taking. People would take time into adapting to the new changes in society, which reduced the risk rates, and the accidents occurred lesser in numbers.

Figure 3.2. Risk Society Theory Model

The above figure 3.2 explains the basic concept of risk, with the invention of new technologies and manufacturers risks, are produced and people's lives become endangered because of such innovations. The concept of modernization is destroying the societies, as the innovations, day by day have their side effects and most of these inventions are doing more than harm than good. Man has become a slave of these technologies and is unable to see their adverse effects on his health. Beck (1992) said, "Risk "may be defined as a systematic way of dealing with hazards and insecurities induced and introduced by modernization itself. Risk, as opposed to older dangers, are consequences, which relate to the threatening force of modernization and its globalization of doubt.

Nevertheless, the ecological and high-tech risks that have upset the public for some years now, which will be focusing on the focus of what follows,

have a new quality. In the affliction's they produce, they are no longer tied to their place of origin – the industrial plant. By their nature, they endanger all forms of life on this planet. In other words, what becomes clear in risk discussions are the fissures and gaps between scientific and social rationality in dealing with the hazardous potential of civilization (Beck 1992:21-30)."

The people accept these inventions quite rapidly and they are transforming into being materialistic individuals. Beck says that after the modern invention science should have guided the individuals about the prerequisites for its usage as well as the cultural rationalities. On the contrary, rather than guiding, they are following irrational political motives, and it is creating gaps in society. The previous societies were more concerned with the preservation of their natural resources while the modern societies due to the urbanization trend are draining the societies of natural resources. Owing to this reason pollution, globalization, and construction accident are forever on the rise. Beck (1992) is of the view that when the people included the new modern invention into their lifestyle, they have become prone to its fatal consequences as they have adopted their technology but they are lagging in the cultural context. They do not foresee the oncoming disastrous results as long as they believe that these inventions are putting their lives at ease.

3.4 Application of the Theory

This theory is related to the article that construction accidents have increased in recent years as more advanced construction safety equipment has been introduced on the market. This situation, therefore, confirmed Beck's (1992) statement that with each passing day, machinery would become more modern, with consequences, and that people would still be living on this risk factor. This theory refers to the theory that construction accidents have increased in recent years as more advanced construction safety equipment has been placed on the industry. Thus, Beck (1992) was instructed to say that machinery would evolve every day and people would still live on this risk factor. In the event of an accident in Pakistan, state-of-the-art safety equipment has many advanced features, but it also highlights the major risks of a construction accident, as occupational health and safety laws are not defined and conditions are not encountered. The people of Pakistan have adopted new technologies in the form of all construction safety devices but have maintained their previous attitude. People ignore construction safety laws, which makes it easier for such deviators to repeat mistakes for construction crimes. When adopting new scientific inventions, they do not change their attitudes and behaviors, leading to fatal consequences in building accidents that increase their risk factor. The study has created gaps in occupational health and safety legislation in Pakistan and will help transform them for the betterment of the nation.

3.5 Preposition

1) Pakistan people do not change their attitudes and practice while adopting new creations of science, which results in hazardous outcomes for their lives in the form of a construction accident, which increases the risk factor.

2) The Pakistani people have accepted the material culture change (Construction safety equipment), brought about technological innovation but they are inflexible to stick to their non-material culture (values, attitudes) which has erected a cultural lag in the country.

3.6 Hypothesis

Alternative hypothesis: lack of safety measures awareness among construction workers leads to potential injury.

Null Hypothesis: Lack of safety measures awareness among construction workers does not lead to potential injury.

Alternative Hypothesis: The safety measure increase, the risk level will be decreased.

Null Hypothesis: The safety measures that do not increase the risk level will be no decrease.

Chapter No. 4

CONCEPTUALIZATION AND OPERATIONALIZATION

This chapter deals with the key concepts of the research, and it has very important role in research that cannot be undermined. Further, the very important and key concepts are going to be elaborated in this research with relation to the locale of research.

4.1 Conceptualization

Conceptualization is the process of making concepts with the help of existing literature. In this research, the researcher have the two variable, physical punishment and antisocial behavior of children. The researcher will highlight the definitions which are present in the literature.

Occupational Health:

According to ILO Occupational health as a discipline includes even more : it is not only the issue of avoiding and reducing serious injuries and diseases ,but also to work to campaign for improving the general well – being of workers in a workplace.

Occupational Disease:

According to ILO occupational disease:

• The causal relationship between exposure in a specific working environment or work activity and a specific disease.

• The fact that the disease occurs among a group of exposed persons with a frequency above the average morbidity of the rest of the population.

Safety Culture:

Culture involves learning and sharing behavior, standards and objects. This includes the creation of values, conduct and standards for people. Culture is deep, joint experiences that members of a specific culture communicate without knowledge and that are judged by any other event against the

background. All organizations have a culture of their own, with dominant values and behavior. Culture of social life. Culture of organization's safety as the product of values, axes, skills and conduct which determine the commitment, style and expertise of programmers in health and safety in the company. A culture of security may appear to be described as a set of convictions, standards and technical social practices to minimize people's risk of living in and outside organization conditions that are considered dangerous or damaging. The safety culture as a cornerstone of organizational culture that is supposed to affect members' attitudes and behavior in relation to organizational continued safety and health performance. Safety culture is important for clarifying how an organization's security culture should look. He also said it may contribute to the development and the final outcome of the product.. (Misnan, Mohd Saidin;etal 2010)

Cultural lag:

William F. Ogburn in his 1922 work Social change with respect to culture and original nature Cultural Lag Theory suggests that a period of maladjustment occurs when the non-material culture is struggling to adapt to new material conditions.

i. Material culture includes all of the physical objects that people create and give meaning to. For example, Personal Protective Equipment, Safety signboard. An object only becomes part of culture after meaning have been given to it.

ii. Non-material culture consists of thoughts and behavior that people learn as part of the culture they live in. safety language, OSH rules, customs, safety culture or beliefs, values, and knowledge.

Cultural Lag is a common societal phenomenon due to the tendency of material culture to evolve and change rapidly while non-material culture tends to resist change and remain fixed for a far longer period of time. Due to the opposing nature of these two aspects of culture, adaptation of new technology becomes rather difficult. This distinction between material and non-material culture is also a contribution of Ogburn's 1922 work on social change.

4.2 Operationalization

Operationalization is a process in which the researcher describes the key concepts of his research according to his own understanding.

Occupational Health:

The six main categories of hazard in the construction site.

- ## Biological Hazards:

Source of biological hazard may cause virus, bacteria, fungi, insects, plants, birds and human. Include vector-borne diseases, venomous wildlife and insects, and poisonous plants. Venomous snakes, spiders, scorpions.

- ## Chemical Hazards:

Chemical hazard in the construction site are various like asbestos, cement, silica dust, gas, vapor, fume and mist.

Examples of gases found in construction:

- **Oxygen** – used for welding and cutting.
- **Acetylene** – used for welding and cutting.
- **Propane** – used for heating & fuel.
- **Carbon Dioxide** – used as an inert gas and can be found naturally in sewers.
- **Methane** – the principle component of natural gas and found in earth deposits.

Examples of vapors found in construction:

- Gasoline – used for fuel.

Organic Solvents – used as paint thinners (toluene & turpentine) & glue solvents(acetone & methyl ethyl ketone **Examples of fumes found in construction*:***

- Welding Fumes
- Asphalt
- Naphtha – "Coal Tar" a brown or black thick liquid that comes from coal; it's a skin irritant known to cause cancer.
- Lead Fumes
- Hexavalent Chromium (CrVI)

Silicosis

- Disease of the lungs due to the breathing of dust containing crystalline silica particles.
- NO cure!

Exposures to crystalline silica dust include*:*

- Concrete cutting.

- Sandblasting for surface preparation.
- Crushing and drilling rock and concrete.
- Masonry and concrete work (e.g., building and road construction and repair).
- Mining & tunneling.
- Cement worker wearing a full-face piece negative pressure air purifying respirator.
- Demolition work.
- Cement and asphalt pavement manufacturing.

- **Physical hazards :**

Physical hazards are different types of energy, which may be hazardous to workers.

- Noise
- Vibration
- Temperature extremes and radiation

4.2.1 Safety culture

Islamabad construction industry safety culture material and non-material culture is poor.

Organization norms, value and attitudes and not display on the workplace site. Major gap between organization and workers awareness of safety culture rules and personal protective equipment.

Many construction site in Islamabad have not HSE Policy and procedure.

Non material culture: Management commitment, communication, employee involvement, training and information and Risk Assessment.

Material culture: Workplace layout display on different places on site. Safety label / sign board should be install in the workplace. Welfare facility will be available on site Example: Drinking water, rest / shelter area and first aid box with certified first aider**.**

Company must be hired in safety officer for implementation of safety rules. If company hired in safety officer will be more benefit for company. Worker moral will be high because accident rate will be reduced. Company business will be expanded.

Pakistan American society has developed occupational safety and Health laws in Pakistan. Implementation is important factor for any company, In Islamabad construction workers are illiterate. Safety culture is important factor for company should be clear safety norms, values and attitudes.

Cultural lag

In Islamabad construction workplace safety technology innovation in the vehicle equipment, firefighting system and safety sensor.

Technology is currently improving way the construction industry operates. Smart phones and mobile apps have made communication and collaboration on projects easier.

Vehicle equipment like cranes and forklift truck and have made safety indictor sensor. In construction site drones are being use on job site for

everything from site surveying and to inspecting structures and to creating promotional videos. They are also being use for making construction site safer.

Drones can be used to quickly conduct job site inspections and identify potential hazards each day. They can also be used to monitor workers throughout the day to ensure everyone is working safely. Drones are being used to take photos of as work progress create as –built models of jobsites to keep everyone informed of the changing work conditions each day. In Islamabad site construction industry is growing day by day and population is increasing. Virtual reality simulators have been used for years to train workers on everything from operating cranes and excavators to doing welding and masonry work. Safety training and equipment operators are two areas where virtual reality could impact construction in the future. Workers could get exposure to environments such as confined spaces or working at height in a controlled environment.

Site Sensors

Companies like smart site and pillar technologies have developed site sensor that can be deployed across a construction site to monitor things like temperature, noise levels, dust particles and volatile organic compounds to help limit exposure to workers.

The sensor are mounted throughout the construction site can alert workers immediately when they are risk from permissible exposures levels being reached. Data from the sensor are collected and can be analyzed to mitigate

exposures levels and keep workers safe and stay compliant with OSHA regulations.

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Chapter No. 5

RESEARCH METHODOLOGY

This chapter attempts to describe the methodology pertaining to Quantitative Research methods. It has a vital role in research as it provides the guidelines, which are to be fulfilled in order to achieve efficient, standardized, and up-to-mark research. Furthermore, every researcher follows a specific procedure for the study. This research is being carried out by using quantitative methods and techniques. The researchers selected a quantitative research design for this thesis, which emphasizes the numerical analysis of the data collected through an interview guide.

5.1 Research Design

"Sociological analysis of health and safety protocols among construction workers" is the title of the research in which researchers used a quantitative method. The benefit of this researcher can be easily in a short period. Later on, researchers can get significant results by using this method. In addition, quantitative research is a very easy way to collect data for research and analysis. Interview schedules are used to collect data for sociological analysis of health and safety protocols among construction workers. Researchers focus on gathering statistical data that will be generalized and describe a particular phenomenon.

5.2 Universe of the Study

The researcher has selected Islamabad, the capital city of Pakistan, for conducting his research. The researcher has selected this region for research in his interest in searching for and finding out the reasons for "Sociological analysis of Health and Safety Protocols among construction workers. It is noted that most less-experienced workers are unaware of construction safety protocols. In 2021, it is predictable that Islamabad will now be 1,163,584. The population of Islamabad was 36,466 in 1950. Islamabad has increased by 34.386, which is 3.05 percent yearly, since 2015. Islamabad is the capital city of Pakistan and is located in the Islamabad Federal Territory. Because of its population, it is Pakistan's most diverse and cosmopolitan area.

5.3 Unit of Analysis

The research-conducted Islamabad is the capital city of Pakistan. The researcher collected data only from the Construction workers. Because Construction workers need to know about these safety protocols, Labour.

5.4 Sampling Technique

The researchers used a simple random sampling technique to collect data from the target population. The researcher used a random sampling technique for the selection of the respondents for data collection.

5.5 Sampling Size

By using the sample size formula (N/1+ne2), researchers selected 150 respondents from the population of 5,000 construction workers. N/1+ne2, N shows the whole number of the population and E shows the error of chance. Furthermore, 150 respondents' ideas were examined about sociological analysis of health and safety protocols among construction workers in Islamabad. It was enough for researchers to obtain categories of information about the significant issues.

5.6 Tools for Data Collection

The researcher designed a tool for data collection that was interview schedule, which was distributed in target populations. The researcher uses an interview schedule because most of the respondents were uneducated. The researcher fills interview schedule from respondents. If the respondents feel uncomfortable or unable to understand the questions, then guidance was given by the researcher to the respondent to understand the questions in order to get the authentic data.

5.7 Pre-Testing

Pre-testing is one of the significant and predictable parts of research, and each researcher must perform pre-testing. As with the earlier rules and regulations, the researcher also went for the pre-testing, and the locally located people examined 10 questionnaires in order to rectify questions.

5.8 Tools of Data Analysis

The data was analyzed with the help of a computer program-based software for social science research, named: Statistical Package for Social Science (SPSS).

5.9 Techniques for Data Analysis

Descriptive and inferential statistical procedures were used to analyze the data. The descriptive statistical procedures were used to get the percentages and frequencies of the collected data.

5.10 Limitations of the Study

The study was designed to explore a sociological analysis of health and safety protocols among construction workers in Islamabad. It was not an easy task to collect the data through the survey in order to gather the data from a construction worker. However, collecting data from prospective people and taking time for them was creating hurdles. The researchers had collected data from the construction workers. The total number of respondents was 150. The researchers spent one-week collecting data collection.

5.11 Ethical Concerns

It includes the confidentially of the data gives by the respondents; the researcher kept the information secret because if it is revealed, the

respondents would feel insecure. The researcher tried to be honest and reliable.

Chapter No. 6

FINDINGS

This chapter contains two sections “Descriptive analysis and inferential analysis.” The descriptive analysis is typically distinction from the inferential analysis .The descriptive section focuses on the descriptive analysis of variables. It describes the collected data in the tabular and summary forms. On the other hand, inferential analysis deals with the hypothesis testing of variables.

6.1 Descriptive Analysis

Descriptive analysis is a term used to describe the statistical data, which are collected from the survey. The researcher used descriptive analysis because to describe the data in a statistical form collected from their research area. Sociological analysis of Health and Safety Protocols among construction workers.

Table 1. Respondents’ Age

Category	Frequency	Percentage
18 to 30	81	54
31 to 40	51	34
Above 40	18	12
Total	**150**	**100**

The above table belongs to age group and it comes to the under of demographic profile of the respondents .This table depends over the three major ideas that one category frequency and percentage. However, the age groups of the respondents has three categories such as the age from 81 frequency and with 54 percentage. Moreover, this age of group of 18 to 30 has the highest frequency as well as percentage .the second age group belongs to the age of 31 to 40 of the respondents .this age group has 51 frequency and It has 34 percentage .Relatively, this age group is the second

highest frequency and percentage .this only the age group belongs to 40 plus and age group has the frequency of 18 and 12 percentage .this age group portrays the lowest frequency and percentage of the respondent.

Table 2. Academic Qualification

Category	Frequency	Percentage
Below Matric	26	17.3
Matric or Intermediate	97	64.7
Illiterate	27	18.0
Total	**150**	**100**

The above table belongs to Academic qualification of and it comes to the under of demographic profile of the respondents .This table depends over the three major ideas that one category frequency and percentage. However, the academic qualification of the respondents has three categories such as the age from 97 frequency and with 64.7 percentage. Moreover, academic qualification of Matric or Intermediate has the highest frequency as well as percentage .the second group belongs to the Qualification of below Matric of the respondents .This group has 27 frequency and It has 18 percentage .Relatively, this age group is the second highest frequency and percentage .this Illiterate of the frequency of 26 and 17.3 percentage .this age group portrays the lowest frequency and percentage of the respondents.

Table 3. Job Experience.

Category	Frequency	Percentage
Less than 1 year	23	15.3
1 –2 Years	65	43.3
3-4	47	31.3
Above 4years	13	8.7
Total	**150**	**100**

The above table belongs to Job Experience of construction workers and it comes to the under of demographic profile of the workers .This table depends over the one category frequency and percentage. However, the Job Experience of the construction workers has four categories such as the Experience from 65 frequency and with 43.3 percentage. Moreover, this Experience of 1-2 years has the highest frequency as well as percentage .the second group belongs to the age of 3-4 years of the construction workers. This group has 47 frequency and It has 31.3 percentage. Relatively, this age group is the second highest frequency and percentage .This only the Job experience group belongs To Less than 1 year and the frequency of 23and 15.3 percentage .

This group portrays the lowest frequency and percentage of the respondents.

Table 4. Working Hour

Category	Frequency	Percentage
less than 5 hour	19	12.7
5-8 hour	74	49.3
Above 8 hours	57	38.0
Total	**150**	**100**

The above table represents the Working hours a day of the construction workers and it comes to the under of demographic profile of the workers .This table depends over the one category and frequency. However ,the working hours of the construction has three categories such as the working hour at the workplace . 74 frequency and with 49.3 percentage. Moreover, this working hour of 5-8 hour has the highest frequency as well as percentage .the second group belongs to the above 8 hours of the construction workers. This group has 57 frequency and it has 38 percentage. Relatively, this age group is the second highest frequency and percentage .This only the working hours group belongs less than 5 hours and the frequency of 19 and 12.7 percentage.

Table 5. Monthly Income

Category	Frequency	Percentage
10,000 to18,00	36	24.0
18, 001 to 30,00	80	53.3
30,001 to 40,000	34	22.7
Total	**150**	**100**

The above table represents the Monthly income of the construction workers and it comes to the under of demographic profile of the workers .This table depends over the one category and frequency. However, the Monthly income of the construction has three categories such as the Monthly income at the workplace.80 frequency and with 53.3 percentage. Moreover, this working Monthly income of 18001, to 30000 income has the highest frequency as well as percentage .the second group belongs to the above 10,000 to 18,000 of the construction workers. This group has 36 frequency and it has 24 percentage. Relatively, this age group is the second highest frequency and percentage. This only the Monthly income group belongs less than 30,001 to 40,000 and the frequency of 34 and 22.7 percentage.

Table 6. Perform tasks that are unfamiliar to you.

Category	Frequency	Percentage
Never	51	34.0
Sometime	57	38.0
Always	11	7.3
Often	31	20.7
Total	**150**	**100**

The above table represents the Perform tasks that are unfamiliar to you of the construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, the Perform tasks that are unfamiliar to you of the construction has three categories such as the Perform tasks that are unfamiliar to you at the workplace.57 frequency and with 38.0 percentage. Moreover, this perform task that are unfamiliar to you of Sometime has the highest frequency as well as percentage. The second group belongs to the above Never of the construction workers. This group has 51 frequency and it has 34 percentage. Relatively, this age group is the second highest frequency and percentage. This only the group belongs Often and the frequency of 31 and 20.7 percentage. Last one is Always is 11 frequency and 7.3 percentage.

Table 7. Expose with chemicals or other hazardous substances.

Category	Frequency	Percentage
Never	29	19.3
Sometime	46	30.7
Always	63	42.0
Often	12	8.0
Total	**150**	**100**

The above table represents the Expose with chemical or other hazardous substances of the construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, Expose with chemical or other hazardous substances of the construction has four categories such as the Expose with chemical at the workplace.63 frequency and with 42.0 percentage. Moreover, this Expose with chemical or other hazardous substances has the highest frequency as well as percentage. The second group belongs to the above sometime of the construction workers. This group has 46 frequency and it has 30.7 percentage. Relatively, this age group is the second highest frequency and percentage. This only the group belongs Never and the frequency of 29 and 19.3 percentage. Last one is Often is 12 frequency and 8 percentage.

Table 8. Hazard identification and prevention

Category	Frequency	Percentage
Never	43	28.7
Sometime	60	40.0
Always	33	22.0
Often	14	9.3
Total	**150**	**100**

The above table represents the Hazard identification and prevention of the construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, Expose with chemical or other hazardous substances of the construction has four categories such as the Expose with chemical at the workplace.63 frequency and with 42.0 percentage. Moreover, this Expose with chemical or other hazardous substances has the highest frequency as well as percentage. The second group belongs to the above sometime of the construction workers. This group has 46 frequency and it has 30.7 percentage. Relatively, this age group is the second highest frequency and percentage. This only the group belongs Never and the frequency of 29 and 19.3 percentage. Last one is Often is 12 frequency and 8 percentage.

Table 9. Health and safety are important for production and quality

Category	Frequency	Percentage
Strongly agree	72	48.0
Agree	60	40.0
Neutral	10	6.7
Disagree	8	5.3
Total	**150**	**100**

The above table represents the Health and safety are important for important for production and quality of the construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, Health, safety, production, and quality of the construction has four categories such as the workplace.72 frequency and with 48 percentage. Moreover, strongly agree this Health and safety are important for production and quality has the highest frequency as well as percentage. The second group belongs to the above Agree of the construction workers. This group has 60 frequency and it has 40 percentage. Relatively, this group is the second highest frequency and percentage. This only the group belongs Neutral and the frequency of 10 and 6.7 percentage. Last one is Often is 8 frequency and 5.3 percentage.

Table 10. Health and Safety Representative.

Category	Frequency	Percentage
Strongly agree	73	48.7
Agree	67	44.7
Neutral	5	3.3
Disagree	5	3.3
Total	**150**	**100**

The above table represents the Health and safety Representative of the construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, Health and safety Representative and quality of the construction has four categories such as the workplace.73 frequency and with 48 .7 percentage. Moreover, Strongly Agree this Health and safety Representative has the highest frequency as well as percentage. The second group belongs to the above Agree of the construction workers. This group has 67 frequency and it has 44.7 percentage. Relatively, this group is the second highest frequency and percentage. This only the group belongs Neutral and the frequency of 5 and 3.3 percentage. Last one is Often is 5 frequency and 3.3 percentage.

Table 11. Training sessions on health and safety procedures at the workplace.

Category	Frequency	Percentage
Strongly agree	69	46.0
Agree	69	46.0
Neutral	8	5.3
Disagree	2	1.3
Total	**150**	**100**

The above table represents the Training sessions on health and safety procedures construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, Training sessions on health and safety at the workplace the construction has four categories such as the workplace.69 frequency and with 46 percentage. Moreover, Strongly Agree this Health and safety Training sessions has the highest frequency as well as percentage. The second group belongs to the above Agree of the construction workers. This group has 69 frequency and it has 46 percentage. Relatively, this group is the second highest frequency and percentage. This only the group belongs Neutral and the frequency of 8 and 5.3 percentage. Last one is Often is 2 frequency and 1.3 percentage

Table 12. Role and Responsibilities regard to health and safety.

Category	Frequency	Percentage
Yes	16	134
No	10.7	89.3
Total	**150**	**100**

The above table represents the Role and Responsibilities regard to health and safety construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, Role and Responsibilities at the workplace the construction has two categories such as the workplace.10.7 frequency and with 89.3 percentage. Moreover, "YES" Role and Responsibilities regard to Health and safety has the highest frequency as well as percentage. The second group belongs to the above "No of the construction workers. This group has 16 frequency and it has 134 percentage. Relatively, this group is the second highest frequency and percentage.

Table 13. Necessary precautions at the workplace.

Category	Frequency	Percentage
Yes	132	88
No	18	12
Total	**150**	**100**

The above table represents the Necessary at the workplace construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, Role and Responsibilities at the workplace the construction has two categories such as the workplace.132 frequency and with 88 percentage. Moreover, “YES” Role and Necessary precautions at the workplace has the highest frequency as well as percentage. The second group belongs to the above “No of the construction workers. This group has 18 frequency and it has 12 percentage. Relatively, this group is the second highest frequency and percentage.

Table 14. Incident Report

Category	Frequency	Percentage
Yes	122	81.3
No	26	17.3
Total	**148**	**98.7**

The above table represents the Incident report construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, Incident Report at the workplace the construction has two categories such as the workplace.122 frequency and with 81.3 percentage. Moreover, “YES” Incident Report has the highest frequency as well as percentage. The second group belongs to the above “No of the construction workers. This group has 26 frequency and it has 17.3percentage. Relatively, this group is the second highest frequency and percentage.

Table 15. How to respond to any incident at the workplace

Category	Frequency	Percentage
Yes	117	78
No	33	22
Total	**150**	**100**

The above table represents How to report Incident report to any incident at the workplace construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, How to report to any incident to any incident at the workplace the construction has two categories such as the workplace.117requency and with 78 percentage. Moreover, “YES” Incident Report has the highest frequency as well as percentage. The second group belongs to the above “No of the construction workers. This group has 33 frequency and it has 22 percentage. Relatively, this group is the second highest frequency and percentage.

Table 16. Understand the risks involved at the workplace.

Category	Frequency	Percentage
Yes	139	92.7
No	11	7.3
Total	**150**	**100**

The above table represents Understand the risk involved at the workplace construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, How to report to any incident to any incident at the workplace the construction has two categories such as the workplace.117requency and with 78 percentage. Moreover, “YES” Incident Report has the highest frequency as well as percentage. The second group belongs to the above “No of the construction workers. This group has 33 frequency and it has 22 percentage. Relatively, this group is the second highest frequency and percentage

Table 17. Emergency number at the workplace.

Category	Frequency	Percentage
Yes	138	92.0
No	12	8.0
Total	**150**	**100**

The above table represents Emergency number at the workplace construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, Emergency number at the workplace the construction has two categories such as the workplace.138requency and with 92 percentage. Moreover, “YES” Emergency number at the workplace has the highest frequency as well as percentage. The second group belongs to the above “No of the construction workers. This group has 12 frequency and it has 8 percentage. Relatively, this group is the second highest frequency and percentage.

Table 18. Do you feel safe at your workplace?

Category	Frequency	Percentage
Yes	142	94.7
No	8	5.3
Total	**150**	**100**

The above table represents Do you feel safe at the workplace construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, Emergency number at the workplace the construction has two categories such as the workplace.138requency and with 92 percentage. Moreover, “YES” Emergency number at the workplace has the highest frequency as well as percentage. The second group belongs to the above “No of the construction workers. This group has 8 frequency

and it has 5.3 percentage. Relatively, this group is the second highest frequency and percentage.

Table 19. Feel safe on your job duties.

Category	Frequency	Percentage
Yes	131	87.3
No	19	12.7
Total	**150**	**100**

The above table represents Feel safe on your job duties at the workplace construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, Feel safe on your job duties at the workplace the construction has two categories such as the workplace.131 frequency and with 87.3 percentage. Moreover, “YES” Emergency number at the workplace has the highest frequency as well as percentage. The second group belongs to the above “No of the construction workers. This group has 19 frequency and it has 12.7percentage. Relatively, this group is the second highest frequency and percentage.

Table 20. Safety is a priority for your direct manager.

Category	Frequency	Percentage
Yes	125	83.3
No	50	16.7
Total	**150**	**100**

The above table represents Feel safe on your job duties at the workplace construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, Feel safe on your job duties at the workplace the construction has two categories such as the workplace.125 frequency and with 83.3 percentage. Moreover, "YES" Emergency number at the workplace has the highest frequency as well as percentage. The second group belongs to the above "No of the construction workers. This group has 50 frequency and it has 16.7percentage. Relatively, this group is the second highest frequency and percentage.

Table 21. Location of your building's emergency utensils fire extinguishers or first aid kits.

Category	Frequency	Percentage
Yes	139	92.7
No	11	7.3
Total	**150**	**100**

The above table represents Fire extinguisher or first aid kits at the workplace construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, Feel safe on your job duties at the workplace the construction has two categories such as the workplace.139 frequency and with 92.7percentage. Moreover, “YES” Emergency number at the workplace has the highest frequency as well as percentage. The second group belongs to the above “No of the construction workers. This group has 11 frequency and it has 7.3 percentage. Relatively, this group is the second highest frequency and percentage.

Table 22. How to handle an emergency.

Category	Frequency	Percentage
Yes	124	82.7
No	26	17.3
Total	**150**	**100**

The above table represents How to handle an emergency at the workplace construction workers and it comes to the under the workers .This table depends over the one category and frequency. However, How to handle an emergency at the workplace the construction has two categories such as the workplace.124 frequency and with 82.7percentage. Moreover, “YES” Emergency number at the workplace has the highest frequency as well as percentage. The second group belongs to the above “No of the construction workers. This group has 26 frequency and it has 17.3 percentage. Relatively, this group is the second highest frequency and percentage.

6.2 Inferential Analysis

Inferential statics is a process of using data analysis to deduce properties of an underlying distribution of probability. Inferential statistical analysis infers properties of the population like testing hypotheses and driving estimates.

Table 23. Association between occupational injury and safety measures.

Task perform and expose with hazardous substances.	Do you interact with chemicals or other hazardous substances such as flammable liquids and gases.			Total	
	Never	Sometime	Always	Often	
Never	7	10	34	0	51
Someti me	12	19	15	11	57
Always	2	6	3	0	11
Often	8	11	11	1	31
Total	29	46	63	12	150

H1: lack of safety measures of workers lead potential injury.

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	32.589[a]	9	.000
Likelihood Ratio	34.617	9	.000
Linear-by-Linear Association	4.164	1	.041
N of Valid Cases	150		

a. 7 cells (43.8%) have an expected count of less than 5. The minimum expected count is .88.

To analyze the relationship between the lack of safety measures and potential injury. The above table depicts chi-square among two variables safety measures and potential injury. The researcher focused on an alternative hypothesis which about; safety measures play an effective role in the process of potential injury among construction workers. From the given table, it is shown that 7 cells (43.8%) have an expected count of less than 5. The minimum expected count is .88.

The asymptotic significance value is less than 0.05 it indicates that there is a relationship between the variables. In the above table, the asymptotic significance value is 0.00

This shows there is a significant relationship between safety measures and Potential injury.

Chapter No. 7

DISCUSSION, CONCLUSION, AND SUGGESTION

7.1 Discussion

The health hazards in the construction industry are distributed into two groups: acute health hazards and chronic health hazards. The greatest testified acute health hazards are workers falling from heights and electric shocks, while the most reported chronic health hazard is exposure to hazardous substances. The lack of safety measures for site safety and the failure to use Personal Protective Equipment (PPE) were the main causes of unsafe practices on construction sites. To improve safety culture, one of the major essentials in the construction industry is to improve specialists' awareness in energetic safety management and the implementation of safety awareness training, which must be developed and implemented among construction workers. (Hashini 2015).

The construction industry has recently played an essential role in affecting the project in many ways. The main causes of accidents are lack of safety awareness and lack of safety skills and training. The construction industry is safe, healthy, and accident-free. The authorities must understand and implement all safety procedures and scope of work to reduce the risk factor through continued monitoring and inspection by professionals. The company's management should take the necessary steps in order to reduce the risk factor (Ahmed 2018).

In the construction sector, occupational health and safety, the causes of injuries, and on-site hazard elimination are important. Safety culture should be recognized as a way of reducing risk factors in the workplace. A high number of mortalities in these countries, a lack of health and safety protocols, and deprived use of risk management practices. (Ayob 2017).

According to International Labour organizations reports, in Pakistan, over 270 million workers are injured, with an estimated 160 million suffering from occupational accidents and disease. Pakistan is not working properly in formal and informal health and safety areas. The majority of companies in the construction sector do not know the risk and risk of occupational

Safety and health. Workplace physical and mental conditions determine the working conditions to a large degree. Employment accidents cost a great deal to people, society, and the economy, and must be eliminated, by guaranteeing that all workplaces are safe. The work environment and in our workplace strongly influences our living conditions. Health and safety at work are a central component of decent work and, therefore, should be universally guaranteed. Workers around the world should ensure that their workplaces are not exposed to unjustified risk (ILO, 1919).

The construction industry is additional hazardous as compared to the manufacturing industry because of occupational hazards. The rate of injuries is lower in high-income countries than in middle and low-income countries despite the low rate of reporting of occupational injuries. (Kinco and Aurthor 2019).

Safety performance measurement is a critical component of safety management systems. Its purpose is to provide feedback in order to adopt proactive safety management and continual improvement. Basic safety outcomes (e.g., accident rates, TRIFR (Total Recordable Injury Frequency Rate), and fatality rates) have traditionally been used to monitor and assess safety performance on construction sites. Auditing has been a frequent approach of measuring safety performance as more firms create and implement safety management systems. Despite the fact that safety indicator creation is still in its infancy and remains a difficult issue in the field of safety, leading indicators have recently received more attention. The measurement of safety performance in a safety management system is crucial. Its purpose is to provide feedback in order to undertake active safety management and continuous improvement. Safety has always been a primary priority at the top. The performance of construction sites has long been monitored and evaluated (Umer 2019).

Due to a lack of official authority for safety and health, the use of an injury/death rate in construction work is debatable in Pakistan; yet, research studies show considerable improvements. Accident investigations provide an important indicator of safety performance that is often disregarded by construction companies. The safety environment, on the other hand, is a major indication of employees' safety concerns and attitudes toward safety management systems. The purpose of this study is to see if there is a link between being late and important safety indicators. Accidents were classified according to their level of vulnerability and the environment in which they occurred (Masood et al 2014).

The brittleness of different temporary structural systems is a common source of construction disasters. Construction site accidents are frequently caused by the collapse of building portions or pieces, hazardous working conditions, employee behavior, and the misuse of machines and tools. The importance of building a health and safety culture in the construction industry cannot be overstated. The techniques and stages of building projects have altered as a result of technological and sociological improvements in the twenty-first century. As a result, many more advanced management solutions are employed to reduce and eliminate construction-related accidents and deaths, therefore improving the construction industry's efficiency and effectiveness by reducing waste and boosting profit (Hasnain et al 2018).

7.2 Conclusion

Health and safety protocols among construction workers in Islamabad. The construction industry is disreputable for its high number of mortalities around the world. The construction sector is associated with numerous accidents and fatal injuries. Occupational accidents are caused by numerous factors, such as lack of supervision, lack of adherence to safe work techniques, failure to wear personal protective equipment, and failure to comply with the safe use of tools, vehicles, and machines. Occupational injuries can pose direct costs, like suffering, loss of employment, disability, and loss of productivity, and indirect costs on families and society. Traditional construction safety management has operated under difficult conditions. Sensor-based technology is deemed to provide a new generation of methods for advancing construction safety management. Safety management in construction projects is to minimize and control the health and safety of construction workers. Safety control measures for accidents in construction building projects to minimize accidents by using sensor-based technology. Workers in the construction industry in Islamabad have taken the data for this research. The researchers have come up with the result that there are more negative and fewer positive impacts on construction workers in Islamabad. Health and safety of their construction teams to minimize construction risks to an acceptable value. Construction work and provide them with relevant information to identify risks and potential risks to their health and safety. The worker supervisor should have sufficient experience and knowledge to encourage the workers to carry out their work safely.

In the delivery of services, occupational safety and health should not be disregarded. Workers' motivation and job satisfaction, both of which have an impact on productivity and retention, are impacted by their physical and mental health. The safety of health-care professionals has an influence on the quality of care delivered; caregiver safety should be a key concern for the success of the health-care system. What is advantageous to employees' health is equally favorable to patients' health. Multis take holder activities

that combine global principles, national policy advocacy, and engagement of professional councils, schools, and health institutions can assist close the gaps in OSH risk reduction measures. The PPE Campaign is a key step in implementing occupational safety and health policies, ensuring the well-being of the health sector's most precious resource, as well as the patients and communities they serve, and so contributing to the transformation of the health system as a whole.

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ANNEXURE

Topic: Sociological Analysis of Health and Safety Protocols among Construction Workers in Islamabad Pakistan.

By
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Introduction
I am Zeeshan Hussain, research student department of Sociology, Quaid-I-Azam University, Islamabad, conducting research on" **Sociological Analysis of Good Health and Safety Protocols Among Construction Workers in Islamabad: A Quantitative Study".** All the information which you will provide us will be kept in complete confidential and only use for the academic purposes.

PART-1: SOCIO-DEMOGRAPHIC PROFILE OF RESPONDENTS		
S. No	**Category**	**Responses**
Q-1	Age (Years)	○ a) 18-30 b) 31-40 c) Above 40
Q-2	Academic Qualification	1. Below Matric 2. Matric or Intermediate 3. Illiterate
Q-3	Job experience -years	☐ a) Less than 1 year b) 1-5 c) 3-4 d) Above to 5 years
Q-4	working hours, a day	☐ a) Less than 5 hours b) 5-8 hours c)

		Above 8 hours
Q - 5	Monthly income	☐ a) 10,000 - 18000 b) 19,000-30,000 C) 31,000 – 40,000

Part II: Hazards in the Workplace.

6. .How often do you perform tasks that are unfamiliar to you.

(a) Never (b) Sometime (c) Always (d) Often

7 .Do you interact with chemicals or other hazardous substances such as flammable liquids and gases?

(a) Never (b) Sometime (c) Always (d) Often

8. Systems are in place to identify, prevent and deal with hazards at workplace.

Part III: Policies and Procedures

9 .Workplace health and safety is considered to be as important as production and quality.

(a)Strongly agree b) Agree (c) Neutral (d) Disagree (e) strongly disagree.

10 .There is at least a health and safety representative or a committee in the company.

(a)Strongly agree b) Agree (c) Neutral (d) Disagree (e) strongly disagree.

11. Training sessions and information should on health and safety procedures in the workplace.

(a)Strongly agree b) Agree (c) Neutral (d) Disagree (e) strongly disagree.

Occupational Health and Safety Awareness

12. Do you understand your rights and responsibilities with regard to health and safety at workplace?

(a)Yes (b) No

13. Do you take necessary precautions in your job?

(a)Yes (b) No

14. In case of any unwanted incident that arise involving health and safety, you know where to report it to.

(a)Yes (b) No

15. Do you know how to assist and respond to any incident involving health and safety in your workplace?

(a)Yes (b) No

16. Do you understand the risks involved with your job and you take necessary precautions for safety?

(a)Yes (b) No

17. Do you know about emergency number?

(a)Yes (b) No

18. Do you feel safe at your workplace?

(a)Yes (b) No

19. Do you feel safe on your job duties?

(a)Yes (b) No

20. Do you believe that your safety is a priority for your direct manager?

(a)Yes (b) No

21. Do you know the location of your building's emergency utensils (such as fire extinguishers or first aid kits).

(a)Yes (b) No

22. Do you have knowledge how to handle an emergency situation?

(a)Yes (b) No