

# Analysis on the Relationship between Safety and Unsafe Behavior in Building Construction

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**Abstract:** With the continuous improvement of the safety management level of construction technology, although the occurrence of construction safety accidents is generally declining, but there are still more construction safety accidents. Research shows that construction safety is significantly related to workers' safety behavior. In order to reduce safety accidents, it is necessary to improve workers' safety awareness, improve construction environment and enhance management requirements. Improving construction safety is helpful to promote economic benefits and enhance the image of enterprises, and protect the life and health of workers.

**Keywords:** Building Construction; Construction Safety; Unsafe Behavior.

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## 1. Background

With the continuous improvement of construction technology and safety management level, the number of construction fatalities, the number of major and major accidents, million tons of death rate and other safety indicators are generally declining, but compared with other industries, the safety situation of the construction industry is still grim, the construction industry is still one of the industries with the highest incidence of major and major accidents and casualties. It can be seen that the construction industry has obvious characteristics, the total number of accidents is large, the proportion of serious accidents is high, and the number of deaths is large.

Frequent construction safety accidents not only cause the loss of property and lives of construction enterprises and construction workers, but also damage the image of construction enterprises. Meanwhile, the market affinity of the construction industry is greatly weakened, causing no small pressure to the sustainable and healthy development of the construction industry. Facing the severe construction safety situation, construction enterprises, mining colleges and scientific research institutions, construction safety supervision departments, etc., constantly optimize the production process from different aspects, improve the safety monitoring system and equipment, improve the safety protection equipment. However, compared with the occurrence of construction production technology innovation and safety accidents in recent years, we can find that although technical progress and equipment improvement have a very positive significance for the improvement of construction safety level, but for the high frequency of construction accidents, frequent problems have not been fundamentally solved. The high incidence of construction safety accidents has not been effectively curbed, despite the rapid progress of construction production and safety supervision technology in recent years.

## 2. The Main Cause of Insecurity

Practice shows that many safety hazards need to rely on workers' skill level and subjective initiative to play, which is

closely related to the unsafe behavior of construction workers, only relying on scientific and technological progress and equipment improvement, it is difficult to fundamentally solve the "unsafe state of things" in construction. The main reasons are as follows:

(1) Subject to multiple factors such as personnel quality and output benefit, construction production in our country will be at the mechanization level for a long time, and it will take a long time to realize a full degree of automation, visualization and information technology. The quality and behavior of workers will have a non-negligible impact on construction efficiency and safety.

(2) Once the construction production equipment is put into use, if there is a system design defect, it is often difficult to repair and perfect in a short time without considering human characteristics and physiological needs, and it needs to rely more on the labor behavior of workers to avoid and improve in this stage.

(3) The environmental factors of construction and production are highly variable and unpredictable, so workers' professional quality and subjective initiative need to be brought into play when emergencies occur.

(4) Construction is a labor-intensive industry, and the production line is characterized by mobile operations. Constant changes in the operating environment and frequent movement of operating equipment greatly reduce the reliability of the system and equipment, so it is more necessary to rely on the improvement of workers' behavior to make up for the defects of system reliability.

Therefore, the fundamental way to solve the problem of building safety should be from the perspective of improving workers' behavior and developing safety behavior to study and practice. Analysis of many of the causes of accidents outside China also shows that unsafe behavior or human error is to blame.

According to statistics, more than 75 percent of accidents are caused by unsafe behavior or human error, and the construction industry accounts for more than 84 percent of accidents. Therefore, we must take the management and control of workers unsafe behavior as the focus of safety management, in order to improve the current construction safety facing the grim situation.

### 3. Management Measures to Improve Safety

China's regulatory bodies and construction companies at all levels have made many attempts and efforts to effectively solve the major problem of the high incidence of unsafe construction workers. For example, The State Council has repeatedly issued instructions to strengthen the special management of construction safety production, and strengthen the supervision of construction safety in terms of investment and supervision; China Work Safety Administration, China Construction Safety Administration, China Work Safety Emergency rescue Command Center and other institutions have frequently introduced the management rules and regulations to promote the work of safety in construction enterprises, and sent safety supervision teams to supervise the work of safety in construction enterprises. Relevant provinces actively explore measures such as building integration, promote building safety management, and implement the safety requirements of the Chinese side and the ministry. At the same time, construction enterprises through strengthening worker training, establishment of underground personnel positioning monitoring, forced implementation of rescue warehouse system, continuous introduction of foreign advanced safety management system and other methods and measures, focus on solving the construction of "three violations" problem, so that the unsafe behavior of construction personnel is effectively controlled, through strengthening worker training, establishment of underground personnel positioning monitoring and other six systems. These works have played a positive role in improving the safety management level of construction enterprises, but the problem of frequent construction safety accidents caused by unsafe behavior is far from being solved, which is a very difficult thing from the number and cause of construction safety accidents in recent years.

In fact, in order to ensure the effectiveness of prevention and control measures of unsafe behavior, we must deeply grasp the internal law of unsafe behavior. If we do not start from the physiological, psychological and behavioral rules of people, and too much from the technology and management to find solutions to the problem, then the subject of unsafe behavior is people, its effect on the prevention of accidents and control of unsafe behavior will be greatly reduced. The actual effect of the intervention and control of unsafe behavior shows that there are still deficiencies in the understanding of the occurrence rules of unsafe behavior, which reduces the effectiveness of unsafe behavior intervention measures. Therefore, the study of unsafe behavior has become the focus of safety management work in recent years. To carry out in-depth study of unsafe behavior shows the urgency and necessity of further in-depth study of unsafe behavior.

The research on the relationship between construction and unsafe behavior can analyze its practical significance from the perspectives of society, enterprises and individuals. This study mainly focuses on the influence of relevant factors on intentional unsafe behavior of construction enterprises, takes the intention of unsafe behavior as an important intermediary variable, analyzes the influencing factors of intentional unsafe behavior and non-intentional unsafe behavior, and puts forward control measures. From the actual situation, the unsafe behavior of construction enterprises is adversely affected by the following three aspects:

Unsafe behavior increases the cost of production and

operation of enterprises. Due to the high incidence of unsafe behaviors in construction and the severity of accidents caused by unsafe behaviors, enterprises need to take technical measures to control and correct unsafe behaviors of workers by means of management, training, monitoring and protection of operations and environmental conditions that may induce unsafe behaviors. However, due to the lack of an effective grasp of the occurrence rules of unsafe behaviors, some investments often fail to produce the expected safety performance, resulting in the waste of enterprise funds.

Unsafe behavior has an impact on the achievement of enterprise management objectives. The main management objectives of construction enterprises include profit objectives, safety management objectives, sustainable development objectives and so on. The achievement of the expected profit goal and the safety management goal of the enterprise will be seriously disturbed by personal injury, property loss and the suspension of production and operation caused by unsafe behavior. At the same time, enterprises tend to ignore safety factors in order to ensure short-term profit goals and safety management goals. Once a safety accident occurs, it will have an adverse impact on the sustainable development goals of enterprises.

### 4. Summary

The impact on corporate image caused by accidents due to unsafe behavior is negative. Construction safety performance, especially the effectiveness of worker casualty control, often become an important index of social evaluation of a construction enterprise image. Whether workers choose a construction enterprise as the object of employment, whether they have high organizational commitment and job commitment to the construction enterprise, enterprise safety performance is also an important indicator. At the same time, safety management performance is also an important reference for government management departments to provide preferential support in terms of resource integration and supporting support, as well as the main basis for the approval of credit line and financing scale in the financial sector.

In a word, by discussing the relationship between construction safety and unsafe behavior and studying the influencing factors of unsafe behavior, it can reduce unsafe behavior for construction enterprises, improve the level of construction safety management, promote economic benefits and enhance the corporate image, and at the same time provide theoretical basis and method suggestions, which have an important impact on the survival and development of construction enterprises. It protects the life and health of construction workers.

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