

## “A Review on Workers’ Job Behaviour Related Factors Influencing Performance of Construction Projects”

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**Abstract:** In the last decade, the maximum complicated issue in Construction sector was how to boost the manpower efficiency. An understanding is much needed to raise the project performance by identifying the workers' job behaviour related factors in construction industry. The efficiency of manpower is influenced by many factors and also it is directly related with project cost, time horizons and safety issues. In this connection, this study discusses workers' job behaviour related factors influencing performance of construction projects. About 30 relevant articles published over the last two decades have been reviewed. This review concluded that the earlier solution for the factors during the manpower planning stage of the construction project will lead to the better performance in order to avoid the cost and time overrun.

**Key words:** behaviour, project performance, construction workers, etc.

### I. Introduction

Workers’ behavioural problems are always difficult to handle especially in construction industry. Because of its severity and unexpected sudden negative impacts, workers’ behavioural problems are like sleeper cells. The influencing level of workers’ behavioural problems is unpredictable and collapses the manpower planning. The positive behaviour of construction workers will lead to the success of project as well as success of an organization. There are two things mostly decides the behaviour of construction workers. One is situational related factors and another one is personal factors. If these two things are not in good, the workers’ behaviour is going to be mostly negative in nature. The negative behaviour of a worker in a crew affects the efficiency of the construction manpower. A clear-cut literature review is required to display the reasons behind the behavioural issues of the construction workers. In this connection, this study identifies the workers’ job behavioural factors influencing the performance of construction projects. This study will be used to control the behavioural issues of construction workers in the future. This work was majorly focused by the two main questions:

1. What are the workers’ behavioural factors influencing the performance of construction projects?
2. Does the construction workers’ behaviour influence project performance?

### II. Literature Review

The average amount of literatures has been published on the construction workers behavioural problems. This section reviews thirty specific research article published over the past two decades for the better understanding of these kinds of behavioural issues and also identifies workers' behavioural factors influencing construction project performance.

Yingbin Feng et al. (2017) studied the role of demographics and psychological constructs in predicting construction workers’ tendencies to engage in risk-compensation behaviours. They said that overconfidence about own capability and perceived power of control over safety issues may encourage risk-compensation behaviours on construction sites.

Dok Yen (2018) examined the effects of negative attitudes of construction workers on local contractors in Ghana and concluded that the effective control of negative attitudes of construction workers can lead to significant development in local construction industries.

Bernstein and Trimm (2016) indicated a direct negative impact of workplace bullying on psychological well-being, self-esteem, job satisfaction and intention to leave.

Brockman (2014) discussed about the Causes and Consequences of interpersonal conflict in construction.

Guangdong Wu et al. (2018) investigated the relationship between job burnout, work-family conflict and project performance for construction professionals. They concluded that high levels of work-family conflict lead to high levels of job burnout, while organizational support played a role in moderating the relationship between work-family conflict and job burnout. Maximum levels of job burnout and work-family conflict lead to less levels of project performance.

Rezvani et al. (2018) showed the critical effects of trust and conflict as mediating variables between a team and performance at the team-level in large construction project.

Tahir et al. (2015) studied the negative factors influencing labour productivity in building projects.

Ponmalar et al. (2018) identified the factors affecting labour productivity. They mentioned some manpower related factors such as absenteeism, age, lack of experience and personal problems. The spss software was used in their study for data analysis.

Tiwari et al. (2016) identified the key factors influencing labour productivity in India and ranked those factors using analytical hierarchy process. They conducted interviews with construction engineers. They categorized those factors such as psychological, human, designing, technological, management and external factors.

Enshassi et al. (2009) studied the factors influencing construction project performance. They conducted questionnaire survey with construction professionals and ranked those factors using relative important index method.

Ying-yi chih et al. (2017) explained the role of workers and supervisors’ relationship according to the performance of the workers. They stated that the performance and behaviour of construction workers was influenced by their relationship with supervisors.

Yongwei shan et al. (2017) studied about the latent factors of quality of work-life influencing construction worker job satisfaction. They identified thirty-four factors and conducted the questionnaire survey for the data collection.

Jingfeng yuan et al. (2018) stated that the physical and mental health related factors were affecting the efficiency and the productivity of the craft. They identified fourteen factors and categorised those factors under three different group factors.

Seungjun ahn and sanghyun lee (2015) studied about the behaviour of workers influenced by social norms. They proposed a methodology to frame an empirically supported agent-based model. Their methodology was provided a means of simulating workers’ group behaviour and developing policies to improve worker behaviour at the group level in construction.

Seungjun ahn et al. (2014) investigated the relationship between attitudes of workers towards social rules and workers’ absence behaviour. They collected data from the questionnaire survey and analysed those data by using logistic regression analysis. They concluded that workers’ absence behaviour is under the influence of social controls.

Raoufi and Fayak (2018) studied and highlighted the situational factors influencing the relationship between construction crew motivation and performance. They also listed some important factors under counterproductive behaviour category.

Chuks and uchenna (2013) studied the relationship between culture, safety, human behaviour and perception of construction workers in the detailed manner.

Oi-ling siu et al. (2003) explored linear and curvilinear relations between age and safety performance and safety attitudes of construction workers.

Gunasekaran et al. (2016) studied about the psychological health behaviour of construction workers. They identified critical factors of the workers towards psychological behaviour, organizational behaviour and safety behaviour. They conducted questionnaire survey and analysed the data by using the relative important index method.

Sooksil and Benjaoran (2017) identified the factors affecting the construction workers’ behaviour. They used the Delphi technique and the analytical hierarchical process for the data collection. They listed some important factors such as hasty behaviour, fatigue, job satisfaction and working relationship.

Xiang wu et al. (2018) identified the dimensions of job stress and designed the job stress scale. They cited the safety behaviour measurement scale through the semi-structured interviews and also mentioned about the interpersonal relationship factors.

Mitropoulos and Memarian (2012) investigated the team processes that affect the safety of construction workers, and discussed the difficulties in improving effective teamwork in construction crews.

Qi-liang et al. (2018) explored the critical factors for managing stress of construction workers. The coping behaviour and stress symptoms of workers were identified in the detailed manner.

Langdon and Sawang (2018) studied about the construction workers’ well-being, the primary stressors in the construction workplace, the relationships between the strain effect of psychological distress and the countermeasures and coping mechanisms used by construction workers.

Ying-Yi Chih et al. (2017) investigated the interactive effects of psychological contract breach, organizational justice, and tenure on workers’ job insecurity and job performance. They adopted a social-psychological perspective to understand the implications of psychological contract breach on construction workers’ performance.

Seungjun Ahn et al. (2014) studied the system-level effect of workers’ social learning using an experimental analysis with simulations in order to develop the knowledge of the social aspect in workers’ absence behaviour

Powell and Copping (2010) stated that the Sleep deprivation contributes to fatigue, which can have a profound effect on an individual’s wellbeing, work performance, and safety.

Nikolaou and Robertson (2001) explored the validity of the five-factor model of personality in occupational settings in Greece, examining its relationship to employees’ overall job performance, job satisfaction, organizational citizenship behaviour, and generic work competencies.

Cox (2005) stated that the human behaviour varies with each individual and situation, but there are certain fundamental consistencies underlying the behaviour of all individuals.

Wang et al. (2017) identified the different types of psychological disorders in construction projects and developed a fuzzy mapping to determine the impact of psychological disorders in the context of time, cost, and quality in construction management.

### III. Methodology

The methodology of this study is very specific. It starts from the identification of problem and research questions. It is continuing with literature review, identification of factors through the literature review and it is ending with conclusion.

#### IDENTIFICATION OF WORKERS JOB BEHAVIOURAL FACTORS INFLUENCING PERFORMANCE OF CONSTRUCTION PROJECTS

On specifically, the success of an organization is depends upon the manpower resources and their positive behaviour especially in construction sector. Through the knowledge of literature review, this study identifies some crucial factors based on the construction workers’ job behaviour. The table 1 shows the construction workers’ behavioural factors influencing the performance of construction projects. This table is used to understand the previous studies and helps to improve the knowledge on the construction workers’ behavioural factors

**Table 1:** construction workers’ job behavioural factors influencing project performance

Sl. No:	Authors	Year	Factors
1	Nikolaou and Robertson	2001	Job satisfaction
2	Oi-ling sui et al.	2003	Work pressure, age, gender and attitudes
3	Cox et al.	2005	Job satisfaction, motivation, committed behaviour and loyalty behaviour
4	Enshassi et al.	2009	Absenteeism, relationship, attitudes, motivation and health
5	Powell and Copping	2010	Inadequate sleep, age and fatigue
6	Mitropoulos and Memarian	2012	Cross monitoring, backing-up behaviour and member’s interactions
7	Seungjun ahn et al.	2013	Absence behaviour
8	Chuks and Uchenna	2013	Culture, attitudes and unsafe behaviour
9	Seungjun ahn et al.	2014	Absence behavior, job satisfaction, attitudes and anxiety about breaking formal rules
10	Brookman	2014	Interpersonal conflict and conflict triggers
11	Tahir et al.	2015	Absenteeism, age, poor health, job satisfaction, poor relationships and work overtime
12	Seungjun ahn and sanghyun lee	2015	Absence behaviour
13	Gunasekaran et al.	2016	Relationship with co-workers and supervisors, boredom, proper sleeping, emotions, motivation and work environment
14	Tiwari et al.	2016	Stress, job satisfaction, personal clashes, experience, job familiarity and motivation
15	Bernstein and Trimm	2016	Bullying, psychological well-being, job satisfaction, age and gender
16	Yingbin feng et al.	2017	Habitual behaviour and trait worry
17	Ying-yi chih et al.	2017	Positive emotions, job embeddedness, age, gender, relationship with supervisors, civic-

			virtue behaviour
18	Yongwei shan et al.	2017	Job satisfaction, stress, poor mental health, poor physical health, sleeping time, income, relationship with co-workers and supervisors.
19	Sooksil and Benjaoran	2017	Hasty behaviour, fatigue, job satisfaction, health conditions, task complexity
20	Ying-yi chih et al.	2017	Attitudes, job insecurity, age and gender
21	Chen wang et al.	2017	Work stress, psychological disorders, depression, anxiety disorder and emotion
22	Doc yen	2018	Negative attitudes, absenteeism, use of alcohol and drugs, laziness, lateness to work, threats of violence, dishonesty and pilfer
23	Guangdong wu et al.	2018	Work-family conflict, job burnout
24	Rezvani et al.	2018	Personal factors and conflict
25	Ponmalar et al.	2018	Absenteeism, age, misunderstanding and personal problems
26	Jingfeng yuan et al.	2018	Physical and mental health, sleeping time, attitudes, social relationship with others, anxiety and upset mood, working hours and rest time
27	Raoufi and Fayek	2018	Situational factors: work shift, task complexity, weather conditions, relationship, task interruptions. Counterproductive behavior: absenteeism, unsafe behaviour, alcohol consumption or drug use, inappropriate physical action, and misuse of time, resources and information
28	Xiang wu et al.	2018	Job stress, work-family conflict and interpersonal conflict
29	Qi liang et al.	2018	Negative feelings, emotions, drink alcohol and smoke, use of bad language, sleep disorder, stress, tension, physical pain, worrying, anger, anxiety, eye strain, interpersonal relationships
30	Langdon et al.	2018	Stress, depression and anxiety

The above table 1 clearly shows the various kinds of factors identified from the previous studies through the clear-cut literature review. Among those factors, few are frequently mentioned in the table 1.

***Absence behaviour of construction workers:***

In recent years the level of absenteeism in construction site is slightly increased due to the satisfaction with salary, personal issues, negative attitudes, and improper commitment to the job. The allocation process highly depends upon the manpower resources. This absence behaviour is directly affecting the efficiency of the construction crew. However, absence behaviour is the one of the major factor influencing project performance.

***Job satisfaction of construction workers:***

Construction workers’ job satisfaction is happened most of the times because of boredom due to repetition of tasks, task difficulties, and work load of an individual. The flow of manpower efficiency is highly depending upon every individual’s job satisfaction.

***Job stress of construction workers:***

The nature of construction job is challengeable due to the project situations and time horizons. The long working hours, poor health conditions, work pressure and bullying are major reasons behind the stress of construction workers. The performance of crew is influenced by the workers’ stress.

***Inadequate sleep:***

Sleeping disorders is another major factor of behaviour due to stress, working hours and work shift. Inadequate sleep results poor concentration and upset mood of construction workers. It affects the ability of workers to perform.

***Poor Interpersonal relationship with co-workers and supervisors:***

This interpersonal relationship is always based on cultural and social norms as well as work environment. The poor interpersonal relationships among co-workers tend to influence each other, clash their thoughts and feelings, and not engage in activities together. These are indirectly affects the efficiency of the work and also the project performance.

#### **Attitudes of construction workers:**

Attitudes are the fundamental factors of workers behaviour. There are two types of attitudes of workers. One is positive attitude and another one is negative attitude. The necessary of understanding the attitudes of construction workers is because of their importance to boosting performance in the construction industry.

#### **Conflict:**

Conflict at construction workplace leads to disturb the work flow as well as crew's performance. Work-family conflicts result the upset mood and depression.

### **IV. Conclusion**

Because of the impact level, workers' behavioural factors are frequently influencing the project performance. There are several important factors identified in this study through a clear-cut literature review. The top most influencing factors are absenteeism, job satisfaction, job stress, inadequate sleep, poor interpersonal relationship, attitudes and conflicts. The proper understanding with futuristic thinking will be helping the construction professionals to overcome these kinds of problems in order to improve the project performance through the construction manpower efficiency. The supervisors' healthy relationship with construction workers will give the positive solutions to these factors. The construction supervisors should spend little more time to understanding their workers. This understanding between supervisors and workers may reduce the behavioural issues such as conflicts, absenteeism, job satisfaction and stress. And also this may improve manpower efficiency that have a good impact on the performance of construction projects. The findings of this paper have the way for the construction sector and those focusing attainable routes for their future research in this area.

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