

THE IMPACT OF SAFETY CULTURAL IN EMPLOY BEHAVIOUR

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Abstract

The construction industry is one of the most high-risk industries, where employees face hazards such as falls, machinery injuries, electrical risks, and unsafe working conditions. This study examines the impact of safety culture on employee behaviour in construction projects, with focus on safety awareness, training, management commitment, communication, safety practices, and employee compliance. A quantitative approach with a descriptive research design was used, and primary data were collected through a structured questionnaire from 115 construction employees. The data were analysed using frequency analysis, descriptive statistics, and reliability analysis with IBM SPSS Statistics. The findings show that most respondents have good safety awareness and generally follow safety procedures at their workplaces. Management support, regular safety training, clear safety communication, and proper use of personal protective equipment were also found to be important factors supporting safe behaviour. The results further show that 51.3% of respondents strongly agreed that a strong safety culture reduces unsafe behaviour, while 50.4% strongly agreed that proper safety culture helps reduce accidents and injuries. Overall, the study shows that a positive safety culture plays an important role in improving employee behaviour and workplace safety in construction projects. The descriptive results indicate generally positive responses, with high mean scores for PPE use and following safety procedures. The reliability analysis also showed reasonable internal consistency across the major sections of the questionnaire, with Cronbach's Alpha values ranging from 0.575 to 0.742. The study concludes that continuous safety training, strong management commitment, effective communication, adequate safety equipment, and employee participation are important for developing a stronger safety culture. Improving these areas can help reduce unsafe practices, encourage responsible behaviour, and contribute to better safety performance at construction sites.

Keywords: Safety Culture, Employee Behaviour, Construction Projects, Workplace Safety, Safety Awareness, Safety Training, Management Commitment, Safety Compliance, Safety Behaviour, Accident Prevention.

1. INTRODUCTION

Introduction to the Study

The construction industry plays an important role in the development of a country by providing buildings, roads, bridges, highways, and other infrastructure. At the same time, construction work involves many risks, including falls, machinery-related injuries, electrical

hazards, and unsafe working conditions. Because workers perform different activities in changing site conditions, maintaining safety is a major challenge.

Safety rules and protective equipment are important, but they alone cannot prevent every accident. The way employees think and behave towards safety also matters. Workers may sometimes ignore safety procedures, take shortcuts, or avoid using protective equipment because of work pressure, lack of awareness, or poor supervision. This is why **safety culture** has become an important part of construction safety.



A strong safety culture means that safety is treated as a regular part of work by both management and employees. When workers receive proper training, get clear safety instructions, and see that management takes safety seriously, they are more likely to behave safely. The present study therefore focuses on understanding how safety culture affects employee behaviour in construction projects.

Safety Culture and Employee Behaviour

Safety culture refers to the way safety is understood, valued, and practiced within an organisation. In a construction project, it includes management support, safety training, communication, supervision, use of personal protective equipment, and employee participation. A good safety culture encourages workers to follow safety procedures even when they are not being directly supervised.

Employee behaviour is closely connected with these practices. Safe behaviour includes following safety rules, using PPE, reporting unsafe conditions, and working carefully. On the other hand, ignoring safety instructions, taking shortcuts, and avoiding protective equipment can increase the risk of accidents. Therefore, improving safety culture can help create better safety habits among employees and reduce unsafe practices at construction sites.

Need and Importance of the Study

Construction accidents can result in injuries, loss of working time, additional costs, and delays in project completion. For this reason, construction companies need to focus not only on safety rules but also on the behaviour and attitudes of their employees. Understanding the factors that influence employee behaviour can help management take more practical steps to improve workplace safety.

This study is important because it examines employees' views about safety awareness, training, management commitment, communication, safety practices, and safety support. The findings can help construction managers and safety professionals identify areas that need improvement and develop a stronger safety culture. Ultimately, better safety culture can encourage safer employee behaviour and contribute to safer construction projects.

2. REVIEW OF LITERATURE

Lal et al. (2025) examined the role of leadership in developing safety culture and found that strong safety leadership encourages employees to adopt safer work practices. The study also highlighted the importance of moving from a reactive approach towards proactive safety management. This is relevant to construction projects because management commitment can influence both safety culture and employee behaviour.

Kaila (2019) reviewed behavioural safety practices in Indian industries and highlighted the continuing problem of unsafe employee behaviour. The study argued that safety management should focus not only on rules but also on changing employee behaviour through practical behavioural safety measures. This supports the present study's focus on employee actions and their role in accident prevention.

Kudkilwar and Kulkarni (2024) examined the relationship between organisational safety culture, employee safety behaviour, and productivity. Their findings showed that better safety culture is associated with safer employee behaviour and improved organisational performance. The study is relevant to construction because it suggests that safety practices can support both employee protection and work performance.

Bommakanti et al. (2024) examined safety climate in relation to employee psychological well-being and found that a positive safety environment can support employee well-being and job satisfaction. Although the study was conducted outside construction, it shows that safety conditions can influence employees beyond physical protection. This supports the broader importance of maintaining a positive safety environment.

Hong and Choi (2025) investigated the influence of top management safety leadership on employee safety behaviour. Their findings showed that leadership and safety culture have important effects on employee behaviour, while institutional pressure can also strengthen safety practices. The study highlights that effective safety management requires both internal organisational commitment and appropriate external controls.

Bhagwat and Kumar (2021) examined safety culture in the Indian construction industry from the perceptions of employees at different organisational levels. The study highlighted differences in how workers, supervisors, and management perceive safety. Such differences can weaken safety implementation and show the importance of communication and coordination across all levels of a construction project.

Subbarao et al. (2023) focused on developing a sense of vulnerability towards workplace risks. The study suggested that employees are more likely to behave safely when they understand that hazards can have serious consequences. This finding is relevant to

construction because changing workers' attitudes towards risk can help reduce unsafe practices.

Elbir (2025) examined the human factors involved in occupational safety culture, particularly education, communication, and awareness. The study showed that these factors can influence how employees understand and respond to workplace risks. Its findings support the present study because training and communication are also important components of construction safety culture.

Priambodo (2025) examined leadership behaviour and safety culture integration and found that leadership can strengthen safety culture and subsequently influence employee behaviour. The study highlights the importance of supervisors and managers in shaping workplace safety practices. This is particularly relevant to construction sites, where workers closely interact with supervisors during daily activities.

Sathvik et al. (2024) studied safety climate from the perspective of construction workers and identified leadership, communication, training, and employee involvement as important dimensions of safety behaviour. The study shows that workers should not simply receive safety instructions but should also participate in safety activities. This supports the need for employee involvement in developing a stronger construction safety culture.

Sewet and Jumlad (2024) examined the effect of safety culture on safety behaviour and reported a strong relationship between the two variables. Their findings indicate that employees are more likely to follow safety procedures when safety is treated as an important part of the workplace culture. The study directly supports the central focus of the present research.

Sankar et al. (2024) examined safety leadership and safety climate in construction sites. The study highlighted that committed leadership, communication, and employee involvement contribute to a positive safety climate. Since supervisors have direct contact with construction workers, their behaviour and commitment can strongly influence how safety practices are followed at the site.

Pushpa (2023) investigated safe work culture and employee productivity and found that safety culture can contribute to better employee performance. Training, communication, safety policies, and incentives were identified as useful factors in encouraging safe work practices. The findings suggest that safety management can provide benefits beyond accident prevention.

Muduli and Pathak (2019) examined the process of developing a health and safety culture within an Indian organisation. The study highlighted the importance of trust, communication, teamwork, and continuous efforts in maintaining safety culture. These findings are useful for construction projects because effective coordination between workers and management is necessary for consistent safety practices.

Atasever et al. (2024) examined safety culture factors in the construction industry and highlighted the role of worker education, experience, employment conditions, work pressure,

and attitudes towards risk. The study indicates that safety culture is influenced not only by organisational policies but also by the conditions in which employees perform their work. This is relevant to the present study because construction workers often face changing work conditions and time pressure.

Adekoya et al. (2024) investigated behavioural safety practices in large-scale construction projects and highlighted the importance of safety culture, leadership, and individual accountability in accident prevention. The study suggests that safety practices become more effective when they are incorporated into employees' daily work. This supports the present study's focus on safe behaviour and accident reduction.

Tang (2025) proposed an enhanced safety management programme for the construction industry and highlighted leadership support and employee involvement as important factors in improving safety compliance. The study suggests that employees become more responsible towards safety when management actively supports and involves them in safety-related activities. This is directly relevant to improving employee behaviour in construction projects.

Jameel and Khan (2024) examined factors affecting safety culture in construction and identified management commitment, communication, employee engagement, and safety training as important factors. Their findings indicate that effective communication and management support can encourage safer employee behaviour, while proper training can improve awareness of workplace risks.

Planning Malaysia Journal (2023) examined safety management attitudes and practices in the construction sector. The study highlighted the importance of management commitment, safety procedures, and safety compliance in developing a positive safety culture. These findings support the view that organisational safety practices and employee compliance need to work together to improve safety outcomes.

Ankamah-Lomotey (2025) examined the relationship between workplace safety climate and employee safety behaviour. The study highlighted the importance of management commitment, safety communication, and training in encouraging safety compliance and participation. The findings suggest that organisational safety conditions can have a stronger influence on employee behaviour than basic demographic characteristics.

Research Gap

The reviewed studies clearly show that safety culture, leadership, training, communication, management commitment, and employee participation are important for improving workplace safety and employee behaviour. Several studies have directly examined safety culture in construction, while others have studied behavioural safety, safety climate, leadership, and employee well-being in different industries.

There is also a need for more employee-level research that reflects how workers themselves perceive safety culture and its influence on their everyday behaviour. Differences between management expectations and workers' actual experiences can affect the effectiveness of safety policies. Therefore, the present study addresses this gap by examining safety

awareness, safety culture, employee behaviour, safety compliance, workplace safety experience, management support, and perceptions of accident reduction among construction employees using primary questionnaire data.

3. OBJECTIVE OF THE STUDY

The specific objectives of the study are:

1. To study the level of safety awareness among construction employees.
2. To identify the factors of safety culture that influence employee behaviour.
3. To examine employee compliance with safety rules and procedures.
4. To analyse the effect of safety culture on unsafe practices and accidents.
5. To suggest ways to improve safety culture and safe behaviour in construction projects.

4. METHODOLOGY

Research Design

The study uses a descriptive research design to understand the existing safety culture, safety practices, and employee behaviour at construction sites. The study examines the situation as it exists without changing the working conditions.

Research Approach

A quantitative approach was used. Data were collected through a structured questionnaire and analysed in numerical form using frequency analysis, descriptive statistics, and reliability analysis.

Data Sources

Both primary and secondary data were used. Primary data were collected through a structured questionnaire shared with 200 respondents through online and offline modes. Secondary data were taken from journals, research papers, books, and previous studies related to construction safety.

Sample and Sampling

The study considered approximately 110–120 respondents, including construction workers, supervisors, and site staff. Convenience sampling was used, where respondents were selected based on their availability and willingness to participate.

Research Instrument

A structured questionnaire based on the research objectives and literature review was used. It covered safety awareness and practices, safety behaviour, workplace safety experience, safety management and support, and the impact of safety culture. Most questions used a five-point Likert scale.

Data Analysis

The collected data were analysed using IBM SPSS Statistics. Frequency and percentage analysis, descriptive statistics, and Cronbach's Alpha reliability analysis were used to interpret the responses. Tables and charts were used to present the results clearly.

Reliability, Validity and Ethics

The questionnaire was prepared using clear questions related to the study objectives, and Cronbach's Alpha was used to check its reliability. Respondents participated voluntarily, and their responses were kept confidential and used only for academic purposes.

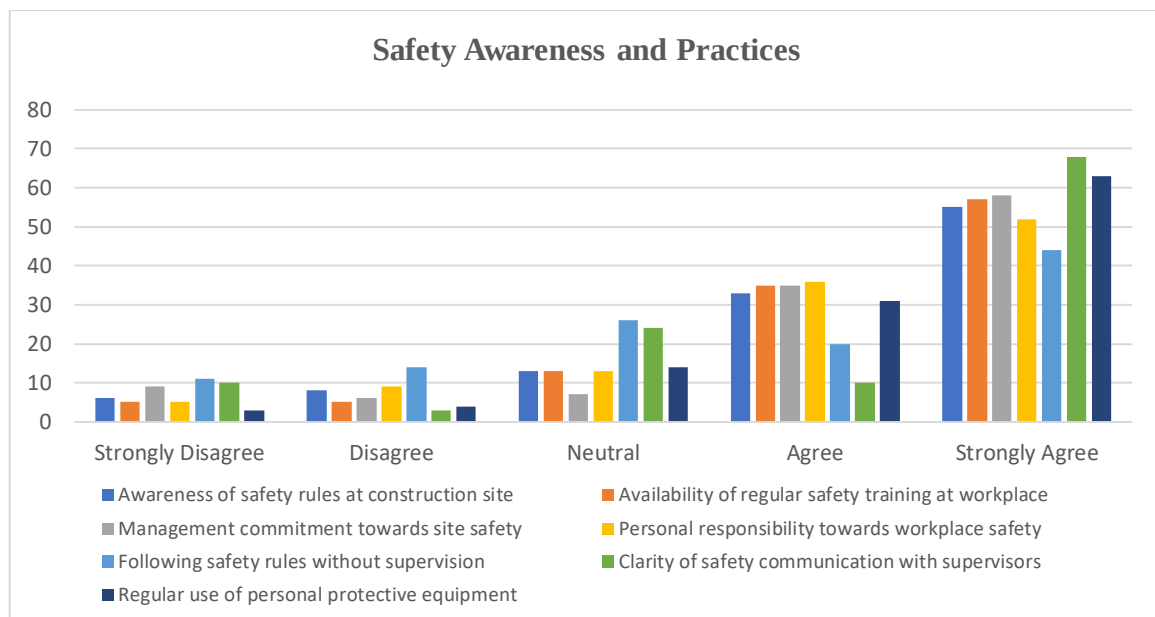
5. DATA ANALYSIS

This section presents the analysis of the primary data collected from 115 respondents working in construction projects. The purpose of the analysis is to understand employees' views and experiences regarding safety awareness, safety behaviour, workplace safety practices, management support, and the overall impact of safety culture. The responses were analysed using frequency and percentage analysis, along with descriptive and reliability analysis where required. The results are presented in a simple manner to identify the major patterns in employee responses.

The analysis is divided into five major areas: Safety Awareness and Practices, Safety Behaviour at Workplace, Workplace Safety Experience, Safety Management and Support, and Impact of Safety Culture. The findings from each area help explain how safety culture is reflected in the day-to-day behaviour of employees and how management practices contribute to a safer construction workplace.

Safety Awareness and Practices

Safety Awareness and Practices	Measure	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Awareness of safety rules at construction site	Frequency	6	8	13	33	55
	Percentage (%)	5.2%	7.0%	11.3%	28.7%	47.8%
Availability of regular safety training at workplace	Frequency	5	5	13	35	57
	Percentage (%)	4.3%	4.3%	11.3%	30.4%	49.6%
Management commitment towards site safety	Frequency	9	6	7	35	58
	Percentage (%)	7.8%	5.2%	6.1%	30.4%	50.4%
Personal responsibility towards workplace safety	Frequency	5	9	13	36	52
	Percentage (%)	4.3%	7.8%	11.3%	31.3%	45.2%
Following safety rules without supervision	Frequency	11	14	26	20	44
	Percentage (%)	9.6%	12.2%	22.6%	17.4%	38.3%
Clarity of safety communication with supervisors	Frequency	10	3	24	10	68
	Percentage (%)	8.7%	2.6%	20.9%	8.7%	59.1%
Regular use of personal protective equipment	Frequency	3	4	14	31	63
	Percentage (%)	2.6%	3.5%	12.2%	27.0%	54.8%



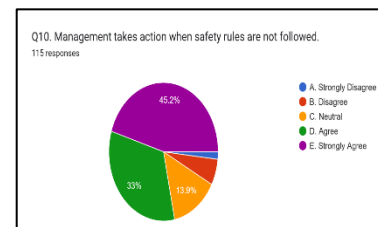
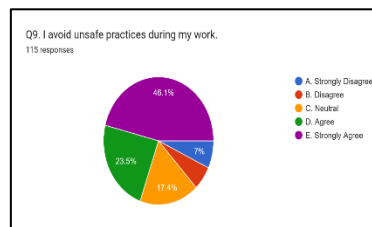
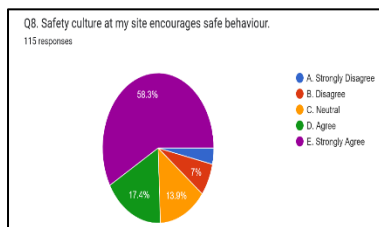
The findings show an overall positive level of safety awareness among the respondents. For awareness of safety rules, 55 respondents (47.8%) strongly agreed and 33 respondents (28.7%) agreed, giving a combined positive response of 76.5%. Similarly, 57 respondents (49.6%) strongly agreed and 35 respondents (30.4%) agreed that regular safety training is provided, showing a combined positive response of 80.0%. Management commitment towards site safety was also viewed positively, with 58 respondents (50.4%) strongly agreeing and 35 respondents (30.4%) agreeing.

The results further show that employees generally accept personal responsibility for workplace safety. 52 respondents (45.2%) strongly agreed and 36 respondents (31.3%) agreed that they feel responsible for their own safety. The regular use of safety equipment was also strong, with 63 respondents (54.8%) strongly agreeing and 31 respondents (27.0%) agreeing. However, following safety rules without supervision showed comparatively weaker results. Although 44 respondents (38.3%) strongly agreed and 20 respondents (17.4%) agreed, 26 respondents (22.6%) remained neutral and 25 respondents (21.8%) disagreed or strongly disagreed. This suggests that independent safety behaviour without supervision remains an area that needs attention.

Safety communication was also viewed positively, as 68 respondents (59.1%) strongly agreed and 10 respondents (8.7%) agreed that communication between workers and supervisors is clear. Overall, the findings indicate that safety awareness, training, management commitment, communication, and PPE use are reasonably strong among the respondents. However, the comparatively lower response regarding following safety rules without supervision shows that construction organizations should focus more on developing safety habits that continue even when direct monitoring is absent.

Safety Behaviour at Workplace

Safety Behaviour at Workplace	Measure	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Safety culture encourages safe work behaviour	Frequency	4	8	16	20	67
	Percentage (%)	3.5%	7.0%	13.9%	17.4%	58.3%
Avoidance of unsafe practices during work	Frequency	8	7	20	27	53
	Percentage (%)	7.0%	6.1%	17.4%	23.5%	46.1%
Management action against safety violations	Frequency	2	7	16	38	52
	Percentage (%)	1.7%	6.1%	13.9%	33.0%	45.2%



The results indicate that safety culture has a positive influence on employees' behaviour at construction sites. A total of **67 respondents (58.3%) strongly agreed** and **20 respondents (17.4%) agreed** that the safety culture at their site encourages safe behaviour. Similarly, **53 respondents (46.1%) strongly agreed** and **27 respondents (23.5%) agreed** that they avoid unsafe practices during their work. These responses suggest that most employees are conscious of the importance of safe working practices.

Management action against safety violations was also viewed positively. **52 respondents (45.2%) strongly agreed** and **38 respondents (33.0%) agreed** that management takes action when safety rules are not followed. This gives a combined positive response of **78.2%**, indicating that safety rules are generally supported by management enforcement. Overall, the findings suggest that a positive safety culture, employee awareness, and management involvement are contributing to safer behaviour at construction sites. At the same time, the presence of neutral and negative responses indicates that these practices should be maintained consistently across all employees.

Workplace Safety Experience

Workplace Safety Experience	Measure	Never	Rarely	Sometimes	Often	Always
Following safety procedures while working	Frequency	5	5	12	14	79
	Percentage	4.3%	4.3%	10.4%	12.2%	68.7%

	(%)					
Use of personal protective equipment (PPE) while working	Frequency	4	2	15	16	78
	Percentage (%)	3.5%	1.7%	13.0%	13.9%	67.8%
Reporting unsafe conditions at the workplace	Frequency	9	7	20	22	57
	Percentage (%)	7.8%	6.1%	17.4%	19.1%	49.6%
Occurrence of accidents or near-miss incidents at the site	Frequency	10	44	42	14	5
	Percentage (%)	8.7%	38.3%	36.5%	12.2%	4.3%



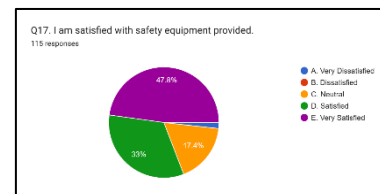
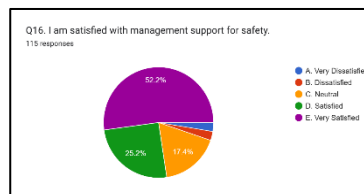
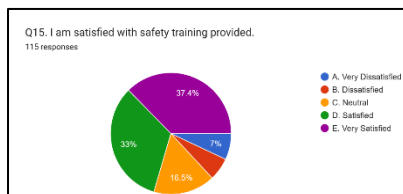
The workplace safety experience of respondents shows a strong level of compliance with safety procedures. A total of 79 respondents (68.7%) reported that they always follow safety procedures, while another 14 respondents (12.2%) reported that they often do so. This means that 80.9% of respondents reported following safety procedures often or always. Similarly, PPE usage was high, with 78 respondents (67.8%) always using PPE and 16 respondents (13.9%) using it often.

The reporting of unsafe conditions was also fairly positive. 57 respondents (49.6%) always reported unsafe conditions, while 22 respondents (19.1%) reported them often and 20 respondents (17.4%) sometimes. However, 16 respondents (13.9%) either rarely or never reported unsafe conditions, showing that some employees may still hesitate to report hazards. Regarding accidents and near-miss incidents, 44 respondents (38.3%) reported that they rarely occurred, while 42 respondents (36.5%) stated that they occurred sometimes. Only 5 respondents (4.3%) reported that such incidents always occurred. Overall, the results indicate

generally positive safety practices, although continuous hazard reporting and accident prevention remain important areas for improvement.

Safety Management and Support

Safety Management and Support	Measure	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied
Satisfaction with safety training provided	Frequency	8	7	19	38	43
	Percentage (%)	7.0	6.1	16.5	33.0	37.4
Satisfaction with management support for safety	Frequency	3	3	20	29	60
	Percentage (%)	2.6	2.6	17.4	25.2	52.2
Satisfaction with safety equipment provided	Frequency	2	0	20	38	55
	Percentage (%)	1.7	0.0	17.4	33.0	47.8



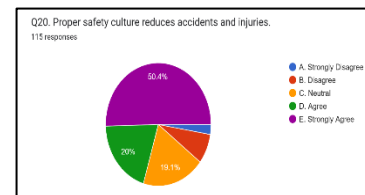
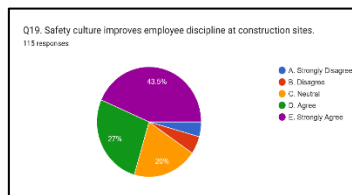
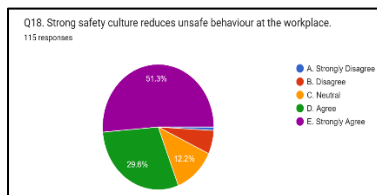
The findings show that employees are generally satisfied with the safety support provided by their organizations. Regarding safety training, 43 respondents (37.4%) were very satisfied and 38 respondents (33.0%) were satisfied, giving a combined satisfaction level of 70.4%. This indicates that most employees consider the training provided to be useful and adequate.

Management support for safety received an even more positive response. 60 respondents (52.2%) were very satisfied and 29 respondents (25.2%) were satisfied, giving a combined positive response of 77.4%. Satisfaction with safety equipment was also high, with 55 respondents (47.8%) being very satisfied and 38 respondents (33.0%) being satisfied. Overall, the findings suggest that employees receive reasonable support from management in terms of training, safety equipment, and organizational safety practices. Maintaining this support is important because visible management commitment can encourage employees to take safety more seriously.

Impact of Safety Culture

Impact of Safety Culture	Measure	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Safety culture reduces unsafe work	Frequency	1	7	14	34	59
	Percentage	0.9	6.1	12.2	29.6	51.3

behaviour	(%)					
Safety culture improves employee discipline	Frequency	5	6	23	31	50
	Percentage (%)	4.3	5.2	20.0	27.0	43.5
Safety culture reduces accidents and injuries	Frequency	3	9	22	23	58
	Percentage (%)	2.6	7.8	19.1	20.0	50.4

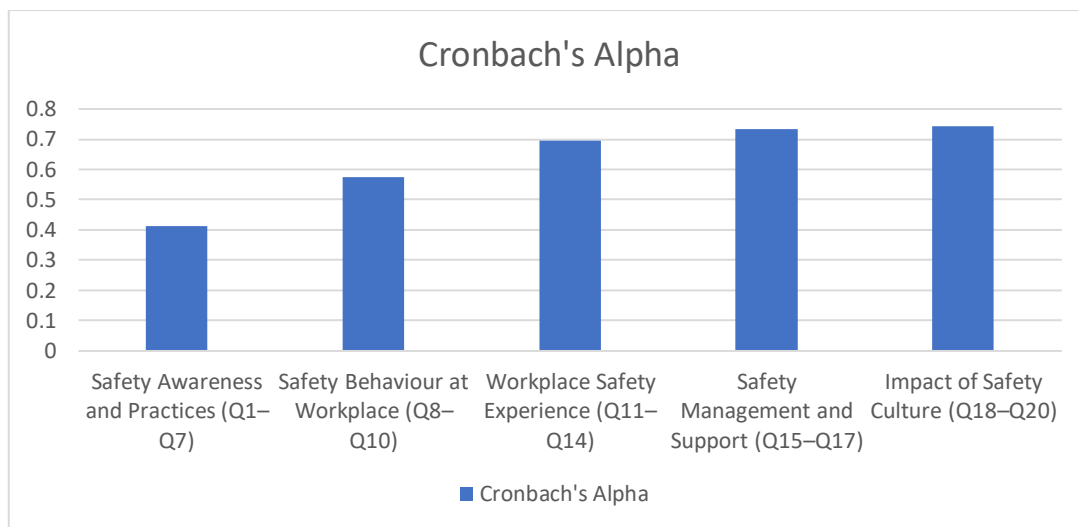


The findings strongly support the importance of safety culture in improving workplace safety. A total of 59 respondents (51.3%) strongly agreed and 34 respondents (29.6%) agreed that a strong safety culture reduces unsafe behaviour. Thus, 80.9% of respondents gave a positive response to this statement. This indicates that employees clearly associate a strong safety culture with safer working behaviour.

Similarly, 50 respondents (43.5%) strongly agreed and 31 respondents (27.0%) agreed that safety culture improves employee discipline, giving a combined positive response of 70.5%. The belief that safety culture reduces accidents and injuries was also strong, with 58 respondents (50.4%) strongly agreeing and 23 respondents (20.0%) agreeing. Therefore, 70.4% of respondents gave a positive response to this statement. These findings suggest that employees see safety culture as more than simply a set of rules; they consider it an important part of developing responsible behaviour, improving discipline, and preventing accidents at construction sites.

Reliability Analysis

Section	No. of Items	Cronbach's Alpha
Safety Awareness and Practices (Q1–Q7)	7	0.590
Safety Behaviour at Workplace (Q8–Q10)	3	0.575
Workplace Safety Experience (Q11–Q14)	4	0.694
Safety Management and Support (Q15–Q17)	3	0.733
Impact of Safety Culture (Q18–Q22)	5	0.742



The reliability results show that the questionnaire has a reasonable level of consistency for studying safety culture and employee behaviour. The Safety Awareness and Practices section, which contains 7 items, recorded a Cronbach's Alpha of 0.590, showing moderate consistency and making it suitable for an exploratory study. The Safety Behaviour at Workplace section recorded an Alpha of 0.575, which also indicates a moderate level of reliability. The Workplace Safety Experience section achieved 0.694, showing that its items have satisfactory consistency. The Safety Management and Support section recorded 0.733, while the Impact of Safety Culture section showed the highest value of 0.742, indicating good internal consistency. Overall, the results show that the questionnaire provides a reasonably consistent basis for analysing safety culture and employee behaviour in construction projects.

6. RESULTS AND DISCUSSION

The results of the study provide a clear picture of how employees perceive safety culture and how it is reflected in their behaviour at construction sites. The responses from 115 respondents show that safety awareness among employees is generally positive. Most respondents reported that they are aware of safety rules, receive regular safety training, and understand their responsibility towards workplace safety. The findings also show that management gives importance to safety and that communication between workers and supervisors is generally clear. However, following safety rules when direct supervision is not present received comparatively weaker responses. This suggests that although employees understand safety requirements, some may still depend on supervision to maintain safe behaviour consistently.

The findings related to safety behaviour also show a positive pattern. Most respondents agreed that the safety culture at their construction site encourages safe behaviour and that they try to avoid unsafe practices during their work. Management action against safety violations was also viewed positively, indicating that employees generally see management as actively supporting safety rules. These results suggest that safety culture is not limited to written policies but is also reflected in the daily behaviour of employees. When workers

receive proper guidance and know that safety rules are taken seriously, they are more likely to follow safe working practices.

Workplace safety experience further supports this finding. A large majority of respondents reported that they often or always follow safety procedures and use personal protective equipment while working. Hazard reporting was also reasonably positive, although some employees reported that they rarely or never report unsafe conditions. This is an important area that construction organizations should improve because workers are often the first people to notice hazards at a site. The responses regarding accidents and near-miss incidents show that such incidents generally occur rarely or sometimes rather than frequently. However, their continued occurrence indicates that safety monitoring and preventive measures still need regular attention.

The results regarding safety management and support were also encouraging. Most respondents were satisfied with the safety training, management support, and safety equipment provided at their workplace. Management support received particularly positive responses, showing that employees generally feel that the organization takes safety seriously. This is important because visible support from management can influence how employees view safety in their daily work. When workers receive proper equipment, training, and support, they are more likely to follow safety procedures and take responsibility for their own safety.

The findings on the overall impact of safety culture provide strong support for the main focus of the study. Most respondents agreed that a strong safety culture reduces unsafe behaviour, improves employee discipline, and helps reduce accidents and injuries. In particular, the majority associated a strong safety culture with safer behaviour at the workplace. These responses show that employees themselves recognize the importance of safety culture in shaping their actions. The results are also consistent with the general findings from the literature reviewed in this study, where management commitment, communication, training, employee participation, and safety awareness were repeatedly identified as important aspects of safety culture.

Overall, the study shows that safety culture has an important role in creating safer employee behaviour in construction projects. The results indicate positive levels of safety awareness, PPE use, safety compliance, management support, and employee responsibility. At the same time, areas such as independent safety behaviour without supervision, regular reporting of unsafe conditions, and prevention of occasional accidents require further attention. The reliability analysis also shows that the questionnaire provides a reasonably consistent basis for examining the different areas of safety culture and employee behaviour. Therefore, construction organizations should focus not only on providing safety rules and equipment but also on developing a safety mindset where employees continue to behave safely even when direct supervision is not present.

8. CONCLUSION

The study concludes that safety culture plays an important role in shaping employee behaviour in construction projects. The findings from 115 respondents show that employees generally have good awareness of safety rules, receive regular safety training, use personal protective equipment, and follow safety procedures during their work. Management support, safety communication, and the availability of safety equipment were also viewed positively by most respondents. The results further indicate that employees believe a strong safety culture encourages safe behaviour, improves discipline, and helps reduce unsafe practices, accidents, and injuries. However, some areas still need attention, particularly following safety rules without supervision and reporting unsafe conditions consistently. The reliability analysis also showed a reasonably consistent questionnaire across the different study areas. Overall, the study indicates that construction safety cannot depend only on written rules or protective equipment. It requires continuous management support, proper training, clear communication, employee responsibility, and a work environment where safe behaviour becomes a regular habit. Strengthening these aspects can help construction organizations improve safety practices, reduce unsafe behaviour, and create safer and more responsible construction workplaces.

9. LIMITAION AND FUTURE SCOPE

Limitation

The study has a few limitations. The sample was limited to 115 respondents, so the findings may not represent all construction projects. Convenience sampling was used, which may limit the generalisation of the results. The study was also based mainly on questionnaire responses, which reflect the respondents' own perceptions and experiences. Further, the analysis was limited to frequency, descriptive statistics, and reliability analysis.

Future Scope

Future studies can focus on developing a simple and cost-effective system that combines drones with computer vision for real-time safety monitoring. The system can be improved to detect more types of safety violations and provide instant alerts to safety officers. Further research can also test the system on larger construction sites and under different environmental conditions to improve its reliability and practical use.

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