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# Evaluating how management safety empowerment influences health and safety compliance on construction sites

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## **Abstract**

Construction management is often blamed for the poor application and enforcement of safety policies and regulations on worksites. The concept of management safety empowerment (MSE) involves conferring some level of authority on workers, which enable them to communicate safety concerns on their worksites and even stop work when they confirm that their health and safety (H&S) is at risk. This study assesses the level of MSE among construction professionals in Nigeria and South Africa. Data were collected using an explanatory-sequential mixed methods approach. The quantitative data were collected using the MSE dimension on the Nordic occupational safety questionnaire (NOSACQ-50) while the qualitative data were developed from the survey responses. A total of 280 responses were subjected to analysis, which reveal low perception levels in both countries, implying that factors such as error reporting, safety voice, H&S knowledge and job satisfaction levels are either non-existent or require improvement. The study concludes that there is a major potential for management to promote H&S compliance through MSE in favour of an improved performance. It is recommended that management ensures that the work environment enables error reporting and H&S voice by improving required knowledge among workers.

## **Keywords**

construction, empowerment, health and safety, management, communication.

## **1 Introduction**

Management must be seen to actively engage in different proactive measures to ensure the attainment of an improved safety performance on construction worksites. Lawani et al. (2018) stated that management must go beyond the minimum legal requirement towards best practice. According to Kines et al. (2011), management empowers its employees towards H&S when they show that they trust the employee enough to comply with occupational safety and health (OSH) regulations. There is a relationship between delegating authority to the employee in the form of the leadership of subgroups, and a reduction in accidents because of increased sense of control over the work

environment and an enriched decision-making process (Karimi, 2011). Management safety empowerment (MSE) addresses workers' active participation in health and safety (H&S) related decisions in the workplace. Low H&S performance in the form of unsafe behaviours from workers in construction has often been attributed to factors such as poor supervision (see Dalibi, 2016; Liu *et al.*, 2015; Mohammadi *et al.*, 2018). Among countries in the global south, factors such as low levels of H&S knowledge and its implications, non-existent and poor enforcement of OHS regulations are seen to be huge factors, which impact workers behaviour-based health and safety (BBH&S) (Umeokafor & Isaac, 2016; Windapo & Oladapo, 2012). The study seeks to comparatively evaluate how MSE influences workers towards safety compliance in Nigeria and south Africa. When management invests in empowering workers, supervisor's workload is lessened, thereby enabling them take up other equally important responsibilities at work. Despite overwhelming evidence of the importance of worker empowerment, there appears to be a dearth in H&S related reports from Africa as a region. The reported study seeks to address this gap by asking a central research question 'what are worker's shared perception levels of MSE and its influence on H&S compliance behaviour?'. It is imperative that researchers continually investigate organisational factors which influences worker's H&S behaviours and provide appropriate recommendations to help management implement effective H&S empowerment strategies in construction worksites.

## 2 Literature Review

### AN OVERVIEW OF H&S AND THE DYNAMICS OF MANAGEMENT ROLES

Accident reports from the workplace have witnessed a growing interest among researchers and professionals over the past two decades. According to Martínez-Córcoles *et al.* (2011), historically, the theoretical approach has evolved through four stages: the technical period, which shows the rapid development of mechanical systems that blamed accidents on mechanical malfunctions is stage one. Secondly, the period of human error, where accidents were attributed to human behaviour. The third stage is the sociotechnical period, which discovered the link between humans and machines in accident causation and finally, the organisational culture period, where workers are viewed as coordinated teams in an organisation. Through these stages, it is notable that H&S in the workplace is the responsibility of the workers but enabled by management through an efficient safety leadership system. Skeepers and Mbohwa (2015) added that the actions and inactions of leaders towards H&S in the construction worksites communicates a level of importance to the worker's approach. In fact, it is legally management's responsibility to enforce the compliance of OHS regulations among their workers (Tong *et al.*, 2015).

H&S performance in the workplace can be viewed through an individual and organisational lens. Organisationally, it is measured using factors such as the frequency of accident occurrences and near misses, while individually, this is assessed through BBH&S (Al-Bsheish *et al.*, 2019; Curcuruto *et al.*, 2015). BBH&S is an organisational intervention which seeks to practically incorporate H&S compliance into worker's routine (Jasiulewicz-Kaczmarek *et al.*, 2015). According to Choudhry (2014), workers can be influenced towards an improved H&S performance by a careful observation and analysis of their attitudes. Various methods have been adopted by researchers for the purpose of observing worker's behaviour, mostly to understand the causes of unsafe acts, which result in an

increase in fatality on construction worksites. For example, Goh *et al.* (2018), using machine learning to observe worker's behaviour, found weak normative beliefs to be a factor in worker's engagement in unsafe acts at work. The observation suggests that the workers engaged in unsafe acts because they believed that their colleagues do not think they should work safely. Emuze (2018), found low levels of H&S knowledge and training among workers to be responsible for safety violations, as workers are left to do as they please regarding H&S compliance. Such a situation establishes a blame culture between workers and management regarding who should take responsibility for H&S violations.

In a nutshell, workers who are empowered by management complete their duties more efficiently, have job satisfaction, engage in innovative behaviour and H&S compliance (Al-Bsheish *et al.*, 2019; Lawani *et al.*, 2018). H&S empowerment is a factor of management leadership, which enables workers to make decisions concerning their H&S. Management allows empowerment by displaying trust in their workers. Kines *et al.* (2011) stated that management empowerment of workers in the workplace results in lower accident rates, which could be achieved through delegation of authority and a display of mutual trust between management and workers. A leader empowers workers in a high-risk workplace by devising approaches which increases their potential to engage in H&S compliance through delegation, cooperation, and trust.

### **2.1 Delegation of authority:**

When management involves the leaders of workgroups in planning, execution, and monitoring of H&S related facets in the workplace, they can have a realistic picture of the worker's expectation, and this makes the workers more confident in their own ability to work safely. However, management must take certain key decisions themselves while supervising the workgroups (Jitwasinkul, Hadikusumo & Memon, 2016). This implies that H&S norms will be established by the workers overtime, which will ensure safe outcomes and a reduction in the likelihood of accidents. Yet MSE must not be viewed as a tool for controlling workers but as a means for the worker to control their work environment and accomplish self-determination (Jitwasinkul & Hadikusumo, 2011). Workers' perception of control as delegated by management improves their confidence and enhances their ability to make positive safety decisions, thereby reducing unsafe behaviours and resulting in expected H&S outcomes (Cavazza & Serpe 2009).

### **2.2 Corporation across hierarchical levels:**

All construction activities involve a mix of various parties ranging from management to supervisors, to subcontractors, and workgroup leaders. The success of the project will naturally depend on the corporation enjoyed by different sets of workers (Fang & Wu 2013). The different workgroups in the construction activity will clearly state what goal is a priority for them to achieve and to accomplish this, co-workers in the same group may have to depend on others. Most importantly, management at different levels may utilise this to ensure that H&S goals are equally achieved. Zohar and Luria (2010) mentioned that workgroup leaders provide the link between management and the workers, and it is, therefore, important that there is a proven high-quality relationship between top, mid-, and site management where safety commitment is highly valued. According to Zohar and Luria (2003), the hierarchical nature of the workplace allows for H&S related intervention from management at

different levels, this further implies that management must consider the dynamics of the workplace and set up interventions that encourage mutual corporation.

### **2.3 Mutual trust:**

Empowering workers foster mutual trust and corporation across the organisational hierarchy, that is between worker to worker and management to workers. According to Parker, Axtell, and Turner (2001), workers can make decisions such as timing and find the most effective method to adopt in the execution of their duties. Yet outcomes of management empowerment will largely depend on existing work conditions. As mentioned by Zohar (2008: 379), workers will build their H&S climate perceptions on the emphasis that the organisation places on it.

Workers under a prevailing H&S climate will naturally ‘grow on themselves’ and create their own work-related cultural values in the organisation. The influence they have on themselves motivates them towards practicing H&S compliance behaviours and result in an improved performance, ultimately, this facilitates the creation of mutual trust among workers (Misnan & Mohammed 2007). Trustworthiness among workers encourages teamwork, as members of a construction team influence the team’s performance. Though literature confirms that construction accidents are caused by the unsafe behaviours of workers, Mitropoulos and Memarian (2012), however argue that accidents are caused by poor social cohesion among workers. The size of the workgroup as a factor may also influence mutual trust and the development of a sense of belongingness in the workplace (Haldorai et al. 2019).

## **3 Research Methodology**

Data for the study were collected using explanatory sequential mixed methods design, where quantitative data was first collected and analysed. Then, findings from the quantitative data was used to develop questions for the qualitative data (Creswell & Creswell, 2018; Saunders et al., 2016). Quantitative data were collected in an online survey using the MSE dimension of the NOSACQ-50 instrument. The NOSACQ-50 is widely accepted among researchers with evidence of reports across the globe. The MSE variable on the NOSACQ-50 is comprised of 7 items, on a 4-point Linkert scale (strongly disagree, disagree, agree, and strongly agree) measuring perception levels. Overall, 271 responses were collected; however, 255 responses were considered valid for analysis. The data were subjected to statistical analysis using Statistica to compute grand mean scores, t-tests, standard deviation, and standard errors (Table 1). Grand mean scores were assessed on the NOSACQ-50 interpretation scale to show how each country performed. The MSE variable revealed a Cronbach alpha of 0.9, indicating that the scale was reliable in measuring the dimension. The findings also were subjected to a confirmatory factor analysis (CFA) to show the strength of the relationships between the items on the variable.

In addition, qualitative data were collected using open ended questions in a second online survey. The same participants as the first were invited to respond to questions developed from quantitative data findings. A total of 27 participants responded, however, two responses were excluded from analysis for coming outside Nigeria and South Africa. This brought the total of valid responses for

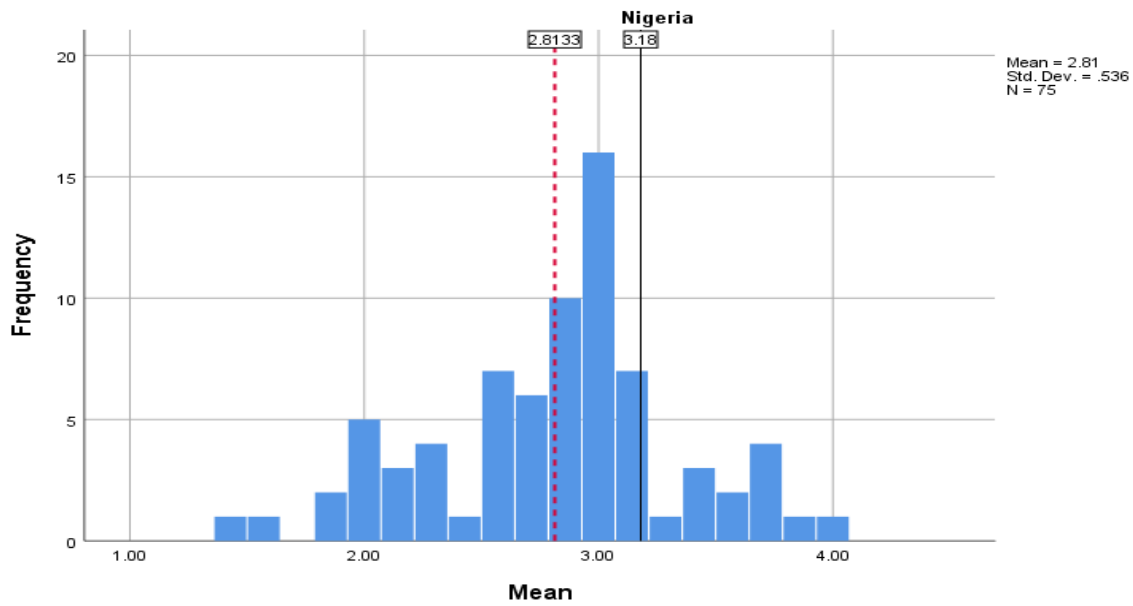
qualitative data to 25. The data were cleaned and subjected to thematic analysis, which helped the research to provide an in-depth understanding of the phenomenon as mentioned by Yin (2016). Target participants for the entire study were construction professionals ranging from architects, quantity surveyors, builders, safety managers, construction managers and civil engineers. Findings are presented comparatively to show any convergence or divergence between quantitative and qualitative data from both countries.

#### 4 Findings and Discussion

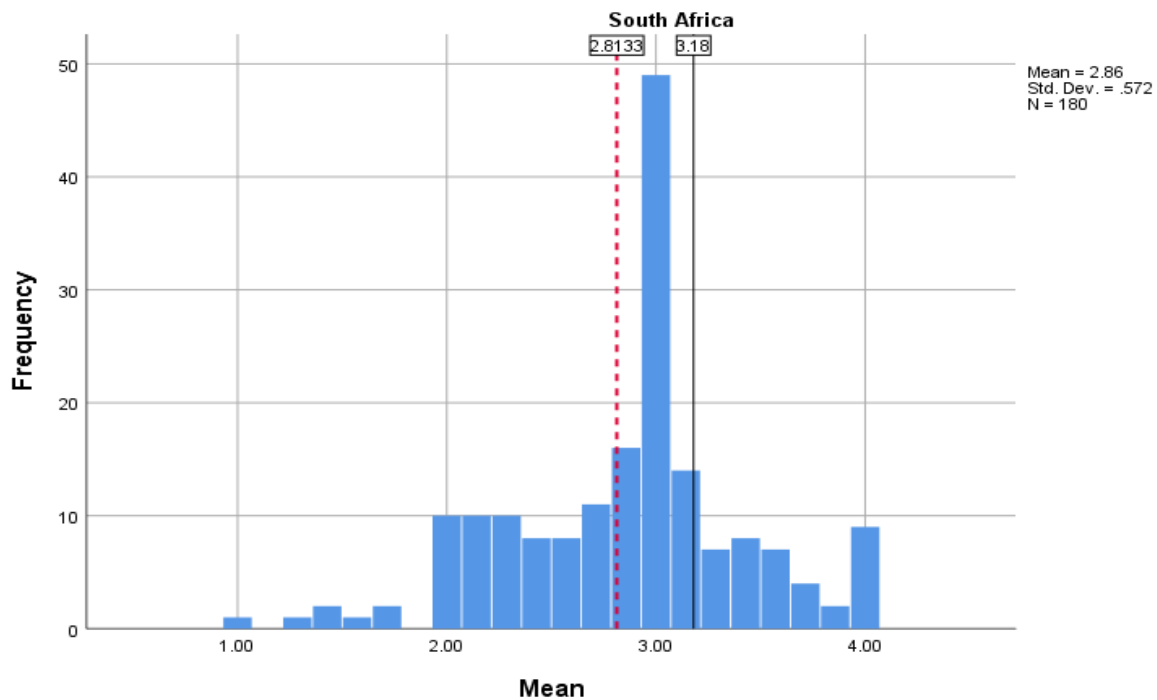
The research aim seeks to measure shared perception levels of MSE among workers in favour of an improved safety performance at construction worksite. The first research question: what worker's shared perception of MSE are, was calculated using the NOSACQ-50 instrument, the calculated grand mean scores and standard deviation ( $\text{Mean}_{\text{Nigeria}}=2.81$ ,  $\text{SD}_{\text{Nigeria}}=0.54$ ,  $\text{Mean}_{\text{South Africa}}=2.86$ ,  $\text{SD}_{\text{South Africa}}=0.57$ ) showed a statistically significant difference between Nigeria and South Africa (Table 1 and Figure 1 & 2). An alpha of 0.90 indicates a good reliability of the scale in measuring the dimension.

Table 1: Management safety empowerment (MSE) Test value

Cronbach's alpha ( $\alpha$ ) = 0.90 t-value= 3.18								
Country	t	df	Sig. (2-tailed)	Grand mean	Standard deviation	Standard error mean	95% Confidence Interval of the Difference	
							Lower	Upper
Nigeria	-5.92	74	0.00	2.81	0.54	0.06	-0.49	-0.24
South Africa	-7.48	179	0.00	2.86	0.57	0.04	-0.40	-0.23



**Figure 1:** Management safety empowerment – Nigeria



**Figure 2:** Management safety empowerment - South Africa

The mean scores (MS) of 2.81 and 2.86 (Nigeria and South Africa) observed in Table 1 indicates a low level of MSE when compare on the NOSACQ-50 interpretation scale. This alludes that factors such as the decentralisation and equal distribution of authority in the workplace among workgroup leaders needs to be encouraged. Further implications may include low confidence levels among worers regarding their H&S. For instance, workers may be unable to speak up concerning H&S

concerns when they perceive that the work environment or equipment is unsafe. Factors such as poor error reporting and safety voice may be prevalent in such work environments.

Qualitative data for the study seeks to answer how management shows commitment to H&S at work. Considering that management H&S compliance behaviour communicates a level of priority to workers, responses reveal that management (Nigeria) provide H&S guidelines and ensure its enforcement by leading by example. Yet, it will appear that this may not be an actual representation as revealed by observation studies in the form of still images submitted by supervisors (Figure 3) where workers are seen working with no visible PPE. A respondent in the Nigerian cohort mentioned that:

We provide safety equipment, H&S guidelines, ensure compliance, lead by example, craft a mission statement, and remind workers of the importance of working safely.



**Figure 3:** Workers without PPE on a construction site in Nigeria  
(Picture submitted by site supervisor)

Participants from the South Africa group reveal that they display commitment to H&S through having an H&S plan, leading by example, ensuring toolbox discussions, H&S training, and monitoring, and providing PPE. A respondent from the South African cohort mentioned that:

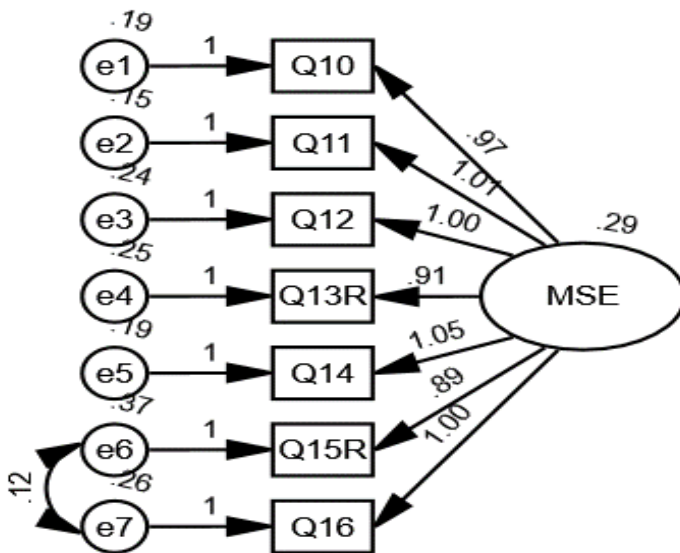
We provide an H&S plan, lead by example, daily participate in toolbox discussion meetings, set up H&S monitoring procedures, set up training, provide PPEs, signages,



lead by example, implement a practical, collaborative, and stringent H&S culture among the workforces.

#### 4.1 Confirmatory Factor Analysis

The confirmatory factor analysis (CFA) of MSE reveals a significant relationship between Q15, ‘management never asks employees for their opinions before making decisions regarding safety’, and Q16, ‘management involves employees in decisions regarding safety’ (Figure 4). However, Q15 is reversely coded, implying that participants perceive that management never asks employees for their opinions before making decisions regarding H&S. The qualitative results indicate that management often adopts statutory H&S policies as guidelines for implementation, and there are rarely job or task-specific H&S guidelines. Where workers are involved, this is done during toolbox meetings.



**Figure 4:** Confirmatory factor analysis for MSE dimension

The decentralisation and equal distribution of authority in the workplace among workgroup leaders has been shown to increase workers’ confidence in their ability to remain safe compared to controlling workers. They can also speak up about any H&S-related concerns they observe and even stop work if they confirm that their current work environment / conditions puts their H&S at risk (Jitwasinkul & Hadikusumo, 2011). The study conducted by Kheni and Braimah (2014) revealed that workgroup leaders are rarely empowered, yet a strong organisational culture may motivate safe work behaviour, which management relies on to motivate workers towards H&S compliance. Bian et al. (2019) report that leadership styles such as the transactional style did not significantly influence H&S behaviour. However, H&S empowerment gives the workers a sense of belongingness, appreciation, and trust, which motivates them to accept H&S advice. Management must adopt a dynamic leadership style approach to suit the category of workers and their prevailing circumstances.

It is management's responsibility to ensure that workers are able to speak up about any H&S related concerns they may have observed and even stop work when they confirm that the current condition of the work environment puts their H&S at risk (Jitwasinkul & Hadikusumo, 2011). Kheni and Braimah (2014) reveal that workgroup leaders are rarely empowered, yet a strong organisational culture may influence H&S related behaviour, which management may rely on to motivate its workers into H&S compliance.

To improve MSE in favour of H&S performance, Lawani et al. (2018: 389) proposed four items, 'knowing' which involves the worker acknowledging for themselves the value of their work in alignment to their personal beliefs, 'doing' involves the worker's belief in their individual capabilities, 'decision making', which concerns the worker's perception of appropriate work methods, and 'influencing' which is the worker's perception that they can influence certain outcomes within their work environment. This implies that workers allowed to have a say in their H&S and work methods are not only better positioned to willingly comply with the guidelines but are likely to experience enhanced job satisfaction.

## 5 Conclusions and Further Research

There is major opportunity for management to empower construction workers regarding compliance-based H&S. The study addresses the MSE from the perspective of construction professionals in Nigeria and South Africa. The findings reveal that perception levels in both countries are low and calls for improvement. The low levels further imply that factors such as error reporting, safety voice, and job satisfaction among workers require enhancement. Management must create a work environment, which motivates workers voluntarily compliance to H&S regulations (including policies and actions) by providing appropriate work climate on site. Management must also provide continuous H&S training to workers to improve their skill and motivate compliance behaviour.

## 6 References

- Al-Bsheish M, bin Mustafa M, Ismail M, et al. (2019). Perceived management commitment and psychological empowerment: A study of intensive care unit nurses' safety. *Safety Science* 118 (May). Elsevier: 632–640. DOI: 10.1016/j.ssci.2019.05.055.
- Bian X, Sun Y, Zuo Z, et al. (2019). Transactional leadership and employee safety behavior: Impact of safety climate and psychological empowerment. *Social Behavior and Personality* 47(6): 1–9. DOI: 10.2224/sbp.7295.
- Cavazza N and Serpe A (2009). Effects of safety climate on safety norm violations: exploring the mediating role of attitudinal ambivalence toward personal protective equipment. *Journal of Safety Research* 40(4): 277–283. DOI: 10.1016/j.jsr.2009.06.002.
- Choudhry RM (2014). Behavior-based safety on construction sites: A case study. *Accident Analysis and Prevention* 70. Elsevier Ltd: 14–23. DOI: 10.1016/j.aap.2014.03.007.
- Creswell JW and Creswell JD (2018). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. 5th ed. London, United Kingdom: Sage.
- Curcuruto M, Conchie SM, Mariani MG, et al. (2015). The role of prosocial and proactive safety

- behaviors in predicting safety performance. *Safety Science* 80. Elsevier Ltd: 317–323. DOI: 10.1016/j.ssci.2015.07.032.
- Dalibi SG (2016). Resultant effects of poor supervision in construction projects in Nigeria.
- Dov Z (2008) Safety climate and beyond: A multi-level multi-climate framework. *Safety Science* 46(3): 376–387. DOI: 10.1016/j.ssci.2007.03.006.
- Emuze F (2018). Foreseeing countermeasures for construction safety violations in South Africa. *Proceeding of the 34th Annual ARCOM Conference, ARCOM 2018* (September): 597–606. Available at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85055639931&partnerID=40&md5=9937ba6af8c2a2ebc9dec8ffccf11fd0>.
- Fang D and Wu H (2013). Development of a safety culture interaction (SCI) model for construction projects. *Safety Science* 57. Elsevier Ltd: 138–149. DOI: 10.1016/j.ssci.2013.02.003.
- Goh YM, Ubeynarayana CU, Wong KLX, et al. (2018). Factors influencing unsafe behaviors: A supervised learning approach. *Accident Analysis and Prevention* 118: 77–85. DOI: 10.1016/j.aap.2018.06.002.
- Haldorai K, Kim WG, Chang H (Sean), et al. (2019). Workplace spirituality as a mediator between ethical climate and workplace deviant behavior. *International Journal of Hospitality Management*. DOI: 10.1016/j.ijhm.2019.102372.
- Jasiulewicz-Kaczmarek M, Szwedzka K and Szczuka M (2015). Behaviour Based Intervention for Occupational Safety – Case Study. *Procedia Manufacturing* 3. The Authors: 4876–4883. DOI: 10.1016/j.promfg.2015.07.615.
- Jitwasinkul B and Hadikusumo BHW (2011). Identification of important organisational factors influencing safety work behaviours in construction projects. *Journal of Civil Engineering and Management* 17(4): 520–528. DOI: 10.3846/13923730.2011.604538.
- Jitwasinkul B, Hadikusumo BHW and Memon AQ (2016). A Bayesian Belief Network model of organizational factors for improving safe work behaviors in Thai construction industry. *Safety Science* 82. Elsevier Ltd: 264–273. DOI: 10.1016/j.ssci.2015.09.027.
- Karimi R (2011). Reduce Job stress in Organizations: Role of Locus of Control. *International Journal of Business and Social Science* 2(18): 232–236.
- Kheni NA and Braimah C (2014). *Institutional and regulatory frameworks for health and safety administration: Study of the construction industry of Ghana*. *International Refereed Journal of Engineering and Science*. Available at: [www.irjes.com](http://www.irjes.com).
- Kines P, Lappalainen J, Mikkelsen KL, et al. (2011). Nordic Safety Climate Questionnaire (NOSACQ-50): A new tool for diagnosing occupational safety climate. *International Journal of Industrial Ergonomics* 41(6). Elsevier Ltd: 634–646. DOI: 10.1016/j.ergon.2011.08.004.
- Lawani K, Hare B and Cameron I (2018). Empowerment as a construct of worker engagement and wellbeing. In: *JointCIBW099 and TG59 International safety, health and people in construction conference*, 2018, pp. 388–376. Available at: <https://edshare.gcu.ac.uk/id/eprint/5179>.
- Liu X, Huang G, Huang H, et al. (2015). Safety climate, safety behavior, and worker injuries in the Chinese manufacturing industry. *Safety Science*. DOI: 10.1016/j.ssci.2015.04.023.
- Martínez-Córcoles M, Gracia F, Tomás I, et al. (2011). Leadership and employees' perceived safety behaviours in a nuclear power plant: A structural equation model. *Safety Science* 49(8–9). Elsevier Ltd: 1118–1129. DOI: 10.1016/j.ssci.2011.03.002.
- Misnani MS and Mohammed AH (2007). Development of safety culture in the construction industry: A conceptual framework. In: *Association of Researchers in Construction Management, ARCOM 2007 - Proceedings of the 23rd Annual Conference, 2007*, pp. 13–22.
- Mitropoulos P and Memarian B (2012). Team processes and safety of workers: Cognitive, affective, and behavioral processes of construction crews. *Journal of Construction Engineering and Management* 138(10): 1181–1191. DOI: 10.1061/(ASCE)CO.1943-7862.0000527.
- Mohammadi A, Tavakolan M and Khosravi Y (2018). *Factors influencing safety performance on construction projects: A review*. *Safety Science*. Elsevier B.V. DOI: 10.1016/j.ssci.2018.06.017.

- Parker SK, Axtell CM and Turner N (2001). Designing a safer workplace: importance of job autonomy, communication quality, and supportive supervisors. *Journal of occupational health psychology* 6(3): 211–228. DOI: 10.1037/1076-8998.6.3.211.
- Saunders M, Lewis P and Thornhill A (2016). *Research Methods for Business Students*. 7th ed. England: Pearson Education Limited.
- Skeepers NC and Mbohwa C (2015). A study on the leadership behaviour, safety leadership and safety performance in the construction industry in South Africa. *Procedia Manufacturing* 4(Iess). Elsevier B.V.: 10–16. DOI: 10.1016/j.promfg.2015.11.008.
- Tong DYK, Rasiah D, Tong XF, et al. (2015). Leadership empowerment behaviour on safety officer and safety teamwork in manufacturing industry. *Safety Science* 72. Elsevier Ltd: 190–198. DOI: 10.1016/j.ssci.2014.09.009.
- Umeokafor N and Isaac D (2016). Construction health and safety self-regulation in developing countries: A Nigeria case study. *Journal for the Advancement of Performance Information and Value* 8(1): 74–87. DOI: 10.37265/japiv.v8i1.45.
- Windapo A and Oladapo A (2012). Determinants of construction firms' compliance with health and safety regulations in South Africa. In: *Proceedings 28th Annual ARCOM Conference 3-5 September 2012, Edinburg, UK, Association of Researchers in Construction Management*, 2012, pp. 433–444.
- Yin RK (2016). *Qualitative Research from Start to Finish*. 2nd ed. New York, London: Guilford Press.
- Zohar D and Luria G (2003). The use of supervisory practices as leverage to improve safety behavior: A cross-level intervention model. *Journal of Safety Research* 34(5): 567–577. DOI: 10.1016/j.jsr.2003.05.006.
- Zohar D and Luria G (2010). Group leaders as gatekeepers: Testing safety climate variations across levels of analysis. *Applied Psychology* 59(4): 647–673. DOI: 10.1111/j.1464-0597.2010.00421.x.

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