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The Role of Organization Culture Management of Work Related Musculoskeletal Disorders of Masonry in Construction Workplaces: Case Study, Nairobi County, Kenya

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Abstract

Globally masonry workers are often exposed to work-related risks resulting to development of musculoskeletal disorder and associated diseases affecting their body's movements. Despite the gains made, existing workplace risk management preventive and control methods have not adequately addressed this problem. The investigation was on the role of organizational culture in the management of musculoskeletal disorders of masonry workers in Building Construction Works, Nairobi County. Multiple-case study methods were employed to complete the inquiry. The study was guided by the complexity theory. A review of the existing literature in the field of the study was carried, and the knowledge gap for the study identified. The field data was collected using questionnaires and interview guides. Paired null and alternative hypotheses for the study were defined. The data collected was subjected to descriptive and inferential analysis for logical patterns, relationships and level of statistical significance. The key findings of the study showed involvement of masonry workers in risk management decision-making, work performance, process audits and reviews. The Pearson correlation results (P<= 0.05) showed that organizational culture was positively related to workers musculoskeletal disorder of masonry workers. The regression model summary results of the study indicated that R =.576, implying that the organization's culture, OSH government policies, and challenges correlated at .576. The study results for the coefficient for multiple-regression determination (R- squared) was .332, implying that the changes in independent variables influenced changes in the dependent variable by 33.2%.

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Other factors beyond the scope of this study explained the remainder 66.8% out of 100% of the changes. However, the figure does not reveal information about the causation relationship between the independent and dependent variables or indicate the correctness of the regression model.

Keywords: *Role of Organization Culture, management, Work-Related Musculoskeletal Disorders, masons, building construction workplaces.*

1.0 Introduction

Organizational culture refers to the artefacts, shared beliefs, values, assumptions, behaviors, and common practices of an organization (Schein, 1992; Groysberg et al., 2018; Lee, & Kwak, 2012). Where artefacts refer to anything that would be visible to an outside observer, e.g., behaviors patterns and work processes, the way the physical environment is organized, dress codes, the company logo, and the company motto. A logo is an organization's identity in print that communicates the brand of a company using visual cues like colors, fonts, symbols, shapes, and slogans in a simple and straightforward manner that is adaptable across mediums. According to Optimal Targeting (Demange, 2017), the human brain processes visuals faster than text, and people remember 80% of images (versus 20% of text and 10% of sound). A logo is therefore part of an organization's artefacts intended to communicate its brand attributes (and personality) in a way that is memorable and familiar (Clark & Mayer, 2016).

Merriam-Webster (2003) defines a motto as a short sentence or phrase that expresses a rule guiding the behavior of a person or group, a one-phrase reminder to staff and customers of what an organization is all about. A motto is an essential management tool for molding the organization's culture; it is used daily for constant motivation and never-ending improvement of staff attitudes towards workers and customers. It is a statement about the organization's corporate culture and expectations, outlining the guiding principles driving its performance, including staff and customer expectations. Building Construction Works managers who believe in and live by their motto are less likely to act as though they have a greater interest in themselves than their fellow workers. The motto removes guesswork as the messaging becomes crystal clear in explicit terms. A universally understood motto is the guide to the organization's business success. Espoused beliefs and values are core building construction works ethics, guiding principles, and cherished stories about the company's history and significant accomplishments. Basic (unconscious) beliefs and values include deeper feelings, mindsets, and motives about the mission, relationships, and human nature, which drives words and actions.

Available literature indicates that the demographic characteristics of employees play a central role in the formation of organizational culture perceptions (Hofstede et al., 1990; Helms & Stern, 2001). It further suggests that organizational culture principles and practices are shaped by the collective sum total of its workers' perceptions, beliefs, and mindsets. The study, therefore, found it imperative to first investigate employees' underlying demographic characteristics that underpin the organization's culture perception before turning to their effects on organizational principles and practices in workplaces. Thus from the background studies formed the basis to assess the role of organization culture in management of work-related musculoskeletal disorders of masonry workers in construction workplaces: Case study, Nairobi County.

1.1 The Problem Statement

Despite its apparent socio-economic benefits to many economies of the world, a majority of the building construction industry stakeholders regard it as one of the world's riskiest industries in terms of incident and accident rates (Ho et al., 2000; Macedo, 2005). It is a predominant contributor to workplace fatalities, injuries, and work-related sicknesses compared to other major industries of the world (DOHSS Annual Report, 2011; Sunindijo & Zou, 2011; Hanapi et al., 2013). Global estimates of lost workdays due to work-related fatalities, injuries, and diseases amounted to about 4% of the world's GDP and 6% or more in some countries (Hämäläinen et al., 2017; Takala et al., 2014). Punnett and Wegman (2004) observe that in 33% of all newly reported occupational illnesses in the general population, musculoskeletal disorders are considered a significant cause of work-related illness globally.

The 2017/18-2021/22 summary of injuries records by HSE 2022 indicated that the construction industry was the highest contributor to workplace injuries in Great Britain. Occupational safety and health (OSH) statistics from the labor department of Hong Kong indicated that 76% of the total industrial fatalities in 2017 were attributable to the construction industry (Bureau of Labor Statistics, U.S. Department of Labor, 2012). In South Africa, the construction industry recorded a fatality rate of 37.5% in 2004 and 30.3% in 2006 (Vekinis et al., 2010). In Kenya, the 2012/2013 national profile report by the international labor organization (ILO) indicated that the construction industry cumulatively accounted for 40% of all recorded fatalities from all sectors of the economy (ILO, 2013). Despite the current work-related risk management engineering and administrative efforts to improve safety standards and practices in building construction works, high mortality, injury, and sickness rates among construction workers in all economies has become a matter of global concern (WHO, 2009; Guldenmund, 2010; Groysberg et al., 2018; Ndiwa, 2019). Thus many buildings construction workplace stakeholders have failed to fully embrace and exploit the benefits associated with organization culture best practices. And therefore application of organizational culture best practices in workplace leadership and management, endeavors have a positive impact on the organizations' response to emerging existential challenges and goal achievement (Rasmussen & Svedung, 2000; Sutcliffe & Vogus, 2008).

Thus from the background information forms the basis for examining the role of organization culture in management of work-related musculoskeletal disorders of masonry workers in construction workplaces: case study, Nairobi County, Kenya.

1.2 Objective of the Study

The objective of the study is to investigate the role of organization culture in management of work-related musculoskeletal disorders of masonry workers in construction workplaces: Case study, Nairobi County, Kenya.

1.3 Significance of the Study

Results of the study will inform and suggest area for review and improvement of the existing policy and management framework, particularly on the Building and construction works, stakeholders' participation in information dissemination and feedback for continuous improvement and effectiveness.

The study will also act as informative in education and training on insights into the benefits of Role of organization culture in management of work-related musculoskeletal disorders of masonry workers in construction workplaces the importance of effective leadership and strategies in dealing

with emerging challenges, as well as encouraging the use of emerging technologies for improved workplace knowledge management for better performance and effectiveness.

The study will contribute by acting as a source of knowledge for the building construction work, leadership and management best practices and strategies to improve the sharing of workplace implicit beliefs, values, assumptions, and behaviours for better performance. Finally, the study findings will form a reference material for further research studies in similar areas.

2.0 The Theoretical Framework

The study adopted Complexity Theory. Complexity theory refers to the constant interaction of subsystems of divergent content and character within an organization that results in emergent new behaviours and outcomes of the organizational system (Adcroft & Mason, 2007). Complexity theory suggests that in the event of external disruptions in the operations of a stable system, individual elements within that system would change, resulting in emergent new behaviours and outcomes of the organizational arrangements to retain the system's stability within that changing environment (Levy, 2020). The theory is closely related to systems theory, which refers to the constant interaction of interrelated and interdependent elements of a relatively stable system operating within a given environment (Amagoh, 2016).

The complexity theory demonstrates the inability of organizations to continue relying on predetermined goals, logic, and precise controls to maintain order, stability, and consistency and increase production efficiency in circumstances of fundamental system change. It advocates for a "culture of trust" that encourages new insights and promotes cooperation in workplaces in the face of a changing operational environment (Manfred, 2010). The market dynamics environment in which workplace safety and health management activities operate constantly presents internal change dilemmas.

The study applied the principles of the theory in identifying organizational culture structures, their elements, and the interactive interrelationships and interdependences of these elements as the system underwent changes. In other words, the principals guided the study to identify the nature, source, and type of changes likely to impact safety and health management in workplaces and develop appropriate responsive action plans for the restoration of system operations in the face of fundamental change shocks.

2.1 The Literature Reviewed in Organization Culture in Workplaces

Basic workplace organization culture standards, values, and norms, including workers' underlying beliefs and convictions guide their workplace attitudes and behaviors. Various scholars have interpreted workplace organization culture from different perspectives. Antonsen (2009) interprets organizational culture as informal aspects that influence workers' behavior, interaction, and communication in workplaces. Guldenmund (2010) opines that a lack of effective or timely communication on safety issues in workplaces may result in accidents, injuries, or sicknesses attributable to workers' poor attitudes and irresponsive behaviour. He observes that, unlike written rules, regulations, and work procedures, basic assumptions of safety culture, such as unconscious thoughts, beliefs, perceptions, and feelings, are informal workplace aspects that influence OSH management in workplaces. They are therefore as important as those linked to formal safety issues. Where workplace safety and accident prevention are not part of a company's value system, a poor OSH culture consisting of non-compliance with good operating practices and unreliable safety communication persists. Seppala and Cameron (2015) observe that negative organizational culture

fosters workers' attitudes of unpleasantness, resentment, dissatisfaction, and boredom, which are symptomatic of workers' stress and sickness in workplaces. Good workplace organizational culture is the mutually positive attitudes among management and workers in support of the organization's mission, vision, objectives, goals, and core values (Shahzad et al., 2012). Its core values are indicated by the manner in which workers interact and collectively respond to changes in workplaces (Groysberg et al., 2018).

Earlier research on workplace management practices focused solely on improving administrative structures and processes, with little attention paid to the potential organizational culture contributions (psychological approach) to worker OSH in workplaces (Antonsen, 2009; Gort et al., 2006; EU-OSHA, 2010). Braithwaite et al. (2017)) concluded that positive organizational culture practices are critical to improved quality and performance standards in inpatient treatment in healthcare institutions. Further argues that there is sufficient evidence of the relationship between organizational culture practices on work processes and worker performance. Work characteristics such as mentorship, good ethics, mutual trust, collaboration, and participation support worker creativity and innovation. Training and work-life balance organizational practices promote positive internal organizational performance, effectiveness, and the organization's relationship with the external world (Ratilainen et al., 2016). Santos-Reyes & Beard (2002) postulate that conflicting interactions of interrelated organizational structures, procedures and processes, and workplace operations are potential sources of workplace hazards and risks to the worker's safety and health.

One of the workplace strategies for imparting human competencies is the adoption of responsive leadership that encourages effective worker communications, staff involvement in decision-making, knowledge sharing, positive work practices, and fair play (Misnan & Mohammed, 2007; Misnan et al., 2008; Groysberg et al., 2018). The authors suggest that the viability and effectiveness of any workplace occupational safety and health management system depend on the quality of its leadership, business strategy, and recognition of its organizational culture as a safety value. Further argues that positive safety culture practices improve the performance of planned activities through collective assumptions and group norms. When the management aligns its strategic emphasis and criteria for success with the workplace's shared common values, strong and positive group outcomes are achieved (Bersin et al., 2018). Cui and Hu (2012) conclude that investing in positive organizational leadership and management encourages the prevention or control of workers musculoskeletal disorders of masonry workers in building construction works.

2.2 The Conceptual Framework

The conceptual frame work dynamic nature of workplace organizational culture represents a general industry-wide view of the dominant organizational culture available for adoption by various Building and construction work management outfits. The figure shows an interactive interplay of the variables in leadership styles, value drivers, theories or strategic emphasis, and effectiveness or criteria for success adopted by various firms operating within the construction industry. It also indicates the conceptual linkages between these dominant organizational culture types and the prospective overall industry-wide organizational culture framework about the masonry work subculture.

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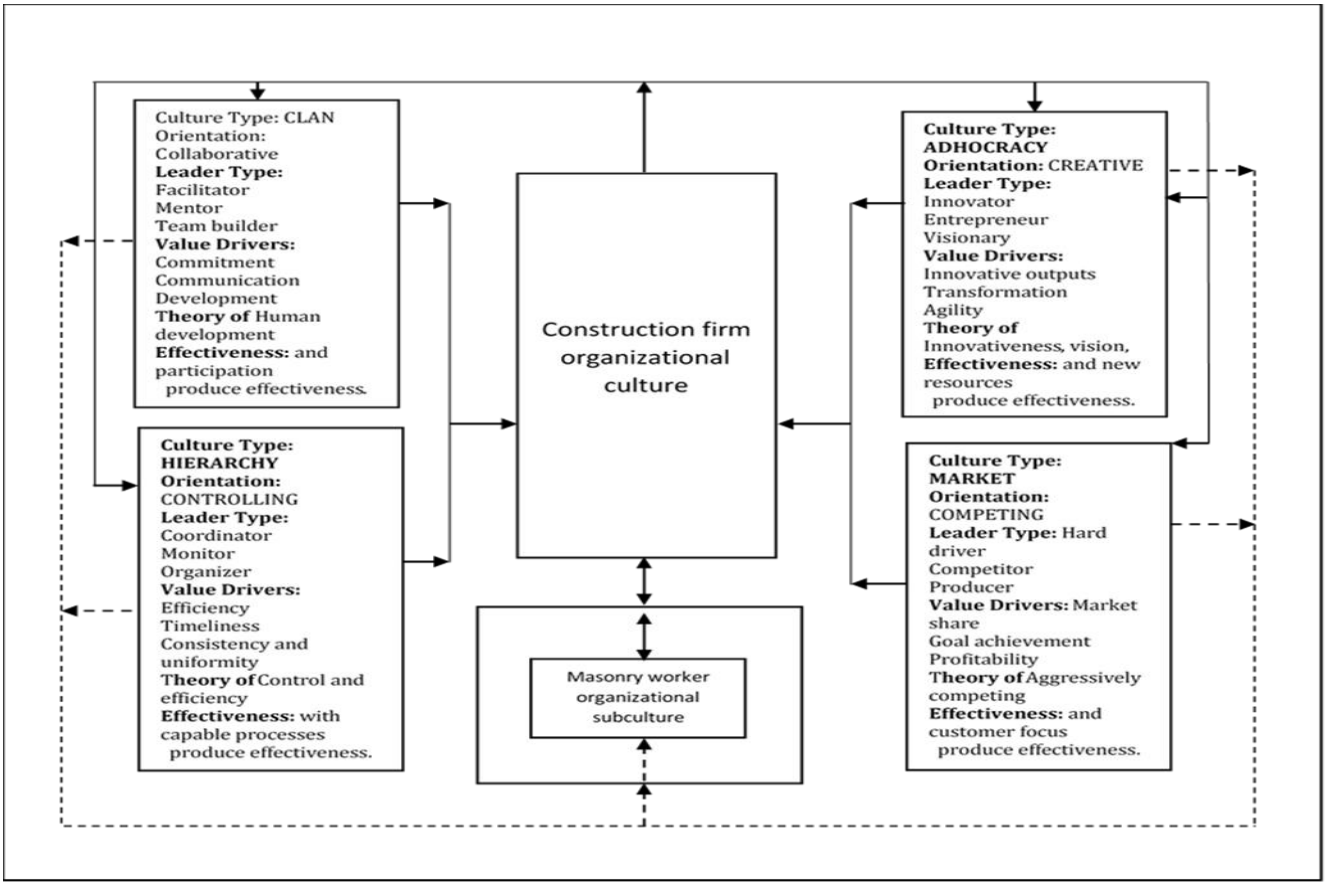
Figure 1: The Conceptual Frame Work Dynamic Nature of Workplace Organizational Culture.



Source: Researcher, 2023.

3.0 Research Methodology

The inquiry adopted a cross-sectional multiple-case study design to collect, measure and analyze data from multiple Building Constructions Works. The investigation applied this method due to the possible replicability and generalization of the results to the entire masonry worker population. The principles of General Systems Theory (Bertalanffy, 1969), Complexity Theory (David, 1996), and Chaos Theory (Weinberger, 2019; Farazmand, 2003; Lorenz, 1993; Gleick, 1987 and Babak, 1390) underpinned the study process. The knowledge gap for the inquiry was identified and established by critiquing the existing literature. Field data from multiple building construction works within Nairobi County, Kenya, was collected using questionnaires and interview schedules formulated for this purpose.

The reliability and internal consistency of the research tools were confirmed using Cronbach's Alpha reliability test method. The units of analysis for the study were the Kenya National Construction Authority classification-based stratified, and randomly sampled building construction works within the geographical area of the study (Babbie & Mouton, 2001; Mugenda & Mugenda, 2003; Yin, 2003). Identification and selection of participants for the inquiry was by

the random selection statistical method. The nature of population distribution for the study was evaluated and determined by the use of the Kolmogorov-Smirnov normality test method.

4.0 Data Analysis and Findings

The field data were analyzed using descriptive and inferential statistical techniques. The exercise was to establish a logical chain of evidence and examine trends, patterns, and relationships of the field data of the study. The field data was subjected to various inferential tests to determine their relationships and statistical significance to the study. All masonry worker study participants were male, with 69.5% aged between 29 and 39 years old. 60.4% of masonry workers had a secondary level of education or higher, while 97.9% of building construction works managers had a tertiary/College or higher level of education. 62.1% of the building construction works managers had professional training in workplace OSH management. 86.3% of them had work experience of 4 years and above. 97.9% of masonry workers had a trade test certificate in masonry work technical skills and above. 68.4% of the workers were the Kenya National Construction Authority registered and accredited, and 89.6% had masonry work experience of 4 years and above. 64.5% of masonry workers were full-time (42 hrs. /week), and 35.4% were on temporary or part-time/temporary (< 42 hrs. /week) employment.

On whether the management had a clear building construction works centralized administration command and control structures with clear pecking orders 13.8% of the respondents strongly disagreed, 9.6% disagreed, 3.2% were not sure, 23.4% agreed, and 50% strongly agreed with the opinion statement provided. The study received no answer from two respondents. On whether the management had established and strictly followed workplace rules, regulations, a code of conduct, and ethical practices, 26.4% of the respondents strongly disagreed; 8.4% disagreed; 3.1% were not sure; 25.3% agreed; and 36.6% strongly agreed with the statement provided. The inquiry received no answer from one respondent.

On whether the management encouraged worker-based effective communication, information sharing, and problem-solving at all administrative levels of the masonry work planning and execution processes, 15.6% of the respondents strongly disagreed; 12.5% disagreed; 2.1% were not sure; 38.5% agreed; and 31.2% strongly agreed with the opinion statement provided.

On whether the management was self-driven, confident, consultative, and risk-taking, 0% of the respondents strongly disagreed; 2.1% disagreed; 1%, not sure; 6.3% agreed; and 87/96 (90.6%) strongly agreed with the statement provided. On whether the management was always trustworthy, kept a transparent account, and was fair and just, 0% of the respondents) strongly disagreed; Among the 96 respondents, 6.3% disagreed, 1%, were unsure, 3.1% agreed, and 89.6% strongly agreed with the opinion statement.

The study results of Pearson correlation, P-value tests for organizational culture, The Pearson correlation results (P<= 0.05) showed that organizational culture was positively related to workers musculoskeletal disorder of masonry workers. The regression model summary results of the study indicated that R =.576, implying that the organization's culture, OSH government policies, and challenges correlated at .576. The study results for the coefficient for multiple-regression determination (R-squared) was .332, implying that the changes in independent variables influenced changes in the dependent variable by 33.2%. Other factors beyond the scope of this study explained the remainder 66.8% out of 100% of the changes. However, the figure does not reveal information about the causation relationship between the independent and dependent variables or indicate the correctness of the regression mode.

4.1 Discussion of Findings of the Study

The study findings indicated that leadership types in most building construction works visited were self-driven, confident, risk-taking, consultative, transparent, trustworthy, and accountable. The field data showed that most building construction works, had worker recruitment and deployment based on ability, skill, and competence. The results showed that most of the building construction works management in the study had clearly defined and set out workplace administrative structures, rules, regulations, and codes of conduct. The study outcome indicated that most workplaces had well-established and functional top-down communication channels, information-sharing structures, and problem-solving mechanisms. The building construction works management task briefed masonry workers on their daily tasks, work schedules, and performance expectations. The building construction works management emphasized task coordination and teamwork for efficient service delivery.

However, most building construction works lacked a published and conspicuously displayed OSH policy, mission, vision statements, and workplace motto guidelines for the management of OSH of masonry workers' activities. The study results showed that most building construction works did not have OSH induction and refresher training programs on work methods/procedures and processes for masonry workers. Results of the study indicated that no such training opportunities were availed to the employees during the project tenure (OSHA, 2007). The study results indicated that there was no DOSH sponsored or supported OSH sensitization and information exchange programs in building construction works. The lack of a digital-based OSH national information exchange platform and programs have continued to undermine the adoption of and maintenance appropriate safety culture in building construction works in Kenya.

The results showed that most building construction works failed to establish workplace OSH committees or prepare a workplace risk register for management purposes. The study outcome confirmed that masonry workers were not fully involved in workplace task scheduling, risk management decision-making, and work performance review for improvement purposes. The results indicated the nominal or absence of performance recognition and reward incentive programs for masonry workers' innovation and creativity efforts. Most building construction works management lack change management policies and programs to address emerging internal and external masonry work-related challenges. The results showed that most building construction works management establishments were slow to embrace innovative and creative work procedures, processes, and emerging technologies to improve OSH risk management and efficient and effective workplace productivity in building construction works. Masonry work-level mechanization on material handling is low. The reasons given for the apparent apathy are the high capital input requirements and the unreliable building construction job market.

Workplaces were not DOSH registered for workplace OSH monitoring and enforcement purposes. The DOSH objective of efficient OSH-related data collection processing and dissemination to building construction works stakeholders' remains a challenge to overcome. The scarcity of well-trained OSH field officers has undermined project audits for OSH project compliance in building construction works. The study results showed that the DOSH-sponsored workplace OSH surveillance program was nominal or non-existent in many building construction works workplaces. The lack of OSH-trained medical personnel and DOSH-registered OSH medical reference institutions further complicates the availability of reliable data for collection, processing, and dissemination.

Amongst the most notable work- related stressors found included insufficient induction or refresher course training programs, lack of recognition and award programs (71.9%), absence of risk management strategies (69.8%), absence of work variety choices from (60.4%), use of excessive force (54.2%), overstretching of body parts (56.3%) and exposure to excessive vibrations. The presence of all these factors were predictive indicators to masonry workers eventual development of workers musculoskeletal disorders outcome confirmed in the study. The noted high exposure level could be attributed to lack of sufficient intervention measures in mitigation against work-related risks to the workers' health in building construction works.

The Pearson correlation results (P<= 0.05) showed that organizational culture was positively related to workers musculoskeletal disorder of masonry workers. The regression model summary results of the study indicated that R =.576, implying that the organization's culture, OSH government policies, and challenges correlated at .576. The study results for the coefficient for multiple-regression determination (R- squared) was .332, implying that the changes in independent variables influenced changes in the dependent variable by 33.2%. Other factors beyond the scope of this study explained the remainder 66.8% out of 100% of the changes. However, the figure does not reveal information about the causation relationship between the independent and dependent variables or indicate the correctness of the regression model.

5.0 Conclusion and Recommendations

The efforts by masonry workers toward the workplace achievement of the vision, mission, performance objectives, and goals are reliant upon existing culture practices on employee safety, health, and general welfare (Groysberg et al., 2018). Values, beliefs, and attitudes are formed and bonded through friendships, social networks, and experiences. Values determine our character and culture. Myths, prejudice, and assumptions shape our attitudes. Belief shapes our reality as they influence personal efficacy and health, our own and other people's behaviors. They are the lenses through which we see the world. An all-inclusive stakeholders' approach to OSH management in building construction works will enhance and promote a safety culture common for the building construction works benefit.

Building construction industry stakeholders' participation in OSH policy formulation, legislation, management, and regular reviews and improvement be enhanced. Training capacities and deployment of OSH field officers for OSH enforcement be improved. The built environment professional organizations are engaged in workplace OSH sensitization, education, and training activities. DOSH establishes, promotes, and maintains a digital OSH information exchange platform accessible to all stakeholders. Adopt modern methods of workplace OSH data collection, processing, and dissemination. DOSH to establish and maintain national recognitions and reward schemes for the building construction works OSH best performers and promotion of best practices be established. National Construction Authority to make the production of OSH certificate of compliance a condition for classification, registration, and annual practice license issuance and renewals.

The Kenya National Construction Authority to categorize, recognize, register, and accredit masonry workers and workplace supervisors based on education, skill, competencies, and work experiences. DOSH, in partnership with other building construction works stakeholders, sponsors OSH research and development programs in such areas as workplace human behavior, the role of mechanization and digitalization, emerging construction technologies, work methods, and processes on OSH risk management in building construction works . Review of existing legislation

to provide for harmonization of functions of various OSH administrative agencies. The government to provide sufficient funding for OSH activities.

Despite the contributions made by this study, it highlights a few aspects to be considered by future researchers. And the propositions put forward in this study emphasize the role of organization culture in management of work-related musculoskeletal disorders of masonry workers in construction workplaces. The study was done on role of organization culture in management of work-related musculoskeletal disorders of masonry workers in construction workplaces: Case study, Nairobi County. It recommended that similar studies be done in other Counties in Kenya with an aim of assessing the role of organization culture in management of work-related musculoskeletal disorders of masonry workers in construction workplaces. This should aim at establishing if similar challenges in organization culture in management of work-related musculoskeletal disorders of masonry workers in construction workplaces are a replica in other organizations of the world.

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