Safety and Health at Work 7 (2016) 340–346

Contents lists available at ScienceDirect

Safety and Health at Work

journal homepage: www.e-shaw.org

Original Article

Work Pressure and Safety Behaviors among Health Workers in Ghana: The Moderating Role of Management Commitment to Safety

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ARTICLE INFO

Article history:
Received 21 January 2016
Received in revised form
1 April 2016
Accepted 3 May 2016
Available online 24 May 2016

Keywords:
Ghana
health care workers
management commitment to safety
safety behaviors
work pressure

ABSTRACT

Background: safety and healthy working environment has received numerous research attention over the years. Majority of these researches seem to have been conducted in the construction industry, with little attention in the health sector. Nonetheless, there are couple of studies conducted in Africa that suggest pressure in hospitals. Therefore the aim of the study was to examine how pressure influence safety behavior in the hospitals. With reference to the relevance of safety behavior in primary health care delivery, there was the need for the study.

Method: Data was obtained from 422 public hospital employees. Respondents were assured that all information would be kept confidential to increase the response rate and acquire more accurate information. Collection of questionnaires from participants took four weeks (20 working days), after which the data was analyzed.

Results: The result of the study showed that work pressure correlated negatively with safety behavior. General safety climate significantly correlated positively with safety behavior and negatively with work pressure, although the effect size for the latter was smaller. Hierarchical regression analysis showed management commitment to safety to moderate the relationship between work pressure and safety behavior.

Conclusion: When employees perceive safety communication, safety systems and training to be positive, they seem to comply with safety rules and procedures than voluntarily participate in safety activities.

1. Introduction

Safety behaviors are one of the major concerns of most organizations globally. Safety behaviors are classified into two main categories: safety compliant behavior and safety participation behavior [1]. Safety climate in an organization may be viewed as a set of underlying values, beliefs, and principles that employees perceive as held within the organization [2]. Safety compliant behaviors may be described as the core safety activities that employees need to carry out to ensure workplace safety, whereas safety participation behaviors can be considered as behaviors that may not directly contribute to workplace safety, but help to develop a working environment that supports safety [1]. However, there may be variation with regards to the influence of safety knowledge and safety communication, training, safety system, and physical work environment on safety compliance and safety participation. An examination of these elements may help to extend Neal and Griffin's categories [3].

Even though the medical literature is rich with studies on the mechanisms of errors, it often ignores the work conditions under which they occur [4]. One such condition in the health sector is work pressure. Studies seem to suggest the presence of work pressure in the health sector [5]. Ghana's doctor and nurse population ratio is 1:10,452 for doctors and 1:1,251 for nurses, as per the 2012 annual report on the Ghana Shared Growth and Development Agenda [6]. There is no agreed international standard for overall staffing of primary health care [7]. However, in 2006 the World Health Organization (WHO) defined countries as having a critical shortage of health workers if they had fewer than 2.28 doctors, nurses, and midwives per 1,000 population and if they failed to reach the target of 80% of deliveries being attended by a skilled birth attendant [8]. The 2014 annual report from the Ghana Health

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http://dx.doi.org/10.1016/j.shaw.2016.05.001

Service [6] suggested that Ghana is still in critical shortage of health personnel per the criteria given by the WHO [8].

In healthcare, research has indicated that it is not only patients who are danger but that staff can also be injured [9]. According to the Health and Safety Executive report (2015), from 2009 to 2012 there were 8,729 injuries to employees in the health sector [10]. Also, descriptive findings have shown that 21% of healthcare professionals reported one or two injuries for the past 12 months [9]. Numerous studies have investigated antecedents of safety behaviors [11–14]. Out of these studies, some antecedents of safety behaviors that have been found include civility norm [15], psychological climates and work attitudes [12], personality [16], and safety climate [2,17–19]. The literature clearly shows that safety climate dominates antecedents of safety behavior at the workplace. However, the majority of the studies conducted to examine the relationship between safety climate and safety behavior were conducted in the construction and engineering sectors. Thus, there seems to be paucity of research conducted to establish the relationship between safety climate and safety behavior in the health sector. More specifically, although series of studies have been conducted to examine the relationship between safety climate and worker outcomes [5], fewer or no studies have examined the relationship between safety climate and safety behavior in this specific population context (the health sector). There are also studies that have examined the relationship between work pressure and safety behaviors [5]. However, there seems to be a gap in studies conducted to examine the moderating effect of management commitment to safety and priority of safety in the work pressure and safety behavior relationships. Therefore one of the aims of this study was to examine the relationship between the general safety climate and safety behaviors among health care providers. Secondly: the study sought to examine whether management commitment to safety and priority of safety moderate the relationship between work pressure and safety behaviors. The question is: can pressure have a direct influence on safety behavior? Thirdly: can management commitment to safety and priority of safety buffer the effect of pressure on safety behaviors?

1.1. Healthcare delivery in Africa

The WHO has initiated the *safer primary care* projects with the aim of advancing the understanding of the negative and also the nature of preventable harm of unsafe practices in developing countries, under which label most African countries fall [20]. One of the reasons for such initiative is that research has shown that a significant proportion of safety incidents occurring in the hospitals have originated in the early level of care [21]. Thus, this project mainly focuses on reducing preventable harm in order to promote safe mechanisms to protect patients and workers in the hospitals. However, there are series of research that seems to call for more safety behavioral studies in the health sector [5].

A study by Aveling and colleagues [22] in two East African hospitals, indicated that little can be done about many of the problems in health care delivery without investment. This is because the hospitals are too small and inadequately resourced yet experience overwhelming patient demand, which makes it difficult to ensure patient safety. Thus, when staff feel there is little they can do to change their material, cultural, and physical conditions, poor outcomes may be seen as unavoidable. More specifically, an account of a nurse on patient volume was “when all the [operating] rooms are occupied by elective patients and we receive an emergency case, we don’t have a free room to do emergency procedures. For this reason a mother whose baby is in fetal distress may lose its life” [5]. The density of health workforce (per 10,000 population) for Ghana as reported by the WHO [21] for the period of 2007 to 2013 is 1.0 for physicians, 9.3 for nursing and midwifery personnel, and 0.1 for dentistry personnel. From this statistical revelation, it is very possible that there is pressure on the health professionals in Ghana, which may ultimately culminate in ignoring certain basic measures especially during primary care and emergency cases in the hospitals.

1.2. General safety climate and safety behavior

A meta-analysis by Clarke [18] showed safety climate to be a significant predictor of safety behavior and weakly related to accidents. Organizational safety climate has been defined by Zohar [23] as “a unified set of cognitions [held by workers] regarding the safety aspects of their organization” (p. 101). Safety climate has also been described as a set of perceptions shared by the employees about safety policies, procedures, and practices and may be considered as a multidimensional factor that can have a positive effect on safety in the firm [24]. However, according to Wu and colleagues [25] the existing literature on the safety climate lacks consistency with regards to the definition of the concept. This could be due to the study of only few dimensions of the safety climate by researchers in the past [25].

Safety climate has been found to be more highly related to safety participation than safety compliance [26]. Specifically, Christian and colleagues [26] discuss that if, by definition, workers must comply with obligatory and mandatory practices and procedures, safety climate should not matter as much as for behaviors that are compulsory. Thus general safety climate is expected to influence safety behavior positively. Research [1,5] has shown that there are several dimensions that are important to consider when conceptualizing safety climate including: safety communication (i.e., the extent to which there is an open exchange of information regarding safety); safety training (i.e., the extent to which training is accessible, relevant, and comprehensive); and safety systems (i.e., the extent to which safety procedures are perceived to be effective in preventing accidents). In this study, we conceptualized general safety climate to encapsulate communication, training, physical work environment, safety systems, safety knowledge, and employee safety motivation. Studies have found safety climate to influence safety behaviors [1,14,27]. Safety knowledge and safety motivation have been found to exhibit stronger effects for the safety performance composite (i.e. safety compliance and safety participation) [1,26]. It is therefore anticipated that, safety knowledge and safety motivation would be positively related to safety participation and safety compliance. Thus, safety knowledge and safety motivation may be related to safety participation and safety compliance because of their proximal nature to the employee [26].

Safety communication has been found to be predictive of safety at work [13]. The multiple regression analysis by Cooper and Philip [19] demonstrated that perceptions of the importance of safety training were predictive of actual levels of safety behavior. We further envisage safety communication, training, safety system, and physical work environment to be more related to safety compliance than safety participation because, per definition, it is the core of safety activities that employees need to carry out to ensure workplace safety [1]. Therefore we propose the following hypotheses:

Hypothesis 1: safety knowledge and safety motivation will be positively related to safety compliance and safety participation.
Hypothesis 2: Safety communication, training, safety system, and physical work environment will significantly account for more variance in explaining safety compliance than safety participation.

1.3. The moderating effect of management commitment and priority of safety climate

After assessing the determinants and role of safety climate in creating safer workplaces, DeJoy [13] stated that "although future, and more definitive, research on the mediator hypothesis is clearly needed, our results suggest that organizations should exercise caution in using safety climate as the overall or key indicator of the adequacy or quality of the safety effort". In order words, there may be other variables that can contribute to when safety climate will be effective in explaining safety behavior. The perception of the work environment has shown to be a significant predictor, indicating that a work environment perceived as ambiguous and highly pressurized is associated with accident involvement [18]. Thus according to Clarke [18], the major influence of the plant's management was through the perceived conflict between production and safety, which was a significant influence on unsafe behavior. Although previous studies support this relationship [28,29] little research attention has been devoted to examining the moderating effects of management commitment to safety and priority of safety on the work pressure and safety behavior relationship. Findings from earlier studies suggest that perceptions of work pressure may be a significant contextual determinant of safety behavior at work [18]. Also, Mearns and colleagues [30] found unsafe behavior, in a sample of offshore oil workers, to be primarily predicted by *pressure for production* with smaller effects from work pressure. Findings have revealed that in an attempt for nurses to cope with complex work environment constrained by high demands, low staffing and multitasking, nurses developed implicit theories concerning whether or not to comply with safety rules which were gradually substituted for the formal safety rules [5]. Drach-Zahavy and Somech [5] postulated further that these implicit rules seemed to be reinforced by contextual factors at the unit, limiting the likelihood that the decision makers (nurses) would discover their errors.

The results of a study by Fugas and colleagues [31] also showed that compliance-type behaviors are strongly regulated by the formal systems established by the organization.

In a related study by Morrow and colleagues [32], determining the relative differences in the strength of relationships between safety climate dimensions and unsafe behavior, the result indicated that work–safety tension demonstrated the strongest association with unsafe behavior dominating management safety and coworker safety. Work–safety tension is the tension felt when working safely is perceived to be at odds with effectively performing one's job duties and meeting organizational standards for performance [32].

Management commitment to safety has also been identified as a dominant theme in safety climate measurement within the industrial safety literature [33]. Healthcare organizations also include this factor in safety climate assessment [1,28,34,35]. Huang and colleagues [36] also found less favorable perceptions of management commitment to safety by staff to be related to higher patient mortality rates. On the basis of the above review, the following hypotheses were proposed:

Hypothesis 3: Work pressure will be negatively related to safety behavior

Hypothesis 4: Management commitment to safety and priority of safety will moderate the relationship between work pressure and safety behavior, such that the relationship between work pressure and safety behavior is stronger when management commitment to safety and priority of safety is low than when high.

2. Materials and methods

2.1. Population/sample

The population of the study was public health workers in the Greater Accra Region of Ghana. A total of 600 public hospital employees from four different hospitals were targeted for the study. Of these, 422 returned completed surveys (70%). The majority (52%) of the respondents were male, with 48% being female. In terms of specialization of work, majority 111 (26.3%) were nurses, 68 (16.1%) were laboratory technicians, and 48 (11.4%) were medical doctors. Out of the sample, 42.4% were aged between 21–39 years and 211 (50%) had worked for 1–5 years.

2.2. Procedure/design

The study used a cross-sectional survey design. This design is used in research to identify any pattern of relationship that exists between two or more variables and to measure the strength of the relationship. This process consists of defining the purpose and objectives, deciding on the sample, creating and pretesting the instrument, contacting the respondents, and collecting and analyzing data. In the study, a self-report measurement technique (questionnaires) was employed to collect data from participants at a single point in time. Six hundred questionnaire packages were passed to the heads of the selected health facilities for distribution. Accompanying each questionnaire package was a cover letter, which explained the purpose of the study and assured participants of confidentiality and anonymity. Participants were also made aware that their participation in the study was entirely voluntary and they could choose to withdraw at any point.

2.3. Measures

2.3.1. General safety climate

The general safety climate survey instrument by Neal and Griffin [3], which covers questions on communication, training, physical work environment, safety systems, safety knowledge, and safety motivation was used. The scale has 25 items measured on a five-point Likert scale. Accordingly, five items assessed safety communication (Cronbach $\alpha = 0.83$), four items assessed safety training (Cronbach $\alpha = 0.73$), three items assessed physical work environment (Cronbach $\alpha = 0.89$), three items assessed safety systems (Cronbach $\alpha = 0.87$), four items assessed safety knowledge (Cronbach $\alpha = 0.77$), and six items assessed safety motivation (Cronbach $\alpha = 0.87$). Some of the items on this scale included: There is frequent communication about safety issues in this workplace, Employees have sufficient access to workplace health and safety training programs, Employees are frequently exposed to risky situations, and The safety procedures and practices in this organization are useful and effective. The coefficient α for the general safety climate in this study was 0.85.

2.3.2. Specific safety measures

In measuring the three safety dimensions of interest to the study (i.e., pressure for production, priority of safety and management commitment to safety), participants were asked to complete a 15-item scale from Bosak and colleagues [37] based on the three safety dimensions; management commitment to safety, priority of safety, and work pressure. Responses were indicated on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach α for the three safety dimensional scales were all acceptable.

2.3.3. Management commitment to safety

Accordingly, five items assessed management commitment to safety. These items measured respondent opinion on management commitment to safety in their respective hospital. An example is: If you say too much about safety they might fire you. The scale had a Cronbach α of 0.81.

2.3.4. Priority of safety

Five items assessed priority of safety. The priority of safety scale measured respondents' opinions on priority of safety in their hospital. The items included: I am allowed to stop work if I feel the job is unsafe. The scale had a Cronbach α of 0.88.

2.3.5. Work pressure

Five items examined work pressure. Items on this scale measured respondents' opinions on pressure for service delivery in their respective hospitals. An example is: Sometimes it is necessary to ignore safety rules or procedures to keep service delivery going. The construct had a Cronbach α of 0.91.

2.3.6. Safety behavior

Safety behavior was assessed using a 12-item questionnaire based on Neal et al's [1] safety behavior scale. Each safety component was assessed using six items. An example of safety compliance is: I ensure the highest level of safety when I carry out my job. A sample item of safety participation is: I report to my supervisor when colleagues break any safety rules. The internal consistency for safety compliance and safety participation were 0.79 and 0.75, respectively. The overall Cronbach α for safety behavior was 0.71.

3. Results

3.1. Descriptive statistics and correlation analysis

The means, standard deviations, and intercorrelations for the main study variables are reported in Table 1. The interrelationships between the study variables from Table 1 indicate general safety climate to correlate positively with safety behavior ($r = 0.51$, $p < 0.01$). There were intercorrelations such that high perception of work pressure was negatively associated with safety behavior ($r = -0.17$, $p < 0.01$). Nonetheless, high management commitment to safety was associated with positive safety behavior ($r = 0.22$, $p < 0.01$) and priority of safety positively correlated with safety behavior ($r = 0.45$, $p < 0.01$). Work pressure correlated negatively with general safety climate ($r = -0.28$, $p < 0.01$).

3.2. Hypothesis testing

Hypotheses 1 and 2 were tested using multiple regression analysis. The Pearson moment correlation showed general safety climate to be significantly related to safety behavior ($r = 0.51$, $p < 0.01$; Table 1). Findings from Models 5 and 6 (Table 2) show that knowledge accounted for 4% of the variance in explaining safety compliance ($\Delta R^2 = 0.04$, $\beta = 0.30$, $p < 0.001$), while safety motivation did not account for a significant variance in explaining safety compliance ($\Delta R^2 = 0.00$, $\beta = 0.00$, $p > 0.05$).

Table 1
Means, standard deviations (SD), correlations of study variables ($N = 422$)

Variable	Mean	SD	1	2	3	4	5
1. General safety climate	92.85	15.60	–	–	–	–	–
2. Work pressure	13.78	5.24	−0.28*	–	–	–	–
3.Management commitment	16.35	3.97	0.40*	−0.60*	–	–	–
4. Priority of safety	16.61	4.74	0.60*	−0.24*	0.34*	–	–
5. Safety behavior	35.02	6.02	0.51*	−0.17*	0.22*	0.45*	–

* $p < 0.01$ (1-tailed).

Table 2
Summary of the multiple regression analysis testing the effects of the dimensions of general safety climate on safety compliance and safety participation

		Safety compliance			Safety participation		
Model	Variable	ΔR^2	SEB	β	ΔR^2	SEB	β
1	Communication	0.03	0.04	0.26*	0.00	0.06	0.06
2	Training	0.01	0.04	0.15‡	0.00	0.07	0.06
3	Physical work environment	0.01	0.04	0.07	0.00	0.07	0.02
4	Safety systems	0.01	0.06	0.18†	0.01	0.09	0.16‡
5	Knowledge	0.04	0.05	0.30*	0.03	0.08	0.24*
6	Motivation	0.00	0.03	0.00	0.00	0.05	0.09

SEB, Standardised coefficient of Beta.
* $p < 0.001$.
† $p < 0.01$.
‡ $p < 0.05$.

In addition, Models 5 and 6 (Table 2) show that knowledge accounted for 3% of the variance in explaining safety participation ($\Delta R^2 = 0.03$, $\beta = 0.24$, $p < 0.001$), safety motivation did not account for a significant variance in explaining safety participation ($\Delta R^2 = 0.00$, $\beta = 0.09$, $p > 0.05$). Therefore, Hypothesis 1—Safety knowledge and safety motivation will be positively related to safety compliance and safety participation—was partially supported.

Furthermore, Models 1, 2, 3, and 4 (Table 2) show the significant levels and amount of variance accounted for in explaining safety compliance. Findings shown in the table reveal that safety communication accounted for 3% ($\Delta R^2 = 0.03$, $\beta = 0.26$, $p < 0.001$), safety training accounted for 1% ($\Delta R^2 = 0.01$, $\beta = 0.15$, $p > 0.05$), physical work environment accounted for nonsignificant variance ($\Delta R^2 = 0.01$, $\beta = 0.07$, $p > 0.05$) and safety system accounted for 1% ($\Delta R^2 = 0.01$, $\beta = 0.18$, $p < 0.01$). Comparatively, Models 1, 2, 3, and 4 (Table 2) show the significant levels and amount of variance accounted for in explaining safety participation revealed that communication did not account for a significant variance ($\Delta R^2 = 0.00$, $\beta = 0.06$, $p > 0.05$), safety training did not also account for a significant variance ($\Delta R^2 = 0.00$, $\beta = 0.06$, $p > 0.05$), physical work environment did not account for a significant variance ($\Delta R^2 = 0.00$, $\beta = 0.02$, $p > 0.05$) and safety system accounted for 1% ($\Delta R^2 = 0.01$, $\beta = 0.16$, $p < 0.05$). Therefore, Hypothesis 2—Safety communication, safety training, safety systems and physical work environment will significantly account for more variance in explaining safety compliance than safety participation—was partially supported.

The intercorrelation analysis (Table 1) shows that work pressure negatively correlated with safety behavior ($r = -0.17$, $p < 0.01$). Therefore Hypothesis 3—Work pressure will be negatively related to safety behavior—was supported by the study.

Table 3
Summary of the hierarchical multiple regression analysis testing the moderating effect of management commitment and priority of safety in the relationship between work pressure and safety behaviors

Model	Variable	B	SEB	β
1	Work pressure	−0.19	0.06	0.17†
	Management Commitment	0.28	0.09	0.19†
	Work pressure × management commitment	−0.07	0.01	−0.24*
2	Work pressure	−0.19	0.06	0.17†
	Priority of safety	0.55	0.06	0.43*
	Work pressure × priority of safety	−0.01	0.01	−0.02

For interactions: $R^2 = 0.11$, $\Delta R^2 = 0.06$ for Model 1, $R^2 = 0.20$, $\Delta R^2 = 0.00$ for Model 2.
SEB, Standardised coefficient of Beta.
* $p < 0.001$.
† $p < 0.01$.

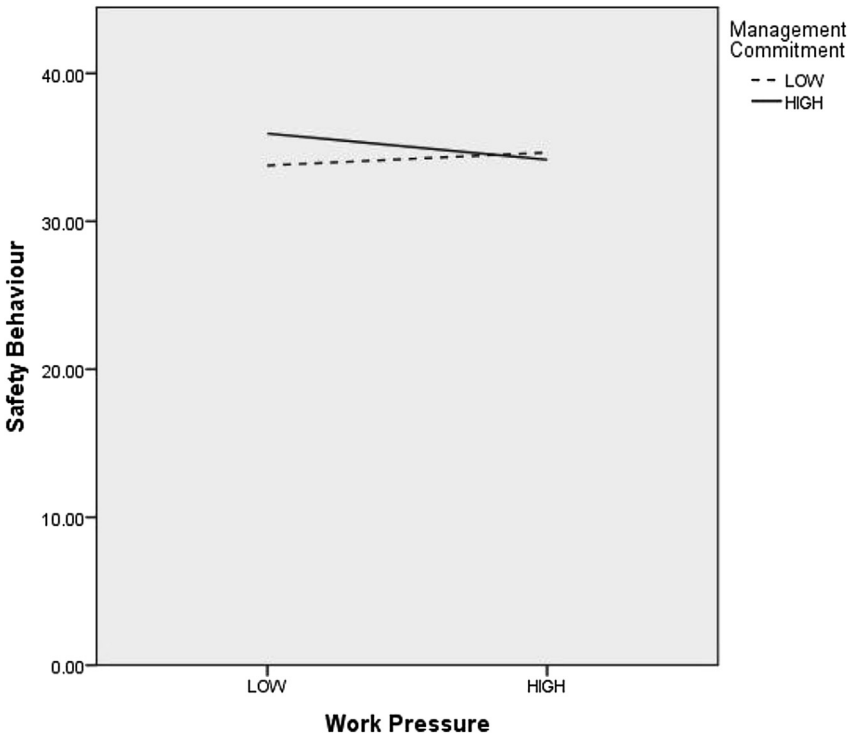

Fig. 1. The moderating effect of management commitment to safety on the relationship between work pressure and safety behavior.

To test for Hypothesis 4, the procedures proposed by Baron and Kenny (1986) [38] for testing moderation effect was used. With respect to the interaction term, the independent and the moderating variables were centered to reduce the effect of multicollinearity [39]. The interaction term of pressure and management commitment (Model 1, Table 3) shows a significant variance in safety behavior ($\Delta R^2 = 0.06$, $\beta = -0.24$, $p < 0.001$). Furthermore, the interaction term of pressure and priority of safety (Model 2) of Table 3 shows a non-significant variance in safety behavior ($\Delta R^2 = 0.00$, $\beta = -0.02$, $p > 0.05$). Therefore Hypothesis 4—Management commitment to safety and priority of safety will moderate the relationship between pressure and safety behavior, such that the relationship between work pressure and safety behavior is stronger when management commitment to safety and priority of safety is low than when high—was partially supported.

Figure 1 illustrates that the perception of high management commitment to safety in the phase of high work pressure seems to decrease safety behavior. In contrast, the perception of low management commitment to safety in the phase of high work pressure seems to increase safety behavior.

4. Discussion

This study examined the moderating role of management commitment to safety and priority to safety in the work pressure and safety behavior relationship. Consistent with past research [1,27] the current study found general safety climate to positively influence safety behaviors within the health sector. Thus when health workers perceive the general safety climate of their health facilities to be positive, they are more likely to engage in positive safety behaviors. The first hypothesis, which stated that safety knowledge and safety motivation will be positively related to safety compliance and safety participation, was partially supported by the findings. Studies by Christian et al [26] and Neal et al [1] found safety knowledge and safety motivation to exhibit stronger effects for safety performance composite (i.e. safety compliance and safety participation). Thus the results of the current study seems to be partially consistent with those results [1,26]. Differences in the outcome may be due to cultural differences with regards to the population of the studies. Nonetheless, the result of the study suggest that health professionals who have adequate knowledge in the area of safety and health are more likely to engage in positive safety behaviors (i.e. both safety compliance and safety participation). This implies that organizations should focus on interventions that will increase safety knowledge in order to increase both safety compliance and safety participation.

The second hypothesis—that safety communication, safety training, safety system and physical work environment will significantly account for more variance in explaining safety compliance than safety participation—was partially supported by the study. The result of the study showed that physical work environment did not account for a significant variance in explaining both safety compliance and safety participation. Thus the physical things that promote safe or unsafe climate in the work environment do not influence safety compliance and safety participation. Nonetheless, the results suggest that when employees perceive safety communication, safety systems, and training to be positive, they are more likely to comply with safety rules and procedures than voluntarily participate in safety activities. Inconsistent with the current study outcome is the study by Clarke [18] that found physical work environment to be predictive of accidents and unsafe behavior, but found safety communication to be insignificant in predicting unsafe behavior. Nonetheless, the outcome of this study gives credence to earlier studies. For instance, safety communication has also been found to be predictive of safety at work [28]. Perceptions of the importance of safety training has been found to be predictive of actual levels of safety behavior [19]. This may imply that, for management of hospitals to ensure safety compliance, policies and programs that promote safety communication, safety systems and training must be implemented.

The third hypothesis—that work pressure will be negatively related to safety behavior—was supported by the study. Thus high perception of work pressure may reduce employees' tendency for engaging in safety behavior. This finding is consistent with the study by Mearns and colleagues [30] who found unsafe behavior, in a sample of offshore oil workers, to be primarily predicted by *pressure for production* with smaller effects from *work pressure*. Also, this result is consistent with the assertion by Clarke [18] that perception of work pressure has direct effect on accident prevention. Therefore, in order for management of organizations or hospitals to increase safety behaviors, they must develop and hence implement policies that will create a culture or working environment that restrains work pressure among employees. Drach-Zahavy and Somech [5] postulated that, in an attempt for nurses to cope with complex work environment constrained by high demands, nurses developed implicit theories concerning whether or not to comply with safety rules that were gradually substituted for the formal safety rules. Therefore, hospital employees may have developed implicit theories not to comply with the formal safety rules in the presence of pressure in their working environment. Nonetheless, the moderation analysis revealed the perception of management commitment to safety in the presence of work pressure to reinforce these negative implicit theories. However, since current studies [5,21] seem to indicate the presence of pressure in most health sector in Africa, the major practical implication for this outcome is that health organization must implement intervention programs that will promote not only safety climate, but also reduce work pressure in order to increase safety behaviors. For example, policies and strategies to increase the number of health care professionals to improve the ratios of healthcare professionals to patients and hence help reduce the pressure placed on them due to the unfriendly ratios. The negative consequences of unsafe behavior in the health sector [21] brings out the business case of return on investment with regards to the safety interventions. In other words the cost for hiring more healthcare professionals might be less than the cost for doing nothing, on the side of management.

The final hypothesis was not supported by the study findings. Thus, priority of safety did not moderate the relationship between work pressure and safety behavior. This shows that, priority for safety neither strengthened nor weakened the effect of work pressure on safety behavior. However, priority of safety showed a direct significant effect on safety behavior. This suggests that increase in management priority of safety may lead to positive safety behaviors. In other words, when employees perceive management to prioritize safety, it will make them more likely to engage in safety behaviors. This result is consistent with that of Huang and colleagues [36] who found less favorable perceptions of management by staff to be related to higher patient mortality rates. Therefore, to increase safety behaviors among employees, management may implement frequent checks to ensure that employees are following safety procedures.

Contrary to the expectation of the researchers, results of the study showed management commitment to moderate the relationship between work pressure and safety behavior, such that, the relationship between work pressure and safety behavior is stronger when management commitment is high than when low. Thus, when employees perceive management to be committed to safety but nonetheless perceive pressure at work, it makes them less likely to engage in safe behaviors. One reason that might have led to this outcome may be based on mistrust and dissatisfaction on the part of employees. Thus, employees may lose trust and be dissatisfied with management procedures when they perceive that, it does not practice what it preaches, hence becoming more likely to engage in unsafe behavior as a means of showing displeasure or revolt. This implies that when management of organization implement policies that shows its commitment to safety issues, but allows pressure at work, it will reduce safety behaviors among employees as employees will not perceive the so called commitment to safety as genuine. Some past studies seems to be in support with this outcome [11,32,40]. Commitment is active and not passive. How can the management of health facilities claim to be committed to issues of employee health and safety when they continue to seem unconcerned as health care workers drown in the pressures of their work? Thus managers of health facilities should design and promote policies that give true meaning to their commitment to employee health and safety. Therefore, management should be able to assess the capacities of their workforce and assign responsibilities and workloads proportional to their capacities without overburdening them. Nonetheless, the reality of the complexities of the health system in which hospitals operate can make this implementation difficult or unrealistic; hence, experts such as industrial and organizational psychologists may be consulted to facilitate such implementation.

4.1. Limitations/strengths/recommendations

One main limitation of the study is that data were collected using quantitative techniques. We therefore recommend that future researchers may consider an eclectic (qualitative and quantitative) approach to data collection to enrich the quality of their research conclusions. Another limitation of the study has to do with the sample composition. Participants were drawn only from hospitals thus limiting the generalization of the result across varied specialization or organizations.

Despite these limitations there are two main strengths of this current study. This study contributes to determining the contextual nature of the effect of pressure on safety behavior. In addition, this study contributes to filling the gap that exists in literature with regards to safety behavior studies conducted in the health sector.

Understanding how management commitment to safety and priority of safety interact with work pressure to impact safety behaviors at work have some practical implication for designing and implementing effective safety management programs. It may be worth noting that, management commitment towards safety is impacted by other business drivers. Thus, management may behave differently when it comes to competing prioritizes. However, the importance of management commitment and priority to safety cannot be overemphasized.

In ensuring safety compliance from employees, management must design safety behavior programs that will facilitate safety communication, safety systems and training. Also, management commitment to safety policies should incorporate strategies that will curb pressure at work to enhance further safety behaviors among employees. Therefore, future researchers in the area of safety climate should conduct more studies to ascertain further whether management attitudes regarding safety epitomize the theoretical and empirical core of safety climate [41].

In summary, the study showed that when employees perceive the general safety climate of their organization to be positive, they will be more likely to engage in positive safety behaviors. Specifically, when employees perceive safety communication, safety systems and training to be positive or good, they seem to comply with safety rules and procedures than voluntarily participate in safety activities. However, since work pressure has a direct negative effect on safety behaviors and management commitment to safety strengthened the relationship, safety interventions or programs must focus on assisting organizations to develop and implement policies, structures and systems that will create a culture aimed at curbing work pressure.

Conflicts of interest

All authors have no conflicts of interest to declare.

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