

A Conceptual Framework for Enhancing Safety Performance by Impact Cooperation Facilitation, Safety Communication and Work Environment: Jordanian Hospitals

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Abstract

Safety in the workplace is essential to ensure organization survivability, constant operation and best work quality specifically in among the countries at the developing stage such as Jordan. Relatedly, safety performance is very crucial for organization performance measurement and corporate existence to practice safety management at workplace, and every level of organization structure. Thus, the need for enhancing safety at the work setting has been proposed by most scholars, industry practitioners and relevant stakeholders. Workers are exposed to a hazardous event at the workplace through chemical, ergonomic and biological exposures. Consequently, various degrees of accidents, injuries, and fatalities happened in the organization and lead to multiple levels of challenges to the organization and serve as indicator of poor safety performance within organization. Improvements in safety performance indicators are critical as they can help in improving organizational performance. The impact from poor safety performance indicator could be seen in various forms such as high medical bills, insurance costs and productivity losses. This paper develops a proposed safety performance framework for understanding safety management practices dimensions such as cooperation facilitation, and safety communication and feedback as antecedents of the work environment – the relationship of safety performance based on perceived social exchange theory (SET).

Keywords: Cooperation facilitation, safety communication and feedback, work environment, safety performance

Abstrak

Keselamatan di tempat kerja adalah penting untuk memastikan survival organisasi, kelangsungan operasi dan kualiti kerja terbaik terutamanya di negara-negara sedang membangun seperti Jordan. Oleh itu, prestasi keselamatan sangat penting dalam pengukuran prestasi sesebuah organisasi dan jangka hayat sesebuah organisasi korporat untuk dapat mempraktikkan pengurusan keselamatan di tempat kerja, dan di setiap peringkat struktur organisasi. Maka, keperluan untuk meningkatkan tahap keselamatan di tempat kerja telah dicadangkan oleh kebanyakan para sarjana, pengamal industri dan pihak berkepentingan. Kebanyakan pekerja terdedah kepada keadaan berbahaya semasa di tempat kerja melalui pendedahan terhadap bahan kimia, ergonomik dan biologi. Akibatnya, pelbagai kejadian kemalangan, kecederaan, dan kematian berlaku dalam organisasi dan ini mendatangkan pelbagai cabaran kepada pihak pengurusan dan seterusnya menjadi petunjuk kepada indikator prestasi keselamatan yang lemah dalam organisasi. Penambahbaikan dalam petunjuk prestasi keselamatan adalah kritikal kerana ia dapat membantu dalam meningkatkan prestasi sesebuah organisasi. Kesan daripada petunjuk prestasi keselamatan yang lemah boleh dilihat dalam pelbagai bentuk seperti peningkatan kos bil perubatan, kos insurans dan penurunan produktiviti. Kos bukan kewangan (seperti peningkatan perolehan kakitangan) dan psikologi (seperti kesakitan, penderitaan, kesedihan) dan yang berkaitan isu. Kertas kerja ini mencadangkan suatu rangka kerja prestasi keselamatan bagi memahami dimensi-dimensi amalan pengurusan keselamatan seperti fasilitasi kerjasama, dan komunikasi dan maklum balas keselamatan sebagai penentuan kepada persekitaran kerja - hubungan prestasi keselamatan berdasarkan teori *social exchange* (SET).

Kata kunci: Fasilitasi kerjasama, komunikasi dan maklum balas keselamatan, persekitaran kerja, prestasi keselamatan

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1.0 INTRODUCTION

International Labour Organization estimated about 2.78 million fatalities occurred workplace less efficient safety systems, human factors, practices in the management and less efficient structure in the organization (ILO, 2017). Thus, about 7,500 people die every day. Of this total, 1,000 dies due to workplace injuries, and 6,500 dies from disease from the workplace (Hämäläinen, Takala, & Saarela, 2017). Estimates suggest that about 374 million persons are involved in non-fatal occupational injuries yearly (ILO, 2017; Hämäläinen et al., 2017). The effects of this event had caused economic costs due to workplace incidents, fatalities and injuries which in the state of shocking and it is essential for an organization to identify issues in the workplace related to safety. In addition, Takala et al. (2014) emphasised on economic safety costs in Gross Domestic Product (GDP) between 1.8% and 6.0% in various countries.

In the Middle East and Jordan, incidents at the workplace have received a lot of attention from researchers and practitioners (Eskandari et al., 2017) because mortality ought to be higher than in other parts of the world (ILO, 2011). For example, in 2006, Hämäläinen calculated that fatal occupational rates per 100,000 were 20.0 in Middle East Crescent countries, as compared to 16.1 per 100,000 in Established Market Economies like Europe and the United States, and 13.1 per 100,000 in Former Socialist Countries. Only Other Asian Countries like Bangladesh, Pakistan, and Thailand at 23.1 per 100,000 and Sub-Saharan Africa at 21.0 per 100,000 were rated as worse (Hämäläinen, Takala, & Saarela, 2006).

In Jordan, precise figures are difficult to obtain as a good database, and adequate means of collecting data are absent (Al-Wreidat, 2006; Dababneh, Fouad, Jaleel, & Majeed, 2018). Previous studies on social security figures, the rate of occupational fatalities in Jordan showed the estimation is between for 25 per 100,000 per year from 1980 to 1993 (Rabbi, Jamous, Abudhaise, & Alwash, 1998). Other studies have found lower rates. The ILO estimated a fatality rate of 15.6 in Jordan for 2006, and the rate was expected to be about 12.0 between 2008 and 2014 (Dababneh et al., 2018). In a study of hospital admissions from three major hospitals using data from 2008 to 2012, Al-Abdallat, Oqailan, Al Ali, Hudaïd and Salameh (2015) estimated the rate of fatality was 2 per 100,000 workers. Also, they specifically noted a 1.1% fatalities rate among Jordanian healthcare workers vis-à-vis other classes of workers. Considering this position in mathematical terms, occupationally-induced fatalities rate among Jordanian health workers could be high in relationship to the number of health care workers in Jordan.

In 2017, Mohammed Hussein, Chairman of the Organizing Committee of First International Jordanian Forum for Occupational Health and Safety, said that “the international worker death rate has increased over the past seven years, and is likely to be higher in this region” (Al Eman, 2017). These inconsistent estimated rates demonstrate a key difficulty in examining the problem of workplace safety in Jordan. That is the absence of pertinent data for workplace injury reports, which makes studying the problem of workplace injuries and fatalities difficult. As Dababneh et al. (2018), noted a “lack of a good and updated database and the absence of a clear and reliable mechanism for collecting, documenting and analyzing data, make the real size of work-related injuries and losses much more than what is published in our official reports” (p. 162).

Globally, healthcare workers (palliative care, dental, surgical, nursing, laboratory, home-based, clinical, non-clinical, etc.) are exposed to occupational hazards daily while carrying out their routine tasks. Notwithstanding that hospitals are set up for the treatment of a wide range of illnesses, they are also a channel for transmitting diseases (Brotfain et al., 2017; Guastello, Gershon, & Murphy, 1999; Price et al., 2017). The routes through which these healthcare workers (HCWs) sustain injuries occur while using injections, poor waste management systems, treatment of patients and during general patient care and management. Doctors, physicians and theatre nurses also have reported injuries or contact with blood/body fluids during procedures (Martins, Coelho, Vieira, Matos, & Pinto, 2012).

Working conditions, occasioned by management practices of the management of hospitals where HCWs are attached can affect their level of productivity and their proclivity to becoming infected with diseases (Adams, Zimmermann, Cipriano, Pappas, & Batcheller, 2018). Moreover, the level of the safety performance of HCWs is predicated upon the safety management systems of healthcare facilities to which they are attached (Picakiefe, Acar, Colak, & Kilic, 2017). Because of this, conducting empirical examinations into proposing organizational factors that can improve safety performance indicators among nurses has been suggested (Lievens & Vlerick, 2014; Subramaniam, Shamsudin, Mohd Zin, & Lazim, 2014). Poor management practices in the healthcare setting have been recognized as a critical factor affecting the performance of nurses in terms of safety (Subramaniam et al., 2014). Most healthcare facilities have reported a reduced level of commitment by the management of healthcare facilities to the safety of the nurses working in their facilities (McFadden, Stock, & Gowen, 2015). Jordanian HCWs, and especially nurses also have a high level of exposure to risks in the workplace.

Additionally, workplace stressors can contribute to disease and injuries in nursing field which the factors include immediate work context, organization characteristics and changes that occurred outside organization especially in the healthcare industry. On top of that, nurses experienced physical and mental demands during their shift which the hazard at the workplace can be avoided from damaging health both acutely and chronically. The effect of risk at workplace includes musculoskeletal injuries/disorders, other injuries, infections, changes in mental health, and the longer term, cardiovascular, metabolic, and neoplastic diseases (Bhatnagar, Gupta, Alonge, & George, 2017; Selamu, Thornicroft, Fekadu, & Hanlon, 2017).

Thus, the need to examine and understand factors that can improve safety performance and safety performance metrics of HCWs cannot be overemphasized. Commonly, incidents of accidents are used to measure safety performance, but this metric suffers from several flaws. (Zhou, Fang, & Wang, 2008). First, this metric is reactive. Second, fewer numbers of accident cannot be used in proposing safety in the organization (Beus, McCord, & Zohar, 2016). Third, as Martins et al. (2012) noted, organizations often do not report accidents as they occur. They also posited that organizations underreport by about 70%. In the healthcare setting, Santos and Reis (2016) noted a massive underreporting of accidents amongst nurses.

Therefore, studying factors that can improve the safety performance of HCWs is necessary both in terms of identifying key factors and in terms of developing more proactive metrics. One key element is this search is organizational factors, which have been identified as being responsible for positively shaping the safety-related behaviours of employees (McFadden et al., 2015). While accidents are pointers of safety performance, Beus et al. (2016) noted that safety behaviours are more proactive and accurate measures of safety performance in organizations. Also, mistakes and willful transgressions caused by non-participation and non-compliance with safety guidelines, and the propensity to take risks characteristically leads to workplace accidents (Gibb, Lingard, Behm, & Cooke, 2014; Griffin, Young, & Stanton, 2015; Strauch, 2016). In the healthcare setting, complacency, lack of attention, heavy work schedules, and a lack of management attention to the safety of HCWs have all been noted to be significant causes of poor safety performance (Carayon, 2016; Lievens & Vlerick, 2014; Pousette, Larsman, Eklöf, & Törner, 2017).

As the above challenges, researchers and industry practitioners have paid so much attention to identifying organizational factors that are capable of improving the safety performance levels of health care workers (Stock & McFadden, 2017) and more especially those in Jordan (Al-Hamdan, Oweidat, Al-Faouri, & Codier, 2017). To this end, the present paper intends examining some Safety Management Practices (SMPs) that have been identified across a myriad of socio-demographic settings vis-à-vis their ability to influence positive safety performance outcomes among healthcare workers.

■2.0 LITERATURE REVIEW

Safety Performance

A number of researchers have defined safety performance based on the nature and context of their studies. Earlier definitions in studies proposed on the meaning of safety performances which it is a set of rule, regulation and activities in enhancing safety procedures in organization (Griffin, Wang, Liu, & Wang, 2018), which is usually self-reported (Andersen, Nørdam, Joensson, Kines, & Nielsen, 2018) but it is the way in promoting the safety and health among the workers eventually (Zahoor, Chan, Utama, Gao & Zafar, 2017). Present study discovered safety performance could be defined as safety level in the organization either action or inaction involving the structures, organization and systems (Fernández-Muñiz et al., 2017; Gunduz & Laitinen, 2018; Jahangiri et al., 2017). In general, safety performance is a measurement in determining safety level at the workplace which involves accident, fatalities and injuries (Curcuruto, Conchie, Mariani & Violante, 2015; Mullen et al., 2017). Safety performance also means the tendency of incidents that might happen either result in fatalities, injuries and damage of property (Erdogan et al., 2018).

The above definitions are all-encompassing as they relate to reactive and proactive views of what safety performance is. Also, accident indicators (Vinodkumar & Bhasi, 2010) and human factor elements (Cooper, 2015; Curcuruto et al., 2015; Mullen et al., 2017) are the main factors that contributed in establishing safety performance within organizations. As such, some other definitions of safety performance are suggested. Accordingly, Griffin and Curcuruto (2016) viewed safety performance as an actor in promoting health safety among employees, customers, public and environment. Based on the definition of safety performance, organization seek way in enhancing safety performance in the organization in order to prevent their personnel expose to the threats due to loss prevention in the organization (Erdogan et al., 2018; Osman, Awang, Hassan, & Yusof, 2015; Wachter & Yorio, 2014).

Maintaining safety level in the organization has become huge challenge to the organization (Clarke, 2016; Hofmann et al., 2017). Accordingly, Hughes, Tippett, and Thomas (2004), Kaynak, Toklu, Elci, and Toklu (2016), and Zohar and Polachek (2014) scrutinised the most crucial factor in measuring organization performance is the safety level performance in the organization. Indeed, some scholars proposed that the successful organization depends on how they prevent occupational accidents in the organization (Erdogan et al., 2018; Shahin, Naftchali, & Pool, 2014). Being cognizant of the above considerations, the present paper defines safety performance efforts, practices, and behaviour-based indicators that show the level of inherent and displayed in an organization.

The above definitions of safety performance have brought to light the importance of safety performance in organizational studies. Characteristically, efforts by organizations to ensure improved safety performance outcomes have been noted in terms of their efforts to continuously ensure reductions in accidents, injuries, fatalities and improve safety-related behaviours among their employees. Succinctly put, safety performance is crucial in evaluating organization performance. It reduces the rates of accidents, injuries and fatalities and the attendant costs accruable to such possible occurrences. Hence, organizations utilize many resources to ensuring that safety is given the necessary attention it deserves (Curcuruto et al., 2015; Osman et al., 2015). In the present study, safety performance is being examined as behaviours that improve safety in the workplace. These behaviours, which has been assessed as safety performance components in previous studies, are safety compliance, safety participation and risky behaviours.

Importance and Measurement of Safety Performance

On the measurement of safety performance, accidents, injuries and fatalities rates, which are often noted to be reactive or subjective measures are used (Hon et al., 2014; Lingard, Wakefield, & Blismas, 2013; Manan, Jonsson, & Várhelyi, 2013). In a number of studies, data from injuries and accidents have significantly been depended on as the conspicuous measures of safety performance across diverse work settings (Williams, Mccart, Mayhew, & Watson, 2012). Vinodkumar and Bhasi (2010) submit that the above style is “traditional” (pp. 2084), and advocates of other objective forms of measuring safety performance opine that measuring safety performance based on behaviour-based indicators would be better in view of their proactive nature (Cui, Fan, Fu, & Zhu, 2013; Gopang, Nebhwani, Khatri, & Marri, 2017). The above positions, however, do suggest stopping the of use accidents rates in measuring safety performance. These traditional measures are still relevant within the contexts of empirical endeavours in the safety research area and based on the nature of research being undertaken.

Cooper and Phillips (2004) argued that using reactive indicators like accidents and injuries rates and compensations are quite challenging, of dubious reliability and backwards-looking. Other researchers are also of the view that these measures are after-event measures, as they are volatile and seldom occur (Chen, McCabe, & Hyatt, 2017; Fernández-Muñiz et al., 2017; Hofmann et al., 2017; Mullen et al., 2017). They, however, proposed what is currently being used to measure safety performance based on a combination of strategies aimed to plausibly enable organizations to assess the actual situation of safety among their employees based on behaviour-based traits and characteristics.

Over the years and until currently, scholars have examined safety performance based on accident prevention and behaviours that are capable of improving workplace safety (Chen et al., 2017; Erdogan et al., 2018; Ford & Tetrick, 2011; Gopang et al., 2017; Huang et al., 2012; Jazayeri & Dadi, 2017; Smibert & Fleming, 2017; Tang, Leiliabadi, & Olugu, 2017). Basically, these studies strongly advocate for the prevention of accidents. They further noted that the prevention of the occurrence of accidents not only counts for the safety performance of the organizations but counts for even non-safety and general organizational outcomes.

In applying the above concept within the scope of the occupational safety and health management domain, Neal, Griffin and Hart (2000) found that general organizational climate exerted a significant impact on the safety climate, and the safety climate, in turn, was related to self-reports of compliance with safety regulations and procedures and participation in safety-related activities in the workplace. The effect of the general organizational climate on safety performance was mediated by a safety climate, while the impact of safety climate on safety performance was partially mediated by safety knowledge and motivation. They based their efforts on the work of Borman and Motowidlo (1993) and Campbell, McCloy, Oppler, and Sager (1993) who had proposed task performance and contextual performance as components of job performance. Additionally, they specifically noted that safety compliance denotes activities portraying obedience to safety procedures and working in a safe manner (Neal et al., 2000). Contrarily, safety participation denotes “helping co-workers, promoting

the safety program within the workplace, demonstrating initiative, and putting effort into improving safety in the workplace” (Neal et al., 2000, p. 101).

The above positions brought to light the prevalent factors used in measuring safety performance including accidents and injuries, safety compliance and safety participation. Interestingly, risky behaviour, as another, yet an under-researched component of safety performance, is worth examining because of its striking relationship, yet a different objective measure of safety performance. The need to examine risky behaviour as a core component of safety performance is predicated on Ramanujam and Goodman (2003), who advanced the concept of latent errors. They noted that risky behaviours are a move from regular organizational practices, processes, and expectations that do not necessarily metamorphose into instantaneous adverse penalties, but may lead to efficient, but not, for all intents and purposes, safe results (Martínez-Córcoles et al., 2013; Richmond, 2014). Relatedly, risky behaviours are the cause of increasing numbers of an incident in the organization (Martínez-Córcoles & Stephanou, 2017).

Along with a similar line of thought, Rotundo and Sackett (2002), in enlarging their research on work performance behaviours, acknowledged the counterproductive performance behaviour and suggested its integration in further empirical endeavours. Consequently, Martínez-Córcoles et al. (2013) contrasted risky behaviour with counterproductive behaviour. They noted that risky behaviours are a shift from observing the safety-related procedures inherent in organizations that may not necessarily lead to unprecedented safety-related events. Therefore, in the present study, safety performance will be measured with safety compliance, safety participation and risk-taking behaviours (Martínez-Córcoles et al., 2013) at the employee level of abstraction. In the present study, nurses are the component unit of examination.

In a number of studies, safety compliance and safety participation were identified as the elements of safety performance (Curcuruto et al., 2015; Lievens & Vlerick, 2014; Mullen et al., 2017; Vinodkumar & Bhasi, 2010), and risky behaviours, as a single component of safety outcomes (Bosak, Coetsee, & Cullinane, 2013; Martínez-Córcoles et al., 2011, 2013). The present study proposes examining a combination of all the above safety-related behaviours within the context of the nurses working in public health facilities in Jordan. This is the first look. In further supporting the choice of measuring safety performance based on objective measures, the argument has been made that the use of data from accident and injuries in measuring safety performance has become scandalously problematical, insensitive, suspicious, unstable, retrospective and does not always consider exposures to risks by workers (Havold, 2005).

In further highlighting the need for using behaviour-based approaches for measuring safety performance, the approach of the present study is strengthened based on the threefold work performance structure earlier explained. This bears in mind that the safety-related behaviours demonstrate the values, beliefs, attitudes and perceptions of workers (Kao, Spitzmuller, Cigularov, & Thomas, 2017; Mohammadfam et al., 2017). Additionally, Yule, Flin and Murdy (2006) opined that risk-taking behaviours are a viable outcome in safety research. Hence, the inclusion of this dimension for measuring safety behaviour within the context of the present study is conceptually apt. This position has also been solidified based on Bosak et al. (2013).

Researchers and industry practitioners have begun to identify and to suggest ways to execute practices that able to influence of workers behaviours with the ultimate aim of improving safety performance (Cigularov, Chen, & Rosecrance, 2010; Kao et al., 2017; Zohar, Huang, Lee, & Robertson, 2014). Nevertheless, massive number of empirical endeavours were executed in safety field with the objective in signifying workplace practices in enhancing safety performance results, the elimination of many hazards from the workplace has not been wholly achieved (MaGuire, 2017). To conclude, further studies target in assessing the practices of organizational and workplace which reflects on the safety performance across the industries (Durdyev, Mohamed, Lay, & Ismail, 2017; Ioannou, Harris, & Dahlstrom, 2017; Martínez-Córcoles et al., 2013, 2014). For the purpose of the present study, therefore, safety performance will be measured with items of safety participation, safety compliance, and risk-taking behaviours.

Safety Communication and Feedback

Safety communication and feedback have been identified as an important factor that is capable of improving safety performance outcomes in organizations (Jin, Villari-Kohlert, Senaratne, Feng, & Zuo, 2015). Safety communication is a process that allows interaction of people, tasks, processes and systems with a view to achieving improved safety-related behaviours. However, Vecchio-Sadus (2007) remarked that, although safety communication can lead to enhanced safety behaviours, the way and/or the mechanisms through which this communication is done will determine the level of impact it will have on employees, which will be displayed in their participation level and compliance in safety-related activities.

From a management perspective, Vredenburg (2002) noted that feedback is another important mechanism for the communication process. She noted that by having a sound communication and feedback system, hazardous conditions that can cause accidents can be averted as the behaviour of workers is dependent on new occurrences. Furthermore, in improving safety performance result in the form of safety-related behaviours, Goetsch (2011) noted that safety managers should ensure the prompt dissemination of safety-related information to employees across the board.

Specifically, he noted that this could be done by way of regular and on-going safety meetings, management walkabouts, publications in newsletters, e-mails, etc. Moreover, when feedback on safety-related issues is brought to the notice of management, resolutions can be put on signposts, caution signs and directions. This has been described as a two-way safety communication system that has been adjudged as best in improving safety-related behaviours among employees (Vecchio-Sadus & Griffiths, 2004; Vinodkumar & Bhasi, 2010).

In a study among 229 employees from different industrial sectors, Díaz-Cabrera et al. (2007) reported that workplace communication and feedback is one of the six organizational values that improved workplace safety. In a different work setting, Stave, Pousette, and Törner (2008) reported that safety communication is one factor that improves safety behaviours in the farming sector. Furthermore, in another study aimed at validating a safety climate measurement among 1026 industrial-sector workers, Lin, Tang, Miao, Wang, and Wang (2008) recognized safety communication as one of the safety climate factors with a 70.5% variance.

Another study conducted in the healthcare industry, Abdullah, Spickett, Rumchev, and Dhaliwal (2009) noted that the perception of employees about safety communication was important in safety performance outcomes. Although safety communication was not statistically significant, their study indicated safety communication was a crucial component of safety climate which helps explains safety performance outcomes. In the construction industry, Ling, Liu, and Woo (2009) developed and evaluated 41 strategies intended for the reduction of accidents and fatalities. A key outcome of their study highlighted the need for improvements in communication between

management and workers. The workers play important role in ensuring the success of safety management systems (Hon, Chan, & Chan, 2011). In another study among 235 union construction workers, Cigularov et al. (2010) and Hofmann et al. (2017) reported positive safety communication as an important contributor to improving safety performance outcomes in the workplace.

In exploring the factors and effect of safety climate in 131 OHSAS certified organizations in Spain, the results from of Fernández-Muñiz et al.'s (2012) study shows that communication affects safety behaviour and other safety performance outcomes in the form of employee satisfaction and firm competitiveness. According to Huang et al.'s (2018) recent research on the effects of supervisor safety communication and safety climate on the safety performance of long-haul truckers, they found that safety communication is one factor that strongly determines their safety performance. A few other studies done in this regard are Kines et al. (2010), Wold and Laumann (2015), and Yeung and Chan (2012). This dimension of safety management practice was selected in the present study due to its ability to explain safety performance outcomes. Nonetheless, little research exists that examines this variable within the Jordanian work setting and the scope of the present study. This is another theoretical gap that is intended to be filled by the research. Below are the hypotheses regarding safety communication and feedback:

- H 1: A significant and positive relationship exists between safety communication and safety compliance.
- H 2: A significant and positive relationship exists between safety communication and safety participation.
- H 3: A significant and negative relationship exists between safety communication and risky behaviour.

Cooperation Facilitation

Cooperation facilitation as a component of safety management practices is quite novel in the safety research area. However, Wachter and Yorio (2014) in discussing this factor posit that safety can be viewed as a personal and/or a collective endeavour. This position was taken in view of the interdependent nature of tasks in workplaces. They noted that where tasks are interdependent, employees relying on each other in successfully and safely executing tasks becomes necessary. Because of this, management of organizations must consciously stress in their safety programs the need to encourage information sharing among employees in the execution of their tasks.

Basically, according to Wachter and Yorio (2014), cooperation facilitation revolves around employees being invigorated to work on each other in finding a solution on safety issues. It also includes encouraging mechanisms of formal communication among workers as it relates to safety. It also involves ensuring communication of key safety information between off-going and on-coming shift workers. Characteristically, this SMP has not been examined among HCWs, and especially those in the Jordanian a healthcare setting. Thus, the following hypotheses are advanced:

- H4: A significant and positive relationship exists between cooperation facilitation and safety compliance.
- H5: A significant and positive relationship exists between cooperation facilitation and safety participation.
- H6: A significant and negative relationship between cooperation facilitation and risky behaviour.

Work Environment as Mediator

Analysing statistical mediation is common in psychology because sociologists are inquisitive on how the systems work (Hayes & Preacher, 2014; Montoya & Hayes, 2017). In spite of the fact, the establishment of the connection between SMPs and safety performance, Mathieu et al. (2007) and Wu and Zumbo (2008) noted that the introduction of a mediator is justified (Baron & Kenny, 1986). Moreover, when researchers sought to have additional understanding of how and why such relationships occur, and especially in an intermediary process (Montoya & Hayes, 2017; Muller et al., 2005), the introduction of a mediator should be worthwhile.

Furthermore, MacKinnon (2012) suggested that the introduction of mediators in statistical relationships is for pursuing additional explanation on the nature of the relationship between an independent and a dependent variable. Interestingly, because scholars are now directing their empirical endeavours on gaining a better understanding of established findings, Cohen et al. (2013) suggested that the introduction of a mediator and its subsequent analyses could be used to understand a well-known relationship better. As such, one of the key thrusts of this current study is to understand the mediating role of the work environment in the relationship between safety management practices and safety performance. That is, in view of the empirical and logical workers of how mediators should work, better safety management practices should be building the perception of nurses about the suitability of their work environment, which should naturally lead to improved safety performance indicators.

Clearly put, SMPs are organizational factors set in place by management to positively shape the perception of employees that safety is being given adequate priority in the workplace. When employees feel this priority, they tend to have a sense that indeed their work environment is comfortable, safe and user-friendly enough for them to carry out their tasks. Also, a positive perception of nurses that their work environment is well-placed for them to work safely should lead them to comply with and participate in safety-related activities of their organizations. This is in addition to the fact that they will also tend to reduce risk-taking behaviours.

Work environment means that the social, physical and psychological criteria of the work environment (Bergström, Miller & Horneij, 2015; Dai, Lan, & Lian, 2014; Dul & Ceylan, 2014; Salin, 2015; Searcy et al., 2016). In addition, the workplace environment is related to every aspect of the approach and the work management system and how the system interrelates with employees and their workplaces (Searcy et al., 2016). Besides, a better work environment or perceptions could lead to some indicators of organizational performance. For example, the work environment is known to have a robust effect on organizational performance (Porter, Riesenmy, & Fields, 2016; Stalpers, de Brouwer, Kaljouw, & Schuurmans, 2015; Searcy et al., 2016; Zúñiga et al., 2015) and effects on health and survival (Hemström, 2001). However, assessment on the working environment as a mediator in justifying the link between management practices with safety performance, such as facilitating cooperation, safety communication and feedback on safety performance. This is first look and purpose-based which contribute to the body of knowledge in the field of security research.

As noted by some researchers, better work environment could increase job satisfaction (Atefi, Abdullah, & Wong, 2014; Ketterman, Fu, & Jones-Holguin, 2016), improving the attention quality and reduce impairment to patients in the field of health care (Newhouse et al., 2013). Nurses work in a promising work environment in China were observed to ensure safe care with low dissatisfaction or work outbreak

(You et al., 2013). On the other hand, many factors are often associated with a weak work environment; Therefore, organization management should be accountable for guaranteeing better work environments so that their employees can work safely (Dai et al., 2014; Nguyen, Dang, & Nguyen, 2015; Porter et al., 2016; Zúñiga et al., 2015).

However, the study context, we examined the work environment based on the organizational criteria of the health institutions should improve the performance of safety performance among nurses. Therefore, the reason for proposing to assess the work environment as a mediator in the context of this study is vital for the study. Thus, the work environment is an element of organizational outcomes. In addition, organizational factors affect the criteria of the work environment. Therefore, safety management practices (organizational factors) will have an impact on the work environment and safety indicators as well.

In applying the above position to the context of this study, it has been proven that safety management practices influence safety performance, and the work environment is noted as the function of a number of factors. Moreover, the work environment is also capable of affecting a number of organizational outcomes. Therefore, safety management practices will positively shape the perceptions of nurses in the Jordanian healthcare setting about the worthiness of their work environment. This should, in turn, improve their level of safety compliance, safety participation, and reduce their risk-taking behaviours. Interestingly, to the best of the researchers' knowledge, this is a first attempt of examining work environment within safety management and its outcomes.

As the above, the development of hypotheses indicates the relationship to the work environment is a mediator in the relationship between safety management practices and safety performance:

H7: Work environment mediates the relationship between safety communication and safety performance.

H8: Work environment mediates the relationship between cooperation facilitation and safety performance

3.0 THEORETICAL FRAMEWORK

As seen in Figure 1, the framework assumes facilitating cooperation, safety communication and feedback influences the performance of workplace safety. Based on the strong link between cooperation facilitation, safety communication and feedback and safety performance were discovered in previous studies, work environment as mediation is expected to be expected between facilitating cooperation, safety communication and feedback affecting safety performance. As a result, the conceptual framework for safety performance plays an essential role in justifying the factors of the work environment to help improve safety performance in the health environment, which in turn maintains the level of workplace safety.

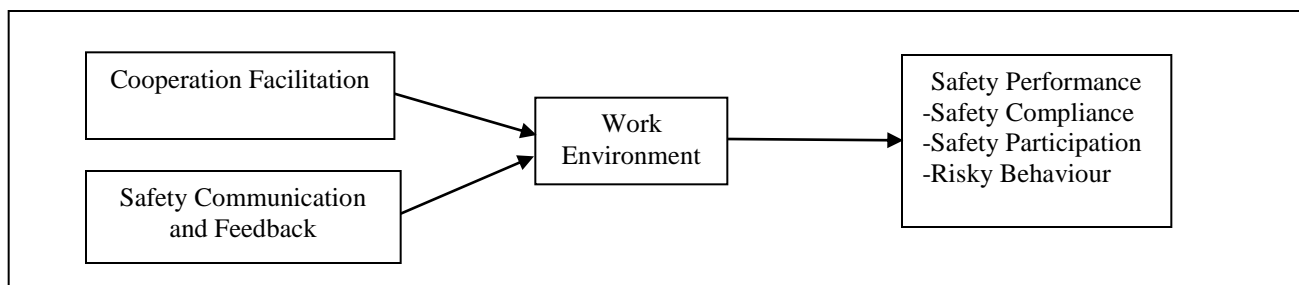


Figure 1 Proposed conceptual framework

4.0 CONCLUSION

The underpinning of empirical and theoretical highlight the importance of safety management practices such as cooperation facilitation, safety communication and feedback in justifying and determining safety performance in organizations. However, there were few studies that have been executed on how the relationship is warranted via the work environment. Moreover, regardless of safety performance components, researchers have consistently focused on safety compliance and safety participation as crucial components, and risky behaviour is a critical element in safety performance. This study addresses the empirical neglect of cooperation facilitation, safety communication and feedback as antecedents of perceptions of the work environment and, by extension, safety performance. To the best of this researcher's knowledge, no examination of this nature has been done in the organization outcome and safety management literature, and the proposed framework is underpinned by the Social Exchange Theory (Blau, 1964). As the capability of the cooperation facilitation, safety communication and feedback in determining perceptions of the work environment has been noted, this current study seeks to trigger empirical investigations to validate its arguments and their applicability to work contexts, and demographic characteristics that suit the interests of researchers.

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