International Journal of Economic Research

ISSN : 0972-9380

available at http: www.serialsjournals.com

Volume 14 • Number 15 (Part-II) • 2017

Level of Organizational Safety Climates and its Relationship to Employees Compliance Behaviour in the Department of Emergency and Trauma, Ministry of Health, Malaysia

Zuraida Hassan[a], Teo Wei Loong[b]

[a] *School of Business Management, Universiti Utara Malaysia, Malaysia, Email: h.zuraida@uum.edu.my*
[b] *School of Business Management, Universiti Utara Malaysia, Malaysia, Email: drgn_0620@hotmail.com*

Abstract: Organization safety climate is a common perception shared among employees in an organization and has been used to measure the level of safety at the workplace. A study was conducted to determine the level of organizational safety climate and its relationship to employees' safety behaviour at the Department of Emergency and Trauma, Ministry of Health Malaysia's Hospital. A total of 175 respondents were identified and had responded through questionnaires given. The data were analysed by various test, performed using Statistical Package for Social Science (SPSS).

Keywords: Safety Climates, safety behaviour, Department of Emergency and Trauma, Ministry of Health Malaysia

INTRODUCTION

In occupational safety and health management, employees' behaviour or commonly known as safety behaviour is the main source of accidents at the workplace (O'Dea and Flin 2003; Subramaniam, C., Mohd. Shamsudin, F., Mohd. Zin, M. L., Sri Ramalu, S., & Hassan, Z., 2016). Workers behaviour is influenced by various factors that have significant impact on organizational safety performance. Among the factors identified as having a positive effect on employee safety behaviour are safety feedback, main employer support, safety training and education, employer commitment, rewards, effective communication, employee perception on safety, effective group cooperation, proactive supervisor participation (DeJoy *et al.* 2000; Gershon *et al.* 2000; Felknor *et al.* 2000; Vredenburgh 2002)

The negative effect, such as increase mistake rates, injuries, near misses, accidents, loss of skilful workers, high compensation and destruction of property belong to the employer if employee exhibits

poor safety behaviour (Cohen *et al.* 1975; Smith *et al.* 1978; Zohar 1980; Glennon 1982; Cox and Cox 1991). These factors that influence the safety behaviour, is sometimes known as organizational safety climate shared among employee in the occupational safety environment (Zohar 1980).

Early researches by Lee and Noor Hassim (2005) have found that the factor identified for the cases of needlestick injury among 285 medical staff was the perception that the liquid or fluid in syringes were not dangerous or infectious, and thus not reported. Basically there has not been any research on the organizational safety climate factors conducted in Ministry of Health Malaysia and most researches looked only at employee behaviour and compliance. As such this study has been conducted to determine the level of organizational safety climate and its relation to employee safety behaviour.

LITERATURE REVIEW

Safety Climate

Safety climate refers to the "summary of perceptions that employees share about the safety of their work environment." Employees' safety-related perceptions are based on several factors, including management decision making, organizational safety norms and expectations, and safety practices, policies, and procedures. These factors all communicate an organization's commitment to safety. Employees' perceptions about safety are important because organizations with strong safety climates consistently report fewer workplace injuries than do organizations with weak safety climates. Organizations with strong safety climates have fewer employee injuries not only because the workplace has well-developed and effective safety programs, but also because the very existence of these programs sends "cues" to employees regarding management's commitment to safety. Evidence shows that if the organization is serious about adherence to safe work practices, then employees are more likely to comply.

In other words, a safe environment supports and reinforces individual safety behaviors, and this in turn further affects behavior because of the influence workers have on one another. As safety behaviors are adopted throughout an organization, increasing pressure is put on non-compliers to come "in line." A good example of this effect is the pressure on health care workers to follow isolation precautions when caring for infectious patients. The converse of this is also true. For example, health care workers, especially those in positions of influence and power, who fail to follow infection control guidelines can have a chilling effect on their co-workers' behavior.

Most of our knowledge about safety climate comes from the manufacturing and heavy industry work settings where it was first studied. This early research identified several key aspects or components of safety climate, including management's involvement in safety programs, high status and rank for safety officers, strong safety training and safety communications programs, orderly plant operations, good housekeeping, and an emphasis on recognition for safe performance rather than a reliance on punishment and enforcement.

Whereas the recognition of the importance of safety climate to productivity, cost, quality, and employee satisfaction has been realized in some industrial sectors, health care has not given safety climate the same attention. Generally speaking, hospital employees' perceptions regarding safety are rarely formally evaluated or considered during the design or updating of safety programs. This issue is particularly important for the

health care workplace because recent studies have linked global measures of safety climate to employee compliance with safe work practices and to incidents of exposure to blood and other body fluids. Because exposure incidents, regardless of the outcome, may be extremely burdensome to employees as well as to organizations, improving our understanding of safety climate may have far-reaching implications.

Safety climate may be growing in importance as the health care environment increasingly emphasizes reengineering, restructuring, and improved productivity. Hospital-based health care workers have to work harder and faster than ever within an environment of increased patient turnover, increased patient acuity levels, higher patient prevalence rates for infectious diseases, and less time available for training and educational programs (with a subsequent overreliance on self-study training packets). All of these factors may inadvertently increase the risk of exposure incidents for hospital employees, thereby making safety climate even more important in this time of change.

Unsafe Behaviour and Occupational Accident

Although difficult to control, approximately 80-95 percent of all accidents are triggered by unsafe behaviors, which tend to interact with other negative features (termed Pathogens) inherent in workflow processes or present in the working environment. Often inadvertently introduced by the implementation of strategic plans, every organization has its fair share of accident causing pathogens. These pathogens lie dormant and are relatively harmless, until such time as two or more combine and are triggered by an unsafe behavior to produce an accident.

A focus upon unsafe behaviors also provides a much better index of ongoing safety performance than accident rates for two reasons: First, accidents are the end result of a causal sequence that is usually triggered by an unsafe behavior; and second, unsafe behaviors can be measured in a meaningful way on a daily basis. Accident rates tend to be used as the primary outcome measure of safety performance simply because they signal that something is wrong within the company's safety management system. Because of the way they are calculated, they also provide a crude benchmark by which companies can compare the effectiveness of their safety management systems across industries. Unfortunately, this tends to result in management attention and resources being focused on safety only when accident rates rise dramatically. When the immediate problems appear to be resolved, management attention and resources are diverted to other pressing organizational issues until such time as the accident rate rises once again, and so on.

Safety Compliance Behaviour

In psychology, compliance refers to changing one's behavior due to the request or direction of another person. It is going along with the group or changing a behavior to fit in with the group, while still disagreeing with the group. Unlike obedience, in which the other individual is in a position of authority, compliance does not rely upon being in a position of power or authority over others. Safety compliance refers to the core activities that individuals need to carry out to maintain workplace safety. These behaviors include adhering to standard work procedures and wearing personal protective equipment.

Evidence suggests that employees may reciprocate the positive experiences they have in an employment relationship by carrying out their core tasks at a high standard and by carrying out citizenship activities (Tsui, Pearce, Porter, & Tripoli, (1997)). In the safety literature, Hofmann and Morgeson (1999) argued that

when employees work in an environment in which safety is a concern, they reciprocate by complying with established safety procedures. Expectancy-valence theory predicts that employees will be motivated to comply with safety procedures and participate in safety activities if they believe that these behaviors will lead to valued outcomes. Zohar (2003) has argued that perceptions of safety climate reflect employees' beliefs about the priority of safety and that these perceptions inform behavior-outcome expectancies.

CONCEPTUAL FRAMEWORK

Various elements of organisational safety climate have been studied by previous researcher such as the employer's commitment on safety, the importance of training and PPE, safety communication effectiveness, the role of supervisors and others who are trying to unearth the true purposes and the roles of safety climate in influencing the organization safety performance. While using the scope, dimension and respondent studies are different, but the issues remain the same peeled i.e. how organisational safety climate can affect the safety behaviour among employees and ultimately have an impact on the organisation. Therefore, this study will investigate the factors that influence organisational safety climate in healthcare services sectors by focusing the Emergency Department and Trauma staff in hospital under the Ministry of Health (MOH) as the study population. Besides identifying the factors involved, the study would also like to analyse the interrelationship result of the interaction between these factors.

Most studies that have been conducted in Malaysia, focused on the workers behaviour and attitudes towards self-compliance behaviour on universal precaution standards without seeing the larger initial factor that can influence the safety behaviour among Malaysian healthcare workers and in turn it will affect the overall organisational safety performance. This finding encourage us as researchers to include the new element, which is self-reporting behaviour on error and accidents among healthcare workers as dependent variable in this research. It will provide a variation in the measurement of safety behaviour of health workers beside only using self-compliance behaviour on universal precaution standard as main dependent variable as in previous study.

The model used for the study is based on Bandura 1977, Social Cognitive Theory adopted by Cooper and Phillips, 1995; Cooper 1996; 1997a, b. Five dimensions under organizational safety climate such as management commitment, safety training, safety communication and feedback, supervisory roles and employees involvement were taken in this study.

RESEARCH METHODOLOGY

Research Design

This research is quantitative research using simple random sampling and has been conducted in one public hospital located in Penang, Malaysia. The population of the current study was 175 healthcare workers. According to the Krejcie and Morgan (1970) sampling table, this research required about 121 samples from the 175 workers in the study. The unit of analysis is the individual. A total of 175 questionnaires were distributed to the respective respondents. Each respondent was given ample time to complete the questionnaire and the questionnaire was returned, either personally or with help by the supervisors. The questionnaire collection period was chosen to be one week, this was to cater to shift workers. A total of 122 respondents returned the completed questionnaire, representing a 69.7% response rate.

Measurement

Questionnaires with 41 questions in five different sections were designed to gather information from the respondents about the relationship between safety climate factors and employees' compliance behaviour. A Likert-scale with a five point format were used for questions from each construct. Questions on demographic information used ordinal and nominal scales.

Data Analysis Techniques

The data collected were analysed using SPSS software version 19.0 (Statistical Package for Social Science). The data analysis process involved three stages, data filtering, demographic profiling and hypothesis testing. In hypothesis testing, the study used correlation and regression analyses that examined the relationship between dependent and independent variables.

Reliability of the Questionnaire

A pilot test was conducted as a preliminary survey, with the main purpose being to identify the reliability of the questionnaire adapted from past research. The result showed a significantly higher value of reliability of all items, above 0.70. This indicates a high level of internal consistency of the items (Sekaran & Bougie, 2010).

DATA ANALYSIS

This section discusses the results generated from the data analysis process.

Demographic characteristics

A majority of the respondents were female (90.5%) compared to male (9.5%), aged between 25 to 40 years old (45.5%), followed by 41 to 55 years old (41.5%). The majority of the respondents (91%) education were nursing certificate. Seventy four percent of the respondents reported working in shifts.

Descriptive Statistics of Variables

The mean, standard deviation and variance were obtained using SPSS. The mean score for all items is high, except for lighting as shown in Table 1.

Table 1
Mean and Standard Deviation of the Variables

Variables	*Mean*	*Standard Deviation*
Management commitment	4.98	2.88
Safety training	4.64	2.57
Safety communication and feedback	4.62	2.07
Supervisory roles	4.42	2.08
Employees' involvement	4.12	2.92
Safety compliance behaviour	4.76	2.80

The correlation results show a positive and direct significant relationship between the independent variable and dependent variable. Management commitment showed a relatively positive and significant relationship with compliance behaviour among respondents, with a correlation value of 0.483 followed by safety training (r = 0.442), safety communication and feedback (r = 0.435), supervisory roles (r = 0.412) and employees involvement (r = 0.372). Based on these results, all of five hypotheses developed in the research have been accepted.

Table 2
Correlations between independent variables and dependent variables

	1	*2*	*3*	*4*	*5*	*6*
Safety Compliance behaviour	1					
Management commitment	0.483**	1				
Safety training	0.442**	0.369**	1			
Safety communication and feedback	0.435**	0.370*	0.335**	1		
Supervisory roles	0.412**	0.489**	0.369*	0.370*	1	
Employees involvement	0.372**	0.349**	0.573**	0.248**	0.220*	1

* * p < 0.05 (2-tailed)

* p < 0.01 (2-tailed)

Table 3 represents the model summary. The R-value in the model summary is 0.846, showing a strong linear relationship between variables. The R square value in the model summary is 0.770. This value indicates that 77 percent of the variation in compliance behaviour were explained by the relationship between independent variables.

Table 3
Model Summary

Model	R	*R-Square*	*Adjusted R-Square*	*Std. Error of the Estimate*
1	0.846	0.770	0.757	.5549

Table 4
Regression and related statistics

		Unstandardized Coefficients		*Standardized Model Coefficients*		
Model		*B*	*Std. Error*	*Beta*	*T*	*Sig*
1	(Constant)	.551	.100		5.372	0.000
	Management commitment	.438	.022	.735	8.046	0.000
	Safety training	.386	.025	.386	6.786	0.000
	Safety communication and feedback	.222	.022	.308	3.784	0.000
	Supervisory roles	.159	.023	.222	3.214	0.001
	Employees involvement	.146	.021	.159	2.890	0.005

Table 4 displays the regression for every significant factor correlated with the compliance behaviour by respondents

This study indicated that there was a positive relationship between management commitment, safety training, safety communication and feedback, supervisory roles and employees' involvement on compliance behaviour among workers. Among these five variables, management commitment contributes the most significant factor on employees' compliance behaviour. The finding is consistent with the result from past studies that proved a significant relationship between safety climate factors and employees' compliance behaviour (Sorra, & Nieva (2001); Zohar *et al.*, (2007); Hsu *et al.*, (2012); O'Dea & Flin, (2003); Wu *et al.*, (2011); Nahrgang *et al.*, (2011); Subramaniam, C., Mohd. Shamsudin, F., Mohd. Zin, M. L., Sri Ramalu, S., & Hassan, Z. (2016)).

CONCLUSION AND DISCUSSION

This study found that organisational safety climate elements have a significant direct relationship on employees safety behaviour and thus able to influence the organisation's safety performance. Therefore, it is the responsibility to the hospital top management to keep emphasizing the process of creating a positive organisational safety climate in their workplace with involvement of all parties such as managers, supervisors and workers.

Its start with the commitment and contribution of the employer towards the formation a positive safety climate environment in the organisation. For example, their contribution of ideas or financial grants to provide OSH training and education to all employees in their organisation, willingness to give and receive feedback from their subordinates, openness in discussions about OSH issues can demonstrate the management commitment and their contribution in creating a positive safety climate in their organisation.

Enforcement on the OSH policies and regulations at work should also be done with a more focus and comprehensive. The employees' perception on OSH policies and regulations shown a weak understanding about it in this research. Poor enforcement led to the management failure to promote positive safety climate and safety behaviour among their employees. It also be the duty to the employers, particularly those hospital administrator and supervisors in each department to provide information and feedback on the procedure for reporting errors and accidents to their subordinates. They need to inform the employees about the importance of information provided by the employee.

The effectiveness of OSH training and education in the workplace should be monitored and reviewed from time to time by the MOH. OSH training and education programs in the workplace has proven its effectiveness in fostering a positive safety behaviour among employees no matter where or nature of their work. MOH has proved that they were conducting a continuous safety training and education programs to their staff. However, the report on the effectiveness of each these program never been published. It better to MOH to review the effectiveness of OSH training and education programs that been implemented in their organisation.

Healthcare workers are also advised to constantly improve themselves by involve in OSH meetings or discussions in their workplace. For example, an employer may appoint any eligible employee representing the employees in the workplace safety committee. Employee participation in these programs can also increase employee commitment and involvement in the formation a positive safety climate in the workplace.

Supervisory roles is also found to have a direct relationship with the employees' safety behaviour. The finding has proven that supervisory roles has a significant influence on safety behaviour among workers. Supervisor who has this characteristics leadership style are able to promote and strengthening the positive safety behaviour among their subordinates. However, certain supervisors did not have this leadership style. Fortunately, this leadership style can be formed through continuous leadership training and observation.

As conclusion, this study has made a significant contribution towards the improvement of OSH management among healthcare workers in Department of Emergency and Trauma in hospitals under MOH. Efforts to make a positive organisational safety climate in this department must involve all the parties in the ministry level, hospital administrators, supervisors and employees. Several issues such as leadership training, strengthening the universal precaution prevention standards compliance training, emphasising the self-reporting error and accidents notification procedures and standards, evaluation the effectiveness of prevention programs and notification on the roles of the supervisor in promoting safe work behaviour among employees should be given attention. It is to ensure that MOH efforts to create a more positive safety climate can be implemented in the entire organisation under.

REFERENCES

Bandura, A. (1977). *Social Learning Theory*. London. Prentice Hall.

Bernacki, E., Kasting, C. & Martin, L. (2000). Hospital safety climate and its relationship with safe work practices and workplace exposure incidents. *American Journal of Infection Control, 28 (3),* 211 – 221.

Cohen, A., Smith, M., and Cohen, H. (1975). Safety program practices in high versus low accident rates companies - An interim report (Publication no 75 -185). Cincinnati NOSH: US Dept. of Health Education and Welfare.

Cooper, M.D. (1996). *The B-Safe Programme*. Applied behavioural Science Series. Hull.

Cooper, M.D. (1997a). Evidence from safety culture that risk perception is culturally determined. *International Journal Project and Business Risk Management* 1: 185 -201.

Cooper, M.D. (1997b*). Improving safety culture. A Practical Guide*. John Wiley & Sons.

Cooper, M.D., and Phillips, R.A. (1995). Killing two bird with one stone: Achieving total quality via total safety management. *Leadership and Organization Psychology* 67; 219 -240.

Cox, S. and Cox, T. (1991). The structure of employee attitude to safety: An European example. *Work and Stress* 5 (2): 93 -106.

DeJoy, D.M., Searcy, C.A., Murphy, L.R. and Gershon, R.R. (2000). Behavioural-diagnostic analysis of compliance with universal precautions among nurses. *Journal of Occupational Health and Psychology* 5 (1): 127 – 141.

Felknor, S.A., Sequeira, L.F. Weinger, M., Burau, K.D., De Merzerville, L. and Delclos, G. (2004). Workers safety training in Public hospitals in Costa Rica. *International Journal Of Occupational and Environmental Health* 10: 445 – 450.

Gershon, R.R., Karkashian, C.D., Grosch, J.W., Murphy, L.R., Escamilla-Cejudo, A., Flanagan, P.A., & Glennon, D.P. (1982). Measuring organizational safety climate. *Australian Safety News* January/February. 23 – 28.

Hsu, I., Su, T. S., Kao, C. S., Shu, Y. L., Lin, P. R., & Tseng, J. M. (2012). Analysis of business safety performance by structural equation models. *Safety Science*, 50(1), 1-11.

Jagger, J., Hunt, E. H., & Pearson, R. D. (1980). Sharp object injuries in the hospital: causes and strategies for prevention. *AJIC American Journal of Infection Control* 18: 227-31.

Lee, L.K., & Noor Hassim, I. (2007). Implication of prevalence of needlestick injuries in a general hospital in Malaysia and its risk in clinical practice. *Environmental Health and Preventive Medicine* 1- : 33 – 41.

Mitra, A., & Lankford, S. (1999). *Research methods in park, recreation and leisure services.* Illinois. Sagemore Publishing.

Mosley, D. C., Megginson, L. C., & Pietri, P. H. (2005). *Supervisory Management: The Art of Inspiring, Empowering and Developing People* (6th ed.). China: Thomson Learning.

Nahrgang, J. D., Morgeson, F. P., & Hofmann, D. A. (2011). Safety at work: a meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *Journal of Applied Psychology*, 96(1), 71.

O'Dea, A. and Flin, R. 2003. The role of managerial leadership in determining workplace safety outcomes. Final Year Report. University of Aberdeen.

Salyer, J. (1995). Environmental turbulence: impact in nurse performance. *Journal of Nursing Administration* 25:12-20

Sekaran, U., & & Bougie, R. (2010). *Research methods for business: A skill building approach*. Wiley.

Shindal-Rothschild, J., & Duffy, M. (1996). The impact of restructuring and work design on nursing practice and patient care. *Best Practices Benchmarking Healthcare* 1: 271-82.

Smith, M., Cohen, H., Cohen, A. and Cleveland, R. (1978). Characteristics of successful safety program. *Journal of Safety Research* 10 (1): 5 – 15.

Sorra J. S., & Nieva V. F. (2001). MERS-TM Hospital Transfusion Service Safety Culture. The Agency for Healthcare Research and Quality (AHRQ). from http:www.ahrq.gov/qual/hospculture/hospapps.htm.

Subramaniam, C., Mohd. Shamsudin, F., Mohd. Zin, M. L., Sri Ramalu, S., & Hassan, Z. (2016)C". The influence of safety management practices on safety behavior: A study among manufacturing SMEs in Malaysia, International Journal of Supply Chain Management, 5(5), 148-160.

Subramaniam, C., Mohd. Shamsudin, F., Mohd. Zin, M. L., Sri Ramalu, S., & Hassan, Z. (2016). Safety management practices and safety compliance in small medium enterprises: Mediating role of safety participation. Asia-Pacific Journal of Business Administration, 18(3), 226-244.

Veal, J. (2005). *Business research method: A managerial approach.* 2nd Edition. French Forest: Pearson Education.

Vrendenburgh, A.G. (2002). Organizational safety: Which management practices are most effective in reducing employee injury. *Journal of Safety Research*. 33: 259 – 276.

Wu, T. C., Chang, S. H., Shu, C. M., Chen, C. T., & Wang, C. P. (2011). Safety leadership and safety performance in petrochemical industries: the mediating role of safety climate. *Journal of Loss Prevention in the Process Industries,* 24(6), 716-721.

Yassi, A., McGill, M. L., & Khokhar, J. B. (1995). Efficacy and cost-effectiveness of a needleless intravenous access system. *AJIC American Journal of Infection Control* 23: 57-64.

Zohar, D. (1980). Safety climate in organization: theoretical and applied implication. *Journal of Applied Psychology* 65 (1): 96 – 102.

Zohar, D. (2010). Thirty years of safety climate research: Reflections and future directions. *Accident Analysis & Prevention,* 42(5), 1517-1522.

Zohar, D., Livne, Y., Tenne-Gazit, O., Admi, H., & Donchin, Y. (2007). Healthcare climate: A framework for measuring and improving patient safety*. Critical care medicine, 35(5), 1312-1317.