

Influence of Positive Safety Climate for Worker's Occupational Safety

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Abstract

The aim of the paper is to find out the influence of positive safety climate on worker's safety in the organization and to find out relationship between various factors of safety climate and worker's safety. Present study reviews some studies to find out how a positive safety climate is related to the safety of an organization. Safety climate is a leading indicator of the state of safety in an organization at a particular point in time. It is the shared perceptions of employees about the policies, procedures and practices of an organization relating to safety. A positive safety climate help in many ways to improve the safety of an organization like by reducing the risk taking behavior of the workers, by improving safety performance of the workers, by reducing the underreporting of injuries and accidents. Positive safety climate improve the safety behavior of the workers which means the safety participation and safety compliance of the workers is enhanced which reduces the risk of injuries. Positive Safety climate reduces the underreporting of the injuries and accidents which lead to the improvement of the worker's safety because the root causes of injuries and accidents are known. Most of the studies revealed that a positive safety climate is associated with improved safety of an organization which ultimately reduces the risk of workplace injuries and accidents.

Key words: Occupational Safety; Safety Climate; Worker's Safety.

1. Introduction

Occupational safety is a major worry for organizations, as it is a cause of substantial direct and indirect costs. By tradition, safety research has paying notice on identifying individual attributes, such as behavior traits or attitudes, which are associated with accident proneness. However major disasters, such as Piper Alpha and Chernobyl, have illustrated the significance of work climate and management practices as contributors to system fail. Recently there has been a progress away from safety measures purely based on retrospective data or lagging indicators such as dead, lost time accident rates, and incidents towards so called leading indicators such as safety audits or measurement of safety climate. Consequently, increasing attention has been paid to the function of the work environment and management practices as determinants of safety in the workplace (Barling, Kelloway, & Iverson, 2003; Cox & Cheyne, 2000; Hayes, Perander, Smecko, & Trask, 1998; Parker, Axtell, & Turner, 2001). The term psychological climate refers to individual perceptions of the work environment (L. A. James & James, 1989). The term safety climate, therefore, refers to individual perceptions of policies, procedures, and practices relating to safety in the workplace. Most significantly, only those perceptions that engage individual's assessment of workplace attributes concerned with safety are considered to be perceptions of safety climate. Safety climate is a definite form of organizational climate, which describe individual perceptions of the importance of safety in the work environment. The term safety climate is conceptualized as employees share perceptions regarding how safety practices, policies, and procedures are implemented and how much priority is given to the safety. It can be viewed as a snapshot of the state of safety in an organization at a particular point in time that may change over time. A range of factors has been recognized as being important components of safety climate. These factors include: management values (e.g.

management concern for employee welfare), management and organizational practices (e.g. sufficiency of training, provision of safety equipment, quality of safety management systems), communication, and employee participation in workplace health and safety. A range of studies have confirmed that these factors predict safety-related outcomes, such as accidents and incidents. Zohar deemed that safety climate was related to safety condition of an organization directly; moreover analyzing employee's perception s of safety climate could identify the areas requiring reforming in an organization. Level describes the average perception of safety climate by group members as good or bad. Safety climate is the leading indicator of the situation of safety in the organization. Safety of an organization can be assessed in many ways like safety behavior of the workers, no. of accidents in a period of time, number of near misses, and number of injuries. Many studies show that safety climate directly or indirectly impact on the safety of an organization. The purpose of the paper is to carry out the literature review of published safety climate and how it can help to improve the safety of an organization.

2. Review and Methodology

Within our review we focused on examining peer-reviewed evidence (i.e. quantitative, qualitative, mixed method studies and review articles), that directly addressed the issue of safety climate, worker's safety in an organization, impact of safety climate on worker's safety. Evidence was excluded if it only addressed one of our primary areas of interest (i.e. it spoke only about safety, only to issues of safety climate, or only to issues of occupational health and safety or workplace safety culture). For we excluded evidence if it only discussed issues of safety climate but did not directly relate to OH&S issues at the workplace. By narrowing our inclusion criteria, we were able to target evidence that focused on the safety climate and the impact of safety climate on various factors related to worker's safety. This, in turn, allowed us to eliminate extraneous evidence, for which we would need to extrapolate a potential relationship, and to develop more specific OH&S recommendations.

A computerized search of the literature was conducted utilizing the papers available in various journals related to safety climate and safety. The keywords for the computerized search of the literature were "Safety climate ", and "safety performance". In total, 45 papers were retrieved and underwent full review by three reviewers. This included full reading of each papers and extraction of the following data into evidence tables: (i) the paper's central objective and research question(s); (ii) research design and methods; (iii) theoretical perspectives and/or assumptions: (iv) sample characteristics; (v) data collection and analysis; (vi) data interpretations; (vii) key findings and conclusions; (viii) a critical interpretation of how findings can inform our understanding of positive safety climate in relation to safety at work; (ix) factors that may intersect with positive safety climate to influence safety at work; and (x) research gaps and suggestions for future research. Data in the evidence tables were subsequently analyzed to characterize our sample of studies, and to identify key themes relevant to understanding how safety climate may influence safety at work.

3. Summary of studies separated by role of safety climate in improving safety

3.1 Improve Safety compliance and participation of workers

A. Neal et al. (2000) establish in their research that safety climate improves the safety performance of the workers through safety knowledge and safety motivation. They take safety compliance and safety participation as the components of safety performance. Safety climate improve both safety compliance and safety participation of the workers through safety knowledge and motivation. A positive safety climate increases the knowledge of the worker which increases the understanding of workers about the safety procedures and rules and due to this their safety compliance is raise. Improved safety performance of the workers improve the safety of the organization because workers better follow the rules and participate in safety activities which help to create a safe work environment.

Griffin and Neal (2000) found in their research on manufacturing and mining organizations that safety climate strong and direct relationship with safety compliance and safety participation which are components of safety performance. They also found that safety climate impact the safety performance of the workers through safety knowledge and safety participation. Safety knowledge effect both safety participation and safety compliance. Positive safety climate helps to improve the safety knowledge and motivation of the workers that ultimately improve safety performance of workers. Neal and Griffin (2006) found in their research that group safety climate will exert a lagged effect on individual safety motivation and individual safety motivation will exert a lagged effect on safety participation and safety behavior in work groups will be associated with a subsequent reduction in accidents at the group level.

3.2 Accident underreporting among employees

T.M. Probst, A.X. Estrada (2009) found in their study that there is underreporting of accidents among employees which is significantly related to safety climate of the organization. They found that employees who perceive their organizational safety climate to be poor are engage in more accident underreporting. Underreporting of accidents may give organizations short term benefits like lower worker's compensation loss rate but organizations are likely to pay heavy prices when it comes to long term health and safety issues of workers because of the failure to rectify the root causes of the accidents. A positive safety climate reduce the underreporting of accidents fewer total experienced accident.

3.3 Organizational injury rate underreporting

T.M. Probst et al. (2008) found in their study that there is underreporting of injuries among organizations which is significantly related to safety climate of organization. Organizations with poor safety climate will underreport injuries to a greater extent as compared to organizations with positive safety climate. They found that organizations with a poor safety climate failed to report over 80% of the eligible injuries to OSHA. One of the important dimensions of the safety climate is the safety training and may be less training opportunities are provided to safety officers and supervisors in poor safety climate organizations therefore they may have less knowledge of what constitutes a recordable injury.

3.4 Vessel accidents in the container shipping

C.S. Lu, C.L. Tsai (2008) empirically evaluates the influence of safety climate on vessel accidents. They define vessel accidents in terms of crew fatality and vessel failure. They found that dimensions of safety climate like job safety management safety practices and safety training is significantly related to crew fatality on the basis of logistic regression analysis. They also found that job safety is significantly related to vessel failure.

3.5 Preventing risk taking at work

S.Yule et al. (2007) proposed a model which links safety climate with risk taking behavior of workers. They found that knowledge and training mediates the relationship b/w senior management commitment and worker risk taking behavior of the worker .They found that senior management can reduce the risk taking behavior of the workers by providing them proper training and knowledge and encourage supervisors to be more involved in safety activities.

3.6 Safety climate-injury relationship

Zohar (2003) argued that because safety climate informs behavior-outcome expectancies, a supportive safety climate, in which safe behavior is encouraged, is expected to be associated with less injuries, whereas in an unsupportive climate, in which safe behavior is not encouraged, is expected to engage in more injuries. So safety behavior is mediates the relationship b/w safety climate and injury.

Beus et al. (2010) Meta –analytically study the safety climate-injury relationship and they revealed that the predictive effects of injuries on organizational safety climate (Group safety climate) are slightly stronger than those of organizational safety climate on injuries. They also found that length of time over which injuries were assessed plays a significant moderator role b/w organizational safety climate and injury relationship, with longer time frame yielding weaker relationship. Their analysis also shows that perceived management commitment to safety is the safety climate dimension with the strongest association with future injuries.T.M. Probst (2008) found that organizational safety climate is related to the rate of experienced employee injuries, such that more positive safety climate is related to less injury rate, So one way to reduce the injury rate is by build a more positive safety climate.Cooper and Phillips (2004); Zohar (2000); Brown and Holmes (1986); Gershon et al. (2000); Siu et al. (2004) found in their studies that strong safety climate is associated with fewer workplace injuries.

4. Conclusion

The purpose of this paper was to review the previous studies to establish a relationship between safety climate and safety in an organization. It has been analyzed that safety climate effect the safety in an organization in many ways. Safety climate affects the safety performance of workers directly or through knowledge and motivation. In organizations where a positive safety climate is present the safety compliance and safety participation of the workers in safety activities is improved due to which chances of getting injuries or accidents are decreased. Safety compliance and safety participation are the components of safety climate. Safety climate affects the injury and accident reporting behavior of the workers. An organization with poor safety climate undergoes the underreporting of accidents and injuries. Due to the underreporting of the accidents organizations are not able to find out root causes of accidents to take the preventive actions. Safety climate is related to rate of injuries in an organization. Zohar (2003) found that safety climate informs behavior-outcome expectancies, a positive safety climate, in which safe behavior is encouraged, is expected to be associated with less injuries, whereas in an negative climate, in which safe behavior is not encouraged, is expected to engage in more injuries. Cooper and Phillips (2004); Zohar (2000); Brown and Holmes (1986); found in their studies that positive safety climate is associated with fewer injuries. T.M. Probst (2004) found that a positive safety climate reduces the negative impacts of job insecurity on the performance of workers. A strong safety climate in an organization reduces the risk taking behavior of the workers.

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