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Safety Climate and turnover: Mediating Role of Occupational Injuries and Moderating Role of Safety Specific Transformational Leadership

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Keywords:

Safety Climate, Turnover intention, Occupational injuries, safety specific transformational leadership, manufacturing industries

ABSTRACT

Safety climate is emerging as the foremost concern of manufacturing industries as it is related to organizational productivity. This study examines the main and interactive effect of Safety Climate and Turnover Intention among industrial manufacturing employees, with occupational injuries as a mediator and safety-specific transformational leadership as moderator. The non-probability convenience sampling technique was used for data collection through questionnaires. The study was done on a sample of 209 employees belonging to manufacturing industries of twin cities of Pakistan. Results revealed the interesting insight that safety climate has no impact on turnover intention among manufacturing employees due to the high rate of unemployment and poverty. Moreover, safety-specific transformational leadership does not moderate the relationship between safety climate and occupational injuries. Findings suggest that the management should build supportive job conditions to actively manage their human capital and promote a culture of safety through training to retain the valuable workforce.

INTRODUCTION

As work-related fatalities started exceedingly annually, an Occupational Safety & Health (OSH) Act in1970 passed by the United States which leads to the formation of the Occupational Safety and Health Administration (OSHA). Later on, Zohar (1980) published a study on safety climate and claimed it as a key construct for understanding occupational injuries. Since then the concept gained importance in safety research. The concern regarding occupational safety is enhancing gradually because it is a major issue at workplace (Mutual,2005) which not only exists in Pakistan, but the developed countries also are not admiring this endemic (Barling, Rogers & Kelloway, 2001; Schat & Kelloway, 2003; Tucker, 2010; Biggs & Bank, 2012). Safety climate is a sub-component of safety culture which is a complex versatile concept (Vienna, 2002) and a robust predictor of safety practice at the workplace. Safety climate is perceived as a priority or

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value of acting safely (Zohar, 2007). Ward, Haslam, and Haslam (2008) examined the impact of Occupational safety on various outcomes and encourage more work on the low perception of safety climate and its outcome. Furthermore, Alvarado et al. (2005) investigated the safety climate and its effect on occupational injuries. They concluded that safety leadership, safety training and social support encourages self-reported injuries and make management aware of mishaps at the workplace to take safety initiatives and to reduce occupational injuries. Due to a lack of knowledge, skills, motivation, and limited resources, some organizations do not give priority to health and safety measures as they deserve. In turn, these organizations have to bear the cost in terms of employee attitudinal outcomes like turnover intention (Ward et al., 2008). On the other hand, Organizational productivity is also one of the challenges that arise as a consequence of turnover. Moreover, Shropshire and Kadle (2012) works on IT workers and found that those who suffer from stress, burnout, or are concerned about their job's security are more likely to consider a different career and turnover.

A study by (Javed, Shah & Memon, 2013) revealed that manufacturing workers are more victims of injuries because they are untrained and unskilled. Hence, effective leadership always plays an important role not only in the development of awareness and skills but also in the growth and performance of organizations. Baley and Kelloway (2003) exposed that if the employee believes that the organization is investing in them, then they become satisfied and feel secure. Moreover, leaders emerge from groups of individuals, their actions change the track of group members, organizations, and even societies (Judge et al., 2008). /.

Haider (2010) determine the impact of transformational and transactional leadership style on job success and career satisfaction and revealed that transactional leadership leads to job success and transformational leadership with this job success leads to career satisfaction. Braodbent (2012) a safety psychologist discover that transformational leadership increases the level of engagement, employee retention, performance and discretionary outputs like maximal safety participation Barling, Loughlin, and Kelloway (2002) developed and tested a model of safety specific transformational leadership and suggests that safety specific transformational leadership enhances the occupational safety and focus on safety-related events can, in turn, reduce occupational injuries.

Pakistan is a developing country and facing many crises instantly related to economic, political, and social issues. Occupational injuries are the more neglected area in developing countries due

to negligence of labor law and government. The examples for such mishaps are fire explosion at Habibi Restaurant Islamabad in 2012, Baldia town factory explosion in Karachi 2012, boiler blast in oil factory 2012, Holy Family Hospital (HFH) 2012, and in 2013 explosion in a plastic factory in Karachi and firebreaks in beverage factory at Lahore.

Very few studies have been carried out in Pakistan on safety climate and its aftereffects. A study conducted in Rawalpindi, Pakistan by Imtiaz and Ahmad (2009) which was concentrated more on different variables like a personal issues, stress, managerial responsibility, and work environment and their impact on employee turnover intention. This study deal with the gaps in current literature by signifying the effects of safety climate on employee's Turnover Intention in the manufacturing sector in Pakistan with an immense involvement of Occupational injuries and Moderating effect of safety specific transformational leadership in an employee's professional life. Moreover, the theory of planned behavior by Icek Ajzen (1985) provides underneath agenda for this study. As it is very powerful and predictive for explaining human behavior related to health.

LITERATURE REVIEW

Safety Climate and Turnover Intention

The extent to which employees are connected to the organizational strategy, goals, and culture encourage high levels of engagement and hence a low level of turnover intention(Ram & Prabhakar, 2011). Employees who experience lower engagement, commitment, and involvement reported higher intentions to leave the organization (Nowack, 2010). But on the other hand, companies that offer employee development programs enjoy the luxury of higher employee satisfaction and lower turnovers (Shelton, 2010). It is likely for employers to make situations that encourage employees to leave or employees themselves behave in such a manner that causes the firm to wish for them to leave (Anaqbi, 2011).

Workplace safety is a crucial ingredient and is increasingly being explored as a guide for quality improvement efforts (Chaboyer et al., 2013). Safety climate refers to the degree to which employees believe the true priority is given to organizational safety performance, (Cooper & Phillips, 2004). Gyekye and Salminon (2010) investigated the impact of work experience on safety perceptions and accident frequencies. They revealed experienced workers had a more productive perspectives regarding safety, as they have the familiarity with hazards, relevant knowledge, and awareness of safety due to seniority and longevity with their organizations.

Whitt (2005) develop a mathematical model that gives the way to increased employee retention through increased employee job satisfaction and concluded that management actions to increase employee job satisfaction might be cost-effective but such measures can be proven *win-win-win* actions. Samad and Yusuf (2012) determined the effects of job satisfaction on organizational commitment and the impact of organizational commitment on turnover intention. Statistical analysis shows the job satisfaction is positively associated with commitment and negatively associated with turnover.

H1: *Safety climate is negatively and significantly related to turnover intention.*

Safety Climate and Occupational Injuries

Tucker (2010) develop and test safety specific model of exit, voice, patience, and neglect (EVPN) and showed that most participants favored patience, voice is reserved for serious safety concerns, exit is very uncommon. Griffinn and Nael (2000) developed a framework for measuring the perception of safety at work. They identified specific dimensions of safety climate and concluded that safety climate is an antecedent for safety act in an organization. Nael, Griffin, and Hart (2000) also study the impact of organizational climate on safety climate and safety performance and reveal that organizational climate has a significant positive impact on safety climate with safety regulation, procedures, performance, and participation in safety-related activities at the workplace.

Probst (2004) found that a strong safety climate will satisfy the negative effects of job insecurity on self-reported safety outcomes. Proper monitoring and feedback not only encourage employees but also lead to safety behaviors which reduce mishaps at the workplace. Flin et al. (2000) review measures of safety climate used in the industrial sector and found that the most common measured dimension related to safety and risk management is due to work pressure and competence. Biggs & Bank (2012) investigated how safety culture is perceived by a focus on safety motivation, compliance, and participation. But all these features may not work if there is job insecurity among workers. Trucker (2010) studies the moderating effect of safety climate between job insecurity and safety outcomes and concluded that safety climate plays important role in organizations and can lower the safety negative outcomes.

H2: *Safety climate is negatively and significantly related to occupational injuries*

Occupational injuries and Turnover Intention

Shimwell (2001) occupational injuries in both physical and psychological aspects and suppose both are responsible for personal development and well-being.Another definition of occupational injuries by (Ghosh, Bhatacherjee & Chau,2004) is damage to the body that results from an accident at the workplace. Barling, Calloway, and Iverson (2003) works on the Australian Department of workplace relation and small business and reveal that high-quality work i.e job autonomy, feedback, and learning positively directly affects occupational injuries. Stout & Bell (1991) use various information like death certificates, worker compensation files, and occupational safety, death administration to identify work-related injuries. But implementation of these measures required cost and investment regarding safety.

Neuhauser and Mathur (2008) examine the feasibility of assigning the cost between occupational and nonoccupational injuries and concluded that occupational disability is dominated by injuries and nonoccupational injuries are dominated by illness and integration of both can help inefficient investment in safety. Organizations that invest in employees' health and safety issues always benefit from the satisfaction and improvement in the social behaviors of their employees. Torp and Moen (2006) investigate the effects of implementing OHS on the work environment and found that worker with improved internal control shows satisfaction with H&S activities, psychosocial environment, and health. Katruso et al. (2010) study the impact of occupational health and safety (OHS) on workers' productivity and found that OHS-related problems negatively affect productivity and outcome like turnover intention due to low morale and negative attitude of workers and high rate of accidents.

H3: *Occupational Injuries were positively and significantly related to Turnover intention.*

Occupational injuries as a mediator

Barling, Kelloway, and Iverson(2003) developed and tested a model of attitudinal outcomes of the severity of occupational injuries, which assume that distrust of management and lack of authority causes job dissatisfaction and leads to exit and voice outcomes. Job autonomy is a must for employee motivation and reinforcement if it is not given then workers will respond either in the form of protest or by leaving the organization. Pransky et al. (2000) provide information on a sample of workers and employers and concluded that occupational injuries cause' long-term and adverse physical, economic, and psychological consequences. Other than managerial

effectiveness and organizational compensation some personal factors like smoking and drug usage are also responsible for occupational injuries at the workplace.

A very recent research conducted by Mccaughy et al.(2013) on large community-based hospitals with nursing and associated health professionals who are more victims of injury rates, job dissatisfaction and turnover, and they found that workplace-derived injury and illness are associated with poor perception of safety climate which leads to job stress, job dissatisfaction, and turnover intention eventually. Clark et al. (2002) also determined the effects of nurse staffing and nursing organization on the chance of injuries in hospital nurses they demonstrate that nurses with poor organizational climates were generally reported risk factors, needlestick injuries, and near misses more than nurses with better organizational climate.

Coetzee and Rothmann (2005) asses the indicator and moderator of occupational stress that if the employees felt that the organization is not committed to them to the greater extent than they become a victim of physical and psychological illness which leads to detrimental effects on work performance, lower commitment from employees as well and ultimately to turnover intention. Small Industries are the main divisions that are more victims of occupational injuries and workplace mishaps. Butt (2012) studied the effect of physical environment factors on occupational health in small industries of Pakistan and reveals that these industries need to protect workers from adverse effects of noise, light, and temperature. Neilson and Mikkelson (2007) investigated injuries among workers in the manufacturing industry by the help of a questionnaire workers reported at least one occupational injury per year. They show that a good safety climate is related to fewer injuries among workers.

H4: *Occupational Injuries mediates the relationship between safety climate and turnover intention.*

Safety specific Transformational Leadership as Moderator

Conchie and Moon (2010) submit a report to the IOSH Research committee by name of promoting active safety leadership they define safety leadership as a balance between job resources and job demands. When organizational constrains are high and job autonomy with colleagues' support is low then supervisors are less likely to engage in safety leadership. Safety leadership is indicated by (Ismail et al.,2011) the influential factors for safety management involve personal awareness and communication regarding safety and these factors can be achieved with the help of a safety leader. Another study by Al-Hammadi (2013) investigates the

relationship between global leadership styles and turnover intention, he found that leadership styles applied by managers lead to job satisfaction and are negatively related to turnover intention.

Ostakhan et al.(2012) studies ergonomics issue in construction safety they revealed the most common problems of safety management includes lack of safety training, absence of safety specialized staff, and traditional management attitude towards safety. Xuesheng and Wenbiao (2012) studies the relationship between safety climate and safety leadership in the coal mine industry and suggests that active management plays an important role in safety leadership which positively affects safety training, commitment, motivation, and safety awareness they further suggest that safety leader should make a strategy for improvement in safety leadership style. Toole (2001) determines the relationship between the management approach to safety and employee perception. He identifies that Management leadership along with several other factors, influence employee perceptions of the safety management system, which in turn influence employee job-related decisions and at-risk behaviors.

Moreover, a study by (Kumako & Aumeng,2013) investigates the relationship between psychological safety and learning behaviors in teams, with moderating role of leadership results shows that leadership plays important role in creating a climate of psychological safety which engages team members in learning behavior. Hence, leaders are the main source of promoting psychological health along with physical health through cooperation, social support, and grievance handling.McClean et al.(2013) extended the Hiershman framework by examining the connection between employee voice and exit in restaurants they found that it depends on managers' willingness and responsiveness of whether voice leads to positive or negative outcomes for a work unit. If a manager responds to voice in a positive way by listening to the demands of workers and promising to fulfill these demand then the level of exit will be reduced otherwise voice will lead to deteriorated effects on organizations.

Liu et al.(2012) shed light on the dark side of leadership in employee creativity they reveal that abusive supervision negatively affects the team member’s creativity. Transformational leadership is a new leadership style and has positive impacts on employee performance and safety-related behaviors. Zin et al.(2013) investigate the influence of transformational leadership and ergonomic safety on intention to stay they reveal that ergonomic safety provides an important tool for enhancing the retention of employees. Andersen et al.(2011) scrutinize the association

between transactional, transformational leadership, safety climate and also explore the affect of a demographic factors on safety climate in different industries. They showed that leadership styles have a significant association with management safety empowerment while workers' safety priority is associated with transformational leadership only.

Among all styles of leadership, the most influential style is transformational leadership as it provides flexibility, cooperation, and social support to the workers. Zohar and Luria (2010) test the moderating effect of transformational supervisory leadership on the relationship between organizational climate and group climates. They indicate that poor organizational climate leads to low commitment to safety and transformational leadership promotes group climate instead of organizational climate. Supervisor and leader members exchange heavily influenced safety climate which leads to the secure and encouraging workplace. LMX relationships lead to supportive supervisor behaviors due to supervisors' use of supportive communication which in turn, influence follower attitudes and behaviors in terms of job satisfaction, turnover intentions (Micheal, n.d). If proper safety practices are followed by an employee it will remold their behaviors and attitude as well. Three intervention studies designed by (Zohar & Luria,2003) to modify supervisory monitoring and rewarding of subordinate's safety performance revealed that an increase in safety-oriented interaction changes safety behavior and safety climate gain. Administrative checking and giving rewards to employees on performing safely like feedback and incentives enhance safety behaviors at workplaces.

H5: *Safety Leadership moderates the relationship between safety climate and occupational injuries.*

Theoretical Framework:

Figure 1: Safety Climate, Occupational Injuries, Safety specific transformational leadership, and Turnover intention Relationship

RESEARCH METHODOLOGY

The population was small medium-sized enterprises (SMEs) related to manufacturing industries of plastic, marble, and medicines. For a collection of data, convenience sampling technique was used through questionnaires. A total of 300 questionnaires were distributed among laborers, out of which 238 were returned. Out of 238 questionnaires 29 were discarded because they were not filled. Hence, 209 were the sample size for the current study.

City	Industry	Sample size
Islamabad	Medicine	69
Islamabad	Plastic	50
Rawalpindi	Marble	88

1. Safety climate was measured using Nael, Griffin, and Hart's (2000) 16 items scale. The Barling et al's (2002) 8 items instrument was used to assess occupational injuries and safety-specific transformational leadership. The scale of Alnaqbi (2011) with 4 items was used to evaluate turnover intention. To analyze the reliability and internal consistency of items in the scale a pilot study was done to verify reliability.

ANALYSIS

2. TABLE 1.1

Variables	**Cronbach Alpha (a)**
Safety Climate	0.804
Safety specific transformational Leadership	0.837
Occupational Injuries	0.887
Turnover Intention	0.720

Table 1.1 shows reliability analysis of all variables 0.70 is acceptable according to Ume Sekaran (2003) and 0.70 to above is good to very good range.

3. TABLE1.2

4.

Variable	**Mean**	**S.d.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1. Gender	1.06	.233							
2. Age	2.19	1.33	-.158*						
3. Education	2.73	.825	.057	-.225**					
4.Experience	3.41	1.29	-.173*	.633**	-.346**				
5. Safety Climate	3.31	.625	-.161*	.108	-.051	.163*			
6. Safety-specific transformational leadership	3.25	.909	-.001	-.010	-.145*	.089	.299**		
7.Occupational injuries	3.91	1.13	.105	.043	-.059	.153*	.192**	.573**	
8.Turnover intention	3.05	1.61	-.021	-.174*	.234**	-.273**	-.078	-.453**	.252**

5. **. Correlation is significant at the 0.01 level (2-tailed).* Correlation is significant at the 0.05 level (2-tailed).

The above table shows correlation values between independent, mediating, moderating, and dependent variables. The Safety specific transformational leadership was positively correlated with safety climate 299**. Occupational injuries were positively correlated both with safety climate 192** and safety specific transformational leadership 573**. Moreover, the turnover intention was negatively correlated with both occupational injuries -.252** and safety-specific transformational leadership -.453** with and only significantly and positively correlated with education at (.234, p<0.01).

6. **TABLE 1.3**

Predictors	**Turnover Intention**		
	β	**R^2**	**ΔR^2**
Step1			
Control Variable		.101	
Step 2			
Safety Climate	-.046	.103	.002

n=209; control variables are gender, age, qualification and experience. ***p< .001**p< .01 *p< .05

The first hypothesis proposed that safety climate will be negatively associated with turnover intention. To test that proposition, we regress turnover intention on safety climate. The beta value was inconsistent with preposition safety climate was significantly and positively related with turnover intention i.e. (β=-.046, p<.10). Thus, rejected hypothesis H1.

7. TABLE1.4

Predictors	**Occupational Injuries**		
	B	**R^2**	**ΔR^2**
Step1			
Control Variable		.045	
Step 2			
Safety Climate	.193	.081	.036**

n=209; control variables are gender, age, qualification and experience ***p< .001**p< .01 *p< .05

The above table shows consistency with preposition safety climate was significantly and negatively related with occupational injuries (β=.193, p<.001***). Thus, hypothesis H2 was accepted.

TABLE 1.5

Predictors	**Turnover Intention**		
	B	**R^2**	**ΔR^2**
Step1			
Control Variable		.101	
Step 2			
Occupational Injuries	-.210	.143	.042**

n=209; control variables are gender, age, qualification and experience.***p< .001**p< .01 *p< .05Table 1.5 shows consistency with preposition occupational injuries was significantly and positively related with turnover intention (β=-.210, p<.001***). Thus accepting H3. **TABLE 1.6**

Predictors	**Occupational Injuries**			**Turnover Intention**		
	B	**R^2**	**ΔR^2**	**β**	**R^2**	**ΔR^2**
Step 1						
Control Variable		.101				
Step 2						
Occupational Injuries	-.210*	.143	.042*			
Step 3						
Safety climate				-.006	.143	.002

n=209; control variables are gender, age, qualification and experience.***p< .001**p< .01 *p< .05

The significant relationship between safety climate and turnover intention did not fulfil the first requirement of the mediation process according to Barren and Kenny (1986). So we followed the steps given in the literature because my first hypothesis was rejected. To complete the process we regress occupational injuries on safety climate. In the first step enter control variables (R^2=.101), in the second step we entered safety climate and the results showed that there is a highly significant and positive relationship between the two (β=-.210*, p<0.05) and (R^2=.143), thus satisfying the second condition for mediation.

In the last step, we test if occupational injuries mediate the relationship between safety climate and turnover intention. We regress safety outcomes on safety climate and the results showed that although there was a considerable variance occurred still a path from safety climate to turnover intention showed significant results (β=-.006, p<.10) and (R^2=.143).

TABLE 1.7

Predictors	Occupational injuries		
	β	R^2	ΔR^2
Moderator Analyses			
Safety-specific transformational leadership			
Step 1			
Control Variable		.045	
Step 2			
Safety Climate	.193**	.081	.036**
Safety-specific transformational leadership	.561***	.359	.278***
Step 3			
Safety Climate			
x	-.618+	.367	.008
Safety-specific transformational leadership			

n=209; control variables are gender, age, qualification and tenure ***p< .001**p< .01 *p< .05

For analyzing the moderator, we regress safety-specific transformational leadership on occupational injuries. Results showed (β=0.561***, p<0.001) and (R^2=.278, p<0.001) in step 2 while in the third step, we regress interactional term of safety specific transformational leadership and results showed that there is a negative and insignificant relationship between safety specific transformational leadership and occupational injuries (R^2=.367, p<0.10), and (β=-.618+, p<.10) thus showing the last hypothesis as rejected.

Thus, hypotheses H1 and H5 were rejected, H2 and H3 were accepted and H4 was partially mediated between safety climate and turnover intention.

CONCLUSION

The research objectives and questions of this study were to check whether safety climate can affect turnover intention among employees when safety-specific transformational leadership is used as a moderator and occupational injuries acts as mediator. The results showed that safety climate is positively related to turnover intention due to cultural context and safely specific transformational leadership does not moderate the relationship between safety climate and occupational injuries but on the other hand occupational injuries also mediates the relationship between safety climate and turnover intention.

To move with this fast-paced world, industries should provide laborers a level of job autonomy, cooperation, time relaxation, compensation and grievance handling which will motivate them, and in turn industries will be able to produce competitive products. For effective public health policy, there is a need for preventive education and enforcement of safety regulations for the informal occupational sector in Pakistan (Shaikh, n.d). In Pakistan industries there is also a need to set rules and regulations for time management, policies for compensation, training of managing work-related tasks, and providing a stress-free environment to reduce occupational injuries and grip turnover intention among laborers. Although turnover intention seems very low among employees due to poverty and unemployment it can be eliminated even by focusing on safety climate and reducing occupational injuries through safety-specific transformational leadership and safety training.

According to World Health Organization, there are about 250 million cases of injuries per year at work. This study shows that there is a need for management to create a helpful environment and train their workers properly if there is the environment of support and cooperation. This supportive environment encourages employees to discuss their job-related problems and acquire both emotional and instrumental support from the organization, supervisors and coworkers.

To conclude it is stated that the effectiveness of safety climate and safety specific transformational leadership is culturally bound specifically the society like Pakistan where this research has been conducted, but safety training plays a vital role in reducing occupational injuries and it is implemented in Pakistan for benefit of the organization and it is need of organization for gaining better productivity and also it is less costly in manufacturing industries due to its once time occurrence. Safety climate can be brought by focusing on policies, precautionary measures, training, and awareness among workers through safety leadership. Environmental conditions, safety policies, programs, and organizational climate made 55 percent of the difference in safety climate moreover, employee safety climate perceptions provide important information significant to safety, but there is still a need for comprehensive programming and detailed assessment of safety program effectiveness (Dejoy et al.,2004). Moreover, there is a need of reducing attitudes that involves Consent Injuries like workers themselves did not care for their health and avoided precautions. This study has a number of implications to manage occupational injuries among laborers by identifying other mediators and moderators to explain this relationship in societies like Pakistan.

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