OCCUPATIONAL INJURIES AND EMPLOYEES TURNOVER INTENTION: A MODERATING EFFECT OF SAFETY CULTURE

Saba Ahmed¹ & Hamid Waqas²

Abstract

Occupational health and safety aims at promotion and maintenance of physical, mental and social health of employees. Unfortunately the conditions in a developing country like Pakistan are worse regarding safety at work. This study examines the effect of Occupational Injuries and Turnover Intention among workers in Pakistan with moderating role of Safety Culture. The study was done on a sample of 111 workers belonging to safety sensitive areas. Three hypotheses were developed, two of them were accepted and one was rejected. Results showed that occupational injuries has an effect on turnover intention among employees and the safety culture does not lessen the extent of turnover due to non-prevalence of safety environment in Pakistan. It was concluded that due to differences in cultural context, concept of safety culture does not prevail in Pakistan, and evils like poverty and unemployment reduce chances of turnover intention.

Keywords: Occupational Injuries, Turnover Intention, Safety Culture, Manufacturing workers, Construction workers, Security guards, Pakistan

JEL Classification: Z.000

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Introduction

Injuries that occur during work have long term consequences and these can be the symbol of cost in social and economic terms to worker, employers, company and the government as well. In the United States (2007) 5,488 workers died from occupational injuries among which 92% were men. Due to lack of knowledge, skills, motivation and limited resources some organizations do not give priority to health and safety measures as they deserves. In turn these organizations have to bear cost in terms of financial and employee attitudinal outcome like turnover intention (Ward et al, 2008). Employee turnover is a well recognized critical issue for most of the organizations. Moreover, organizational productivity is also one of the challenges that arise as a consequence of turnover. There should be training and mentoring programs among workers to make them motivated and the encourage them to reduce turnover intention (John, 2007). Shropshire & Kadle (2012) worked on IT workers and found that employees who bear stress, burnout or job security are more consider for a different career and turnover. Baley & Kelloway (2003) revealed that if employees believes that the organization is investing in them, then they become satisfied and feel secured. Burke et al (2012) found the relation between job demand and psychological health among nurses, they reveal that job demand and lack of support are associated with deteriorated nurse well being and results in more unfavorable outcomes. Le Blance & Kelloway (2002) found that homicide is severe form of workplace violence and causes many workers to die at workplace. They focused on public and coworkers initiated violence and found that public initiated violence is the cause of turnover intention among employees.

Vienna (2002) believed that culture serves as a lens through which we perceive the world. Several different disciplines use the word culture in different perspectives including the anthropology, sociology, psychology and economy. Ward, Haslam & Haslam (2008) examined the effect of proactive occupational health and safety (OSH) management on the performance of organization, employee attitude, health and well being. They showed that public sector employees show low perception of safety climate and more illness while employees in construction sector show high level of awareness of safety climate and positive attitudes. And this leads to greater commitment and good physical and mental health. A very recent study in Pakistani context
on child labor was conducted by Javed, Shah & Memon (2013). They concluded that children are more victims of workplace illness and injuries as they are untrained and unskilled and their working hours are long and working condition are unhealthy.

This study deals with the gaps in current literature by signifying the effects of Occupational Injuries on employees Turnover Intention in manufacturing sector in Pakistan with an immense involvement of Safety Culture in an employee’s professional life. One distinguish feature is that we are conducting this research in Pakistani context because occupational injuries are a critical issue in Pakistani organizations due to unhealthy and insecure workplace environment, and most significantly it has both theoretical as well as practical implications. The latest 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, new born baby was scratched by a rat soon after his birth at the Labor Room of a Ward in the Holy Family Hospital (HFH) 2012, are top of the list. The purpose of this research paper is to find out the intentions to quit job in Pakistan due to safety related issues, and also examine the effect of safety culture on these variables as a moderator.

**Literature Review**

The word Safety Culture first appeared in 1986 by International Nuclear Safety Advisory Group formed by International atomic Energy Agency (IAEA) due to the Chernobyl Disaster. Safety culture is both structural and attitudinal in nature and relates to organizational styles and attitudes at all levels of organization. A detailed report prepared by Human Engineering for health and safety executives 2005 proposed that the incorporation of health and safety measures within organizations not only minimize accidents but also have business and financial benefits in the long run.
Turnover Intention

The extent to which employees are engaged to the organizational strategy and goals, concern for work well done, culture of learning and development, shows high levels of engagement and low level of turnover intention is regarded as employees commitment with organization (Ram & Prabhakar, 2011). Employees who experienced lower engagement, commitment and involvement with organization, reported higher intentions to leave the organization and move to turnover intention (Nowack, 2010). While on the other hand, Companies which offers employee development programs enjoy higher employee satisfaction and lower turnover intentions than those employers which do not invest in safety activities (Shelton, 2001). It is in the hand of employers to make conditions which beneficially encourage employees to leave and, similarly, employees themselves may actively behave in such a manner that causes the firm to wish for them to leave (Anaqbi, 2011). These involve voluntary and involuntary turnover. This research considers the voluntary turnover as an outcome. Cohen (1993) study the moderating effect of time elapsed between organizational commitment and turnover intention. Results of the regression analysis generally supported relationship between variables while correlations explain considerable variance in the commitment-turnover. This shows the strong positive effect of moderator on relationship between commitment-turnover. Whitt (2005) develop a mathematical model that give the way to increased employee retention, concluded that management measures to increase employee job satisfaction which might be cost effective but can be win-win-win measures, in which all the parties might simultaneously benefited. Samad & Yusuf (2012) determined the impact of job satisfaction on organizational commitment and the impact of organizational commitment on turnover intention. Statistical analysis shows that job satisfaction is associated with commitment positively and negatively associated with turnover. Barling, Kelloway & Iverson (2003) developed and tested a model of attitudinal outcomes of severity of occupational injuries, which assume that distrust of management and lack of influence causes job dissatisfaction and lead to exit and voice
outcomes. Osorio et al (1998) reveal that farm workers are at greater risk of occupational injuries and only 70 percent of workers received training that was associated with their injuries and final interpretation is in the form of staff turnover. Barling, Rogers & Kelloway (2001) developed and tested a model for predicting consequences of workplace violence, and sexual harassment which suggested that the fear of repetition in workplace leads to anger and anxiety which enhanced withdrawal intentions. Coetzee and Rothmann (2005) assess the indicator and moderator of occupational stress at higher education institutes in South Africa and found that if the employees felt organization are not committed then they become victim of physical and psychological illness which leads to lower commitment from employees and turnover intention. Matrino, Hoel & Cooper (2003) put forward that the violence and harassment at workplace represent considerable cost in terms of absenteeism, productivity and staff turnover due to ill health.

**H1: Employee turnover intention and occupational injuries are significantly and positively related.**

**Occupational Injuries**

Ghosh, Bhatacherjee & Chau (2004) defines occupational injuries as damage to body which result from an incident at workplace. Shimwell (2001) believed that Occupational health is multidisciplinary approach that considers physical and mental health, well-being and personal development of individuals. Barling, Kelloway & Iverson (2003) works on Australian Department of workplace relation and small business and reveal that job autonomy, feedback and learning positively affects the occupational injuries and becomes more direct when job satisfaction is used as mediator. The domino theory developed by Heinrich proposed that an accident is one aspect that results in injury which occurs due to personal fault, improperly maintained equipment and the environment in which person is educated and raised. Stout Bell (1991) uses various information which involves death certificates, worker compensation detail, occupational health and death rate to identify work related injuries and found that
collective information provide more clear picture of occupational injuries at workplace and their outcomes. Neuhauser & Mathur (2008) examine the feasibility of assigning the cost between occupational and non-occupational injuries and concluded that occupational disability is dominated by injuries and non-occupational injuries are dominated by illness and integration of both can help in efficient investment in safety. Torp and Moen (2006) investigated the effects of implementing OHS on work environment and found that worker with well internal control shows satisfaction with health and safety activities, psychosocial environment and health related behavior. Pransky et al (2000) provided information on a sample of workers and employers which was based on workers compensation system and concluded that occupational injuries causes the long term physical, financial and psychological consequences in turn employees do not return to work. Ryan , Zwerling and John (1992) studied risk associated with cigarette smoking and indicated that smokers are victims of occupational injuries than non-smoker in turn generate cost for employer in the form of absenteeism and significant turnover. Katruso et al (2010) study the impact of occupational health and safety on worker’s productivity and found that OHS related problems negatively affect the productivity and outcome like turnover intention due to low morale and negative attitude of workers and high rate of accidents. Schat and Kelloway (2003) examines the moderating impact of organizational support on physical, psychological violence and its outcome and revealed that organizational support is moderating the effects of workplace violence on emotional well-being but not on the fear of future workplace violence like turnover intentions. Probst and Brubakar (2001) focused on job insecurity, employees attitudinal, behavioral and health outcomes and reveal that training is the main antecedent of workplace safety and employees who perceives high level of job insecurity exhibits decreased safety motivation which leads to occupational injuries and accidents and attitudinal outcomes like turnover intention. A very recent research conducted by Mccaughy et al, (2013) on large community based hospitals who are more victims of injuries, job dissatisfaction, turnover, they found that workplace injury
and illness are related with poor perception of safety climate which causes job stress, dissatisfaction and turnover intention eventually.

**H2: Occupational injuries and employee turnover intention are significantly and positively related.**

**Safety Culture**

Cooper (2002) characterize that safety culture is a small component of corporate culture, which is related to job; individual and organizational feature that influence safety. Workplace safety culture is a vital ingredient and is increasingly used as a guide for quality improvement efforts (Chaboyer et al, 2013). Safety climate refers to the extent to which employees believes, that true importance is given to organizational safety performance, and measurement of organization is thought to provide warning of potential safety system failure (Cooper & Phillips, 2004).

Barling, Loughlin & Kelloway (2002) developed and tested a model, they suggests that a focus on safety concerned incidents and reduce occupational injuries. Griffinn and Nael (2000) developed a framework for measuring perception of safety at work and concluded that safety climate is a cause for safety performance in an organization. Nael, Griffin and Hart (2000) studied the impact of organizational climate on safety performance and reveal that organizational climate has significant positive impact on safety performance, compliance with safety regulation, procedures, performance and participation in safety activities at workplace. Probst (2004) also consider the same variable with safety climate as moderator and found that strong safety climate will reduce the negative impact of job insecurity on safety related outcome such as safety knowledge, compliance, accidents and injuries. Rowse (1999) investigated the impact of safety and accident, found that monitoring and feedback are important for maintaining safety behavior and safety culture. Tuckers (2010) examined the moderating effect safety climate between job insecurity and safety outcomes, he concluded that safety climate plays an important role in organizations and lower the safety negative outcomes. Social cognitive theory of Bandura (1999) gave the concept that if people believe that they are being cared and there is proper environment in which safety learning is promoted then they will able to secure
themselves and will be motivated towards their tasks. This is also the underpinning theory of research.

**H3: Safety culture moderates the relationship between occupational injuries and turnover intention.**

**Theoretical Framework**

**Figure 1:**

*Occupational Injuries, Safety Culture and Turnover Intention Relationship*

**Research Methodology**

**Sample**

The sampling frame is comprised of workers of factories, construction, security guards and vehicle drivers of organization and the manufacturing sector of Pakistan.

**Measures**

The measure used are borrowed from the original source and the questionnaire is adopted. A 5 point Likert scale ranging from *strongly disagrees* to *strongly agree* to respond to the items.
Occupational Injuries

The Barling et al (2002) instrument was used to measure occupational injuries. A sample item used to measure occupational injuries is “I am well aware of the safety risks involved in my job”.

Safety Culture

Frazier C.B.’s (2011) instrument was used. Sample items include “Safety audits/inspections are conducted regularly in my area”.

Turnover Intention

Alnaqbi. W. (2011)’s scale was used. Sample item includes “I think a lot about leaving organization”.

Table 1

Reliability Analysis

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cronbach Alpha (a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational Injuries</td>
<td>0.872</td>
</tr>
<tr>
<td>Turnover Intentions</td>
<td>0.772</td>
</tr>
<tr>
<td>Safety Culture</td>
<td>0.932</td>
</tr>
</tbody>
</table>

Table 2.

Mean, Standard Deviation and Correlation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Occupational Injuries</td>
<td>4.069</td>
<td>1.155</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Turnover Intentions</td>
<td>3.754</td>
<td>1.151</td>
<td>-510*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3. Safety Culture</td>
<td>3.399</td>
<td>1.463</td>
<td>727**</td>
<td>-588**</td>
<td>1</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
Table 3

Results of Regression Analyses for Outcomes

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Turnover Intentions</th>
<th>β</th>
<th>R²</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational Injuries</td>
<td></td>
<td>.068</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1</td>
<td>Control Variable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>Occupational Injuries</td>
<td>-.499***</td>
<td>.304</td>
<td>.235***</td>
</tr>
<tr>
<td></td>
<td>Safety Culture</td>
<td>-.383***</td>
<td>.394</td>
<td>.090***</td>
</tr>
<tr>
<td></td>
<td>Step 3</td>
<td>Occupational Injuries</td>
<td>x</td>
<td>-.113+</td>
</tr>
<tr>
<td></td>
<td>Safety Culture</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

n=111; control variables are gender, age, qualification and tenure.

+p < .10  *p < .05  **p < .01  ***p < .001

Table 4.

Result of Moderator Regression Analysis for Turnover Intention

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Turnover Intentions</th>
<th>β</th>
<th>R²</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderator Analyses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety Culture</td>
<td>Step 1</td>
<td>Control Variable</td>
<td>.068</td>
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</tr>
<tr>
<td>Step 2</td>
<td>Occupational Injuries</td>
<td>-.499***</td>
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</tr>
</tbody>
</table>

n=111; control variables are gender, age, qualification and tenure.

+p < .10  *p < .05  **p < .01  ***p < .001
Results

Table no.1 shows reliability analysis for all variables. According to Uma Sekaran (2003), the closer the reliability coefficient that is Cronbach’s Alpha is to 1.0, the better is the reliability. The reliability test of our constructs happened to be in the acceptable to good and very good ranges. The results of reliability show that all variables are acceptable.

Table 2 shows correlation analysis. Correlation analysis showed a strong relationship between occupational injuries and turnover intentions (-0.510**, p< 0.01). This shows that occupational injuries in Pakistan are positively related to turnover intentions.

Regression analysis suggests that occupational injuries are one of the significant contributors of turnover intentions. The regression analyses for outcomes shows the R² value is .068. In step two the occupational injuries (β = -.499, R² = .304, “R²=.235, p<.01) is a significant predictor of turnover intentions. Therefore hypothesis H1 and H2 are fully accepted as the tested variable.

Table no 4 shows multiple regression analysis, the impact of occupational injuries on turnover intentions and safety culture as moderator. From the table it can be seen that safety culture did not moderate between occupational injuries and turnover intentions (beta -.113, p< .10).

Discussion

The purpose of this paper is to examine the relationship between occupational injuries and turnover intention among manufacturing labors with safety culture as moderator. Three hypotheses were developed, two of them were accepted and one was rejected. The rejected hypothesis is H3 that states safety culture moderates the relationship between occupational injuries and turnover intention, because the concept of safety culture does not prevail in the third world countries like Pakistan. Moreover employer does not care for the health and well-being of their workers, they are least concerned regarding their health and more concerned about their work done. Labors are more victims of occupational injuries; their work is hazardous and more physically demanding, they do
hazardous work without any safety precautions which causes high rate of fatal injuries and contributes to a number of severe and non-fatal injuries (Katherine Elizabeth, 2012). So, the only solution left for employers is to focus on hiring skillful, experienced and already trained workers. According to Munir et al (2012) who also conducted a study in Pakistani sugar industry suggests that skilled manpower should be hired to minimize the effect of injuries in the industries of Pakistan. Moreover occupational injuries has positive impact on turnover intention among labors when safety concern is neglected in manufacturing industries. Management should focus on the training of unskilled employees or should hire already skillful and experienced labors because the cost of employee turnover due to occupational injuries is more than the cost of training to minimize mishaps, deaths, absenteeism and loss of workforce.

**Conclusion**

This study has a number of implication to manage occupational injuries among labors in Pakistan. According to World Health Organization (WHO) there are almost 250 million cases of injuries per year at workplace. So there is a need for management to create helpful environment and trained their workers properly. This supportive environment encourages employees to discuss their job related problems and acquire both emotional and instrumental support from organization, supervisor and coworkers. For better public health policy there is a need for preventive training and enforcement of safety regulation for all occupational sectors in Pakistan (Shaikh M.A). In Pakistan industries there is also a need to set rules and regulation 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 labors.

**Future Directions**

Future research can be carried out by using attitudinal outcomes like presentism, absenteeism and counter work behavior, voice and neglect. Additionally, other industries can be targeted to investigate research like sugar mills and traffic police who are also victims of occupational injuries.
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Questionnaire

We are students of MS (Management and Social Sciences) in Mohammad Ali Jinnah University Islamabad Campus. A research study is being conducted on “Occupational Injuries and Employees Turnover Intention: a moderating effect of Safety Culture”. For this research purpose we need your precious time to fill it, & provide relevant information that will help us in our research.

MS Scholars     Saba Ahmed     Hamid Waqas

1. Gender: Male   Female
2. Age Group (Years)
    16-21 21-26 27-35 36-45 above 45
3. Qualification
    Middle Matriculation F.A
4. Total years of experience
    1-3 4-6 7-9 10-12
    13 or above

Please circle the score which most closely corresponds with how you see the following items:

The response scale are as below


Occupational Injuries
### Brand Equity and Purchase Intention

1. I always wear protective equipment or clothing required by my job  
   ![1-5](1-5)

2. I am well aware of the safety risks involved in my job  
   ![1-5](1-5)

3. I know where the fire extinguishers are located in my workplace  
   ![1-5](1-5)

4. I do not use equipment that I feel is unsafe  
   ![1-5](1-5)

5. I inform management of any potential hazards I notice on the job  
   ![1-5](1-5)

6. I know what procedures to follow if injured on my shift  
   ![1-5](1-5)

7. I would know what to do if an emergency occurred on my shift (e.g., Fire)  
   ![1-5](1-5)

### Employee’s Turnover Intentions

1. I think a lot about leaving organization  
   ![1-5](1-5)

2. I am actively searching for an alternative to the organization  
   ![1-5](1-5)

3. As soon as it is possible, I will leave the organization  
   ![1-5](1-5)

4. If I had another job offer that paid the same as the one I have, I’d leave here in minutes  
   ![1-5](1-5)

### Safety Culture

1. Senior managers invest sufficient money and resources to ensure safe work environment  
   ![1-5](1-5)

2. Senior managers seem genuinely interested in reducing injuries  
   ![1-5](1-5)

3. My supervisor regularly asks employees about safety concerns and ideas to improve safety  
   ![1-5](1-5)

4. Safety audits/inspections are conducted regularly in my area  
   ![1-5](1-5)

5. Our wellness program is effective at encouraging healthy behaviors  
   ![1-5](1-5)

6. Standard operating procedures have been developed for all critical tasks  

7. Employees are involved in conducting safety audits and inspections  

8. My supervisor often gives me positive feedback when I see me working safely.