

Combined Effect of Occupational Health and Safety Practices on Positive Organizational Commitment: A Moderating Approach

Amen Imran^{*}, Imran Saeed[†], Wisal Ahmed[‡], Maaz Ud Din[§] & Sundus Wasai^{**}

Abstract

Employees are the most important asset of the organization. The organization must provide health and safety training to employee within organization. The study has been conducted to examine the moderating effect of worker involvement in a relation with occupational health and safety practices along with organization commitment through regression model. Total 200 questionnaires were distributed among the male and female staff member of pharmaceutical companies located in the industrial estate Peshawar. The result indicated that occupational health and safety practices have significant positive effect on organization commitment and worker involvement. Similarly worker involvement has also found the significant positive predictor of organization commitment. Moreover, the result show that the worker involvement significantly moderate in the relationship with occupational health and safety practice with organization commitment. Therefore, if there is no safety and health facility within the organization so the work activities of employee were not effectively and efficiently.

Keywords: Occupational health and safety practice, organization commitment, worker involvement.

Introduction

The injuries and accidents in the firm lead to heavy loss of the firm employees for their property and their lives every year (Zhou and Jiang, 2015). The injuries and work related accidents are the major issue for the hospital staff, provided the risky nature of hospital environment (Nixon et al., 2015). The hospital staff meets the daily risks which are: chemical risk, biological and physical risks at workplace. The physical issues might include the cuts, fall or sometimes the electric shocks. While on

^{*} Dr. Amen Imran, Lecturer, IMS, The University of Peshawar

[†] Dr. Imran Saeed, IBMS, The University of Agriculture, Peshawar

[‡] Dr. Wisal Ahmed, Assistant Professor, IMS, KUST

[§] Maaz Ud Din, PhD Scholar, Department of Management Sciences, University of Swabi

^{**} Ms. Sundus Wasai, PhD Scholar, Institute of Management Sciences, Peshawar, E mail: amenwasai@hotmail.com

other hand, the biological risk includes the exposure to the tuberculosis, and bacteria among each other, suturing of blood from workers and drawing (Perry et al., 2003). The risk of chemical companies of nurse's contact with risk agent which is in range from corrosives, toxic and carcinogens (Ford and Wiggins, 2012). As per the statement of American Nurses Association (2011), about 40% of hospital staff registered work-related accidents. In monetary terms, the work related injuries cost about 16 billion \$ wasting in medical treatment, employee turnover due to injuries, compensation and benefits (White, 2010).

The concept of OHS (occupational health and safety) at workplace is significant, not only in maintaining the employee safety and their health, but also significant for the poverty reduction by employment, economic efficiency of country and productivity. The area of occupational health and safety is related with the safety, health and employee welfare. The objective of this concept is to managing the healthy and safe firm environment. The concept of health and safety is related to the significance of the legal, moral and financial perspectives. This concept shows that the firm owners have moral obligation to provide health and safety environment to employee. In this regard, the government implements and formulates different laws to ensure the safety and health practices at workplace. The concept of health and safety practices is capable to go long to decrease the costs linked with the illness, employee turnover and injuries (OSHA, 2007).

It is significant that the workers working in the manufacturing firms should registered themselves with the department of Occupational Health and Safety. The rules governing the safety and health programs, their policies and practices are implemented to protect the employees and their rights against all type of risk emerges from their employment or their affiliation with the firm (Armstrong, 2009). The programs related to the safety practices are implemented with the aim to prevent the workers from accidents to reduce the workplace accidents and also significant in minimizing the damage and loss to the workers and their property with the implementation of occupational health and safety programs deal with the control of ill health which emerges from the working environment which can affect both physical and psychological by multiple diseases i.e. ulcers, job stress, heart problems, cancer, accidents and strains (Armstrong, 2006).

Problem Statement

Because of the high cost associated to accidents and injuries featured above, firm safety practitioners and researchers have recognized the significance of employee health training, which includes the procurement of information and the skills which can be used to enhance worker safe

behavior in the local hospitals (Vredenburg, 2002). Diverse studies have been conducted in this context and proposed different recommendations have been established and maximum involvement of the previous studies have prescribed for the firm safety practices in the pharmaceutical firms (Zohar, 2010; Beus et al, 2016; Christian et al, 2009), by taking the gap from the above stated papers, the current study will be behavioral by evaluating the occupational health safety practices and organizational commitment in the pharmaceutical sector of Peshawar. This study is based on social exchange theory by (Blau, 1964), According to the theory of social change, workers demonstrate their involvement and fulfillment as they believe they benefit from the organization's activities. Accordingly, the investment made for health-based practice based on the theory of social change and the principles of revolution led to employee health and wellbeing, resulting in the attraction and commitment of employees to the organization (Mearns et al., 2010, 2003).

Objectives

- To determine the effect of occupational health safety practices on the organizational commitment in the pharmaceutical firms.
- To find out the moderating role of worker involvement between health safety practices and the organizational commitment in the pharmaceutical firms.

Literature Review

Occupational Health and Safety Practices

According to Kaynak et al., (2016) recent firm injuries encouraged different enterprises to put more emphasize on firm safety and health practices. Pressure on the body, business and the social and social environment plays an important role in this regard. The examination researched firm safety and health (OHS) rehearses in five measurements, i.e. health techniques and rules on risk management, safety and health, emergency treatment support and preparing, firm mishaps precautionary action, and firm health support. A study shape was produced keeping in mind the end goal to explore the impact of OHS rehearses on work distance, organization commitment, and occupation execution as a throughput of such practices.

Kabanoff et al. (1995) characterized the basis of convictions as respects what was critical for people and the whole association. View of hierarchical esteems is imperative since it impacts the way specialists decipher strategies, systems, and practices. As per Griffin and Neal (2000), for example, wellbeing atmosphere recognition was the degree

the laborers trust in the estimation of their security and security in the association. Thought is how much a pioneer indicates concern and regard for adherents, pays special mind to their welfare, and communicates gratefulness and support (Bass, 1990). Chiaburu et al., (2014) characterized that individual thought was found to impart a negative relationship to distance.

Xue et al. (2014) states that the historical phenomenon of disconnection can be followed by echo research as soon as possible. There, disunity is defined as a condition for separation from God. In this way, Hegel classifies this concept from the philosophical perspective. Hagel has shown that this disconnect is a deliberate experience of human-to-human separation. The working distance is when all are said in the psychological state of separation from personal images and social relationships inside and outside the workplace (Banai and Reisel, 2007). The division of work is a feeling of separation from work and at work and reflects the inadequacy of the powerful actors (Armstrong and Stassen, 2006).

Relationship between Occupational Health and Safety Practices and Organizational Commitment

Human Resource practices are made out of employee learning and improvement, employee' involvement and investment, business-life balance practices, and work environment safety and health. As recommended by Yeh (2014), work fulfillment and organization commitment are straightforwardly connected with HR practices. Employee' organization duty is an essential sign of their impact on the execution of the organization. Its essential reason is the way that employee with organization commitment tend to work for expanded eras in a similar association. What's more, such employee are more dynamic in their own activity execution. Organization duty is likewise connected with how employee would achieve objectives of association and corporate personality, and firm reliability (Yeh, 2014).

Employee' organization commitment is a need for contemporary firm. Organization commitment of elite employee particularly on occasion of emergencies and business intrusions prompts upper hand. Firm that bomb in making organization commitment would diminish the hotspots for future rivalry (Neininger et al., 2010). Various examinations have investigated the high-duty management show, elite work frameworks or the firm sense of duty regarding employees (OCE) display in the key human asset management studies. These terms are utilized to delineate an arrangement of human asset practices that upgrade workers' abilities and learning, their dedication, and thusly, their

work profitability, accordingly these transform into a wellspring of upper hand (Roca-Puig et al., 2012).

Safety Culture: An arrangement of qualities, discernments, states of mind, and examples of behavior with respect to safety shared by individuals from the association; and in addition an arrangement of strategies, practices, and methodology identifying with the lessening of workers presentation to firm dangers, executed at each level of the association, and mirroring an abnormal state of concern and commitment regarding the counteractive action of injuries and diseases (Fernandez-Muniz, Montes-Peon, and Vasquez-Ordas, 2007)

H₁: Occupational health safety practices have significant effect on organizational commitment.

Moderating role of Worker Involvement

Different forerunners were exactly tried with an end goal to comprehend security performer crosswise over different work setting. For example, Hayes, Perander, Smecko, and Trask (1998) and Lee and Dalal (2016) investigated how wellbeing atmosphere and culture were imperative in anticipating specialists security execution in the associations. Furthermore, in their model, Griffin and Neal (2000) respected wellbeing information and security inspiration as proximal elements that have a positive association with laborers wellbeing conduct. Wellbeing initiative was additionally found to have a positive association with laborers security conduct (Smith, Eldridge, and DeJoy, 2016). Other investigation utilized individual attributes, for example, identity and age contrasts (e.g., Siu, Phillips and Leung, 2003), level of instruction (Fernández-Muñiz et al., 2009; Gyekye and Salminen, 2009) among others.

H₂: Worker involvement has a significant moderating role on the relationship between occupational health safety practices and organizational commitment.

Social Exchange Theory

This study is supported by Social Exchange Theory (SET) (Blau, 1964). The SET "is a standout amongst the most compelling applied standards for understanding working environment conduct" (Cropanzano and Mitchell, 2005, P. 874). The essential fundamentals of this hypothesis is the correspondence of responsibilities amongst representatives and business after some time (Blau, 1964). At the point when an associations displays an availability to make working environment protected and sound, the worker oblige by taking part in attractive conduct, for example, high consistence with work methodology and lessening unfortunate conduct, for example, dangerous conduct. In this paper, SET is hypothetically connected to clarify the immediate connections between wellbeing preparing, specialists inclusion and human services laborers security conduct (Neal and Griffin, 2006). At the point when healing

center administers to their specialists wellbeing (i.e., the doctor's facilities give laborers preparing and include them in to security choice procedures), the specialists are probably going to create implied commitments to play out their obligations, utilizing conduct valuable to the doctor's facilities. At the point when healing facility administration offers sufficient preparing to the laborers, the HCWs would in like manner completed their obligations effectively and securely, which at that point brings about better wellbeing execution.

Research Methodology

Population of the study

The target population of this study was 10 pharmaceutical companies from the Industrial Estate Peshawar. such as , z-Jan pharmaceutical , Lowitt pharmaceutical , Legacy pharmaceutical , Alliance pharmaceutical ,Al Haram herbel pharma ,Heal pharmaceutical, Aries pharmaceutical, Nenza pharmaceutical, akaposh pharmaceutical, Bryon pharmaceutical. All level of employee were target which including male and female. The total number of employees of the population is 850.

Sample Size/ Sampling Technique

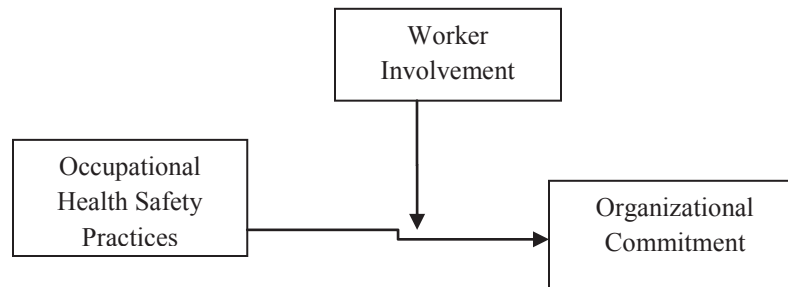
The total number of employees of the population 850 from which 200 employees were selected as a sample randomly from the pharmaceutical companies Industrial Estate Peshawar.

Data collection

The data were collected from the ten pharmaceutical companies. The primary data was collected from 200 employees through close ended structure questionnaire. The first portion of questionnaire included demographic variable such as, Age, Gender, monthly income while the other portion of questionnaire contain material for the determining the variable which based on 5 Likert Scale.

Variables and Measurement

Occupational Health Safety Practices was measured with 10 items scale developed by Christopher et al. (2012). Organizational Commitment was measured with ten items scale developed by Barling and Hutchinson (2000). Worker Involvement was measured with five items scale developed by goris et al.,(2003).

Theoretical Framework**Results***Reliability Analysis*

Since the variables studied are qualitative in nature, consider the data for each variable in the reliability test. To test reliability, Cronbach Alpha coefficients are used. Variables with a Cronbach alpha coefficient equal to or greater than 0.70 are considered reliable (Cronbach, 1951)

Table 4.1 Reliability Statistic

The above 4.1 table show the result of reliability analyses .the value of

| Variable | Cronbach alpha | N of items | Reliability |
|-------------------------|----------------|------------|-------------|
| Ohsp | .852 | 10 | Reliable |
| Worker involvement | .747 | 5 | Reliable |
| Organization commitment | .728 | 10 | Reliable |

(chronbach alpha) above 70% which are consider that the collected data are reliable .

Table 4.2: Effect of Occupational Health and Safety Practices on Organizational Commitment

| Coefficients | | | | | |
|--------------|------------|-----------------------------|------------|-----------------------------------|---------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients Beta | T Ratio |
| | | B | Std. Error | | |
| 1 | (Constant) | -.133 | .110 | | 1.207 |
| | OHSP | 1.038 | .033 | .912 | 31.199 |

R: .912, R-square: .831, F-value: 973.4, P-value.000

The table 4.2 shows that the effect of organization health and safety practices on organization commitment through simple regression analysis. The table shows the value of R for the occupational health and safety practices and organization commitment is .912 which means that the organization health and safety practices and organization commitment are 91 related with each other. The organization health and

safety practices have 83 percent effects on the organization commitment and this value has been expressed by the value of R-square or the coefficient of determination. The F value of occupational health and safety practices is 973.4 with the value of $P = 0.000$ which is less than 0.05 that clearly indicates overall model significant.

Table 4.3: Effect of Occupational Health and Safety Practices on Worker Involvement

| Model | | Coefficients | | | T Ratio | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|---------|------|
| | | Unstandardized Coefficients | | Standardized Coefficients | | |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -6.891 | 1.152 | | -5.979 | .000 |
| | OHSP | 5.585 | .347 | .753 | 16.086 | .000 |

R: .753, R-square: .567, F-value: 258.7, P-value: .000

The table 4.3 shows that the effect of occupational health and safety practices on organization commitment with the moderating role of worker involvement through simple regression analysis. The table shows the value of R for the occupational health and safety practices on organization commitment with the worker involvement is .753 which means that the organization health and safety practices and organization commitment are 75 related with each other when the worker involvement is added. The organization health and safety practices have 56 percent effects on the organization commitment with the worker involvement and this value has been expressed by the value of R-square or the coefficient of determination.

The F value of occupational health and safety practices is 258.7 with value of $P = 0.000$ which is less than 0.05 that clearly indicates overall model significant.

Table 4.4 Effect of Work Involvement on Organization Commitment

| Model | | Coefficients | | | T Ratio | Sig. |
|-------|-------------|-----------------------------|------------|---------------------------|---------|------|
| | | Unstandardized Coefficients | | Standardized Coefficients | | |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.044 | .094 | | 21.866 | .000 |
| | Interaction | .107 | .008 | .700 | 13.798 | .000 |

R: .700, R-square: .490, F-value: 190.3, P-value: .000

The table 4.4 shows that the effect of organization commitment on interaction (occupational health and safety practices + worker involvement) through simple regression analysis. The table shows the value of R for the organization commitment and interaction (organization

safety and health practices + worker involvement) is .70 which means that the organization commitment and interaction (organization safety and health practices + worker involvement) are 70 related with each other when the worker involvement is added. The interaction (occupational health and safety practices + worker involvement) 49 percent effects on the organization commitment and this value have been expressed by the value of R-square or the coefficient of determination. The F value of occupational health and safety practices is 190.3 with value of $P = 0.000$ which is less than 0.05 that clearly indicates overall model significant.

Table 4.5: Effect of Occupation Health and Safety Practices on Organization Commitment with the Moderating role of Worker Involvement

| | | Coefficients ^a | | | T Ratio | Sig. |
|-------|-------------|-----------------------------|------------|--------------------------|---------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficient | | |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.923 | .084 | | 34.661 | .000 |
| | Interaction | .265 | .011 | 1.727 | 23.288 | .000 |
| | WINV | .780 | .050 | 1.156 | 15.585 | .000 |
| | OHSP | .691 | .071 | .435 | 9.81 | .001 |

R-square: .772, F-value: 332.9, P-value: .001

The table 4.5 show that the effect of work involvement and interaction (occupational health and safety practices + worker involvement) on organization commitment through simple regression analysis. The table shows the value of R for the organization commitment and interaction (occupational health and safety practices + worker involvement) and worker involvement is .878 which means that the worker involvement and interaction (occupational health and safety practices + worker involvement) and organization commitment are 87 related with each other. The interaction (organization safety and health practices + worker involvement) and worker involvement is 77 percent effects on the organization commitment and this value has been expressed by the value of R-square or the coefficient of determination. The F value of occupational health and safety practices is 332.9 with value of $P = 0.000$ which is less than 0.05 that's clearly indicates overall model significant

Conclusion

Occupational health and safety (OHS) at the workplace is important, not only for maintaining workers health and wellbeing, but as enabler for poverty reduction through employment, productivity, and economic efficiency of a country. Occupational health and safety is an area that mainly deals with the health, safety and welfare of employees. Its main objective is to foster a safe and healthy working environment. Occupational health and safety is argued to be important from moral, legal and financial perspectives. The safety programs deals with the prevention of accidents and with minimizing the resulting loss and damage to persons and property while the occupational health programs deal with the prevention of ill-health arising from working condition's employees health both physical and mental could be affected by diseases such as cancer, heart problems, ulcers, job stress, and strain as well as accidents (Armstrong, 2006).

Parker et al. (2001) emphasized the importance of organizational engagement in improving safety. In conclusion, the organization's interest is due to workplace health and safety. Workplace health and safety should affect the organization's involvement. Risk management is increasingly used in organizations and the public sector to increase security and reliability.

Limitations

The study was conducted in the pharmaceutical firms, for other effects the study can be conducted in other sectors which has involve the dangers environment and materials etc. The study used the limited sample, to enhance the findings the sample can be increase and also the comparative sample i.e. male and female can also be another direction of study. The data were collected only from Peshawar. And cross sectional data were used rather than longitudes data.

References

- Armstrong-Stassen, M. (2006). Determinants of how managers cope with organizational downsizing. *Applied Psychology*, 55(1), 1-26.
- Babin, B. J., & Boles, J. S. (1998). Employee behavior in a service environment: A model and test of potential differences between men and women. *The Journal of Marketing*, 77-91.
- Barling, J., & Hutchinson, I. (2000). Commitment versus control-oriented safety practices, safety reputation, and perceived safety climate. *Canadian Journal of Administrative Sciences*, 17, 76-84.
- Blau, P. M. (1964). *Exchange and power in social life*. Transaction Publishers.

- Camerino, D., Conway, P. M., Van der Heijden, B. I. J. M., Van der Schoot, E., Pokorski, J., Estryn-Behar, M., & Hasselhorn, H. M. (2005). The role of job alienation in work ability deterioration and unhealthy ageing. *International Congress Series*, 1280, 61-66.
- Camuffo, A., De Stefano, F., & Paolino, C. (2015). Safety Reloaded: Lean Operations and High Involvement Work Practices for Sustainable Workplaces. *Journal of Business Ethics*, 1-15.
- Christopher, C. O., Paul, O. O., & Badejo, A. E. (2012). Promoting ethical human resource management practices in work organizations in Nigeria: Roles of HR professionals. *International Journal of Human Resource Studies*, 2(2), 116-132
- Christian, M. S., Bradley, J. C., Wallace, J. C., & Burke, M. J. (2009). Workplace safety: a metaanalysis of the roles of person and situation factors. *Journal of Applied Psychology*, 94(5), 1103-1127.
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of management*, 31(6), 874-900.
- DeJoy, D. M., Della, L. J., Vandenberg, R. J., & Wilson, M. G. (2010). Making work safer: Testing a model of social exchange and safety management, *Journal of Safety Research*, 41, 163-171. <http://dx.doi.org/10.1016/j.jsr.2010.02.001>.
- Fernández-Muñiz, B., Montes-Peón, J. M., & Vázquez-Ordás, C. J. (2007). Safety culture: Analysis of the causal relationships between its key dimensions. *Journal of safety research*, 38(6), 627-641.
- Ford, M. T., & Wiggins, B. K. (2012). Occupational-level interactions between physical hazards and cognitive ability and skill requirements in predicting injury incidence rates. *Journal of Exposure Prevention*, 6, 32-36
- Griffin, M. A., & Neal, A. (2000). Perceptions of safety at work: a framework for linking safety climate to safety performance, knowledge, and motivation. *Journal of occupational health psychology*, 5(3), 347-358.
- Gyekye, S. A., & Salminen, S. (2009). Educational status and organizational safety climate:
Does educational attainment influence workers' perceptions of workplace safety? *Safety science*, 47(1), 20-28.
- Gyekye, S. A., Salminen, S., & Ojajarvi, A. (2012). A theoretical model to ascertain determinates of occupational accidents among Ghanaian industrial workers. *International Journal of Industrial Ergonomics*, 42, 233-240. <http://dx.doi.org/10.1016/j.ergon.2012.01.006>
- Hayes, B. E., Perander, J., Smecko, T., & Trask, J. (1998). Measuring perceptions of workplace safety: Development and validation of the work safety scale. *Journal of Safety research*, 29(3), 145-161.
- Kabanoff, B., Waldersee, R., & Cohen, M. (1995). Espoused Values and Organizational Change Themes. *The Academy of Management Journal*, 38(4), 1075-1104. <http://dx.doi.org/10.2307/256621>.

- Keffane, S. (2014). Communication's Role in Safety Management and Performance for the Road Safety Practices. *International Journal of Transportation Science and Technology*, 3(1), 79-94.
- Keffane, S., & Delhomme, P. (2013). *Assessing the Mediating Role of Communication in Safety Management and Performance for Road Safety Practices: French Organizations Model*. Proceedings Book, 26.
- Lee, S., & Dalal, R. S. (2016). Climate as situational strength: Safety climate strength as a cross level moderator of the relationship between conscientiousness and safety behaviour. *European Journal of Work and Organizational Psychology*, 25(1), 120-132.
- Mearns, K., Hope, L., Ford, M. T., & Tetrick, L. E. (2010). Investment in workforce health: Exploring the implications for workforce safety climate and commitment. *Accident Analysis & Prevention*, 42(5), 1445-1454.
- Mearns, K., Whitaker, S. M., & Flin, R. (2003). Safety climate, safety management practice and safety performance in offshore environments. *Safety science*, 41(8), 641-680.
- Meyer, J. P., & Allen, N. J. (1991). A three component conceptualization of organizational commitment. *Human Resource Management Review*, 1(1), 61-89. [http://dx.doi.org/10.1016/1053-4822\(91\)90011-Z](http://dx.doi.org/10.1016/1053-4822(91)90011-Z).
- Neal, A., & Griffin, M. A. (2004). Safety climate and safety at work. Predictors of work safety. *Work & Stress*, 13(1), 49-58.
- Neal, A., & Griffin, M. A. (2006). A study of the lagged relationships among safety climate, safety motivation, safety behavior, and accidents at the individual and group levels. *Journal of applied psychology*, 91(4), 946-953.
- Neininger, A., Lehmann-Willenbrock, N., Kauffeld, S., & Henschel, A. (2010). Effects of team and organizational commitment-A longitudinal study. *Journal of Vocational Behavior*, 76, 567-579. <http://dx.doi.org/10.1016/j.jvb.2010.01.009>
- Nixon, A. E., Lanz, J. J., Manapragada, A., Bruk-Lee, V., Schantz, A., & Rodriguez, J. F. (2015). Nurse safety: How is safety climate related to affect and attitude? *Work & Stress*, 29(4), 401-419.
- Parker, S. K., Axtell, C. M., & Turner, N. (2001). Designing a safer workplace: Importance of job autonomy, communication quality, and supportive supervisors. *Journal of Occupational Health Psychology*, 6(3), 211-228. <http://dx.doi.org/10.1037/1076-8998.6.3.211>
- Podsakoff, P. M., Williams, L. J., & Todor, W. D. (1986). Effects of organizational formalization on alienation among professionals and nonprofessionals. *Academy of Management Journal*, 29(4), 820-831.
- Roca-Puig, V., Beltran-Martin, I., & Segarra-Cipres, M. (2012). Commitment to employees, labor intensity, and labor productivity in small firms A non-linear approach. *International Journal of Manpower*, 33(8), 938-954. <http://dx.doi.org/10.1108/01437721211280399>.

- Siu, O. L., Phillips, D. R., & Leung, T. W. (2003). Age differences in safety attitudes and safety performance in Hong Kong construction workers. *Journal of Safety Research*, 34(2), 199-205.
- Vredenburg, A. G. (2002). Organizational safety: which management practices are most effective in reducing employee injury rates? *Journal of safety Research*, 33(2), 259-276.
- Xue, L., Manuel-Navarrete, D., & Buzinde, C. N. (2014). Theorizing the concept of alienation in tourism studies. *Annals of Tourism Research*, 44, 186-199. <http://dx.doi.org/10.1016/j.jlp.2007.11.001>
- Yeh, Y. P. (2014). Exploring the impacts of employee advocacy on job satisfaction and organizational commitment: Case of Taiwanese airlines. *Journal of Air Transport Management*, 36, 94-100. <http://dx.doi.org/10.1016/j.jairtraman.2014.01.002>
- Zhou, F., & Jiang, C. (2015). Leader-member Exchange and Employees' Safety Behavior: The Moderating Effect of Safety Climate. *Procedia Manufacturing*, 3, 5014-5021.
- Zohar, D. (1980). Safety climate in industrial organizations: theoretical and applied implications. *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.