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**THE MODERATING EFFECT OF SOCIAL SUPPORT ON
THE RELATIONSHIP BETWEEN SAFETY CLIMATE AND
SAFETY BEHAVIOUR: A STUDY OF THE JEDDAH
CONSTRUCTION INDUSTRY**



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**THE MODERATING EFFECT OF SOCIAL SUPPORT ON THE
RELATIONSHIP BETWEEN SAFETY CLIMATE AND SAFETY
BEHAVIOUR: A STUDY OF THE JEDDAH CONSTRUCTION INDUSTRY**



**Thesis Submitted to
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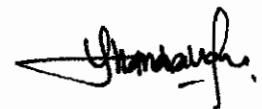
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ABSTRACT

Organizational injuries and accident has become a major issue in many countries especially among foreign workers in the construction sector. Investigating safety behaviour of foreign workers in the construction sectors has therefore become priority. This study aims to examine safety behaviour of foreign workers in the Jeddah construction industry by examining the direct relationships between safety climate (management commitment, priority of safety, safety communication and feedback, safety rule and procedures, safety training, worker's involvement in safety and work pressure) and safety behaviour (safety compliance and safety participation). In addition, social support was tested as moderator on these relationships. Partial Least Square Techniques 2.0 (PLS) approach was used to test the hypotheses. Specifically, management commitment, safety rules and procedures, safety training and worker's involvement in safety significantly predicts safety compliance. With respect to safety participation, the results showed that management commitment, safety communication, safety rules and procedures and worker's involvement significantly predicts safety participation. Results for the moderation effects of social support revealed that the relationship between management commitment and safety compliance, safety training and safety compliance and work pressure and safety compliance were influenced by social support. The results also revealed that social support significantly moderated the relationship between safety communication and safety participation and the relationship between work pressure and safety participation. The finding in this study provides empirical support of social support as moderator and contributes to the role of social exchange theory and can assist construction practitioners in Saudi Arabia on how to improve construction workers safety behaviour. Finally, this study discusses theoretical and practical implications, as well as recommendations for future research.

Keywords: safety climate, safety behaviour, foreign workers, construction industry.

ABSTRAK

Kecederaan dan kemalangan organisasi menjadi isu utama di kebanyakan negara terutamanya dalam kalangan pekerja asing sektor pembinaan. Oleh itu, penyelidikan tentang tingkah laku keselamatan pekerja asing dalam sektor pembinaan menjadi keutamaan. Kajian ini bertujuan untuk menyelidik tingkah laku keselamatan pekerja asing dalam industri pembinaan di Jeddah dengan mengkaji hubungan langsung antara iklim keselamatan (komitmen pengurusan, keutamaan keselamatan, komunikasi keselamatan dan maklum balas, peraturan dan prosedur keselamatan, latihan keselamatan, penglibatan pekerja dalam keselamatan dan tekanan kerja) dengan tingkah laku keselamatan (pematuhan keselamatan dan penyertaan keselamatan). Di samping itu, sokongan sosial diuji sebagai pengantara bagi hubungan ini. Pendekatan Kuasa Dua Terkecil Separa 2.0 (PLS) digunakan untuk menguji hipotesis. Secara khususnya, komitmen pengurusan, peraturan dan prosedur keselamatan, latihan keselamatan dan penglibatan pekerja dalam keselamatan meramalkan pematuhan keselamatan secara signifikan. Dari segi penyertaan keselamatan pula, keputusan menunjukkan komitmen pengurusan, komunikasi keselamatan, peraturan dan prosedur keselamatan serta penglibatan pekerja meramalkan penyertaan keselamatan secara signifikan. Keputusan bagi kesan pengantaraan sokongan sosial menunjukkan bahawa hubungan antara komitmen pengurusan dan pematuhan keselamatan, latihan keselamatan dan pematuhan keselamatan serta tekanan kerja dan pematuhan keselamatan dipengaruhi oleh sokongan sosial. Keputusan juga menunjukkan bahawa sokongan sosial mengantarkan hubungan antara komunikasi keselamatan dengan penyertaan keselamatan dan hubungan antara tekanan kerja dengan penyertaan keselamatan. Dapatan kajian ini memberikan sokongan empirik terhadap sokongan sosial sebagai pengantara dan menyumbang kepada peranan teori pertukaran sosial serta membantu pengamal sektor pembinaan di Arab Saudi tentang cara memperbaiki tingkah laku keselamatan pekerja pembinaan. Akhir sekali, kajian ini turut membincangkan implikasi teori dan praktikal serta cadangan untuk penyelidikan pada masa hadapan.

Kata kunci: Iklim keselamatan, Tingkah laku keselamatan, Pekerja asing, Industri pembinaan.

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LIST OF ABBREVIATIONS

AVE	Average Variance Extracted
CR	Composite Reliability
DOSH	Directorate of Occupational Safety and Health
GDP	Gross Domestic Product
GOSI	General Organization for Social Insurance
ILO	International Labour Organization
JDURC	Jeddah Development and Urban Regeneration Company
MEP	Ministry of Economy and Planning
MLSD	Ministry of Labour and Social Development
NHS	National Health Service
OHB	Occupational Hazards Branch
OHSAS	Occupational Health and Safety Assessment Series
OSH	Occupational Safety and Health
PLS-SEM	Partial Least Squares Structural Equation Modeling
PPE	Personal protective equipment

PTSD	Post-Traumatic Stress Disorder
QWL	Perceived Quality of Work Life
SACM	Arabian Cultural Mission
SET	Social Exchange Theory
SMPs	Safety Management Practices
SMS	Safety Management System
SPSS	Statistical Package for Social Sciences
UK	United Kingdom
US	United States



CHAPTER ONE

INTRODUCTION

1.1 Background of Study

A report presented by the International Labour Organization (ILO, 2012) indicates that approximately 2.3 million people suffer an untimely death annually due to occupational hazards. This means that an average of 6000 people die every day as a result of either a work-related accident or a disease linked to an industrial process or product, which results in a total of 2.3 million work-related deaths worldwide per year (Yun et al., 2013). This figure includes approximately 350,000 deaths that occur following an accident in the workplace and more than 1.7 million diseases that can be directly attributed to work (Bartolo, 2012). The ILO states that a major occupational accident can be classified as an accident that causes injury to three or more people or the death of at least one person at the time it occurs.

Every year, hundreds of thousands of employees are injured at work, while billions of dollars are consumed as a result of medical costs, disability payments, increased insurance premiums and decreased productivity (Mahoney & Marshall, 2010). For example, the financial cost of such safety-related incidents is estimated to be approximately US\$1 billion per week (Occupational Safety & Health Administration, 2015). Such occupational accidents are therefore associated with huge economic and social costs. In addition to those costs, accidents result in an increase in the time taken to complete a project

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REFERENCES

- Abdullah, N. A. C., Spickett, T. J., Rumchev, K. B., & Dhaliwal, S. S. (2009). Assessing employees perception on health and safety management in public hospitals. *International Review of Business Research Papers*, 5(4), 54-72.
- Abualrub, R. F., Omari, F. H., Al Rub, A. B. U., & Fawzi, A. (2009). The moderating effect of social support on the stress-satisfaction relationship among Jordanian hospital nurses. *Journal of Nursing Management*, 17(7), 870-878.
- Abudayyeh, O., Fredericks, T. K., Butt, S. E., & Shaar, A. (2006). An investigation of management's commitment to construction safety. *International Journal of Project Management*, 24(2), 167-174.
- Adhikary, P., Keen, S., & Van Teijlingen, E. (2011). Health issues among Nepalese migrant workers in the Middle East. *Health Science Journal*, 5(3), 169-175.
- Agnew, C., Flin, R., & Mearns, K. (2013). Patient safety climate and worker safety behaviours in acute hospitals in Scotland. *Journal of Safety Research*, 45, 95-101.
- Akyuz, E., & Celik, M. (2014). Utilisation of cognitive map in modelling human error in marine accident analysis and prevention. *Safety Science*, 70, 19-28.
- Alasamri, H., Chrisp, M. T., & Bowles, G. (2012). A framework for enhancing and improving the safety culture on Saudi construction sites. In *Proceedings of the 28th Annual ARCOM Conference, Association of Researchers in Construction Management* (pp. 3-5). Edinburgh, UK: Association of Researchers in Construction Management.
- Albrecht, T. L., & Adelman, M. B. (1987). *Communicating social support*. Newbury Park, CA: Sage Publications, Inc.
- Alexei, V. M. (2002). The advantages of employing quantitative and qualitative methods in intercultural research: Practical implications from the study of the perceptions of intercultural communication competence by American and Russian managers. *Institute of Management, Business and Law*, 1(6), 59-67.
- Al-Haadir, S., & Panuwatwanich, K. (2011). Critical success factors for safety program implementation among construction companies in Saudi Arabia. *Procedia Engineering*, 14, 148-155.
- Al-Haadir, S., Panuwatwanich, K., & Stewart, R. (2013). Developing a model of construction safety in Saudi Arabia. In *Proceedings of the Thirteenth East Asia-Pacific Conference on Structural Engineering and Construction (EASEC-13)* (pp. F-3). Sapporo, Japan.

- Al-Haadir, S., Panuwatwanich, K., & Stewart, R. A. (2010). *Empirical analysis of the impacts of safety motivation and safety climate on safety behaviour*. Retrieved from http://www.irbnet.de/daten/iconda/CIB_DC27418.pdf.
- Ali, H., Abdullah, N. A. C., & Subramaniam, C. (2009). Management practice in safety culture and its influence on workplace injury: An industrial study in Malaysia. *Disaster Prevention and Management*, 18(5), 470-477.
- Alolah, T., Stewart, R. A., Panuwatwanich, K., & Mohamed, S. (2014). Determining the causal relationships among balanced scorecard perspectives on school safety performance: Case of Saudi Arabia. *Accident Analysis & Prevention*, 68, 57-74.
- Ambrosini, M., & Barone, C. (2007). Employment and working conditions of migrant workers. *European Review of Labour and Research*, 14(4), 709-712.
- Amponsah-Tawiah, K., & Appiah, M. A. (2016). Work pressure and safety behaviors among health workers in Ghana: The moderating role of management commitment to safety. *Safety and Health at Work*, 7(4), 340-346.
- Anderson, C. L., & Agarwal, R. (2010). Practicing safe computing: A multimedia empirical examination of home computer user security behavioral intentions. *MIS Quarterly*, 34(3), 613-643.
- Anderson, M. (2005). Behavioural safety and major accident hazards: Magic bullet or shot in the dark? *Process Safety and Environmental Protection*, 83(2), 109-116.
- Arboleda, A., Morrow, P. C., Crum, M. R., & Shelley, M. C. (2003). Management practices as antecedents of safety culture within the trucking industry: Similarities and differences by hierarchical level. *Journal of Safety Research*, 34(2), 189-197.
- Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, 396-402.
- Atkinson, A. R. (1999). The role of human error in construction defects. *Structural Survey*, 17(4), 231-236.
- Awwad, R., El Souki, O., & Jabbour, M. (2016). Construction safety practices and challenges in a Middle Eastern developing country. *Safety Science*, 83, 1-11.
- Babbie, E. (2007). *The practice of social research* (11th ed.). Belmont, CA: Wadsworth.

- Bahari, S. F. (2013). An investigation of safety training and safety outcome in a manufacturing plant. *Jurnal Teknologi (Sciences and Engineering)*, 64(1), 59-65.
- Bailey, C. (1997). Managerial factors related to safety program effectiveness. An update on the Minnesota perception survey. *Professional Safety, Journal of the American Society of Safety Engineers*, 42(8), 33-35.
- Barclay, D., Higgins, C., & Thompson, R. (1995). The partial least squares (PLS) approach to causal modeling: Personal computer adoption and use as an illustration. *Technology Studies*, 2(2), 258-309.
- Barnes, S. J. (2011). Understanding use continuance in virtual worlds: Empirical test of a research model. *Information & Management*, 48(8), 313-319.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Bartolo, R. (2012). The world day for safety and health at work. *Vojnosanitetski Pregled. Military-Medical and Pharmaceutical Review*, 70(4), 343-345.
- Baysari, M. T., McIntosh, A. S., & Wilson, J. R. (2008). Understanding the human factors contribution to railway accidents and incidents in Australia. *Accident Analysis & Prevention*, 40(5), 1750-1757.
- Beaubien, J. M., & Baker, D. P. (2002). A review of selected aviation human factors taxonomies, accident/incident reporting systems and data collection tools. *International Journal of Applied Aviation Studies*, 2(2), 11-36.
- Beeble, M. L., Bybee, D., Sullivan, C. M., & Adams, A. E. (2009). Main, mediating, and moderating effects of social support on the well-being of survivors of intimate partner violence across 2 years. *Journal of Consulting and Clinical Psychology*, 77(4), 718-729.
- Behm, M. (2005). Linking construction fatalities to the design for construction safety concept. *Safety Science*, 43(8), 589-611.
- Bellamy, L. J. (2010). Which management system failures are responsible for occupational accidents? *Safety Science Monitor*, 13(3), 1-20.

- Bendak, S. (2006). Evaluation of school safety in Riyadh. *International Journal of Injury Control and Safety Promotion*, 13(4), 264-266.
- Bentley, T. A., & Haslam, R. A. (2001). A comparison of safety practices used by managers of high and low accident rate postal delivery offices. *Safety Science*, 37(1), 19-37.
- Biggs, S. E., Banks, T. D., Davey, J. D., & Freeman, J. E. (2013). Safety leaders' perceptions of safety culture in a large Australasian construction organisation. *Safety Science*, 52, 3-12.
- Blanch, A., Torrelles, B., Aluja, A., & Salinas, J. A. (2009). Age and lost working days as a result of an occupational accident: A study in a shiftwork rotation system. *Safety Science*, 47(10), 1359-1363.
- Blau, P. M. (1964). *Exchange and power in social life*. New York, NY: Wiley.
- Bluff, L. (2003). *Regulating safe design and planning of construction works: A review of strategies for regulating OHS in the design and planning of buildings, structures and other construction projects*. Retrieved from http://regnet.anu.edu.au/sites/default/files/publications/attachments/2015-05/WorkingPaper_19_0.pdf.
- Bomel Limited. (2001). *Improving health and safety in construction phase 1: Data collection, review and structuring*. Sudbury, UK: HSE Books.
- Borman, W. C., & Motowidlo, S. M. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt & W. C. Borman (Eds.), *Personnel Selection in Organizations* (pp. 71-98). San Francisco, CA: Jossey-Bass.
- Bosak, J., Coetsee, W. J., & Cullinane, S. J. (2013). Safety climate dimensions as predictors for risk behavior. *Accident Analysis & Prevention*, 55, 256-264.
- Bottani, E., Monica, L., & Vignali, G. (2009). Safety management systems: Performance differences between adopters and non-adopters. *Safety Science*, 47(2), 155-162.
- Bowonder, B. (1987). The Bhopal accident. *Technological Forecasting and Social Change*, 32(2), 169-182.
- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1(3), 185-216.

- Britt, T. W., & Bliese, P. D. (2003). Testing the stress-buffering effects of self engagement among soldiers on a military operation. *Journal of Personality*, 71(2), 245-266.
- Broadbent, D. G. (2004). Maximizing safety performance via leadership behaviors. *Invited presentation at the 28th World Congress of Psychology, Beijing, China*. Retrieved from http://www.transformationalsafety.com/documents/Maximising_Safety_Performance_via_Leadership.pdf
- Bronkhorst, B. (2015). Behaving safely under pressure: The effects of job demands, resources, and safety climate on employee physical and psychosocial safety behavior. *Journal of Safety Research*, 55, 63-72.
- Burns, N., & Grove, S. K. (2005). *The practice of nursing research: Conduct, critique, and utilization* (5th ed.). Philadelphia, PA: Elsevier Saunders.
- Bust, P. D., Gibb, A. G., & Pink, S. (2008). Managing construction health and safety: Migrant workers and communicating safety messages. *Safety Science*, 46(4), 585-602.
- Buunk, B. P., & Peeters, M. C. (1994). Stress at work, social support and companionship: Towards an event-contingent recording approach. *Work & Stress*, 8(2), 177-190.
- Carder, B., & Ragan, P. W. (2003). A survey-based system for safety measurement and improvement. *Journal of Safety Research*, 34(2), 157-165.
- Carlson, D., & Eggerding, P. (2000). *Surface Mine Instructor Reference and Trainee Review Manual for Safety and Health Training Program*. Houghton, MI: Michigan Technological University. Retrieved from <http://www.minesafety.mtu.edu/msm51hs.pdf>.
- Casey, T. W., & Krauss, A. D. (2013). The role of effective error management practices in increasing miners' safety performance. *Safety Science*, 60, 131-141.
- Chan, D. W., Chan, A. P., & Choi, T. N. (2010). An empirical survey of the benefits of implementing pay for safety scheme (PFSS) in the Hong Kong construction industry. *Journal of Safety Research*, 41(5), 433-443.
- Chatterjee, S., & Yilmaz, M. (1992). A Review of regression diagnostics for behavioral research. *Applied Psychological Measurement*, 16, 209-227.

- Chen, C. F., & Chen, S. C. (2014). Measuring the effects of safety management system practices, morality leadership and self-efficacy on pilots' safety behaviors: Safety motivation as a mediator. *Safety Science*, 62, 376-385.
- Chen, Q., & Jin, R. (2011). An effective approach to enhancing jobsite safety management and performance: Case study. In *Proceeding of the ASC 47th Annual International Conference*. Omaha, NE: Associated Schools of Construction.
- Chen, S., & Choi, C. J. (2005). A social exchange perspective on business ethics: An application to knowledge exchange. *Journal of Business Ethics*, 62(1), 1-11.
- Chen, Y., McCabe, B., & Hyatt, D. (2017). Impact of individual resilience and safety climate on safety performance and psychological stress of construction workers: A case study of the Ontario construction industry. *Journal of Safety Research*, 61, 167-176.
- Cheng, C. W., & Wu, T. C. (2013). An investigation and analysis of major accidents involving foreign workers in Taiwan's manufacture and construction industries. *Safety Science*, 57, 223-235.
- Cheng, C.-W., Leu, S.-S., Cheng, Y.-M., Wu, T.-C., & Lin, C.-C. (2012a). Applying data mining techniques to explore factors contributing to occupational injuries in Taiwan's construction industry. *Accident Analysis & Prevention*, 48, 214-222.
- Cheng, E. W., Ryan, N., & Kelly, S. (2012b). Exploring the perceived influence of safety management practices on project performance in the construction industry. *Safety Science*, 50(2), 363-369.
- Cheyne, A., Cox, S., Oliver, A., & Tomás, J. M. (1998). Modelling safety climate in the prediction of levels of safety activity. *Work & Stress*, 12(3), 255-271.
- Cheyne, A., Oliver, A., Tomás, J. M., & Cox, S. (2002). The architecture of employee attitudes to safety in the manufacturing sector. *Personnel Review*, 31(6), 649-670.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern Methods for Business Research*, 295(2), 295-336.
- Choudhry, M. R., Fang, D., Lew, J. J., & Jenkins, L. J. (2007). Assessing safety climate in construction: a case study in Hong Kong. In *Proceedings of ASC 43rd Annual International Conference, Northern Arizona University, Flagstaff, AZ, 11-14 April*. Omaha, NE: Associated Schools of Construction.

- Choudhry, R. M. (2014). Behavior-based safety on construction sites: A case study. *Accident Analysis & Prevention*, 70, 14-23.
- Choudhry, R. M., & Fang, D. (2008). Why operatives engage in unsafe work behavior: Investigating factors on construction sites. *Safety Science*, 46(4), 566-584.
- Christian, M. S., Bradley, J. C., Wallace, J. C., & Burke, M. J. (2009). Workplace safety: A meta-analysis of the roles of person and situation factors. *Journal of Applied Psychology*, 94(5), 1103-1127.
- Cigularov, K. P., Chen, P. Y., & Rosecrance, J. (2010). The effects of error management climate and safety communication on safety: A multi-level study. *Accident Analysis & Prevention*, 42(5), 1498-1506.
- Cigularov, K. P., Lancaster, P. G., Chen, P. Y., Gittleman, J., & Haile, E. (2013). Measurement equivalence of a safety climate measure among Hispanic and White non-Hispanic construction workers. *Safety Science*, 54, 58-68.
- Clarke, R. D. (1982). Worker participation in health and safety in Canada. *International Labour Review*, 121(2), 199-205.
- Clarke, S. (2013). Safety leadership: A meta-analytic review of transformational and transactional leadership styles as antecedents of safety behaviours. *Journal of Occupational and Organizational Psychology*, 86(1), 22-49.
- Cohen, A. (1977). Factors in successful occupational safety programs. *Journal of Safety Research*, 9(4), 168-178.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Conchie, S. M., & Donald, I. J. (2009). The moderating role of safety-specific trust on the relation between safety-specific leadership and safety citizenship behaviors. *Journal of Occupational Health Psychology*, 14(2), 137-147.
- Conchie, S. M., Taylor, P. J., & Charlton, A. (2011). Trust and distrust in safety leadership: Mirror reflections? *Safety Science*, 49(8), 1208-1214.
- Cooper, C. R., & Schindler, P. S. (2008). *Business research methods* (10th ed.). Boston, MA: McGraw-Hill.

- Cooper, D. (2006). The impact of management's commitment on employee behavior: A field study. In *Proceedings of the 7th Professional Development Conference & Exhibition, Kingdom of Bahrain* (pp. 40-47). Retrieved from http://www.behavioralsafety.com/articles/Impact_of_Management_Commitment.pdf.
- Cooper, M. D. (2000). Towards a model of safety culture. *Safety Science*, 36(2), 111-136.
- Cooper, M. D., & Phillips, R. A. (2004). Exploratory analysis of the safety climate and safety behavior relationship. *Journal of Safety Research*, 35(5), 497-512.
- Cooper, M. D., Phillips, R. A., Sutherland, V. J., & Makin, P. J. (1994). Reducing accidents using goal setting and feedback: A field study. *Journal of Occupational and Organizational Psychology*, 67(3), 219-240.
- Cox, S. J., & Cheyne, A. J. T. (2000). Assessing safety culture in offshore environments. *Safety Science*, 34(1), 111-129.
- Cox, S., & Cox, T. (1991). The structure of employee attitudes to safety: A European example. *Work & Stress*, 5(2), 93-106.
- Cox, S., Jones, B., & Rycraft, H. (2004). Behavioural approaches to safety management within UK reactor plants. *Safety Science*, 42(9), 825-839.
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson.
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, 31(6), 874-900.
- Cui, L., Fan, D., Fu, G., & Zhu, C. J. (2013). An integrative model of organizational safety behavior. *Journal of Safety Research*, 45, 37-46.
- Curran, P. J., West, S. G., & Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods*, 1(1), 16.
- Dahl, Ø. (2013). Safety compliance in a highly regulated environment: A case study of workers' knowledge of rules and procedures within the petroleum industry. *Safety Science*, 60, 185-195.

- Davis, M. E. (2011). Occupational safety and regulatory compliance in US commercial fishing. *Archives of Environmental & Occupational Health*, 66(4), 209-216.
- Dawson, J. F. (2014). Moderation in management research: What, why, when, and how. *Journal of Business and Psychology*, 29(1), 1-19.
- Debrah, Y. A., & Ofori, G. (2001). Subcontracting, foreign workers and job safety in the Singapore construction industry. *Asia Pacific Business Review*, 8(1), 145-166.
- Deckop, J. R., Cirka, C. C., & Andersson, L. M. (2003). Doing unto others: The reciprocity of helping behaviour in organisations. *Journal of Business Ethics*, 47(2), 101-113.
- Dedobbeleer, N., & Béland, F. (1991). A safety climate measure for construction sites. *Journal of Safety Research*, 22(2), 97-103.
- Deelstra, J. T., Peeters, M. C., Schaufeli, W. B., Stroebe, W., Zijlstra, F. R., & van Doornen, L. P. (2003). Receiving instrumental support at work: When help is not welcome. *Journal of Applied Psychology*, 88(2), 324-331.
- 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(2), 163-171.
- Demirkesen, S., & Ardit, D. (2015). Construction safety personnel's perceptions of safety training practices. *International Journal of Project Management*, 33(5), 1160-1169.
- DePasquale, J. P., & Geller, E. S. (1999). Critical success factors for behavior-based safety: A study of twenty industry-wide applications. *Journal of Safety Research*, 30(4), 237-249.
- Dong, X. S., Wang, X., & Daw, C. (2012). Fatal falls among older construction workers. *Human Factors: The Journal of the Human Factors and Ergonomics Society*, 54(3), 303-315.
- Enshassi, A., Choudhry, R. M., Mayer, P. E., & Shoman, Y. (2008). Safety performance of subcontractors in the Palestinian construction industry. *Journal of Construction in Developing Countries*, 13(1), 51-62.

- Eshraghi, H., & Salehi, L. (2010). The effect of organizational communications system on interpersonal conflict in physical education offices of Isfahan Province, Iran. *World Academy of Science, Engineering and Technology*, 66, 683-688.
- Fahlbruch, B. (2010). Integrating human factors in safety and reliability approaches. In *Proceedings of the 4th European-American Workshop on Reliability of NDE* (pp. 24-26). Berlin, Germany: NDB.
- Fairhurst, G. T. (1993). The leader-member exchange patterns of women leaders in industry: A discourse analysis. *Communications Monographs*, 60(4), 321-351.
- Farooqui, R. U., Arif, F., & Rafeeqi, S. F. A. (2008, August). Safety performance in construction industry of Pakistan. In *Proceedings of the First International Conference on Construction in Developing Countries* (Vol. 1, pp. 74-87). Karachi, Pakistan: ICCDIC-I.
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175-191.
- Feng, X., Bobay, K., Krejci, J. W., & McCormick, B. L. (2012). Factors associated with nurses' perceptions of patient safety culture in China: A cross-sectional survey study. *Journal of Evidence-Based Medicine*, 5(2), 50-56.
- Feng, Y., Zhang, S., & Wu, P. (2015). Factors influencing workplace accident costs of building projects. *Safety Science*, 72, 97-104.
- Fernández-Muñiz, B., Montes-Peón, J. M., & Vázquez-Ordás, C. J. (2012). Safety climate in OHSAS 18001-certified organisations: Antecedents and consequences of safety behaviour. *Accident Analysis & Prevention*, 45, 745-758.
- Fey, C. F. (2005). Opening the black box of motivation: A cross-cultural comparison of Sweden and Russia. *International Business Review*, 14(3), 345-367.
- Fink, A. (2002). *How to sample in surveys* (2nd ed.). London, UK: Sage Publications, Inc.
- Fleming, M., & Lardner, R. (1999). Safety culture: The way forward. *Chemical Engineer*, 676, 16-18.

- Fleming, M., & Lardner, R. (2002). *Strategies to promote safe behaviour as part of a health and safety management system*. Sudbury, UK: HSE Books.
- Flin, R., Mearns, K., O'Connor, P., & Bryden, R. (2000). Measuring safety climate: Identifying the common features. *Safety Science*, 34(1), 177-192.
- Fornell, C., & Cha, J. (1994). Partial least squares. *Advanced Methods of Marketing Research*, 407(3), 52-78.
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 382-388.
- Frese, M. (1999). Social support as a moderator of the relationship between work stressors and psychological dysfunctioning: A longitudinal study with objective measures. *Journal of Occupational Health Psychology*, 4(3), 179-192.
- Fujiwara, K., Tsukishima, E., Tsutsumi, A., Kawakami, N., & Ishi, R. (2003). Interpersonal conflict, social support, and burnout among home care workers in Japan. *Journal of Occupational Health*, 45(5), 313-320.
- Garratt, B. (1999). The learning organisation 15 years on: Some personal reflections. *The Learning Organization*, 6(5), 202-207.
- Garrett, J. W., & Teizer, J. (2009). Human factors analysis classification system relating to human error awareness taxonomy in construction safety. *Journal of Construction Engineering and Management*, 135(8), 754-763.
- Gay, L. R. & Diehl, P. L. (1992). *Research Methods for Business and Management*. New York, NY: Macmillan.
- Geldart, S., Shannon, H. S., & Lohfeld, L. (2005). Have companies improved their health and safety approaches over the last decade? A longitudinal study. *American Journal of Industrial Medicine*, 47(3), 227-236.
- Geldart, S., Smith, C. A., Shannon, H. S., & Lohfeld, L. (2010). Organizational practices and workplace health and safety: A cross-sectional study in manufacturing companies. *Safety Science*, 48(5), 562-569.
- General Organization for Social Insurance (GOSI). (2012). *Workplace injury statistics*. Retrieved from <http://www.gosi.gov.sa/portal/web/guest/opendata>.

- Ghasemi, F., Kalatpour, O., Moghimbeigi, A., & Mohhamadfam, I. (2017). A path analysis model for explaining unsafe behavior in workplaces: The effect of perceived work pressure. *International Journal of Occupational Safety and Ergonomics*, 1-8.
- Glaser, D. N., Tatum, B. C., Nebeker, D. M., Sorenson, R. C., & Aiello, J. R. (1999). Workload and social support: Effects on performance and stress. *Human Performance*, 12(2), 155-176.
- Glendon, A. I., & Litherland, D. K. (2001). Safety climate factors, group differences and safety behaviour in road construction. *Safety Science*, 39(3), 157-188.
- Glendon, A. I., & Stanton, N. A. (2000). Perspectives on safety culture. *Safety Science*, 34(1), 193-214.
- Goetsch, D. L. (2002). *Occupational safety and health for technologists, engineers and managers* (4th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Gordon, R., Flin, R., & Mearns, K. (2005). Designing and evaluating a human factors investigation tool (HFIT) for accident analysis. *Safety Science*, 43(3), 147-171.
- Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review*, 25(2), 161-178.
- 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.
- Griffiths, D. K. (1985). Safety attitudes of management. *Ergonomics*, 28(1), 61-67.
- Grimm, P. (2010). *Social desirability bias*. New York, NY: Wiley International Encyclopedia of Marketing.
- Guo, B. H., Yiu, T. W., & González, V. A. (2016). Predicting safety behavior in the construction industry: Development and test of an integrative model. *Safety Science*, 84, 1-11.
- 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.

Hadjimanolis, A., & Boustras, G. (2013). Health and safety policies and work attitudes in Cypriot companies. *Safety Science*, 52, 50-56.

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks, CA: Sage Publications.

Häkkinen, K. (1995). A learning-by-doing strategy to improve top management involvement in safety. *Safety Science*, 20(2), 299-304.

Hale, A., & Borys, D. (2013). Working to rule, or working safely? Part 1: A state of the art review. *Safety Science*, 55, 207-221.

Hallowell, M. R., & Gambatese, J. A. (2008, March). Quantification and communication of construction safety risk. In *Proceedings of the 2008 Working Commission on Safety and Health on Construction Sites Annual Conference, sponsored by the International Council for Research and Innovation in Building and Construction* (pp. 9-11). Gainesville, FL.

Han, S., Saba, F., Lee, S., Mohamed, Y., & Peña-Mora, F. (2014). Toward an understanding of the impact of production pressure on safety performance in construction operations. *Accident Analysis & Prevention*, 68, 106-116.

Hansev, I., & Chmiel, N. (2010). Safety behavior: Job demands, job resources, and perceived management commitment to safety. *Journal of Occupational Health Psychology*, 15(3), 267-278.

Hardison, D., Behm, M., Hallowell, M. R., & Fonooni, H. (2014). Identifying construction supervisor competencies for effective site safety. *Safety Science*, 65, 45-53.

Harper, A. C., Cordery, J. L., & De Klerk, N. H. (1997). Curtin industrial safety trial: Managerial behavior and program effectiveness. *Occupational Health and Industrial Medicine*, 2(37), 54-55.

Hassan, M. K., Hussain, A., Ali, H., Noor, F., Kamran, M. S., & Hassan, W. (2015). Organizational safety climate: A case study of comparing two OHSAS certified food processing plants. *Technical Journal, University of Engineering and Technology (UET) Taxila, Pakistan*, 20(2), 19-26.

Håvold, J. I., & Nesset, E. (2009). From safety culture to safety orientation: Validation and simplification of a safety orientation scale using a sample of seafarers working for Norwegian ship owners. *Safety Science*, 47(3), 305-326.

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In R. R. Sinkovics & P. N. Ghauri (Eds.), *New challenges to international marketing* (pp. 277-319). Bingley, UK: Emerald Group Publishing Limited.

Herbert, A. (2012). *National profile report on occupational safety and health in China*. Retrieved from http://www.ilo.org/safework/areasofwork/national-occupational-safety-and-health-systems-and-programmes/WCMS_186991/lang--en/index.htm.

Hinze, J. W. (1997). *Construction safety*. Upper Saddle River, NJ: Prentice-Hall.

Hobfoll, S. E., & Stokes, J. P. (1988). The process and mechanics of social support. In S. Duck (Ed.), *Handbook of personal relationships: Theory, research and interventions* (pp. 497-517). Oxford, England: John Wiley & Sons.

Hoffmeister, K., Gibbons, A. M., Johnson, S. K., Cigularov, K. P., Chen, P. Y., & Rosecrance, J. C. (2014). The differential effects of transformational leadership facets on employee safety. *Safety Science*, 62, 68-78.

Hofmann, D. A., & Morgeson, F.P. (1999). Safety-related behaviour as a social exchange: The role of perceived organizational support and leader-member exchange. *Journal of Applied Psychology*, 84(2), 286-296.

Hofmann, D. A., Morgeson, F. P., & Gerras, S. J. (2003). Climate as a moderator of the relationship between leader-member exchange and content specific citizenship: Safety climate as an exemplar. *Journal of Applied Psychology*, 88(1), 170-178.

Hofmann, D. A., & Stetzer, A. (1996). A cross-level investigation of factors influencing unsafe behaviors and accidents. *Personnel Psychology*, 49(2), 307-339.

Hogan, J., & Foster, J. (2013). Multifaceted personality predictors of workplace safety performance: More than conscientiousness. *Human Performance*, 26(1), 20-43.

Hon, C. K., Chan, A. P., & Yam, M. C. (2014). Relationships between safety climate and safety performance of building repair, maintenance, minor alteration, and addition (RMAA) works. *Safety Science*, 65, 10-19.

- Hong, S. J. (2015). Perception of safety attitude and priority and progress of safe practices of nurses in emergency room. *Advanced Science and Technology Letters*, 104, 156-163.
- Hoseinpourfard, M., Ghanei, M., Tofighi, S., Ayoubian, A., & Izadi, M. (2016). The emergence of Hajj stampedes: Lessons for draw near in the Islamic values in Hajj trauma centers accreditation. *Trauma Monthly*, 22(4), e39455.
- Hsu, S. H., Lee, C. C., Wu, M. C., & Takano, K. (2010). The influence of organizational factors on safety in Taiwanese high-risk industries. *Journal of Loss Prevention in the Process Industries*, 23(5), 646-653.
- Hu, X., Griffin, M. A., & Bertuleit, M. (2016). Modelling antecedents of safety compliance: Incorporating theory from the technological acceptance model. *Safety Science*, 87, 292-298.
- Huang, Y. H., Verma, S. K., Chang, W. R., Courtney, T. K., Lombardi, D. A., Brennan, M. J., & Perry, M. J. (2012). Management commitment to safety vs. employee perceived safety training and association with future injury. *Accident Analysis & Prevention*, 47, 94-101.
- Huck, S. W., Cormier, W. H., & Bounds, W. G. (1974). *Reading statistics and research*. New York, NY: Harper & Row Publishers.
- Inness, M., Turner, N., Barling, J., & Stride, C. B. (2010). Transformational leadership and employee safety performance: A within-person, between-jobs design. *Journal of Occupational Health Psychology*, 15(3), 279-290.
- International Labour Organization (ILO). (2012). *World of work report*. Geneva, Switzerland: International Labour Office.
- Irumba, R. (2014). Spatial analysis of construction accidents in Kampala, Uganda. *Safety Science*, 64, 109-120.
- Ismail, U. F. F., & Nyarko, M. A. K. (2014). Safety climate as a predictor of quality of worklife: An empirical study among miners in Ghana. *European Journal of Business and Management*, 6(18), 107-117.
- Ismail, U. F., Asumeng, M., & Nyarko, K. (2015). The impact of safety climate on safety performance in a gold mining company in Ghana. *International Journal of Management Excellence*, 5(1), 556-566.

Jamal, M. (2013). Job stress among hospital employees in Middle East: Social support and type A behavior as moderators. *Middle East Journal of Business*, 8(7), 7-16.

Jannadi, M. O., & Al-Sudairi, A. (1995). Safety management in the construction industry in Saudi Arabia: Survey shows that level of company practice influences safety performance. *Building Research and Information*, 23(1), 60-63.

Jiang, L., Yu, G., Li, Y., & Li, F. (2010). Perceived colleagues' safety knowledge/behavior and safety performance: Safety climate as a moderator in a multilevel study. *Accident Analysis & Prevention*, 42(5), 1468-1476.

Johanson, G. A., & Brooks, G. P. (2010). Initial scale development: Sample size for pilot studies. *Educational and Psychological Measurement*, 70(3), 394-400.

Johnstone, R., Quinlan, M., & Walters, D. (2005). Statutory occupational health and safety workplace arrangements for the modern labour market. *The Journal of Industrial Relations*, 47(1), 93-116.

Kahn, R. L., & Antonucci, T. C. (1981). Convoys of social support: A life-course approach. *Aging: Social Change*, 383-405.

Kao, L. H., Stewart, M., & Lee, K. H. (2009). Using structural equation modeling to predict cabin safety outcomes among Taiwanese airlines. *Transportation Research Part E: Logistics and Transportation Review*, 45(2), 357-365.

Kartam, N. A., Flood, I., & Koushki, P. (2000). Construction safety in Kuwait: Issues, procedures, problems, and recommendations. *Safety Science*, 36(3), 163-184.

Kath, L. M., Marks, K. M., & Ranney, J. (2010). Safety climate dimensions, leader-member exchange, and organizational support as predictors of upward safety communication in a sample of rail industry workers. *Safety Science*, 48(5), 643-650.

Katz-Navon, T. A. L., Naveh, E., & Stern, Z. (2005). Safety climate in health care organizations: A multidimensional approach. *Academy of Management Journal*, 48(6), 1075-1089.

Katz-Navon, T., Naveh, E., & Stern, Z. (2007). Safety self-efficacy and safety performance: Potential antecedents and the moderation effect of

- standardization. *International Journal of Health Care Quality Assurance*, 20(7), 572-584.
- Kaufmann, G. M., & Beehr, T. A. (1986). Interactions between job stressors and social support: Some counterintuitive results. *Journal of Applied Psychology*, 71(3), 522-526.
- Kim, K., & Park, Y. (2001). The effects of the organizational and personal characteristics on occupational safety. *Journal of Safety Research*, 32, 127-143.
- Kines, P., Andersen, L. P. S., Spangenberg, S., Mikkelsen, K. L., Dyreborg, J., Zohar, D. (2010). Improving construction site safety through leader-based safety communication. *Journal of Safety Research*, 41, 399-406.
- Kirwan, B. (1998). Safety management assessment and task analysis – A missing link? In A. R. Hale & M. Baram (Eds.), *Safety management: The challenge of change* (pp. 67-92). Oxford, UK: Elsevier.
- Kisamore, J. L., Liguori, E. W., Muldoon, J., Jawahar, I. M., & Cheung, M. F. Y. (2013). The moderating effect of perceived job characteristics on the proactive personality-organizational citizenship behavior relationship. *Leadership & Organization Development Journal*, 34(8), 724-740.
- Kletz, T. (1993). *Lessons from disaster—How organizations have no memory and accidents recur*. Rugby, UK: Institution of Chemical Engineers.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (5th ed.). New York, NY: The Guilford Press.
- Kolk, A., van Dolen, W., & Vock, M. (2010). Trickle effects of cross-sector social partnerships. *Journal of Business Ethics*, 94(1), 123-137.
- Kossek, E. E., Pichler, S., Bodner, T., & Hammer, L. B. (2011). Workplace social support and work-family conflict: A meta-analysis clarifying the influence of general and work-family-specific supervisor and organizational support. *Personnel Psychology*, 64(2), 289-313.
- Krause, T. R., & Hidley, J. H. (1989). Behaviourally based safety management: Parallels with the quality improvement process. *Professional Safety*, 34(10), 20-25.

- Kreijns, K., Kirschner, P. A., & Jochems, W. (2003). Identifying the pitfalls for social interaction in computer-supported collaborative learning environments: A review of the research. *Computers in Human Behavior*, 19(3), 335-353.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610.
- Kumar, P., Gupta, S., Agarwal, M., & Singh, U. (2016). Categorization and standardization of accidental risk-criticality levels of human error to develop risk and safety management policy. *Safety Science*, 85, 88-98.
- Kuruvela, M., Dubey, S., & Gahalaut, P. (2006). Pattern of skin diseases among migrant construction workers in Mangalore. *Indian Journal of Dermatology, Venereology, and Leprology*, 72(2), 129-132.
- Laharnar, N., Glass, N., Perrin, N., Hanson, G., & Anger, W. K. (2013). A training intervention for supervisors to support a work-life policy implementation. *Safety and Health at Work*, 4(3), 166-176.
- Lai, D. N., Liu, M., & Ling, F. Y. (2011). A comparative study on adopting human resource practices for safety management on construction projects in the United States and Singapore. *International Journal of Project Management*, 29(8), 1018-1032.
- Lambert, E. G. (2008). The effect of job involvement on correctional staff. *Professional Issues in Criminal Justice*, 3(1), 57-76.
- Langford, D., Rowlinson, S., & Sawacha, E. (2000). Safety behaviour and safety management: Its influence on the attitudes of workers in the UK construction industry. *Engineering Construction and Architectural Management*, 7(2), 133-140.
- Lee, C. Y., & Hong, K. S. (2005). Work-family conflict and its relationship with social support: A study at private educational institutions in Kuching, Sarawak, Malaysia. *Educational Research Journal*, 20(2), 221-243.
- Lee, K. L., & Salleh, A. L. (2009). Moderating effects of subordinates' competency level on leadership and organization citizenship behavior. *International Journal of Business and Management*, 4(7), 138-145.
- Lee, T. (1998). Assessment of safety culture at a nuclear reprocessing plant. *Work & Stress*, 12(3), 217-237.

- Lehmann, C. C., Haight, J. M., & Michael, J. H. (2009). Effects of safety training on risk tolerance: An examination of male workers in the surface mining industry. *Journal of the American Society of Safety Engineers*, 6(2), 1-22.
- Leroy, H., Dierynck, B., Anseel, F., Simons, T., Halbesleben, J. R., McCaughey, D., & Sels, L. (2012). Behavioral integrity for safety, priority of safety, psychological safety, and patient safety: A team-level study. *Journal of Applied Psychology*, 97(6), 1273-1281.
- Leung, M. Y., Liang, Q., & Olomolaiye, P. (2015). Impact of job stressors and stress on the safety behavior and accidents of construction workers. *Journal of Management in Engineering*, 32(1), 04015019.
- Lin, Y. H., Chen, C. Y., & Luo, J. L. (2008). Gender and age distribution of occupational fatalities in Taiwan. *Accident Analysis & Prevention*, 40(4), 1604-1610.
- Lingard, H. (2002). The effect of first aid training on Australian construction workers' occupational health and safety motivation and risk control behavior. *Journal of Safety Research*, 33(2), 209-230.
- Lingard, H. C., Cooke, T., & Blismas, N. (2009). Group-level safety climate in the Australian construction industry: Within-group homogeneity and between-group differences in road construction and maintenance. *Construction Management and Economics*, 27(4), 419-432.
- Lingard, H., Cooke, T., & Blismas, N. (2012). Do perceptions of supervisors' safety responses mediate the relationship between perceptions of the organizational safety climate and incident rates in the construction supply chain? *Journal of Construction Engineering and Management*, 138(2), 234-241.
- Lioukas, C. S., & Reuer, J. J. (2015). Isolating trust outcomes from exchange relationships: Social exchange and learning benefits of prior ties in alliances. *Academy of Management Journal*, 58(6), 1826-1847.
- Liu, X., Huang, G., Huang, H., Wang, S., Xiao, Y., & Chen, W. (2015). Safety climate, safety behavior, and worker injuries in the Chinese manufacturing industry. *Safety Science*, 78, 173-178.
- Locke, E. A., & Latham, G. P. (2004). What should we do about motivation theory? Six recommendations for the twenty-first century. *Academy of Management Review*, 29(3), 388-403.

- López-Alonso, M., Ibarrondo-Dávila, M. P., Rubio-Gámez, M. C., & Muñoz, T. G. (2013). The impact of health and safety investment on construction company costs. *Safety Science*, 60, 151-159.
- Lu, C. S., & Yang, C. S. (2010). Safety leadership and safety behavior in container terminal operations. *Safety Science*, 48(2), 123-134.
- Lu, C. S., & Yang, C. S. (2011). Safety climate and safety behavior in the passenger ferry context. *Accident Analysis & Prevention*, 43(1), 329-341.
- Mahalanobis, P. C. (1948). Historical note on the D2-statistic. *Sankhya*, 9(237), 14-17.
- Mahmood, R., Isa, M. M., Mustafa, M., Abd Aziz, F. S., & Salleh, A. (2009). Safety behaviour: The role of safety commitment. *Paper presented at the 4th National Human Resource Management Conference*. College of Business, Universiti Utara Malaysia.
- Mahoney, S. W., & Marshall, D. (2010). *Workplace Safety and Insurance Board (WSIB) - Annual Report*. Retrieved from http://www.wsib.on.ca/cs/idcplg?IdcService=GET_FILE&dDocName=WSIB012296&RevisionSelectionMethod=LatestReleased.
- Maiti, J., & Paul, P. S. (2007). The role of behavioural factors on safety management in underground mines. *Safety Science*, 45, 449-471.
- Marquardt, M. J. (2000). Action learning and leadership. *The Learning Organization*, 7(5), 233-241.
- Marsh, T., Davies, R., Phillips, R. A., Duff, R., Robertson, I. T., Weyman, A., Cooper, M. D. (1998). The role of management commitment in determining the success of a behavioral safety intervention. *Journal of the Institution of Occupational Safety and Health*, 2(2), 45-56.
- Martz, E., Bodner, T., & Livneh, H. (2010). Social support and coping as moderators of perceived disability and posttraumatic stress levels among Vietnam theater veterans. *Health*, 2(4), 332-341.
- Marwat, Z. A., Qureshi, T. M., & Ramay, M. I. (2007). Impact of human resource management practices on employee performance: A case of Pakistani telecom sector. *Electronic Version*, 7, 1-12.

- Mashi, M. S. (2014). Moderating effect of consideration of future safety consequences on the relationship between safety management practices and safety performance among health care workers: A conceptual analysis. *International Journal of Academic Research in Business and Social Sciences*, 4(6), 402-411.
- McGonagle, A. K., Childress, N. M., Walsh, B. M., & Bauerle, T. J. (2016). Can civility norms boost positive effects of management commitment to safety? *The Journal of Psychology*, 150(5), 591-605.
- Mearns, K., & Yule, S. (2009). The role of national culture in determining safety performance: Challenges for the global oil and gas industry. *Safety Science*, 47(6), 777-785.
- 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.
- Meshkati, N. (1991). Human factors in large-scale technological systems' accidents: Three Mile Island, Bhopal, Chernobyl. *Organization & Environment*, 5(2), 133-154.
- Meyers, L. S., Gamst, G., & Guarino, A. J. (2006). *Applied multivariate research: Design and interpretation*. New York, NY: Sage.
- Michael, J. H., Evans, D. D., Jansen, K. J., & Haight, J. M. (2005). Management commitment to safety as organizational support: Relationships with non-safety outcomes in wood manufacturing employees. *Journal of Safety Research*, 36(2), 171-179.
- Michael, J. H., Guo, Z. G., Wiedenbeck, J. K., & Ray, C. D. (2006). Production supervisor impacts on subordinates' safety outcomes: An investigation of leader-member exchange and safety communication. *Journal of Safety Research*, 37(5), 469-477.
- Ministry of Economy and Planning (MEP). (2014). *The economic indicators*. Retrieved from <http://www.mep.gov.sa/en/economic-indicators/>.

Ministry of Labour and Social Development (MLSD). (2013). Retrieved from <http://sd.mlsd.gov.sa>.

Ministry of Labour and Social Development (MLSD). (2016). *Rules and regulations*. Retrieved from <http://sd.mlsd.gov.sa/ar/policies>.

Miozza, M. L., & Wyld, D. C. (2002). The carrot or the soft stick? The perspective of American safety professionals on behaviour and incentive-based protection programmes. *Management Research News*, 25(11), 23-41.

Mohamed, S. (2002). Safety climate in construction site environments. *Journal of Construction Engineering and Management*, 128(5), 375-384.

Mohamed, S., Ali, T. H., & Tam, W. Y. V. (2009). National culture and safe work behaviour of construction workers in Pakistan. *Safety Science*, 47(1), 29-35.

Molm, L. D., Peterson, G., & Takahashi, N. (1999). Power in negotiated and reciprocal exchange. *American Sociological Review*, 876-890.

Morrow, S. L., McGonagle, A. K., Dove-Steinkamp, M. L., Walker, C. T., Marmet, M., & Barnes-Farrell, J. L. (2010). Relationships between psychological safety climate facets and safety behavior in the rail industry: A dominance analysis. *Accident Analysis & Prevention*, 42(5), 1460-1467.

Mullen, J. (2004). Investigating factors that influence individual safety behavior at work. *Journal of Safety Research*, 35(3), 275-285.

Naveh, E., Katz-Navon, T., & Stern, Z. (2005). Treatment errors in healthcare: A safety climate approach. *Management Science*, 51(6), 948-960.

Naveh, E., Katz-Navon, T., & Stern, Z. (2006). Readiness to report medical treatment errors: The effects of safety procedures, safety information, and priority of safety. *Medical Care*, 44(2), 117-123.

Neal, A., & Griffin, M. A. (1997, April). Perceptions of safety at work: Developing a model to link organizational safety climate and individual behavior. In *Proceedings of the 12th Annual Conference of the Society for Industrial and Organizational Psychology*. St. Louis, MO.

Neal, A., & Griffin, M. A. (2002). Safety climate and safety behaviour. *Australian Journal of Management*, 27(1 suppl), 67-75.

- Neal, A., & Griffin, M. A. (2004). Safety climate and safety at work. *The Psychology of Workplace Safety*, 15-34.
- 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.
- Neal, A., Griffin, M. A., & Hart, P. M. (2000). The impact of organizational climate on safety climate and individual behavior. *Safety Science*, 34(1), 99-109.
- Neale, W. C. (1976). *Monies in societies*. Novato, CA: Chandler & Sharp Pub.
- Ng, S. T., Cheng, K. P., & Skitmore, R. M. (2005). A framework for evaluating the safety performance of construction contractors. *Building and Environment*, 40(10), 1347-1355.
- Noweir, M. H., Alidrisi, M. M., Al-Darrab, I. A., & Zytoon, M. A. (2013). Occupational safety and health performance of the manufacturing sector in Jeddah Industrial Estate, Saudi Arabia: A 20-years follow-up study. *Safety Science*, 53, 11-24.
- Occupational Safety & Health Administration. (2015). *Business case for safety and health*. Retrieved from <https://www.osha.gov/dcsp/products/topics/businesscase/costs.html>.
- O'Dea, A., & Flin, R. (2001). Site managers and safety leadership in the offshore oil and gas industry. *Safety Science*, 37(1), 39-57.
- Ortiz, O., Castells, F., & Sonnemann, G. (2009). Sustainability in the construction industry: A review of recent developments based on LCA. *Construction and Building Materials*, 23(1), 28-39.
- Oudeyer, P.-Y., & Kaplan, F. (2007). What is intrinsic motivation? A typology of computational approaches. *Frontiers in Neurorobotics*, 1(6), 1-14.
- Pandey, S. K., & Garnett, J. L. (2006). Exploring public sector communication performance: Testing a model and drawing implications. *Public Administration Review*, 66(1), 37-51.
- Panuwatwanich, K., Al-Haadir, S., & Stewart, R. A. (2016). Influence of safety motivation and climate on safety behaviour and outcomes: Evidence from the Saudi Arabian construction industry. *International Journal of Occupational Safety and Ergonomics*, 1-16.

- Parboteeah, K. P., & Kapp, E. A. (2008). Ethical climates and workplace safety behaviors: An empirical investigation. *Journal of Business Ethics*, 80(3), 515-529.
- 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.
- Pedersen, L., & Kines, P. (2011). Why do workers work safely? Development of safety motivation questionnaire scales. *Safety Science Monitor*, 15(1), 1-10.
- Peng, D. X., & Lai, F. (2012). Using partial least squares in operations management research: A practical guideline and summary of past research. *Journal of Operations Management*, 30(6), 467-480.
- Pernice, R., & Brook, J. (1996). Refugees' and immigrants' mental health: Association of demographic and post-immigration factors. *The Journal of Social Psychology*, 136(4), 511-519.
- Pillay, M. (2014). Taking stock of zero harm: A review of contemporary health and safety management in construction. *Achieving Sustainable Construction Health and Safety*, 75-85.
- Pordanjani, T. R., & Ebrahimi, A. M. (2015). Safety motivation and work pressure as predictors of occupational accidents in the petrochemical industry. *Health Scope*, 4(4), 20-24.
- Pousette, A., Larsson, S., & Törner, M. (2008). Safety climate cross-validation, strength and prediction of safety behaviour. *Safety Science*, 46(3), 398-404.
- Probst, T. M., & Estrada, A. X. (2010). Accident under-reporting among employees: Testing the moderating influence of psychological safety climate and supervisor enforcement of safety practices. *Accident Analysis & Prevention*, 42(5), 1438-1444.
- Prokop, M. (2003). Saudi Arabia: The politics of education. *International Affairs*, 79(1), 77-89.
- Rasmussen, J. (1983). Skills, rules, and knowledge: Signals, signs, and symbols, and other distinctions in human performance models. *IEEE Transactions on Systems, Man, and Cybernetics*, 13(3), 257-266.

Rautiainen, R. H. (2012). *Factors affecting occupational safety and health of foreign farm workers in Nordic countries*. Copenhagen, Denmark: Nordic Council of Ministers.

Reiman, T., & Rollenhagen, C. (2014). Does the concept of safety culture help or hinder systems thinking in safety? *Accident Analysis & Prevention*, 68, 5-15.

Reinach, S., & Viale, A. (2006). Application of a human error framework to conduct train accident/incident investigations. *Accident Analysis & Prevention*, 38(2), 396-406.

Revilla, M. A., Saris, W. E., & Krosnick, J. A. (2014). Choosing the number of categories in agree-disagree scales. *Sociological Methods & Research*, 43(1), 73-97.

Rundmo, T. (1994). Associations between safety and contingency measures and occupational accidents on offshore petroleum platforms. *Scandinavian Journal of Work, Environment & Health*, 20, 128-131.

Rundmo, T. (2000). Safety climate, attitudes and risk perception in Norsk Hydro. *Safety Science*, 34(1), 47-59.

Rundmo, T., & Hale, A. R. (2003). Managers' attitudes towards safety and accident prevention. *Safety Science*, 41(7), 557-574.

Rundmo, T., & Moen, B. E. (2007). Risk sensitivity and priority of safety. *Risk, Reliability and Societal Safety*, 2, 1623-1629.

Ryerson, M., & Whitlock, C. (2005). Use of human factors analysis for wildland fire accident investigations. In *Proceedings of the Eighth International Wildland Fire Safety Summit* (pp. 26-28). Missoula, MT.

Sadullah, Ö., & Kanten, S. (2009). A research on the effect of organizational safety climate upon the safe behaviors. *Ege Academic Review*, 9(3), 923-932.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (4th ed.). Harlow, England: Pearson Education Limited.

Schaubroeck, J., & Fink, L. S. (1998). Facilitating and inhibiting effects of job control and social support on stress outcomes and role behavior: A contingency model. *Journal of Organizational Behavior*, 167-195.

- Schwatka, N. V., & Rosecrance, J. C. (2016). Safety climate and safety behaviors in the construction industry: The importance of co-workers commitment to safety. *Work*, 54(2), 401-413.
- Schwatka, N. V., Hecker, S., & Goldenhar, L. M. (2016). Defining and measuring safety climate: A review of the construction industry literature. *Annals of Occupational Hygiene*, 60(5), 537-550.
- Sekaran, U. (2003). *Research methods for business: A skill building approaches* (4th ed.). New York, NY: John Wiley & Sons.
- Seo, D. C. (2005). An explicative model of unsafe work behavior. *Safety Science*, 43(3), 187-211.
- Seo, H. C., Lee, Y. S., Kim, J. J., & Jee, N. Y. (2015). Analyzing safety behaviors of temporary construction workers using structural equation modeling. *Safety Science*, 77, 160-168.
- Sev, A. (2009). How can the construction industry contribute to sustainable development? A conceptual framework. *Sustainable Development*, 17(3), 161-173.
- Sgourou, E., Katsakiori, P., Goutsos, S., & Manatakis, E. (2010). Assessment of selected safety performance evaluation methods in regards to their conceptual, methodological and practical characteristics. *Safety Science*, 48(8), 1019-1025.
- Shannon, H. S., Mayr, J., & Haines, T. (1997). Overview of the relationship between organizational and workplace factors and injury rates. *Safety Science*, 26(3), 201-217.
- Shannon, H. S., Walters, V., Lewchuk, W., Richardson, J., Moran, L. A., Haines, T., & Verma, D. (1996). Workplace organizational correlates of lost-time accident rates in manufacturing. *American Journal of Industrial Medicine*, 29(3), 258-268.
- Shearn, P. (2004). *Workforce participation in the management of occupational health and safety*. Health & Safety Laboratory. Report No. HSL/2005/09, Health and Safety Executive (UK).
- Simard, M., & Marchand, A. (1994). The behaviour of first-line supervisors in accident prevention and effectiveness in occupational safety. *Safety Science*, 17, 169-185.

- Singleton, W. T. (1983). Occupational safety and health systems: A three-country comparison. *International Labour Review*, 122(2), 155-182.
- Siu, O., Phillips, D. R., & Leung, T. (2004). Safety climate and safety performance among construction workers in Hong Kong the role of psychological strains as mediators. *Accident Analysis and Prevention*, 36, 359-366.
- Siu, O., 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, 199-205.
- Smith, T. D., & DeJoy, D. M. (2014). Safety climate, safety behaviors and line-of-duty injuries in the fire service. *International Journal of Emergency Services*, 3(1), 49-64.
- Sousa, V., Almeida, N. M., & Dias, L. A. (2014). Risk-based management of occupational safety and health in the construction industry—Part 1: Background knowledge. *Safety Science*, 66, 75-86.
- Stricoff, R. S. (2000). Safety performance measurement: Identifying prospective indicators with high validity. *Professional Safety*, 45(1), 36-40.
- Subramaniam, C., Shamsudin, F. M., Shamsudin, F. M., Zin, M. L. M., Subramaniam, S. R., ... & Hassan, Z. (2016). Safety management practices and safety compliance in small medium enterprises: Mediating role of safety participation. *Asia-Pacific Journal of Business Administration*, 8(3), 226-244.
- Subramaniam, C., Shamsudin, F. M., Zin, L. M., & Lazim, H. M. (2014). Do workplace safety practices influence safety compliance behaviour? Evidence among nurses in Malaysia. In *Proceedings of World Business and Economics Research Conference* (pp. 1-11). Rendezvous Hotel, Auckland, New Zealand.
- Sudman, S., & Bradburn, N. M. (1982). *Asking questions: A practical guide to questionnaire design* (1st ed.). San Francisco, CA: Jossey-Bass.
- Tabachnick, B. G., & Fidell, L. S. (2007). Multivariate analysis of variance and covariance. *Using Multivariate Statistics*, 3, 402-407.
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (5th ed.). Boston, MA: Allyn & Bacon/Pearson Education.
- Tam, C. M., Zeng, S. X., & Deng, Z. M. (2004). Identifying elements of poor construction safety management in China. *Safety Science*, 42(7), 569-586.

- Tamjid Yamcholo, A., Gholipour, R., Baba, M. S. B., & Yamchello, H. T. (2013). Information security professional perceptions of knowledge-sharing intention in virtual communities under social cognitive theory. In *Proceedings of the 2013 International Conference on Research and Innovation in Information Systems* (pp. 416-421). Kuala Lumpur, Malaysia: IEEE.
- Tekleab, A. G., & Chiaburu, D. S. (2011). Social exchange: Empirical examination of form and focus. *Journal of Business Research*, 64(5), 460-466.
- Telmesani, T. (2010, June 9). New Infrastructure Investments to Advance Jeddah Development. *Saudi Gazette*, 1-2. Retrieved from <http://saudigazette.com.sa/index.cfm?method=home.regcon&contentid=2010052873622>.
- Tenenhaus, M., Vinzi, V. E., Chatelin, Y. M., & Lauro, C. (2005). PLS path modeling. *Computational Statistics & Data Analysis*, 48(1), 159-205.
- Thabane, L., Ma, J., Chu, R., Cheng, J., Ismaila, A., Rios, L. P., & Goldsmith, C. H. (2010). A tutorial on pilot studies: The what, why and how. *BMC Medical Research Methodology*, 10(1), 1.
- Tinmannsvik, R., & Hovden, J. (2003). Safety diagnosis criteria – Development and testing. *Safety Science*, 41(7), 575-590.
- Törner, M., & Pousette, A. (2009). Safety in construction – A comprehensive description of the characteristics of high safety standards in construction work, from the combined perspective of supervisors and experienced workers. *Journal of Safety Research*, 40(6), 399-409.
- Trochim, W. M., & Donnelly, J. P. (2006). *The research methods knowledge base* (3rd ed.). London, UK: Cengage Learning.
- Tucker, S., & Turner, N. (2011). Young worker safety behaviors: Development and validation of measures. *Accident Analysis & Prevention*, 43(1), 165-175.
- Tucker, S., Chmiel, N., Turner, N., Hershcovis, M. S., & Stride, C. B. (2008). Perceived organizational support for safety and employee safety voice: The mediating role of coworker support for safety. *Journal of Occupational Health Psychology*, 13(4), 319-330.
- Ueda, Y. (2011). Organizational citizenship behavior in a Japanese organization: The effects of job involvement, organizational commitment, and collectivism. *Journal of Behavioral Studies in Business*, 4, 1-14.

- Uhl-Bien, M., & Maslyn, J. M. (2003). Reciprocity in manager-subordinate relationships: Components, configurations, and outcomes. *Journal of Management*, 29(4), 511-532.
- Van Dyck, C., Dimitrova, N. G., De Korne, D. F., & Hiddema, F. (2013). Walk the talk: Leaders' enacted priority of safety, incident reporting, and error management. In T. Simons, H. Leroy & G. T. Savage (Eds.), *Leading in health care organizations: Improving safety, satisfaction and financial performance* (pp. 95-117). Bingley, UK: Emerald Group Publishing Limited.
- Vassie, L. H., & Lucas, W. R. (2001). An assessment of health and safety management within working groups in the UK manufacturing sector. *Journal of Safety Research*, 32(4), 479-490.
- Vecchio-Sadus, A. M. (2007). Enhancing safety culture through effective communication. *Safety Science Monitor*, 11(3), 1-10.
- Vecchio-Sadus, A. M., & Griffiths, S. (2004). Marketing strategies for enhancing safety culture. *Safety Science*, 42(7), 601-619.
- Vinodkumar, M. N. (2005). *Study of influencing of safety engineering and management practices in selected industries in Kerala – India* (Unpublished doctoral dissertation). Cochin University of Science and Technology Kochi.
- Vinodkumar, M. N., & Bhasi, M. (2009). Safety climate factors and its relationship with accidents and personal attributes in the chemical industry. *Safety Science*, 47(5), 659-667.
- Vinodkumar, M. N., & Bhasi, M. (2010). Safety management practices and safety behaviour: Assessing the mediating role of safety knowledge and motivation. *Accident Analysis & Prevention*, 42(6), 2082-2093.
- Vinodkumar, M. N., & Bhasi, M. (2011). A study on the impact of management system certification on safety management. *Safety Science*, 49(3), 498-507.
- Viswesvaran, C., Sanchez, J. I., & Fisher, J. (1999). The role of social support in the process of work stress: A meta-analysis. *Journal of Vocational Behavior*, 54(2), 314-334.
- Vredenburgh, A. G. (2002). Organizational safety: Which management practices are most effective in reducing employee injury rates? *Journal of safety Research*, 33(2), 259-276.

- Vredenburgh, A. G., & Cohen, H. H. (1995). High-risk recreational activities: Skiing and scuba—What predicts compliance with warnings. *International Journal of Industrial Ergonomics*, 15(2), 123-128.
- Wachter, J. K., & Yorio, P. L. (2014). A system of safety management practices and worker engagement for reducing and preventing accidents: An empirical and theoretical investigation. *Accident Analysis & Prevention*, 68, 117-130.
- Wahab, S. R. A., Rajab, A., Shaari, R., Rahman, S. A. A., & Saat, M. M. (2014). Manipulation of safety training practices on organizational safety performance: An evidence in Malaysia's automotive industry. *International Journal of Trade, Economics and Finance*, 5(1), 110-113.
- Walsh, G., Evanschitzky, H., & Wunderlich, M. (2008). Identification and analysis of moderator variables: Investigating the customer satisfaction-loyalty link. *European Journal of Marketing*, 42(9/10), 977-1004.
- Walters, D. (1998). Employee representation and health and safety: A strategy for improving health and safety performance in small enterprises? *Employee Relations*, 20(2), 180-195.
- Walters, V., & Haines, T. (1988). Workers' perceptions, knowledge and responses regarding occupational health and safety: A report on a Canadian study. *Social Science & Medicine*, 27(11), 1189-1196.
- Watson, G. W., Scott, D., Bishop, J., & Turnbeagh, T. (2005). Dimensions of interpersonal relationships and safety in the steel industry. *Journal of Business and Psychology*, 19, 303-318.
- Wedgeworth, M., LaRocca, M. A., Chaplin, W. F., & Scogin, F. (2016). The role of interpersonal sensitivity, social support, and quality of life in rural older adults. *Geriatric Nursing*, 38, 22-26.
- Wetzel, M., Odekerken-Schröder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS Quarterly*, 177-195.
- Wickramasinghe, V. (2012). Supervisor support as a moderator between work schedule flexibility and job stress: Some empirical evidence from Sri Lanka. *International Journal of Workplace Health Management*, 5(1), 44-55.
- Willemse, B. M., de Jonge, J., Smit, D., Depla, M. F., & Pot, A. M. (2012). The moderating role of decision authority and co-worker and supervisor support on

- the impact of job demands in nursing homes: A cross-sectional study. *International Journal of Nursing Studies*, 49(7), 822-833.
- Wills, A. R., Watson, B., & Biggs, H. C. (2006). Comparing safety climate factors as predictors of work-related driving behavior. *Journal of Safety Research*, 37(4), 375-383.
- Wu, C., Song, X., Wang, T., & Fang, D. (2015). Core dimensions of the construction safety climate for a standardized safety-climate measurement. *Journal of Construction Engineering and Management*, 141(8), 04015018.
- Wu, T. C., Chen, C. H., & Li, C. C. (2008). A correlation among safety leadership, safety climate and safety performance. *Journal of Loss Prevention in the Process Industries*, 21(3), 307-318.
- Yean, F., Ling, Y., D, P., Ai, E., & Teo, L. (2004). Predicting safety levels of construction project sites. *CIB 2004*, 1-10.
- Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Yorio, P. L., & Wachter, J. K. (2014). The impact of human performance focused safety and health management practices on injury and illness rates: Do size and industry matter? *Safety Science*, 62, 157-167.
- Yu, Q. Z., Ding, L. Y., Zhou, C., & Luo, H. B. (2014). Analysis of factors influencing safety management for metro construction in China. *Accident Analysis & Prevention*, 68, 131-138.
- Yule, S., Flin, R., & Murdy, A. (2007). The role of management and safety climate in preventing risk-taking at work. *International Journal of Risk Assessment & Management*, 7(2), 137-151.
- Yun, L. Y., Jin, T. W., Manickam, K., Heng, P., Jong, C. T., Kheng, L. G., Takala, J. (2013). *Economic cost of work-related injuries and ill-health in Singapore*. Retrieved from <https://www.wsh-institute.sg/files/wshi/upload/cms/file/Economic%20Cost%20of%20Work-related%20Injuries%20and%20Ill-health%20in%20Singapore.pdf>.
- Zacharatos, A., Barling, J., & Iverson, R. (2005). High performance work systems and occupational safety. *Journal of Applied Psychology*, 90(1), 77-93.

- Zhang, M., & Fang, D. (2013). A continuous behavior-based safety strategy for persistent safety improvement in construction industry. *Automation in Construction*, 34, 101-107.
- Zhang, R. P., & Li, R. Y. M. (2015). A conceptual study of construction workers' safety performance from safety climate and social exchange perspectives. In R. Y. M. Li (Ed.), *Construction Safety and Waste Management* (pp. 123-137). Hong Kong: Springer International Publishing.
- Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2010). *Business research methods* (8th ed.). Mason, OH: South-Western/Cengage Learning.
- Zimolong, B., & Elke, G. (2006). Occupational health and safety management. In M. R. Lehto & B. T. Cook (Eds.), *Handbook of human factors and ergonomics* (pp. 673-707). Hoboken, NJ: John Wiley & Co.
- Zin, S. M., & Ismail, F. (2012). Employers' behavioural safety compliance factors toward occupational, safety and health improvement in the construction industry. *Procedia-Social and Behavioral Sciences*, 36, 742-751.
- Zohar, D. (2000). A group-level model of safety climate: Testing the effect of group climate on microaccidents in manufacturing jobs. *Journal of Applied Psychology*, 85(4), 587.
- Zohar, D. (2008). Safety climate and beyond: A multi-level multi-climate framework. *Safety Science*, 46(3), 376-387.
- Zohar, D. (2010). Thirty years of safety climate research: Reflections and future directions. *Accident Analysis & Prevention*, 42(5), 1517-1522.
- Zohar, D., & Erev, I. (2006). On the difficulty of promoting workers' safety behaviour: Overcoming the underweighting of routine risks. *International Journal of Risk Assessment and Management*, 7(2), 122-136.

Appendix A **English Language Research Questionnaire**



Dear Sir/Madam,

I am Bassem Alfayez, a PhD student at the School of Business Management of Universiti Utara Malaysia. You are cordially invited to participate in a study that aims to investigate safety climate and safety behaviour. Findings of this study will offer practical recommendations on how organizations in Saudi Arabia can enhance their foreign employee's safety behavior in the construction sector. Your participation is voluntary. Kindly complete the attached survey. This should not take more than 15 minutes of your valuable time. The survey collects no identifying information. All of the responses in the survey will be recorded anonymously and will be treated in a confidential manner.

If you have any questions regarding the survey or this research project in general, please contact me at balfayez@hotmail.com or my supervisor, Assoc. Prof. Dr. Chandrakantan Subramaniam (chandra@uum.edu.my) or Dr. Md. Lazim Mohd Zin (lazim@uum.edu.my) otherwise you can call me at 0565555528.

I will appreciate it if you can complete the survey within a week, after which I will personally collect it from you. By completing this survey, you are indicating your consent to participate in the study.

Your participation is appreciated.

Thank you and have a good day.

Yours sincerely,

Bassem Alfayez
PhD Student
School of Business Management
Universiti Utara Malaysia

SECTION A: Demographic Information

Please fill in blank and tick (✓) in the appropriate boxes that corresponds to your answer to each of the following questions below.

1. Nature of work:

<input type="checkbox"/> Electrician	<input type="checkbox"/> Iron Worker	<input type="checkbox"/> Driller	<input type="checkbox"/> Plumber
<input type="checkbox"/> Drywall Finisher	<input type="checkbox"/> Carpenter	<input type="checkbox"/> Crane Operator	<input type="checkbox"/> Concrete Laborer
<input type="checkbox"/> Equipment Operator	<input type="checkbox"/> Painter	<input type="checkbox"/> Others, please specify _____	

2. Gender: Male Female

3. Age: _____ years

4. Highest education level:

<input type="checkbox"/> Certificate or lower	<input type="checkbox"/> Diploma	<input type="checkbox"/> Bachelor degree
<input type="checkbox"/> Others, please specify _____		

5. Country of origin _____

6. Your mother tongue (Language which you speak) _____

7. Years of experience _____ years

8. Years of experience in the present organization _____ years

9. Years of experience working abroad _____ years

10. Have you ever had any occupational accident ever since you started working in this present organization?

Yes No

11. How frequent do you encounter with workplace accident in this present organization?

Never Sometimes Fairly Often Very Often Always

12. Have you attended any occupational safety training?

Yes No

13. How frequent do you attend occupational safety training in this present organization?

Never Sometimes Fairly Often Very Often Always

SECTION B: Safety Climate

Considering only your perception, please circle the most appropriate answer to you based on the scale below:

1 Strongly Disagree	2 Disagree	3 Undecided/Neutral	4 Agree	5 Strongly Agree
1 In my workplace management acts quickly to correct safety problems.			1 2 3 4 5	
2 Management acts decisively when a safety concern is raised.			1 2 3 4 5	
3 In my workplace management turn a blind eye to safety issues.			1 2 3 4 5	
4 Corrective action is always taken when management is told about unsafe practices.			1 2 3 4 5	
5 In my workplace management show interest in my safety.			1 2 3 4 5	
6 Management acts only after accidents have occurred.			1 2 3 4 5	
7 Management express concern if safety procedures are not adhered to.			1 2 3 4 5	
8 Management clearly considers the safety of foreign workers of great importance.			1 2 3 4 5	
9 I believe that safety issues are not assigned a high priority.			1 2 3 4 5	
10 Safety procedures are carefully followed.			1 2 3 4 5	
11 Management considers safety to be equally as important as work project progress.			1 2 3 4 5	
12 Workers have enough time to carry out their tasks.			1 2 3 4 5	
13 There are enough workers to carry out the required work.			1 2 3 4 5	
14 There is sufficient "thinking time" to enable workers to plan and carry out their work to an adequate standard.			1 2 3 4 5	
15 Problems arising from factors outside worker's control can be accommodated without negatively affecting safety.			1 2 3 4 5	
16 Time schedules for completing work projects are realistic.			1 2 3 4 5	
17 Workload is reasonably balanced.			1 2 3 4 5	
18 My management gives comprehensive training to the foreign workers in workplace safety issues.			1 2 3 4 5	
19 Newly foreign recruits are trained adequately to learn safety rules and procedures.			1 2 3 4 5	
20 Safety issues are given high priority in training programmes.			1 2 3 4 5	

	1 Strongly Disagree	2 Disagree	3 Undecided/Neutral	4 Agree	5 Strongly Agree
21	Management encourages the foreign workers to attend safety training programmes.			1 2 3 4 5	
22	Safety training given to me is adequate to enable to me to assess hazards in workplace.			1 2 3 4 5	
23	There is good communication here about safety issues which affect me.			1 2 3 4 5	
24	Safety information is always brought to my attention by the management.			1 2 3 4 5	
25	My management does not always inform me of current concerns and issues.			1 2 3 4 5	
26	Management operates an open door policy on safety issues.			1 2 3 4 5	
27	I do not receive praise for working safely.			1 2 3 4 5	
28	Safety rules and procedures are always practical.			1 2 3 4 5	
29	Safety rules and procedures can be followed without conflicting with work practices.			1 2 3 4 5	
30	Safety rules and procedures are followed even when a job is rushed.			1 2 3 4 5	
31	In my workplace opinions are always welcomed from foreign employees before making final decisions on safety related matters.			1 2 3 4 5	
32	My workplace has safety committee consisting of representative of management and foreign employees.			1 2 3 4 5	
33	Management promotes foreign employees involvement in safety related matters.			1 2 3 4 5	
34	Management consults with foreign workers regularly about workplace safety issues.			1 2 3 4 5	

SECTION C: Social Support

Considering only your perception, please circle the most appropriate answer to you based on the scale below:

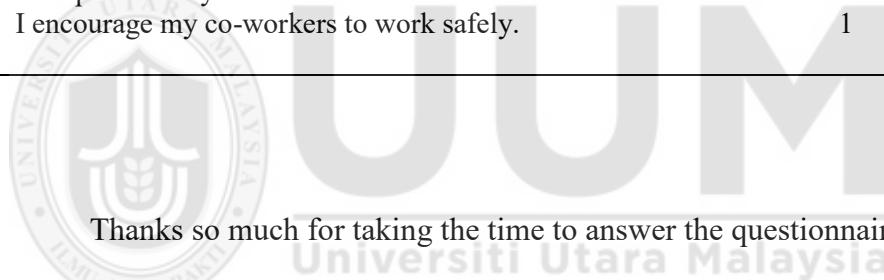
1 Not at all	2 A little bit	3 Somewhat	4 Quite a bit	5 Very much
1 How easily can you talk to your supervisor?			1 2 3 4 5	
2 How much can you rely on your supervisor when there are difficulties?			1 2 3 4 5	
3 How much does your supervisor recognize and value your job?			1 2 3 4 5	
4 How much does your supervisor cooperate with you to solve when there are difficulties?			1 2 3 4 5	
5 How much support do you receive from your supervisor?			1 2 3 4 5	
6 How easily can you talk to your coworker?			1 2 3 4 5	
7 How much can you rely on your coworker when there are difficulties?			1 2 3 4 5	
8 How much does your coworker recognize and value your job?			1 2 3 4 5	
9 How much does your coworker cooperate with you to solve when there are difficulties?			1 2 3 4 5	
10 How much support do you receive from your coworker?			1 2 3 4 5	
11 How easily can you talk to your family?			1 2 3 4 5	
12 How much can you rely on your family when there are difficulties?			1 2 3 4 5	
13 How much does your family recognize and value your job?			1 2 3 4 5	
14 How much does your family cooperate with you to solve when there are difficulties?			1 2 3 4 5	
15 How much support do you receive from your family?			1 2 3 4 5	

SECTION D: Safety Behaviour

Considering only your perception, please circle the most appropriate answer to you based on the scale below:

1 Strongly Disagree	2 Disagree	3 Undecided/Neutral	4 Agree	5 Strongly Agree
-------------------------------	----------------------	-------------------------------	-------------------	----------------------------

- | | | | | | | |
|---|---|---|---|---|---|---|
| 1 | I use necessary safety equipment to do my job. | 1 | 2 | 3 | 4 | 5 |
| 2 | I carry out my work in a safe manner. | 1 | 2 | 3 | 4 | 5 |
| 3 | I follow correct safety rules and procedures while carrying out my job. | 1 | 2 | 3 | 4 | 5 |
| 4 | I ensure the highest levels of safety when I carry out my job. | 1 | 2 | 3 | 4 | 5 |
| 5 | I always point out to the management if any safety related matters are noticed in my workplace. | 1 | 2 | 3 | 4 | 5 |
| 6 | I put extra effort to improve the safety of the workplace. | 1 | 2 | 3 | 4 | 5 |
| 7 | I voluntarily carryout tasks or activities that help to improve workplace safety. | 1 | 2 | 3 | 4 | 5 |
| 8 | I encourage my co-workers to work safely. | 1 | 2 | 3 | 4 | 5 |



Thanks so much for taking the time to answer the questionnaires

Your cooperation highly appreciated

Appendix B Arabic Language Research Questionnaire



السادة الأعزاء،

تحية طيبة وبعد،،

أنا السيد/ باسم الفايز، باحث دكتوراه في إدارة الأعمال، جامعة اوتارا ماليزيا، أدعوكم للمشاركة في هذه الدراسة التي تهدف إلى فحص ممارسات السلامة التنظيمية وسلوك السلامة، حيث تطرح نتائج هذه الدراسة توصيات عملية عن كيفية تعزيز المنظمات في المملكة العربية السعودية لسلوك سلامة موظفهم الأجانب في قطاع الإنشاء.

المشاركة تطوعية، لذا يرجى ملء استطلاع الرأي المرفق، ولن يستغرق هذا الأمر أكثر من 15 دقيقة من وقتك القيم.

ولا يوجد في هذا الاستطلاع أية معلومات شخصية، وسوف تُسجل جميع أجوبة وردود الأفعال على هذا الاستطلاع كل على حدة وسيتم التعامل مع ذلك بطريقة سرية.

في حالة وجود أي استفسار حول استطلاع الرأي هذا أو مشروع البحث بشكل عام، يرجى مراسلتي على balfayez@hotmail.com أو من خلال المشرف الخاص بي الأستاذ الدكتور/ تشاندرakanthan سوبرامانيام lazim@uum.edu.my أو الدكتور/ محمد لزيم محمد زين chandra@uum.edu.my مباشرةً على الرقم (0565555528)

سوف أكون ممتنًا في حال إكمالك لاستطلاع الرأي هذا خلال أسبوع واحد حتى أتمكن بعد ذلك من جمعه، وبإكمالك لاستطلاع الرأي هذا، تعد هذه موافقة منك على المشاركة في هذه الدراسة. أقدر مشاركتك.

اشكرك على ذلك ونتمنى لك يوم جيد.

وتفضلو بقبول فائق الاحترام والتقدير،،،

السيد/ باسم الفايز
باحث دكتوراه في إدارة الأعمال، جامعة اوتارا ماليزيا

القسم (أ): معلومات ديمografية:

يرجى ملئ المربع الفارغ بعلامة (✓) في المربعات المناسبة التي تتفق مع إجابتك على الأسئلة الموضحة أدناه:

1- طبيعة العمل:

- | | | | |
|---|--------------------------------------|------------------------------------|---|
| <input type="checkbox"/> سباك | <input type="checkbox"/> حفار | <input type="checkbox"/> عامل حديد | <input type="checkbox"/> أعمال كبرىانية |
| <input type="checkbox"/> مشغل الرافعة | <input type="checkbox"/> عامل خرسانة | <input type="checkbox"/> نجار | <input type="checkbox"/> عامل تشطيط |
| <input type="checkbox"/> أخرى، يرجى تحديد ذلك _____ | | <input type="checkbox"/> دهان | <input type="checkbox"/> مشغل المعدات |

2- الجنس: ذكر أنثى

3- العمر: _____ سنة

4- مستوى التعليم:



- | | | | |
|--|--------------------------------|---|---|
| <input type="checkbox"/> شهادة دراسية أو أقل | <input type="checkbox"/> دبلوم | <input type="checkbox"/> درجة البكالوريوس | <input type="checkbox"/> أخرى، يرجى تحديد ذلك _____ |
|--|--------------------------------|---|---|

5- بلد المنشأ: _____

6- اللغة الأم (اللغة التي تتحدث بها): _____

7- سنوات الخبرة _____ سنة

8- سنوات الخبرة أثناء عملك في المنظمة الحالية _____ سنة

9- سنوات الخبرة أثناء عملك في الخارج _____ سنة

10- هل تعرضت إلى أي حادثة مهنية من قبل منذ بدء عملك في هذه المنظمة؟

لا نعم

11- كم عدد المرات التي تعرضت فيها لحادثة عمل في هذه المنظمة؟

دائمًا كثيرًا غالباً أحياناً أبداً

12- هل حضرت أي تدريب للسلامة المهنية من قبل؟

لا نعم

13- كم عدد المرات التي حضرت فيها تدريب للسلامة المهنية في هذه المنظمة؟

دائمًا كثيرًا غالباً أحياناً أبداً

القسم (ب) : ممارسات السلامة التنظيمية:

بناءً على ادراكك فقط، يرجى وضع دائرة حول أكثر اجابة تتناسبك استناداً على الهيكل الموضح أدناه:

5 أوافق بشدة	4 أوافق	3 لم أقرر أو محайд	2 لا أوافق	1 لا أوافق بشدة
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- 1- أتصرف بسرعة في أماكن العمل الخاصة بي لحل المشاكل المتعلقة بالسلامة
- 2- الادارة تتصرف بشكل سليم عند وجود مشاكل تتعلق بالسلامة
- 3- الادارة تتغاضى عن الأمور المتعلقة بالسلامة في أماكن العمل الخاصة بي
- 4- تتخذ الأعمال التصحيحية دائمًا عند اخبار الادارة بمارسات غير آمنة
- 5- تبدى الادارة الاهتمام بسلامتك الخاصة في اماكن العمل
- 6- تتخذ الأفعال الإدارية فقط عند وقوع أي حادثة
- 7- تعبّر الادارة عن مخاوفها في حالة عدم الالتزام بإجراءات السلامة
- 8- تعتبر الادارة أن سلامه العمال الأجانب من الأمور الهامة جداً
- 9- أعتقد أن الأمور المتعلقة بالسلامة ليست من الأولويات القصوى
- 10- اجراءات السلامة متبعة بحرص
- 11- تعتبر الادارة أن السلامة لا تقل أهمية عن انجاز العمل
- 12- يمتلك العمال الوقت الكافي لتنفيذ مهامهم
- 13- هناك ما يكفي من العمال لتنفيذ العمل المطلوب
- 14- هناك وقت كاف للتفكير لتمكين العمال من التخطيط وتنفيذ أعمالهم بالمعايير المناسبة
- 15- يمكن أن تناقش المشاكل التي تنشأ من المصانع خارج سيطرة العمال دون التأثير بشكل سلبي على السلامة
- 16- الجداول الزمنية لاستكمال مشاريع الأعمال واقعية
- 17- ضغط العمل متوازن بشكل مناسب
- 18- تقدم الادارة الخاصة بي تدريب متكمال للعمال الأجانب في الأمور المتعلقة بسلامة مكان العمل
- 19- يتم تدريب المعينين الأجانب الجدد بشكل مناسب لتعليمهم قواعد وإجراءات السلامة
- 20- تعتبر الأمور المتعلقة بالسلامة من الأولويات القصوى في البرامج التدريبية
- 21- تشجع الادارة العمال الأجانب على حضور البرامج التدريبية المتعلقة بالسلامة

5 أوافق بشدة	4 أوافق	3 لم أقرر أو محابي	2 لا أوافق	1 لا أوافق بشدة
-----------------	------------	-----------------------	---------------	--------------------

- 22- التدريب المتعلق بالسلامة المقدم لي مناسب حتى تتمكن من تقييم المخاطر في
مكان العمل 5 4 3 2 1
- 23- هناك اتصال جيد حول الأمور المتعلقة بالسلامة التي تؤثر عليك 5 4 3 2 1
- 24- دائمًا يتم اعطائي معلومات متعلقة بالسلامة من قبل الادارة 5 4 3 2 1
- 25- لا تبلغني الادارة دائمًا بالمخاوف والأمور الحالية 5 4 3 2 1
- 26- تقوم الادارة بتشغيل باب المفتوح في الأمور المتعلقة بالسلامة 5 4 3 2 1
- 27- لا اتلقى أي إطراء عن العمل الآمن 5 4 3 2 1
- 28- تعتبر قواعد وإجراءات السلامة عملية دائمًا 5 4 3 2 1
- 29- يمكن اتباع قواعد وإجراءات السلامة دون تضارب مع ممارسات العمل 5 4 3 2 1
- 30- تتبع قواعد وإجراءات السلامة حق عند ضغط العمل 5 4 3 2 1
- 31- ترحب الادارة دائمًا بأداء الموظفين الأجانب المتعلقة بمكان العمل قبل اتخاذ
القرارات النهائية الخاصة بموضوعات السلامة 5 4 3 2 1
- 32- يحتوي مكان العمل الخاص بك على لجنة آمنة تتكون من ممثل لموظفي الادارة
والموظفين الأجانب 5 4 3 2 1
- 33- تعزز الادارة من مشاركة الموظفين الأجانب في الأمور المتعلقة بالسلامة 5 4 3 2 1
- 34- تستشير الادارة العمال الأجانب بشكل منتظم عن الأمور المتعلقة بسلامة مكان
العمل 5 4 3 2 1

القسم (ج): الدعم الاجتماعي:

بناءً على ادراكك فقط، يرجى وضع دائرة حول أكثر اجابة تتناسبك استناداً على الهيكل الموضح أدناه:

5 دائما	4 غالبا	3 إلى حد ما	2 ربما	1 ليس دائماً
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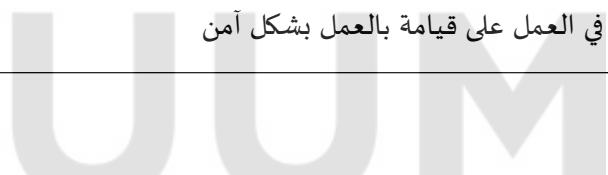
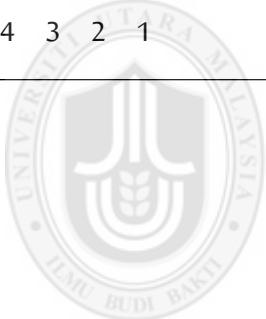
- 1- ما مدى سهولة التحدث الى المشرف الخاص بك؟
 5 4 3 2 1
 2- إلى أي مدى يمكن الاعتماد على المشرف الخاص بك عند مواجهة الصعوبات؟
 5 4 3 2 1
 3- إلى أي مدى يمكن للمشرف الخاص بك تحديد وتقدير عملك؟
 5 4 3 2 1
 4- إلى أي مدى يمكن للمشرف الخاص بك التعاون معك لحل الصعوبات؟
 5 4 3 2 1
 5- ما مدى الدعم الذي تتلقاه من المشرف الخاص بك؟
 5 4 3 2 1
 6- ما مدى سهولة التحدث الى زميلك في العمل؟
 5 4 3 2 1
 7- إلى أي مدى يمكن الاعتماد على زميلك في العمل عند مواجهة الصعوبات؟
 5 4 3 2 1
 8- إلى أي مدى يمكن لزميلك في العمل تحديد وتقدير عملك؟
 5 4 3 2 1
 9- إلى أي مدى يمكن لزميلك في العمل التعاون معك لحل الصعوبات؟
 5 4 3 2 1
 10- ما مدى الدعم الذي تتلقاه من زميلك في العمل؟
 5 4 3 2 1
 11- ما مدى سهولة التحدث مع افراد عائلتك؟
 5 4 3 2 1
 12- إلى أي مدى يمكن الاعتماد على عائلتك عند مواجهة الصعوبات؟
 5 4 3 2 1
 13- إلى أي مدى يمكن لعائلتك تحديد وتقدير عملك؟
 5 4 3 2 1
 14- إلى أي مدى يمكن لعائلتك التعاون معك لحل الصعوبات؟
 5 4 3 2 1
 15- ما مدى الدعم الذي تتلقاه من افراد عائلتك؟
 5 4 3 2 1

القسم (د): سلوك السلامة:

بناءً على ادراكك فقط، يرجى وضع دائرة حول أكثر اجابة تناسبك استناداً على الهيكل الموضح أدناه:

5 أوافق بشدة	4 أوافق	3 لم أقرر أو محابي	2 لا أوافق	1 لا أوافق بشدة
-----------------	------------	-----------------------	---------------	--------------------

- 1- استخدم معدات السلامة الضرورية للقيام بعملي
2- أقوم بعملي بطريقة آمنة
3- اتبع قواعد واجراءات السلامة الصحيحة عند القيام بعملي
4- أضمن أعلى درجات السلامة عند القيام بعملي
5- دائمًا ابلغ الإدارة في حالة وجود مشاكل تتعلق بالسلامة في مكان عملي
6- أبذل جهداً إضافياً لتحسين سلامة مكان العمل
7- أقوم بشكل تطوعي بتنفيذ المهام والأنشطة التي تساعدي في تطور سلامة العمل
8- أشجع زميلاً في العمل على قيمة بالعمل بشكل آمن



أشكرك جزيلًا على وقتك في الإجابة على الأسئلة

وأقدر تمامًا تعاونك الكامل معنا

Appendix C

Indian Language Research Questionnaire



आदरणीय देवियों और सज्जनों

मेरा नाम बासिम अल्फाइज़ है। मैं औतारा यूनिवर्सिटी मलेशिया में स्कूल ऑफ बिज़नेस मैनेजमेंट का पी एच डी स्कॉलर हूँ। मैं आप सभी सज्जनों को एक चर्चा में भाग लेने के लिए आमंत्रित कर रहा हूँ। यह चर्चा संगठनात्मक सुरक्षा प्रथाओं और सुरक्षा व्यवहार पर आधारित होगा। इस चर्चा के निष्कर्षों को व्यावहारिक सिफारिशों के तौर पर पेश किया जाएगा कि सऊदी अरब में मौजूद ढेर सारी कंपनियां निर्माण क्षेत्र में विदेशी मजदूरों की जानी और माली हिफाज़त में किस तरह का रोल अदा कर सकती हैं।

आप की हाज़री पूरी तरह आप पर निर्भर होगी, किर्पया अटैच्ड प्रश्नावली को भरें, इस के लिए आप के क्रीमती समय में से सिर्फ १५ मिनट से अधिक का समय नहीं जाएगा।

प्रश्नावली में किसी भी प्रकार के पहचान की जानकारी की ज़रूरत नहीं है। तमाम जवाबात गुप्त रखे जाएंगे।

प्रश्नावली या चर्चा पर आधारित किसी भी जानकारी के लिए किर्पया balfayez@hotmail.com पर मेल करें या फिर मेरे सुपरवाइजर प्रोफेसर डॉ. चंद्रकांतन सुब्रमनियम (chandra@uum.edu.my) या डॉ. लाज़िम मोहमद ज़ीन (lazim@uum.edu.my) या मेरे टेलीफोन नंबर 0565555528 पर संपर्क करें।

मेरी सराहना होगी अगर आप एक सप्ताह के भीतर सर्वेक्षण पूरा कर के मुझ को दे दें इस के लिए मैं खुद आप से भैंट करूँगा। प्रश्नावली को जब आप भर देंगे तो साथ ही चर्चा सभा में आप की हाज़री के लिए स्वीकारित समझी जाएगी।

आप के आने से मुझ को खुशी मिलेगी

आप का

बासिम अल्फाइज़

स्कूल ऑफ बिज़नेस मैनेजमेंट

यूनिवर्सिटी ऑफ मलेशिया

सेक्शन ए: जनसांख्यिकीय जानकारी

किस्या खाली जगह को भरें और नीचे दिए गए प्रश्नों के उत्तर उस की जगह में (✓) का चिन्ह लगाएं।

1 - कार्य की प्रकृति

- इलेक्ट्रीशियन आयरन वर्कर ड्रिलर प्लम्बर
 ड्राई वाल फिनिशर बढ़ई क्रेन ऑपरेटर कंक्रीट मज़दूर
 सामान ऑपरेटर पेंटर अन्य: कृपिया अस्पष्ट करें

2 - लिंग पुरुष महिला

3 - आयु साल

4 - शिक्षा का उच्चतम स्तर

- सर्टिफिकेट या इस से कम बेचलर डिग्री
 डिप्लोमा अन्य: कृपिया अस्पष्ट करें

5 - मूल के देश _____

6 - अपनी मातृभाषा (वह भाषा जो आप बोलते हैं) _____

7 - अनुभव की अवधि _____ साल

8 - मौजूदा फर्म में अनुभव की अवधि _____ साल

9 - विदेश में काम करने की अवधि _____ साल

10 - मौजूदा फर्म में काम के दौरान कभी कोई हादसा पेश आया ?

- हाँ नहीं

11 - मौजूदा फर्म में आम तौर पर कितने हादसे होते हैं ?

- कभी नहीं कभी कभी काफी दफा अक्सर हमेशा

12 - क्या आप ने कभी व्यावसायिक प्रशिक्षण कार्यक्रम में भाग लिया ?

हाँ नहीं

13 - मौजूदा कर्म में आप कितनी दफा व्यावसायिक प्रशिक्षण कार्यक्रम में भाग लेते हैं ?

कभी नहीं कभी कभी काफी दफा अक्सर हमेशा

सेक्शन बी: संगठनात्मक सुरक्षा अभ्यासें

सिर्फ आप अपने हिसाब से नीचे दिए गए पैमाना के तहत अपने मनासिब जवाब को धेर दें:

1 भर पूर असहमत	2 असहमत	3 अनिर्णीत / निष्पक्ष	4 सहमत	5 भर पूर सहमत
1 मेरे कर्म में सेफटी इशू को हल करने के लिए मैनेजमेंट तुरंत हरकत में आ जाती है।			1 2 3 4 5	
2 सेफटी प्रॉब्लम होते ही मैनेजमेंट कोई निर्णायिक रवैया अपनाती है।			1 2 3 4 5	
3 मेरे कर्म में किसी भी सेफटी प्रॉब्लम होने के बावजूद मैनेजमेंट अपनी आँखें मूँद लेती है।			1 2 3 4 5	
4 किसी भी तरह के असुरक्षित प्रथाओं की जानकारी मिलते ही मैनेजमेंट सही फैसला लेती है।			1 2 3 4 5	
5 मेरे कर्म में मैनेजमेंट हमारी सलामती व सुरक्षा को पहले नंबर पर रखती है।			1 2 3 4 5	
6 जब कोई हादसा पेश आता है तब मैनेजमेंट हरकत में आती है।	1	2 3 4 5		
7 जब सलामती व सुरक्षा से मिलते जुलते प्रथाओं में डिस्टर्ब होने लगे तो मैनेजमेंट अस तरफ ध्यान देती है।	1	2 3 4 5		
8 मैनेजमेंट विदेशी कामगारों के सुरक्षा को पहले नंबर पर रखती है।	1	2 3 4 5		
9 मैं मानता हूँ कि सेफटी से मिलते जुलते इशू को सुरक्षा को पहले नंबर पर नहीं रखते हैं।	1	2 3 4 5		
10 सलामती व सुरक्षा से मिलते जुलते प्रथाओं पर अच्छी तरह अमल किया जाता है।	1	2 3 4 5		
11 वर्क प्रॉजेक्ट को आगे बढ़ाने के लिए मैनेजमेंट सलामती व सुरक्षा से मिलते जुलते पॉलिसी को भी पहले नंबर पर रखते हैं।	1	2 3 4 5		
12 वर्कस को अपना काम पूरा करने के लिए पूरा मौका मिलता है।	1	2 3 4 5		
13 दिए गए काम के लिए वर्कस की तादाद काफी है।	1	2 3 4 5		
14 काम के मुनासिब स्तर को बाकी रखने की ग़र्ज़ से प्लानिंग और सोच विचार करने के लिए वर्कस को पूरी गुंजाईश मिल जाती है।	1	2 3 4 5		
15 ऐसे इशू जिन को हल करना नामुमकिन हो ऐसे टाइम पर वर्कस को सलामती व सुरक्षा के साथ बेहतर सहूलियत दी जाती है।	1	2 3 4 5		
16 प्रोजेक्ट को पूरा करने के लिए शेड्यूल काफी होता है।	1	2 3 4 5		

1 भर पूर असहमत	2 असहमत	3 अनिर्णीत / निष्पक्ष	4 सहमत	5 भर पूर सहमत
17 काम का बोझ हद तक संतुलित रहता है।			1 2 3 4 5	
18 हमारी मैनेजमेंट फर्म के अंदर विदेशी कामगारों के लिए सेफ्टी इशू से मिलते जुलते बेहतर ट्रेनिंग का परबंध करती है।			1 2 3 4 5	
19 नए विदेशी कामगारों को सेफ्टी कानून बताने के लिए बेहतर ट्रेनिंग का परबंध करती है।			1 2 3 4 5	
20 ट्रेनिंग प्रोग्रामों में सेफ्टी इशू को बहुत महत्व दिया जाता है।			1 2 3 4 5	

1 भर पूर असहमत	2 असहमत	3 अनिर्णीत / निष्पक्ष	4 सहमत	5 भर पूर सहमत
21 सेफ्टी ट्रेनिंग प्रोग्रामों में भाग लेने के लिए मैनेजमेंट विदेशी कामगारों की काफी सराहना करती है।			1 2 3 4 5	
22 सेफ्टी ट्रेनिंग मुझ को दी गई इस से अपने फर्म में किसी भी खतरे को जांचने में मुझ को कोई दिक्कत ना आए।			1 2 3 4 5	
23 सेफ्टी इशू को दूर करने के लिए यहां पर बेहतर सुविधा मौजूद है।			1 2 3 4 5	
24 मुझ को मैनेजमेंट के माध्यम से सेफ्टी से मिलते जुलते अनुदेश मिलते रहते हैं।			1 2 3 4 5	
25 हमारी मैनेजमेंट मौजूदा सेफ्टी प्रब्लेम्स से मिलते जुलते अनुदेश नहीं देती है।			1 2 3 4 5	
26 मैनेजमेंट सेफ्टी इशू के लिए एक ओपन डोर पॉलिसी चलाती है।			1 2 3 4 5	
27 बाहिफाजत काम ख़त्म करने पर मेरे काम को सराहा नहीं जाता है।			1 2 3 4 5	
28 सेफ्टी अनुदेश और तरीका हमेशा व्यावहारिक रूप से अंजाम दिया जाता है।			1 2 3 4 5	
29 काम के दौरान भी सेफ्टी अनुदेश का पालण किया जासकता है।			1 2 3 4 5	
30 सेफ्टी अनुदेश पर काम के ख़त्म होने के बाद भी अमल किया जासकता है।			1 2 3 4 5	
31 सेफ्टी से मिलते जुलते मामलों में हमारे फर्म के अंदर विदेशी कामगारों के राय को महत्व दिया जाता है।			1 2 3 4 5	
32 हमारे फर्म में मैनेजमेंट और विदेशी कामगारों के प्रतिनिधियों पर सम्मिलित एक सेफ्टी समिति मौजूद है।			1 2 3 4 5	
33 सेफ्टी से मिलते जुलते मामलों में हमारे फर्म के अंदर विदेशी कामगारों की भागीदारी के लिए मैनेजमेंट हमेशा उभारती रहती है।			1 2 3 4 5	
34 मैनेजमेंट हमेशा फर्म के अंदर सेफ्टी से मिलते जुलते मामलों पर विदेशी कामगारों के साथ पारस्परिक विचार-विमर्श करती रहती है।			1 2 3 4 5	

सेक्शन सी: सामाजिक समर्थन

सिर्फ आप अपने हिसाब से नीचे दिए गए पैमाना के तहत अपने मनासिव जवाब को धेर दें:

1 बिलकुल नहीं	2 थोड़ा	3 बहुत थोड़ा	4 बहुत	5 बहुत ज्यादा	
1 आप कितनी आसानी के साथ अपने सुपरवाइजर से बात कर लेते हैं?	1	2	3	4	5
2 कोई इशु आ जाने पर आप अपने सुपरवाइजर पर कितना निर्भर होते हैं?	1	2	3	4	5
3 आप का सुपरवाइजर आप के काम को कितना नोटिस करता है और वैल्यू देता है?	1	2	3	4	5
4 किसी भी क्रिस्म के प्रोब्लेम्स जाने पर आप का सुपरवाइजर इन को सुलझाने के लिए कितना मददगार साबित होता है ?	1	2	3	4	5
5 आप अपने सुपरवाइजर से कितनी मदद लेते हैं?	1	2	3	4	5
6 आप कितनी आसानी के साथ अपने साथी से बात कर लेते हैं?	1	2	3	4	5
7 कोई इशु आ जाने पर आप अपने साथी पर कितना निर्भर होते हैं?	1	2	3	4	5
8 आप का साथी आप के काम को कितना नोटिस करता है और वैल्यू देता है?	1	2	3	4	5
9 किसी भी क्रिस्म के प्रोब्लेम्स जाने पर आप का साथी इन को सुलझाने के लिए कितना मददगार साबित होता है ?	1	2	3	4	5
10 आप अपने साथी से कितनी मदद लेते हैं?	1	2	3	4	5
11 आप कितनी आसानी के साथ अपनी फैमिली से बात कर लेते हैं?	1	2	3	4	5
12 कोई इशु आ जाने पर आप अपनी फैमिली पर कितना निर्भर होते हैं?	1	2	3	4	5
13 आप की फैमिली आप के काम को कितना नोटिस करता है और वैल्यू देता है?	1	2	3	4	5
14 किसी भी क्रिस्म के प्रोब्लेम्स जाने पर आप अपनी फैमिली इन को सुलझाने के लिए कितना मददगार साबित होता है?	1	2	3	4	5

15 आप अपनी फैमिली से कितनी मदद लेते हैं?

1 2 3 4 5

सेक्शन डी: सुरक्षा व्यवहार

सिर्फ आप अपने हिसाब से नीचे दिए गए पैमाना के तहत अपने मनासिब जवाब को धेर दें:

1 भर पूर असहमत	2 असहमत	3 अनिर्णीत / निष्पक्ष	4 सहमत	5 भर पूर सहमत
1 मैं अपना काम करते समय सुरक्षा उपकरण का उपयोग करता हूँ।	1 2 3 4 5			
2 मैं सही ढंग से अपने काम को अंजाम देता हूँ।	1 2 3 4 5			
3 मैं अपने काम को पूरा करते समय सही सुरक्षा उपकरण का उपयोग करता हूँ।	1 2 3 4 5			
4 मैं अपने काम को खत्म करते समय सुरक्षा का भरपूर छ्याल रखता हूँ।	1 2 3 4 5			
5 फर्म के अंदर कभी भी सुरक्षा से संबंध किसी भी तरह की गड़बड़ी का पता मिलने पर तुरंत मैनेजमेंट को इस की खबर देता हूँ।	1 2 3 4 5			
6 मैं फर्म के अंदर सुरक्षा को बढ़ावा देने की हर दम चेष्टा में रहता हूँ।	1 2 3 4 5			
7 मैं फर्म के अंदर कुछ इस तरह की एक्टिविटी करता रहता हूँ जिस से की सुरक्षा क्रायम रहे।	1 2 3 4 5			
8 मैं अपने साथियों को सुरक्षा बरतने की प्रोत्साहित करता रहता हूँ।	1 2 3 4 5			

प्रश्नावली के उत्तर देने और अपना क्रीमती समय देने का धन्यवाद

आपका सहयोग अत्यधिक सराहना है

Appendix D

Urdu Language Research Questionnaire



شاعر خقائی و حضزات

آپکی شرک قطبی رہنمائی میں بھروسے گئی تھیں۔ اس کی صرف ۱.۰۵٪ ملک کی ملکیت تھیں۔ اس کی ملکیت اپنے وقت میں صرف ایک سو سال تھی۔

ض والبھہ ہر کھٹکی شھی قطن کی شیخی ہکلوا ہبتوکبر گھن ھن، جولہ جھوپلت
ثبلکل دطبشش کلہ می نظور پرہیزیں فنوڑوکھے جھیگے۔

ض والب هب ڈقش حض سواتھ مکٹیٹھی قطیک ٹھٹھ طبر کے لئے رٹ راکرم
 balfayez@hotmail.com
 بھج اکبھتی ضوشر اھن (chandra@uum.edu.my) بڈاکٹر زم مذود فی
 lazim@uum.edu.my
 بھاب میر لٹھٹھ فوی وجر 412111154 پر ریڈٹلکھیں۔

ذر وازی و گیاگر نفر ظرض والبھمکو لی کھفتکے دورایہ پرکریں، اش

کو پاصلی رکھ لئے ہیں از خود آپھ سے ہ تکریگا بھن والبھمک ملکسول مکض بتاہی ہی فیشہ میں رکتک رکھ لئے لکپی رضباہ دی شریوکی ج دینگی۔

آپکی شرکت بگشتم رور و گی

شکری~

پاکب ھو وی

شہزادی

پیای چهُنگی کلبلر
ضلکولفنس صهُن جوٹ
یکور پڑھی افتخاریا هیٹھن

سیکشیو: شعبہ جتی دعوه بت

ث ریکربن بلخ بکوب رکریں اور ہ درج مذی لضوا تکے حقول بت پھل قہ نہ ہیں) /
(کب شبلہ گدیہن۔

- کم کای وعہت:

لائقی ری وکر	پلوجر	لائقی ری وکر	لائقی ری وکر
کوئی پلٹر	کوئی پلٹر	کوئی پلٹر	کوئی پلٹر
کوپر کھڑا کرم	کوپر کھڑا کرم	کوپر کھڑا کرم	کوپر کھڑا کرم
.....

2- جس: ہرد گورت

3- عوز: ضبل

4- علی نکب لعی توی فی بر:

لکٹی فیکی طب اشض مکن ٹپل وہ

کوپر کھڑا کرم موپر دتکریں

1- وظیفلی

2- ہبدر میں و نتبی جو آپشوٹ میں

3- ت خبکی دتی

4- بخی فازمہی ت خبکی دتی

5- اجھی دلکھیں دس دتکی دتی

6- بخی فازمہی رکبمکے دوراں کبھی کوئی حشپیش آئی؟

اب من خون

7- بخی فازمہیں عتم طور پر زکتے حوالشو واقع تکبسن بھکپنوتے ہے؟

کچھی کچھی کچھی اکثر کٹھرتضنے ہوئی شہ

8- اکیب آپکبھی هش غہ بھو ٹزیگ پ فگرامہیں شفی کوئے؟

اب من خون

9- بخی فازم وغ آپ کانٹی دفع دش عجبتی ٹزی گہیں شفی کھوتے ہیں؟

کچھی کچھی کچھی اکثر کٹھرتضنے ہوئی شہ

سیئی بی: گتھی بعفظس مہت علیق طبقہء عول

فقظ آپ پر منھن ہ درجہ فلمبیو مکرت ذات اپر یہ بحث جوفا کو گھر ہے

5 بُپور وفق	4 ووفق	3 غیز جبدار / ہنبذہ	2 غیر وفق	1 بُپور غیر وفق
1 0 3 5 .				ہرے چئے گول ہرض تی مطہل کو دلکرے۔ کے لئے ہی جو ٹپور ادکنی و آج بتیے۔
1 0 3 5 .				خیفٹی پریلن رُوب موے ہی جو ٹکھیٹ ہوش 5 اویں صلہ کی ریہ اخبار کتی۔
1 0 3 5 .				ہری فرم ہی کوئی ٹھیٹی پریلن رُوب موے 3 کیش بوجود ہی جو ٹپلی لگھن مو دلھی۔
1 0 3 5 .				کٹیٹھی طرح گے غلظ طرز گول کی اعہلتے 0 ہی ٹھیٹھی جو ٹوہیں مرضت گیشی لھتی۔
1 0 3 5 .				ہرے چئے گول ہیہی جو ٹموبری ہتی کو 1 اول ٹھیٹھی خ ہتی۔
1 0 3 5 .				جت کھیئی دبٹھ رُوب مچنیب مہتت ٹھیٹ جو ٹ 2 درکت ہیں لٹی۔
1 0 3 5 .				جت تذفع و نفیض ہواٹھنہ طرز گول ہن رخ 3 اڈازی مو ٹلگے تو ٹھیٹ اش چھات نقوچ ہوتی۔
1 0 3 5 .				ہی جو ٹ غی رہل کی ہی کیتذفع کو لایی 4 توجی خ ہتی۔
1 0 3 5 .				ہی ہتب مور کھض تیض ٹکپمل قہ مطہل کو اکلی 5 تی ترجی خ گن دی گئی۔
1 0 3 5 .				نذفع ض تیضے ٹلٹھنہ طرقہ کبر پر ٹذی و خٹنی گلی ٹکب نجہب۔
1 0 3 5 .				ور کپرو ج کٹکو اگ ٹٹھب مکے لئے ٹھیٹ نذفع و نفیضے تکپ قبب لٹی کو شہی اوی توجی خ ہتی۔

بُوپور وفق	وقيق	غیز جبدار / هنبدہ	غیز وفق	بُوپور غیز وفق
5	4	3	2	1
1 0 3 5 .	5	لئے فلر وفق	لئے غیز	5. ہیکو پل کے بپور کر کے لئے غیز
1 0 3 5 .	.	مطہر کبم کے لئے ہی کھپکیں	.	3. مطہر کبم کے لئے ہی کھپکیں
1 0 3 5 .	.	گ اور ہنگول کی غرض	گ اور ہنگول کی غرض	0. ہبم بھضتہ بکھر کو تذبلوکہ کی غرض
1 0 3 5 .	.	ای طے بطل جیکے نول ہی کھضتہ رشضے	ای طے بطل جیکے نول ہی کھضتہ رشضے	1. ای طے بطل جیکے نول ہی کھضتہ رشضے
1 0 3 5 .	.	ٹھر موٹ طل وندت ہیں ہی کو ایکے تفہ	ٹھر موٹ طل وندت ہیں ہی کو ایکے تفہ	ٹھر موٹ طل وندت ہیں ہی کو ایکے تفہ
1 0 3 5 .	.	رض تی پر آج میٹ غیر ایکو نفور ہبی لفران	رض تی پر آج میٹ غیر ایکو نفور ہبی لفران	رض تی پر آج میٹ غیر ایکو نفور ہبی لفران
1 0 3 5 .	.	ای طیجتے ہیں	ای طیجتے ہیں	ای طیجتے ہیں
1 0 3 5 .	.	بروج کٹکے گکول کے لئے ہر کبر وکتبی توبہ	بروج کٹکے گکول کے لئے ہر کبر وکتبی توبہ	2. بروج کٹکے گکول کے لئے ہر کبر وکتبی توبہ
1 0 3 5 .	.	کم کبشو جھکو ل دتک نقاوازی توبہ	کم کبشو جھکو ل دتک نقاوازی توبہ	3. کم کبشو جھکو ل دتک نقاوازی توبہ
1 0 3 5 .	.	وبری ھی جوٹ بھئے گول ہن غیرہل کی ہی	کے لئے ضریٹی بطلضے وٹھٹہ بھے غترنی نگب	4. وبری ھی جوٹ بھئے گول ہن غیرہل کی ہی
1 0 3 5 .	.	جھی دغی رہل کی ہی کے لھٹھی فٹی قولی وضے	جھی دغی رہل کی ہی کے لھٹھی فٹی قولی وضے	5. جھی دغی رہل کی ہی کے لھٹھی فٹی قولی وضے
1 0 3 5 .	.	ٹھر ورکراے اور طوق ہم برکے لئے ٹھری گکب	ٹھر ورکراے اور طوق ہم برکے لئے ٹھری گکب	ٹھر ورکراے اور طوق ہم برکے لئے ٹھری گکب
1 0 3 5 .	.	54 ٹھری گپوگ را مو ضھی فٹی ضھو گب تکو لموت	54 ٹھری گپوگ را مو ضھی فٹی ضھو گب تکو لموت	54 ٹھری گپوگ را مو ضھی فٹی ضھو گب تکو لموت
1 0 3 5 .	.	55 ھفتی ٹھری گپرو گرام ہن شرکت کرے کے لئے	55 ھفتی ٹھری گپرو گرام ہن شرکت کرے کے لئے	55 ھفتی ٹھری گپرو گرام ہن شرکت کرے کے لئے
1 0 3 5 .	.	ہی جوٹ غیرہل کی ہی کی مو ت فلاٹی کوتی	ہی جوٹ غیرہل کی ہی کی مو ت فلاٹی کوتی	ہی جوٹ غیرہل کی ہی کی مو ت فلاٹی کوتی
1 0 3 5 .	.	53 ای خٹھی فٹی لاش وز جو ھج پر ٹھرا داز ہوں ایکے	53 ای خٹھی فٹی لاش وز جو ھج پر ٹھرا داز ہوں ایکے	53 ای خٹھی فٹی لاش وز جو ھج پر ٹھرا داز ہوں ایکے
		کلے لئے سو بار پر شتمر لظیم موجود ہے		

ب ۵ ب ۰ ب ۱	و ۴ و ۳ و ۲	غ ۳ غ ۲ غ ۱	ج ۲ ج ۱	ن ۱
ب ۵ ب ۰ ب ۱	و ۴ و ۳ و ۲	غ ۳ غ ۲ غ ۱	ج ۲ ج ۱	ن ۱
1 0 3 5 .	1 0 3 5 .	1 0 3 5 .	1 0 3 5 .	1 0 3 5 .
50 خن سے ویٹھ کچلوب متوں شفر لرکی بھتی ہے۔	51 کپلے مبتفرملن گرکارٹی ہے۔	52 تی ہے۔	53 جنتبے ہے۔	54 ا جھبہ جنتبے ہے۔
55 کچلوب کچ بضریب ہے۔	34 جنبوگب ہے۔	3. غیرہلکی ہ یہی کے رئے کی قدر دویش کی جبتی ہے۔	35 کے روپی دوپ رشہ تکلیطی فٹی کٹی فرمان ہے۔	33 کی شوڑی تکے لئے ھی جو ٹھویش کوشش رہتی ہے۔
30 بٹیل پر خرہلکی ہ یہی ضربت ہجبدل ہے ایخبل کتی رتمی ہے۔				

سکشی سی اجتنبی اور سچی دعبوٽ

فقظ آپ پر متنہن ہ درجہ فلیپیوں کے تذات اپر یہ بحث جوقا کو گھر ہے

5 بہت سید	4 بہت	3 بہت ہوڑا	2 ت ہوڑا	1 بیلکل نہیں
1 0 3 5 .	آپکت ہنس بیکض بت ہیل ضوپر ونھیں رض بشتکریلہتے۔	عین؟		
1 0 3 5 .	مش ت رووب موجا پر آپ پر ضوپر ونھیں رپر کتبے۔	5 ہُنصر موتے عین؟		
1 0 3 5 .	آپکبض وپر ونھیں ر آپک کبمکوت بپکتبے اور لہوت ہے۔	3 عین؟		
1 0 3 5 .	کطیٹھو ق طنکے شوک تپیش آجھا پر آپکبض وپ رائی سر	0 ی کھول جہ گھے لئے رکت بددگ برشتتموبے؟		
1 0 3 5 .	آپ پر ضوپر ونھیں رض کصقر در ہدبصل کولہتے عین؟	1		
1 0 3 5 .	آپکت ہنس بیکض بت ہیل کے طیضت ہیض بشتکریلہتے۔	2 عین؟		
1 0 3 5 .	مش ت رووب موجا پر آپ پر ض بتھی پر کتبے ہُنصر موتے عین؟	3		
1 0 3 5 .	لب ض بتھی بیل کے کبکھوں بکتبے پر کتبے اور لہوت تھیبے؟	4		
1 0 3 5 .	کطیٹھو ق طنکے مش تپیش آجبا پر آپکبض بتھی ایکو لجھبے کے رائے رکت بددگ برشتتموبے؟	5		
1 0 3 5 .	لیلے ض بتھیض کصقر در ہدبصل کولہتے عین؟	4		
1 0 3 5 .	.. پر کت ہنس کبی ض بتھیل فھولیض بشتکریلہتے عین؟			
1 0 3 5 .	مش ت رووب موجا پر آپ پر فھولی پر کتبے ہُنصر موتے عین؟	5		
1 0 3 5 .	آپک فھولی گپے کبکھوں بکتبے اور لہوت ہتھیے؟	3		
1 0 3 5 .	کطیٹھو ق طنکے مش تپیش آجبا پر آپک فھولی ایکو لجھبے کے رائے رکت بددگ برشت موتیے؟	0		
1 0 3 5 .	آپ پر فھیلیض کصقر در ہدبصل کولہتے عین؟	1		

سیکشی ڈیفیٹی طرز س عول

فقظ آپ پڑھئے ہ درجہ فلیو مکرت ذات اپنے بھضت جو فاکو گھر ہے 6

5 بُپور وفق	4 وافق	3 غیز حبدار / ہنبذہ	2 غیر وفق	1 بُپور غیر وفق
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- 1 0 3 5 . ۔ یہ پل کبم کو پورا کرے کے ائے فہبظض بزر . منہج کی بھت کیبل کتب ہوں۔
- 1 0 3 5 . 5 یہ صفحہ خدا گضے پلے نکم کو اچھے کتب ہوں۔
- 1 0 3 5 . 3 یہ پل کبم کو لحاظ ہے قدر ض تھفٹی قوائی اور طبقہ مہر پر گول کتب ہوں۔
- 1 0 3 5 . 0 یہ پل کبم کو لحاظ ہے قدر ض تھفٹی بیث هرپور . خبلو کتب ہوں۔
- 1 0 3 5 . 1 نرمکے ادراک جھیل پھٹی ضے پھل ق کطی ثہی ق طنک خ دش ب تکی خ جر مل پرفور ہی جو ٹکو اشکی خ جر تکب ہوں۔
- 1 0 3 5 . 2 یہ فرمکے ادراک جھیل پھٹی کو فروٹی ہے کی عذب ہضے . یہ بیکوشیں تکب ہوں۔
- 1 0 3 5 . 3 یہ ضرکبر اہ طور پر فرمکے ادراک جھ اش طرح کی اکٹھی ٹھیکرت تکب ہوں ج صرض ض کی فٹی شنبل رہے اور فروٹی بیب رہے۔
- 1 0 3 5 . 4 یہ پل ض بھوں کنوی فٹی ثہت کی ترخیت تکب . تکب ہوں۔

سوال کے جوابیت نہیں کی لئے اپنے قیمتی دیکھ بھت بہتر کنویں آپکی اع تکبھی بصد ہو وی ہوں

Appendix E

Letter for Data Collection and Research Work



OTHMAN YEOP ABDULLAH
GRADUATE SCHOOL OF BUSINESS
Universiti Utara Malaysia
06010 UUM SINTOK
KEDAH DARUL AMAN
MALAYSIA



Tel.: 604-928 7101/7113/7130
Faks (Fax): 604-928 7160
Laman Web (Web): www.oyagsb.uum.edu.my

KEDAH AMAN MAKMUR • BERSAMA MEMACU TRANSFORMASI

UUM/OYAGSB/K-14
• 17 September 2015

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that **Alfayez, Bassem Abdullah D (Matric No: 95059)** is a bonded student of Doctor of Philosophy (PhD), Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia. He is conducting a research entitled "**The Moderating Effect Of Social Support On The Relationship Between Safety Management Practices And Safety Behavior Among Foreign Workers In Construction Industry In Saudi Arabia**" under the supervision of Assoc. Prof. Dr. Chandrakantan Subramaniam.

In this regard, I hope that you could kindly provide assistance and cooperation for him to successfully complete the research. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

"SCHOLARSHIP, VIRTUE, SERVICE"

Yours faithfully

KARTINI BINTI DATO' TAJUL URUS

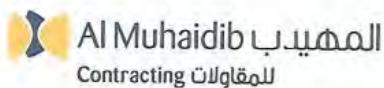
Senior Assistant Registrar
for Dean
Othman Yeop Abdullah Graduate School of Business

C.C - Supervisor
- Student's File (95059)

Othman Yeop Abdullah
Graduate School of Business
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman



Appendix F
Agreement Letter from Al-Muhaidib Construction Company



التاريخ: ١٤٣٦/١٢/٢٢

الموافق: ٢٠١٥/١٠/٥ م

الموضوع: استبيان رسالة الدكتوراه.

وفقه الله

سعادة الملحق الثقافي في ماليزيا

السلام عليكم ورحمة الله وبركاته ..

بناءً على رغبة الطالب بمرحلة الدكتوراه / باسم بن عبدالله الفايز سجل مدني رقم: ١٥٧٢٩١١٢ بالتعاون معه في تطبيق استبيانه وجمع بعض المعلومات والبيانات المتعلقة بر رسالة الدكتوراه.

عليه نفيد سعادتكم بموافقتنا على طلبه وسيتم التعاون مع الطالب وتسهيل مهمته.



Universiti Utara Malaysia

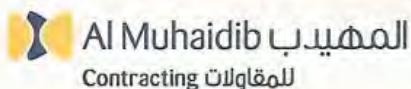
وتقبلوا خالص تحياتينا وتقديرنا ..



شركة المهيدب للمقاولات ذ.م.م.
٩٦٦ ٩٦٦ ٣٣٦ ٤١ - ٩٦٦ ٩٣ - ٢٢٣٠٧٥٩ - فاكس: ٠٣٨٢٨٠٥٠٠ - بريد إلكتروني: www.muhaidibco.com info@muhaidibco.com
ش. البصرية، شارع الملك فهد، حي العروبة، جدة، المملكة العربية السعودية

Appendix G

Letter for Completed Data Collection



25th February 2016

التاريخ: ١٦ جمادى الاولى ١٤٣٧ هـ

HE cultural attaché of the Embassy of the Custodian of the Two Holy Mosques (May Allah protect him)

Malaysia

May God's peace, mercy and blessings be upon you

Al-Muhaidib Contracting Company, certify that Mr. 'Bassem Abdullah Al-Fayez (National ID number 1015729112), the post-graduation student on doctorate stage ,has made several visits to the sites of our company , which has already taken him to distribute questionnaires and collect relevant data doctoral research , which is working on the preparation of his studies.

This visit was commenced during the period from 05.10.2015 till date 02/20/2016.

This letter is issued upon the request of Mr.Basim & to be submitted to the relevant authorities and build on student's responsibilities.

We pray to Allah (SWTA) to bless him and enable him to achieve his goals with all the success.

Yours Sincerely

سعادة الملحق الثقافي سفارة خادم الحرمين الشريفين حفظه الله

دولة ماليزيا

السلام عليكم ورحمة الله وبركاته وبركاته،

بهذا تشهد شركة المهيديب للمقاولات بأن الاستاذ / باسم بن عبد الله الفايز (سجل مدنی رقم ١٠١٥٧٢٩١١٢) والطالب بمرحلة الدكتوراه قد قام بعدة زيارات لمواقع الخاصة بشركتنا والتي قام خلالها بتوزيع الاستبيانات وجمع البيانات ذات العلاقة بر رسالة الدكتوراه التي هو يعمل على إعدادها وقد كانت تلك الزيارة على مدار الفترة من ١٥/١٠/٢٠١٥م وحتى تاريخ ٢٠/١٦/٢٠٢٠م.

حرر له هذا الخطاب لتقديمه للجهات ذات العلاقة وبناء على طلبة وعلى مسؤوليته.

Utara Malaysia

داعين الله أن يسدد خطاه وأن يوفقه في رسالته بكل التوفيق والنجاح بإذن الله.

ونفضلوا بقبول وافر التحية والتقدير،



عماد بن عبدالقادر المهيديب

Emad A.K.Al-Muhaidib

رئيس مجلس الإدارة

Chairman



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Appendix H

Certification of Translation



Certified Translation

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Affidaviti

54/61

Hereby, Huns Khidma translation agency certifies that the attached documents and articles are correct ones of the original source text without taking any responsibility for any modification or addition without referring to us.

تفتح مزاجك هذا خدمة للترجمة أن المستند
والمؤرخ المترجمة المترجمة هي عبارة عن
ترجمة صحيحة للعن الأصلي دون أن ترى
مسؤولية عن المحتوى والمؤسسة غير
مسؤولية عن أي تحويل أو اصطلاح دون
الرجوع لها

ختم و توقيع مترجمة ملائكة



Chamber of Commerce

**تصادف و زراعة الماء مثلاً في مصر على صعيد الحدود والجراجة دون
الحدود من التهديدات**

رقم الملف: ٥٢٨٣-٦٤١٠١٥

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Appendix I

Univariate Statistics

Univariate Statistics

	N	Mean	Std. Deviation	Missing		No. of Extremes ^a	
				Count	Percent	Low	High
MC1	273	4.14	1.021	9	3.2	31	0
MC2	272	4.10	.793	10	3.5	11	0
MC3	271	4.10	.967	11	3.9	21	0
MC4	272	4.02	1.141	10	3.5	27	0
MC5	271	4.13	1.048	11	3.9	32	0
MC6	269	4.09	1.067	13	4.6	33	0
MC7	273	4.01	1.029	9	3.2	26	0
PS1	270	4.19	1.052	12	4.3	28	0
PS2	270	4.16	1.018	12	4.3	21	0
PS3	267	4.17	1.055	15	5.3	25	0
PS4	271	4.26	1.015	11	3.9	17	0
WP1	270	4.19	.900	12	4.3	11	0
WP2	272	4.14	.902	10	3.5	20	0
WP3	270	4.09	.975	12	4.3	20	0
WP4	272	4.12	1.004	10	3.5	22	0
WP5	273	4.11	.962	9	3.2	19	0
WP6	269	4.10	1.063	13	4.6	22	0
ST1	271	4.39	.844	11	3.9	12	0
ST2	271	4.34	.945	11	3.9	17	0
ST3	273	4.31	.900	9	3.2	16	0
ST4	269	4.17	.956	13	4.6	21	0
ST5	272	4.32	.826	10	3.5	13	0
SC1	273	4.28	.806	9	3.2	9	0
SC2	270	4.15	.896	12	4.3	15	0
SC3	272	4.24	.895	10	3.5	13	0
SC4	270	4.16	.969	12	4.3	21	0
SC5	272	4.16	.915	10	3.5	16	0
SR1	271	4.30	.887	11	3.9	14	0
SR2	274	4.30	.860	8	2.8	15	0
SR3	271	4.22	1.027	11	3.9	20	0
WI1	273	4.30	.923	9	3.2	16	0
WI2	272	4.25	.916	10	3.5	16	0
WI3	273	4.36	.829	9	3.2	11	0
WI4	273	4.35	.858	9	3.2	11	0
SS1	273	4.17	1.142	9	3.2	28	0
SS2	273	4.18	.764	9	3.2	9	0

SS3	272	4.37	.967	10	3.5	21	0
SS4	273	4.24	.861	9	3.2	14	0
SS5	272	4.22	.912	10	3.5	14	0
SS6	272	4.20	1.004	10	3.5	19	0
SS7	272	4.14	1.026	10	3.5	23	0
SS8	271	4.27	.832	11	3.9	11	0
SS9	272	4.21	.975	10	3.5	17	0
SS10	272	4.31	.888	10	3.5	12	0
SS11	271	4.35	.842	11	3.9	13	0
SS12	271	4.26	.974	11	3.9	20	0
SS13	272	4.36	.966	10	3.5	20	0
SS14	274	4.26	.938	8	2.8	21	0
SS15	274	4.23	1.009	8	2.8	18	0
SCO1	271	4.34	1.023	11	3.9	20	0
SCO2	272	4.42	.792	10	3.5	6	0
SCO3	275	4.45	.797	7	2.5	8	0
SCO4	274	4.43	.801	8	2.8	14	0
SPA1	273	4.33	.818	9	3.2	6	0
SPA2	272	4.35	.933	10	3.5	21	0
SPA3	274	4.45	.779	8	2.8	5	0
SPA4	271	4.52	.693	11	3.9	7	0

a. Number of cases outside the range (Q1 - 1.5*IQR, Q3 + 1.5*IQR).