SAFETY BEHAVIOUR AMONG MEDICAL LABORATORY WORKERS IN PRIVATE SECTOR

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ABSTRACT

This study was conducted to determine the relationship between work safety scale (WSS) and compliance of safety behaviour among medical laboratory workers in private sector. The five facets of WSS which developed by Hayes et al. (1998) is scale that assessed workers perception of work safety at the workplace. Safety behaviour defined as the behaviour and attitudes of employees' to safety activities. The study involves 119 respondents from private medical laboratory in Shah Alam, Klang and Petaling Jaya Selangor. The data collected using survey questionnaire and use cross sectional study in collecting data. The questionnaire is adopted from Hayes et al. (1998) that measure job safety, co-workers safety, supervisor safety, management safety practices, satisfaction of safety programs and compliance of safety behavior. All the data obtained from the study were analyzed with descriptive analysis, reliability test, Pearson correlation test and multiple regression analysis. The findings show that job safety, supervisor safety and co-worker safety positively correlate with compliance of safety behavior. Meanwhile management safety practices and satisfaction of safety programs were not significantly correlated to dependent variable. Among the factors which correlated to compliance of safety behavior, job safety and supervisor safety have most significant relationship in predicting compliance of safety behavior among medical laboratory workers. The results in this study could give additional information to the organization of medical laboratory in private sector to improve their safety management and safety practices in order to have safe and healthy work environment.

Keywords: Medical Laboratory workers, Work safety Scale, Job safety, Co-worker safety, Supervisor safety, Management Safety Practices, Satisfaction of Safety Program, Compliance of Safety Behaviour

ABSTRAK

Kajian ini dijalankan untuk menentukan hubungan antara skala keselamatan kerja (WSS) dan pematuhan kelakuan keselamatan di kalangan pekerja makmal perubatan di sektor swasta. Lima aspek WSS yang dicadangkan oleh Hayes et al, (1998) adalah skala yang menilai persepsi pekerja mengenai keselamatan kerja di tempat kerja. Tingkah laku keselamatan ditakrifkan sebagai tingkah laku dan sikap pekerja untuk aktiviti keselamatan. Kajian ini membabitkan 119 responden dari makmal perubatan swasta di Shah Alam, Klang dan Petaling Jaya, Selangor. Data dikumpul menggunakan kajian soal selidik dan menggunakan kajian 'cross sectional' dalam mengumpul data. Soal selidik ini diambil dari Hayes et al. (1998) yang mengukur keselamatan pekerjaan, keselamatan rakan sekerja, keselamatan penyelia, amalan keselamatan pengurusan, kepuasan tingkah laku keselamatan dan pematuhan terhadap tingkah laku keselamatan. Data yang diperoleh daripada kajian yang dijalankan dianalisis dengan analisis deskriptif, ujian Reliabiliti, ujian korelasi Pearson dan analisis regresi. Keputusan kajian menunjukkan bahawa keselamatan kerja, keselamatan penyelia dan keselamatan rakan sekerja dikaitkan secara positif dengan pematuhan tingkah laku keselamatan. Sementara itu, amalan keselamatan pengurusan dan kepuasan program keselamatan tidak berkaitan dengan pembolehubah bergantung. Antara faktor yang berkaitan dengan pematuhan tingkah laku keselamatan, keselamatan kerja dan keselamatan penyelia mempunyai hubungan yang paling penting dalam meramalkan kepatuhan terhadap tingkah laku keselamatan di kalangan pekerja makmal perubatan. Keputusan dalam kajian ini dapat memberikan maklumat tambahan kepada organisasi makmal perubatan di sektor swasta untuk meningkatkan pengurusan keselamatan dan amalan keselamatan mereka dalam memastikan kawasan persekitaran kerja selamat dan sihat.

Kata kunci: Pekerja Makmal Perubatan, Skala Keselamatan Kerja, Keselamatan Kerja, Keselamatan Pekerja, Keselamatan Penyelia, Amalan Keselamatan Pengurusan, Kepuasan Program Keselamatan, Pematuhan Kelakuan Keselamatan

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LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
DOSH	Department of Occupational Safety and Health
CDC	Centre of Disease and Prevention
FMA 1967	Factories and Machinery Act 1967
HBV	Hepatitis B Virus
HBsAg	Hepatitis B Surface Antigen
HCV	Hepatitis C Virus
HCWs	Health Care Workers
HIV	Human Immunodeficiency Virus
MLT	Medical Laboratory Technologist
OSH	Occupational Safety and Health
OSHA	Occupational Safety and Health Agency
OSHA 1994	Occupational Safety and Health Act 1994
SOCSO	Social Security Organization
TPB	Theory of Planned Behaviour
WHO	World Health Organization
WSS	Work Safety Scale

CHAPTER 1

INTRODUCTION

This chapter will emphasize on the background of the study, problem statements that related with the study, research questions, research objective, and significance of the study, scope of the study as well as definition of key terms used in this study.

1.1 Background of the Study

Medical field has changed with developments of advanced and new technology in medicine. Laboratory medicine is a rapidly changing field where new technology and scientific advances are introduced into medical practice. Medical laboratory offer various diagnostic tests to identify, making diagnosis and recommended treatments of diseases in patients. Laboratory tests will provides information of patients health in order to get effective treatment and prevention of diseases. Mostly decisions of diagnosis and treatments taken for patients are based of laboratory results. In Malaysia it was estimated that about 240 million pathology laboratory tests were performed in the country in 2006. Of these, 46% were conducted in the Ministry of Health, 10% in University hospitals and 44% in private laboratories (Looi, 2008). The test is involved the field of Biochemistry,

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References

Adel H.E., (2014) Assessment Of Biosafety Precautions In Khartoum State Diagnostic Laboratories, Sudan,

Abdul Raziq & Raheela M. (2015) Impact Of Working Environment On Job Satisfaction 2nd Global Conference On Business, Economics, Management And Tourism, 30-31 October 2014, Prague, Czech Republic *Procedia Economics and Finance* 23 717 – 725

Alamgir H, Cvitkovich Y, Astrakianakis G, Yu S, Yassi A.(2011) Needlestick And Other Potential Blood And Body Fluid Exposures Among Health Care Workers In British Columbia, Canada. Am *J Infect Control*. Feb;36(1):12-2.1

Ali, H., Abdullah, N. A. C., & Subramaniam, C. (2009). Management practice in safety culture and its influence of workplace injury: An industrial study in Malaysia. *Disaster Prevention and Management, 1(18),* 470-477.

Anuar, I., Zahedi, F., Kadir, A., & Mokhtar, A., (2008) Laboratory-Acquired Injuries In Medical Laboratory: A Survey Of Three Referal Medical Laboratories From Year 2001 To 2005. *Journal Of Community Health,* 14(1), Pp. 32-37.

Amponsah T.K., Dartey-B.K.,(2011) Occupational health and safety: key issues and concerns in Ghana. *Int J Bus Soc Sci*;14:120e6.

Armitage, C. J. & Conner, M. (2001). Efficacy of the theory of planned behavior: A meta-analytic review. *The British Journal of Social Psychology*, *40* (Pt 4), 471–99.

Ajzen, I., (1991). The theory of planned behavior. Organizational Behavior and Decision Processes 50, 179-211.

Beltrami, E. M., Williams, I. T., Shapiro, C. N. And Chamberland, M. E., (2000). Risk and Management Of Blood-Borne Infections In Health Care Workers. *Clinical Microbiology Reviews,* 13(3), Pp. 385-407

Beus, J.M., Bergman, M.E., & Payne, S.C. (2010). The influence of organizational tenure on safety climate strength: A first look. *Accident Analysis and Prevention*, 42(1), 1431-1437.

Centers for Disease Control & Prevention (CDC). (2014). Occupational HIV Transmission and Prevention among Health Care Workers. Retrieved November 12, 2017 from http://www.cdc.gov/hiv/risk/other/occupational.html

Chua Y.P, (2013) Mastering Research Statistics Mc Graw Hill Education

Christian R.S., (2015) Limitation of a cross-sectional study *Am J Orthod Dentofacial Orthop* 2015;148:205 0889-5406 Retrieved from http://dx.doi.org/10.1016/j.ajodo.2015.05.006

Department of Occupational Safety and Health (DOSH),(2016). Occupational Disease Statistics. Available at: http://www.dosh.gov.my/index.php/en/occupational-disease-poisoning-statistic (Assess at 6 Disember 2017].

De Carli G., Abiteboul D., & Puro V.,(2014) The Importance Of Implementing Safe Sharp practices in the Laboratory setting In Europe. *Biochemica Medica* 24(1);45-56 Retrieved from http://dx.doi.org/10.11613/BM.2014.007

Dorothea W.A (2015) Relationship with Supervisor and Co-Workers, Psychological Condition and Employee Engagement in the Workplace *Journal of Business and Management* Volume 4, Issue 3, 34-47 ISSN 2291-1995 E-ISSN 2291-2002

Dukic K., Zoric M., Pozaic P., starcic J., Cuyljak M., Saracevic A., & Miler M.(2015) How compliant technicians with universal safery measure in medical laboratories in Croatia Biochemica Medica 25(3):386-92 Retrieved from http://dx.doi.org/10.11613/BM.2015.038

Everline M.M, Zipporah N., Peter W., Jared O., (2010) Prevalence and factors associated with percutaneous injuries and splash exposures among health-care workers in a provincial hospital, Kenya, *Pan African Medical Journal – ISSN: 1937- 8688 (www.panafrican-med-journal.com)* Published in partnership with the African Field Epidemiology Network (AFENET). Retrieved from (www.afenet.net)

Flin, R., Mearns, K., O'Connor, P., & Bryden, R. (2000). Measuring safety climate: identifying the common features. *Safety Science, 34,* 177–193.

Ford MT, Tetrick LE. (2008). Safety Motivation and Human Resource Management in North America. Int J Hum Resour Manag;19:1472e85

Gyekye, A.S. (2006). Workers perceptions of Workplace Safety and Job Satisfaction. *Journal of Occupational Safety and Ergonomics, 11,* 291-302.

Gyekye, S.A., & Salminen, S. (2005). Are 'good soldiers' safety conscious? An examination of the relationship between organizational citizenship behaviours and perception of workplace safety. *Social Behavior and Personality,33,* 805–820.

Gyekye, A.S., & Salminen, S. (2007) Workplace safety perceptions and perceived organizational support: Do supportive perceptions influence safety perception? *International Journal of Occupational Safety and Ergonomics, 13(2),*189-200.

Gutiérrez, J.M., Emery, R.J., Whitehead, L.W., & Felknor, S.A. (2013). A means for measuring safety climate in the university work setting. *Journal of Chemical Health & Safety*, 658, 1-10. doi:10.1016/j.jchas.07.001.

Hansa M. G., Sumeeta T. S., Sachin M. P., Mitesh K. P. (2011). A Study On Knowledge, Attitude And Practice of Laboratory Safety Measures Among Paramedical Staff Of Laboratory Services. *National Journal Of Community Medicine,* 2(3), Pp. 470-473.

Harding Al, Byers (2000) Kb. Epidemiology of Laboratory-Associated Infections. In: Fleming Do, Hunt Dl, Editors. Biological Safety: Principles and Practices. 3rd Ed. Washington, Dc: Asm Press.; 35-54

Hayes, B., Perander, J., Smecko, T., & Trask, J. (1998). Measuring Perceptions of Workplace Safety: Development and Validation of Work Safety Scale. *Journal of Safety Research, 29,* 145-161.

Hesham, Ilina, Zamberi, Tajunisha, And Ariza., (2005). Hepatitis Immunization Status Among Healthcare Workers In Two Kuala Lumpur Hospitals. *Med J Malaysia,* 60(4), Pp. 407-410. 14. 15.

Hsu SH, Lee CC, Wu MC, Takano K.(2007) Exploring cross-cultural differences in safety climate of oil refinery plants in Japan and Taiwan. Proceedings of theInternational Conference on Business and Information; Jul; Tokyo,Japan;p. 11e13. [Internet]. Available from:http://ibacnet.org/bai2007/proceedings/Papers/2007bai7280.doc.

Hughes, P. & Ferrett, E., (2011). *Introduction to Health and Safety at Work* 5th ed. USA: Elsevier Ltd.

Ibrahim, I. I., Muhammad Noor, S., Nasirun, N. and Ahmad, Z.(2012). Safety in the office. *Procedia-Social and Behavioral Science,* 50, pp. 730-740.

International Labour Organization, (2014). Investigation of Occupational Accidents and Diseases A Practical Guide for Labour Inspectors [Online]. Available at http://www.ilo.org/wcmsp5/groups/public/%40ed_dialogue/%40lab_admin/documents/publication/wcms_346714.pdf [Accesed 4 April 2018].

Izegbu M.C, Amole O.O, Ajayi G.O.(2006) Attitudes, perception and practice of workers in laboratories in the two colleges of Medicine and their teaching hospitals in Lagos State. *Nigeria Biomedical Research; 17 (1): 49-54.*

Javed A., Sameera A.J., Loulwah H., Khalid A.Z., (2011) Laboratory Work Practices And Occupational Hazards Among Laboratory Health Care Workers: A Health And Safety Survey *Journal Of Pharmaceutical And Biomedical Sciences* , 9 (04)

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.

Karim, N. and Chee, K. C. (2000). Laboratory Accidents- a matter of attitude. *Malaysian Journal of Pathology,* 22(2), pp. 85-89.

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.)

Khoo T. H., Lilis S. and Daisy K.M.H.(2011) Safety Management Practices and Safety Behaviour: A Preliminary Investigation in Malaysian Small and Medium Enterprises in Northern Corridor Economic Region (NCER*) J. Occu. Safety & Health* 8: 1-11,

Kozajda A., Karolina B., Irena S.S, (2013) Factors Influencing Biosafety Level And Lai Among The Staff Of Medical Laboratories. *Medycyna Pracy*;64(4):473–486

Kwesi A.T., Justice M. (2016). Occupational Health and Safety and Organizational Commitment: Evidence from the Ghanaian Mining *Industry Safety and Health at Work* 7:225e230

Laxman, L. K. and Soehod, K., (2007). Law On Safety And Health in Malaysia. Malaysia: Fakulti Pengurusan dan Pembangunan Sumber Manusia.

Lee, S., & Dalal, R. S. (2016). Climate as situational strength: Safety climate strength as a cross-level moderator of the relationship between conscientiousness and safety behaviour. *European Journal of Work and Organizational Psychology*, 25(1), 120-132.

Lugah V, Ganesh B, Darus A, Retneswari M, Rosnawati M R.,& Sujatha D. (2012) Training of occupational safety and health: Knowledge among Healthcare Professionals in Malaysia *Singapore Med J*; 51(7) : 587

Lu, C. S. & Kuo, S. Y. (2016). The effect of jobstress on self-reported safety behavior in container terminal operations: The moderating role ofemotional intelligence. *Transportation Research Part F: Traffic Psychology and Behavior*, *37*, 10–26.

Mahmood, R., Mohd Isa, M.F., Mustafa, M., Abdul Aziz, F.S.,& Salleh, A. (2010). Safety Behaviour: The Role of Safety Commitment.

Marianne T; Mats E; Anders P. (2017) An Intervention In Management Teams To Improve Workers' Safety Climate. A Mixed-Methods Study Of Intervention Process And Effects *Safety Science* Monitor Issue 1 Vol 20 Article 4

Mashi M.S.(2014) Moderating effect of consideration Of Future safety consequence 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)*

Mcfadden A. (2015). The Impact Of Co-Workers On Safety Outcomes: Comparing Models Of Mediation, Moderation, And Incremental Effects *All Dissertations.* Paper 1576.

Mosher, G. A. (2011). Measurement and analysis of the relationship between employee perceptions and safety and quality decision-making in the country grain elevator (Doctoral dissertation, IOWA STATE UNIVERSITY).

Mosher, G. A., Keren, N., Freeman, S. A. & Hurburgh, C. R. (2013). Employee Trust and Its Influence on Quality Climate at Two Administrative Levels, *Journal of Technology, Management, and Applied Engineering*, 29(2), 2-12.

Mashi M.S., Subramaniam C. & Johari J. (2016) The Effect of Safety Training and Workers Involvement on Healthcare Workers Safety Behavior: The Moderating Role of Consideration of Future Safety Consequences School of Business Management, Universiti Utara Malaysia, Malaysia Volume 1 Issue 2

Nagaraju B, Padmavathi Gv, Puranik Ds, Shantharaj Mp, & Sampulatha Sp. (2013) A Study To Assess The Knowledge And Practice On Bio-Medical Waste Management Among The Health Care Providers Working In Phcs Of Bagepalli Taluk With The View To Prepare Informational Booklet. *Int J Med Biomed Res;*2(1):28-35

Nasim S., Shahid A.,Mustufa M.A.,Kazmi S.U.,Siddiui T.R.&,Mohiuddins. (2010) Practices and awareness regarding biosafety measures among Laboratory technician working in clinical laboratories in Karachi Pakistan *Appl Biosaf;*15:172-9

Neal A. & Griffin (2002) Safety Climate and Safety Behaviour *Australian Journal of Management* Vol 27 Special Issue

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.

Ng Y.W,& Hassim I.N.(2007). Needlestick injury among medical personnel in accident and emergency department of two teaching hospitals. *Med J Malaysia* ;62:9e12.

Occupational Safety and Health Administration (OSHA), (2014). *A Guide to The Globally Harmonized System of Classification and Labelling of Chemicals (GHS)*. [Online]. Available at: http://www.osha.gov/dsg/hazcom/ghs.html [Accesed 9 December 2017].

Parszuto J, Jaremin B, Bardoń A. & Obuchowska A. (2012) Occupational Hbv & Hcv Infections Among Healthcare Workers. *Med Pr*.;63(4):441–52. Polish

Philip S. (2014) Cross sectional studies: advantages and disadvantages *BMJ* 2014;348:g2276 doi: 10.1136/bmj.g2276 (Published 26 March 2014)

Puteh Salin, Ahmad Saiful Azlin , Lutfi Abdul Hamid, Muhammad & Mohd Wahid, Siti. (2011). Linking Management Safety Commitment and Employees' Satisfaction on Working Conditions: A Case Study in a Manufacturing Automotive Industry. *Conference: International Management Conference, At Kuala Terengganu*

Rampal, L., Zakariah, R., Sook, L. W. & Zain, A. (2010). Needle Stick And Sharps Injuries And Factors Associated Among Healtcare Workers In Malaysian Hospital. *European Journal Of Social Science,* 13(3), Pp. 354-360.

Rajan D. (2014) Occupational Hazards and Health: A Comparative Study Among Medical Laboratory Technicians (International Journa L For Res Earch In Ap Pl I Ed Science And Engineering Technology (I Jras Et) *Vol. 2 Issue Vii, July 2014 Issn: 2321-9653*

Reason, J. (1990). *Human Error*. Cambridge: CUP.

Ria M.Y., Anis E. & Oci N.S.(2012) The Influence of Occupational Safety and Health on Performance with Job Satisfaction as Intervening Variables (Study on the Production Employees in PT. Mahakarya Rotanindo, Gresik) *American Journal of Economics*, Special Issue: 136-140 DOI: 10.5923/j.economics.20120001.30

Rozlina, M. S., Awaluddin, M. S., & Syed Abdul Hamid, S. H. (2011). The influence of ergonomics on Occupational Safety and Health (OSH) legislation in Malaysia. *Proceedings of the 2011 International Conference on Industrial Engineering and Operations Management.* Kuala Lumpur

Salminen S., Gyekye S.A.,& Ojajärvi A. (2013) Individual and Organizational Factors of Safe Behaviour among Ghanaian Industrial Workers Engineering Management Research; *Vol. 2, No. 1; ISSN 1927-7318 E-ISSN 1927-7326* Published by Canadian Center of Science and Education

Singh K.(2009). Laboratory-Acquired Infections. *Oxford Journals* 49(1), Pp. 142-147.

Shekhar H, Patel M, Jain C, Garg N & Mangukiya K. (2014) Laboratory Biosafety Manual, 2nd Ed. Geneva:

Sekaran, U, Bougie,R. (2010) Research Methods For Business A Skill Building Approaches (5th Edition) UK John Wiley and Sons

Sekaran, U, Bougie,R (2011) Research Methods For Business A Skill Building Approaches (6th Edition) UK John Wiley and Sons

Smith, T. D., Eldridge, F., & DeJoy, D. M. (2016). Safety-specific transformational and passive leadership influences on firefighter safety climate perceptions and safety behavior outcomes. *Safety science,* 86, 92-97.

Subramanian G.C., Masita A., & T.S. Saraswathy Subramaniam (2017) Knowledge and Risk Perceptions of Occupational Infections Among Health-care Workers in Malaysia *Safety and Health at Work* 8 246e249

Sulastre M. Z. & Faridah I. (2012). Employers' Behavioural Safety Compliance Factors toward Occupational, Safety and Health Improvement in the Construction Industry *Procedia - Social and Behavioral Sciences* 36 742 – 751

Todd D.S.,& David M.D. (2014), Safety climate, safety behaviors and line-of-duty injuries in the fire service , *International Journal of Emergency Services*, Vol. 3 Iss 1 pp. 49 – 64

Tsegaye S., Wakjira K., Beyene W., Bereket W., & Gemeda A. (2014) Survey Of Safety Practices Among Hospital Laboratories In Oromia Regional State, Ethiopia *Ethiop J Health Sci.* Vol. 24, No. 4

Turner, N., Stride, C. B., Carter, A. J., McCaughey, D., & Carroll, A. E. (2012). Job demands–control–support model and employee safety performance. Accident Analysis & Prevention, 45, 811-817.)

Thye, L.L. (2006). Leadership and the Development of OSH Culture. *Proceeding of the 9th Conference and Exhibition on National Institute of Occupational Safety and Health (NIOSH)*, Malaysia.

Vinodkumar, M. N., & Bhasi, M. (2010). Safety management and safety behaviour: Assessing the mediating role of safety knowledge and motivation. *Accident Analysis and Prevention, 42,* 2082-2093.

Wader J.V, Kumar V., & Mutalik A.V. (2013) Knowledge, Attitude, Practice Of Biosafety Precautions Amongst Laboratory Technicians In A Teaching Hospital. Int J Health Sci Res;3(6):28-33.

Walker, K. (2010). 'Advances in accident prevention', Steel Times International, pp.38–39.

WHO, (2004). Pp *Int J Med Sci Public Health* 4:15-18

Williams Jr, Q., Ochsner, M., Marshall, E., Kimmel, L., & Martino, C. (2010). The impact of a peer-led participatory health and safety training program for Latino days laborers in construction. *Journal of Safety Research* (41), 253-261.

Wood, W. (2010). *Handbook of Modern Hospital Safety.* 2nd ed. Florida: CRC Press.

Wu, T.C., Lui, C.W., & Lu, M.C. (2007). Safety climate in university and college laboratories: Impact of organizational and individual factors. *Journal of Safety Research*, 38(1), 91-102.

Yule S, Flin R., & Murdy A. (2007) .The role of management and safety climate in preventing risk-taking at work. *Int J Risk Assess Manag* ;7:137e51

Zikmund, W. G. Babin, B.J, Carr, J.C., & Griffin M. (2013). Business Research Method 9th Edition. Mason OH South Western: Ohio.

Zohar, D. (2002). The Effects of Leadership Dimensions, Safety Climate, and Assigned Priorities on Minor Injuries in Work Groups. *Journal of Organizational Behavior, 23*(1), 75-92.

Zohar, D., & Luria, G. (2005). Climate as a social-cognitive construction of supervisory safety practices: Scripts as proxy of behaviour patterns. *J Appl Psych.*, 89(2), 322-333

Zohar, D. & Polache, T. (2013). Discourse-based intervention for modifying supervisory communication as leverage for safety climate and performance improvement: A randomized field study. *Journal of Applied Psychology*.

Appendices

Appendix 1

Safety Behaviour Among Medical Laboratories Workers in Private sector

Survey Form

Dear Sir/Mr/Madam/Ms

Thank you for your consideration to participate in this survey. This study was conducted to meet the requirements for the Degree Master of Science (Occupational Safety and Health Management). This study related with the compliance of safety behavior at the workplace. It will contribute a lot in order to avoid and reduce injuries and accident in the workplace especially in medical laboratory field. Without your participation the valuable information generates from this study would not be possible. The information would be calculated for all participants. Your participation and all information is confidential and only used in academic purposes of the research. I would like to ask your cooperation to fill up the questionnaire attached and it will take 15 minutes to complete. Your cooperation in answering this questionnaire is greatly appreciated.

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Safety Behaviour Among Medical Laboratory Workers in Private sector
Survey Form

INSTRUCTIONS: This questionnaire has seven parts A, B, C, D, E, F and G. Please answer all the questions.

PART A : SOSIO DEMOGRAPHIC INFORMATION
Dear **participant**: Please check (✓) in the appropriate box or fill in the blank, where appropriate.

1. Gender:
☐ Male
☐ Female

2. Age in Years

☐ 18 – 25 years
☐ 26 – 30 years
☐ 31 – 35 years
☐ 36 – 40 years
☐ 41 – 45 years
☐ ≥ 46 years

3. Marital status:
☐ Single
☐ Married
☐ Divorced/widowed

4. Highest educational level:
☐ LCE/SRP/PMR
☐ MCE/SPM/SPMV
☐ HSC/STPM
☐ Diploma
☐ Bachelor Degree
☐ Others, please specify: _____

5. Race:
☐ Malay
☐ Chinese
☐ Indian
☐ Others, please specify:_____

6. Work experiences (Years)

❑ < 1 years
❑ 2 – 5 years
❑ 6 – 9 years
❑ 10 – 13 years
❑ ≥ 14 years

7. Current Job Position

❑ Lab Manager
❑ Science Officer
❑ Medical Laboratory Technologist
❑ Medical laboratory Assistant
❑ Others, please specify: _____

PART B: JOB SAFETY

Dear Participant: The following questions are target to know your **job safety**. Think about your job. Do you agree or disagree that each of the following words or phrases describes your job. Please **circle** the best answer to you using the scale below).

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

NO	STATEMENTS	ANSWER				
1	My job is dangerous	1	2	3	4	5
2	My job is safe	1	2	3	4	5
3	My job is hazardous	1	2	3	4	5
4	My job is risky for health	1	2	3	4	5
5	My job is unhealthy	1	2	3	4	5
6	I could get hurt easily in my job	1	2	3	4	5
7	My job is unsafe	1	2	3	4	5
8	I fear for my health in my job	1	2	3	4	5
9	There is a chance of the death in my job	1	2	3	4	5
10	My job is scary	1	2	3	4	5

PART C: CO-WORKER SAFETY

Dear **Participant**: The following questions are target to know **co-worker safety**. Think about the people you work with. To what extent you agree or disagree whether each statement below describes these people? Please **circle** the best answer to you using the scale below.

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

NO	STATEMENTS	ANSWER				
My co-workers…						
1	Ignore safety rules	1	2	3	4	5
2	Don't care about others' safety	1	2	3	4	5
3	Pay attention to safety rules	1	2	3	4	5
4	Follow safety rules	1	2	3	4	5
5	Look out for others' safety	1	2	3	4	5
6	Encourage others to be safe	1	2	3	4	5
7	Take chances with safety	1	2	3	4	5
8	Keep work area clean	1	2	3	4	5
9	Safety-oriented	1	2	3	4	5
10	Don't pay attention at work	1	2	3	4	5

PART D : SUPERVISOR SAFETY

(Dear **Participant**: The following questions are target to know **supervisor safety.** Think about your **immediate supervisor**. To what extent you agree or disagree whether each statement below describes your immediate supervisor? Please **circle** the best answer to you using the scale below).

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

NO	STATEMENTS	ANSWER				
My supervisor….						
1	Praises safe work behaviours	1	2	3	4	5
2	Encourage safe behaviours	1	2	3	4	5
3	Keep workers informed of safety rules	1	2	3	4	5
4	Rewards safe behaviours	1	2	3	4	5
5	Involves workers in setting safety goals	1	2	3	4	5
6	Discusses safety issues with others	1	2	3	4	5
7	Updates safety rules	1	2	3	4	5
8	Trains workers to be safe	1	2	3	4	5
9	Enforces safety rules	1	2	3	4	5
10	Acts on safety suggestions	1	2	3	4	5

PART E: MANAGEMENT SAFETY PRACTICES

Dear **Participant**: The following questions are target to **know management safety practices.** Think about your management. To what extent you agree or disagree whether each statement below describes your management? Please **circle** the best answer to you using the scale below.

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

NO	STATEMENTS	ANSWER				
Management…						
1	Provide enough safety programs	1	2	3	4	5
2	Conduct frequent safety inspections	1	2	3	4	5
3	Investigates safety problems quickly	1	2	3	4	5
4	Rewards safe workers	1	2	3	4	5
5	Provides safe equipment	1	2	3	4	5
6	Provide safe working conditions	1	2	3	4	5
7	Respond quickly to safety concerns	1	2	3	4	5
8	Helps maintain clean work area	1	2	3	4	5
9	Provides safety information	1	2	3	4	5
10	Keeps workers informed of hazards	1	2	3	4	5

PART F : SATISFACTION OF SAFETY PROGRAMS

Dear **Participant**: The following questions are target to know your **satisfaction of safety programs**. Think about **safety programs** at your workplace. To what extent you agree or disagree whether each statement below describes these safety programs? Please **circle** the best answer to you using the scale below.

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

NO	STATEMENTS	ANSWER				
(Safety programs at my workplace is ...)						
1	Worthwhile	1	2	3	4	5
2	Helps prevent accident	1	2	3	4	5
3	Useful	1	2	3	4	5
4	Good	1	2	3	4	5
5	First-rate	1	2	3	4	5
6	Unclear	1	2	3	4	5
7	Important	1	2	3	4	5
8	Effective in reducing injuries	1	2	3	4	5
9	Doesn't apply to my workplaces	1	2	3	4	5
10	Does not work	1	2	3	4	5

PART G : COMPLIANCE OF SAFETY BEHAVIOUR

Dear **Participant**: The following questions are target to know your **compliance of safety behaviour**. Think about your current job. Using the scale below, please **circle** the statement that best described you.

Never	Seldom	Sometimes	Often	Always
1	2	3	4	5

NO	STATEMENTS	ANSWER				
1	I overlook safety procedures in order to get job done more quickly.	1	2	3	4	5
2	I follow all safety procedures regardless of the situation I am in	1	2	3	4	5
3	I handle all situations as if there is a possibility of having an accident	1	2	3	4	5
4	I wear safety equipment required by practice.	1	2	3	4	5
5	I keep my work area clean	1	2	3	4	5
6	I encourage co-workers to be safe	1	2	3	4	5
7	I keep my work equipment in safe working condition	1	2	3	4	5
8	I take shortcuts to safe working behaviours in order to get the job done faster	1	2	3	4	5
9	I do not follow safety rules that I think are unnecessary	1	2	3	4	5
10	I report safety problems to my supervisor when I see safety problem	1	2	3	4	5

11	I correct safety problems to ensure accidents will not occur	1	2	3	4	5

END OF QUESTIONS

THANK YOU FOR YOUR TIME AND PARTICIPATION