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*Short Communication*

# Brief Communication on Psychosocial Work Environment and Wellbeing in relation to Job Demands-Resources: A Study on Malaysian Public Health Perspective

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## ABSTRACT

Psychosocial risks and work-related stress are global problems and there is a limited research over such problems in developing countries. This study investigates these risks in Malaysian public health perspective by using biomarkers in relation to the workers' health and well-being. Biomarkers can be used to objectively measure the physiological response to psychosocial stressors. This study will be helpful to address the complex contemporary issues that emerge because of continuous change in the work environment. Non-proportional stratified random sampling technique was used for data collection and analysis would be done with the help of AMOS 21.0 in Structural Equation Modelling (SEM) to achieve range of outcomes.

*Keywords:* Biomarker, Malaysia, psychosocial work environment, Structure Equation Modeling (SEM), work-related stress

## INTRODUCTION

Around the globe, significant technological advancements and globalisation have brought a number of challenges in the work environment. Industrially Developing Countries (IDCs) are fronting with such challenges under the domain of psychosocial risks and work-related stress (Widanarko, Legg, Devereux, & Stevenson, 2015).

These challenges in the intense work environment, particularly in IDCs, create imbalances between psychosocial job demands and job resources in the forms of different job descriptions, ambiguity in role clarity and increased job insecurity that have high challenging impacts on the workers' health and well-being (Forastieri, 2013; Widanarko et al., 2015). A significant awareness regarding work-related and psychosocial risks is lacking amongst employers of IDCs even though these risks are the second most important issue after accidents and injuries that need to be urgently addressed (Kortum, Leka, & Cox, 2010).

The main objective of the study is to examine the impacts of psychosocial work environment factors with the help of biomarkers in public health perspective by targeting the health and well-being of workers who are working in the hazardous industries. Historically, psychosocial risk elements have a strong association with the health and well-being outcomes, where biomarkers were used in the early years of the 14th century in clinical perspectives to detect diseases and provide better treatment by providing urine samples. These urine samples of patients were examined by practitioners by looking at the colour and residues so as to detect any sign of diseases (Sahu et al., 2011).

## BIOMARKERS

The "bio" in "biomarker" refers to any measureable characteristics of living tissue and "marker" indicates some medical events or processes (Kraemer, Schultz, & Arndt, 2002). The purpose of biomarker is to give a detailed understanding so as to diagnose a disease at the very initial stage (Chakrabarti & Mukhopadhyay, 2012). In their recent study, Kraemer et al. (2002) put forth biomarkers to measure an event or process more perfectly within time in order to avoid any deteriorating effects. Furthermore, this was done to give imminent information on the basis deterrence and treatment of a disorder that the diagnosis itself would not reveal. In practice, biomarkers include certain technologies and tools that can aid in understanding the prediction, causes, diagnosis or even outcome of the treatment for diseases. Biomarker brings the future things in our hand by helping in early diagnosis and disease prevention.

The technological advancement in biological measurements causes a continuous interest in the use of procedures that does not require cutting or opening into the body, i.e. non-invasive biomarkers in reckoning the psychosocial stress (Glover, Garcia-Aracena, Lester, Rice, & Rothram-Borus, 2010). Body Mass Index (BMI) is used as a biomarker to screen out the workers' health status. BMI, which is defined by World Health Organisation (WHO), as weight in kilograms divided by the square of the height in metres ($kg/m^2$), is used to classify overweight, underweight and obesity in adults. Early detection of obesity with the help of biomarkers will be able to control the cardiovascular risks (Musaad & Haynes, 2007). A study

conducted by Nishitani and Sakakibara (2007) showed that obese workers have a tendency to eat more than the normal persons. This overeating habit creates anxiety and tension as a psychological stress response like high job demands in relation to limited job resources that can further be added up while working in intense working environment.

## GLOBAL EFFECT

According to the 2010 statistics of Health and Safety Executive (HSE) UK, 1.1 million workers were suffering from illnesses because of their previous or current work-related job (Davies, Jones, & Lloyd-Williams, 2016). According to the statistics of World Health Organisation (WHO), 160 million work-related illness cases occur every year and out of these cases, less than half are of back pain, 10% are of lung cancer, 16% of hearing loss, 11% of asthma and 8% of depression cases have been recorded. In addition to these, a death case due to work related stress is reported in every three and a half minutes in the European Union. Musculoskeletal and mental disorders, cardiovascular diseases, asthma, back pain, diabetes, stress, burnout, sickness absence, labour turnover, reduced quality of life and decreased motivation and productivity are some of the magnitudes that have been raised because of such risks (Kristensen, Hannerz, Høgh, & Borg, 2005).

Meanwhile, communicable and non-communicable diseases have a huge amount of impacts across the world and these certainly remain a burden to Malaysia (WHO, 2010). According to the article published in The Star Online (2014), uncharacteristically Malaysia's obesity rate is the highest in Asia, which is a great concern that needs special attention and consideration because of its importance as a disease that may cause heart-related diseases and stroke. About 45% of Malaysia's population are rated as overweight in the Asian countries, followed by South Korea, Pakistan and China. Another article published in Malaysian digest (2013) forecasted that by year 2020, more Malaysians would be suffering from depression and anxiety and facing mental illness. Malaysians are having a high level of stress (i.e., 63%) compared with the global average of 53%. According to the global workplace provider Regus's 2013 online survey report, the stress level among Malaysians is continuously increasing in the workplace due to the challenging economic conditions that lead 70% of the workers to report more stress-related illnesses. More than 42% of the workers have sleeping problems, with over 67% of absenteeism rate due to work-related issues affecting not only business productivity and output but also health and well-being of the workers (Dayana, 2015).

## THEORETICAL SUPPORT

Our study gets the theoretical support with the job demands-resources theory (JD-R). This theory revolves around an assumption that every occupation has its own risks

factors that are associated with job stress, health and wellbeing. This theory has two paths; one leads to job strains whereas the other path to engagement and motivation. The factors in this theory are classified into two broad categories of job demands and job resources. The innermost assumption of the JD-R theory is that job sicknesses develop irrespective of the type of job when job demands are high and job resources provided are limited. Moreover, the best part of this theory is that irrespective of any job demands and resources involved, this theory may be applied to any occupational setting (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Over the past few decades, notable changes from sociocultural to environmental and political have contributed in restructuring of work with an utmost need to evaluate the widespread of job demands which focus more on mental and emotional efforts rather than merely physical activities (Peeters, Montgomery, Bakker, & Schaufeli, 2005). Job demands cover a broad range of occupations where every worker feels the time pressure to complete all the assigned tasks (Minnotte, 2016).

## STUDY PLAN

The biomarkers in this study will be used in public health perspective. "Public health refers to the organised measures taken to prevent disease and promote health and prolong life among the population as a whole" (WHO, 2014). One of main focuses of the public health is to prevent diseases; therefore, different stages to prevent the disease can be targeted for measurable presentations. Wright et al. (2009) distinguished three levels of prevention - primary, secondary and tertiary - which are used in this study. Primary prevention occurs at the community level by focusing at removing all causes (or risk factors) of a disease thus stopping it from occurring. In this study, identification of the psychosocial risks comes under the primary stage. The secondary prevention is generally achieved by planning proper screening programmes with the purpose of giving early diagnoses for diseases before emergence of any symptoms and treatment could stop progression. The screening process will be done with the help of biomarkers (BMI). Finally, tertiary prevention takes place in clinical setting where diagnosis will be done with the purposes of preventing further worsening, slow progression or reducing complications amongst people.

Public health care initiatives are generally taken at primary and secondary levels. While comparing both levels, the secondary level prevention is more targeted at the high risk group because it aims to uncover asymptomatic diseases (patients affected by the disease but no signs of symptoms) through organised screening programmes. In this case, individuals within a specific population subgroup are tested to determine whether they have asymptomatic disease or not (Wright et al., 2009). Thus, detection of psychosocial work environment factors

in the first level will further lead the way of using biomarkers (BMI) in the second level, which in actuality is the focus of the researchers without having to go into detail in the third level, i.e. the clinical perspective. The plan is to use biomarkers as a screening process that can be helpful to accurately and reliably differentiate between individuals who are sick or with diseases and those who without any disease. Early detection can be helpful to prevent future loss of precious lives due to psychological risks factors.

Despite the fact that there is a great amount of enhancement to tackle psychosocial and work-related risks and enhance safety precautions in hazardous occupational environments around the globe, accidents have been considered as regular incidences in such hazardous industries over the last decade signifying that these industrial jobs are high risk in nature (Cheng, Yao, & Wu, 2013). Technicians who are working in the production and operation processes are the units of analysis for this particular study as they have to work 24/7 in an intense working environment, keeping in consideration that they have to meet the deadlines regardless of their work overload.

This research is a little endeavour towards fulfilling the gap in literature by studying the psychosocial risks in developing countries like Malaysia. The study incorporates the views of industrial experts regarding work-related and psychosocial risks and ways to managing them. Further, their opinions are seen from the perspective of the health-related issues that need to be addressed at earliest.

## REFERENCES

Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: state of the art. *Journal of Managerial Psychology*, *22*(3), 309–328. Retrieved from http://doi.org/10.1108/02683940710733115

Chakrabarti, A., & Mukhopadhyay, D. (2012). Brain senescence-omics. *Journal of Proteins and Proteomics*, *3*(1), 15–29.

Davies, R., Jones, M., & Lloyd-Williams, H. (2016). Age and Work-Related Health: Insights from the UK Labour Force Survey. *British Journal of Industrial Relations*, *54*(1), 136–159. Retrieved from http://doi.org/10.1111/bjir.12059

Dayana. (2015). *"Working to Death": recent study shows more malaysians getting stress-related illnesses*. Retrieved July 1, 2015, from http://www.malaysiandigest.com/opinion/557139-working-to-death-recent-study-shows-malaysians-getting-stressed-related-illnesses.html

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The Job Demands-Resources Model of Burnout. *Journal of Applied Psychology*, *86*(3), 499–512.

Forastieri, V. (2013). Psychosocial risks and work-related stress. *Medicina y seguridad del trabajo, 59*(232), 297-301.

Glover, D. A, Garcia-Aracena, E. F., Lester, P., Rice, E., & Rothram-Borus, M. J. (2010). Stress Biomarkers as Outcomes for HIV+ Prevention: Participation, Feasibility and Findings Among HIV+ Latina and African American Mothers. *AIDS and Behavior*, *14*(2), 339–50. Retrieved from http://doi.org/10.1007/s10461-009-9549-7

Kortum, E., Leka, S., & Cox, T. (2010). Psychosocial risks and work-related stress in developing countries: health impact, priorities, barriers and solutions. *International Journal of Occupational Medicine and Environmental Health*, *23*(3), 225–38. Retrieved from http://doi.org/10.2478/v10001-010-0024-5

Kraemer, H. C., Schultz, S. K., & Arndt, S. (2002). Biomarkers in Psychiatry: Methodological Issues. *The American Journal of Geriatric Psychiatry*, *10*(6), 653–659. Retrieved from http://doi.org/10.1097/00019442-200211000-00004

Kristensen, T. S., Hannerz, H., Høgh, A., & Borg, V. (2005). The Copenhagen Psychosocial Questionnaire—a tool for the assessment and improvement of the psychosocial work environment. *Scandinavian Journal of Work, Environment and Health*, *31*(6), 438–449. Retrieved from http://doi.org/10.5271/sjweh.948

Minnotte, K. L. (2016). Extending the Job Demands-Resources Model: Predicting Perceived Parental Success Among Dual-Earners. *Journal of Family Issues*, *37*(3), 416–440. Retrieved from http://doi.org/10.1177/0192513X13518777

Musaad, S., & Haynes, E. N. (2007). Biomarkers of obesity and subsequent cardiovascular events. *Epidemiologic reviews, 29*(1), 98-114. Retrieved from http://doi.org/10.1093/epirev/mxm005

Nishitani, N., & Sakakibara, H. (2007). Relationship of BMI increase to eating behavior and job stress in a 2-year cohort study of non-obese male Japanese workers. *Obesity Research and Clinical Practice*, *1*(3), 1–2. Retrieved from http://doi.org/10.1016/j.orcp.2007.06.002

Peeters, M. C. W., Montgomery, A. J., Bakker, A. B., & Schaufeli, W. B. (2005). Balancing Work and Home : How Job and Home Demands Are Related to Burnout. *International Journal of Stress Management*, *12*(1), 43–61. Retrieved from http://doi.org/10.1037/1072-5245.12.1.43

Sahu, P., Pinkalwar, N., Dubey, R. D., Paroha, S., Chatterjee, S., & Chatterjee, T. (2011). Biomarkers: An Emerging Tool for Diagnosis of a Disease and Drug Development. *Asian Journal of Pharmaceutical Sciences, 1*(1), 9–16.

The Star Online. (2014). Malaysia's obesity rate highest in Asia. *The Star Online*. Retrieved November 25, 2015, from http://www.thestar.com.my/News/Nation/2014/06/16/obesity-malaysia-highest-in-asia-says-pm-science-advisor/

WHO. (2010). *WHO-Malaysia Country Cooperation Strategy (CCS) 2009-2013*. World Health Organization. Manila : WHO Regional Office for the Western Pacific

WHO. (2014). *Public Health*. World Health Organization. Retrieved December 13, 2014, from http://www.who.int/trade/glossary/story076/en/

Widanarko, B., Legg, S., Devereux, J., & Stevenson, M. (2015). Interaction between physical and psychosocial work risk factors for low back symptoms and its consequences amongst Indonesian coal mining workers. *Applied Ergonomics*, *46*, 158–167. Retrieved from http://doi.org/10.1016/j.apergo.2014.07.016

Wright, C. F., Hall, A., Matthews, F. E., & Brayne, C. (2009). Biomarkers, dementia, and public health. *Annals of the New York Academy of Sciences, 1180*(1), 11-19. Retrieved from http://doi.org/10.1111/j.1749-6632.2009.04942.x