ORIGINAL ARTICLE

Psychosocial stressors at work and well-being of male employees

Noor Dalila Inche Zainal Abidin, MPH, Rosnah Ismail, DrPH, Noor Hassim Ismail, MSc (Occupational Health)

Department of Community Health, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Center, Cheras, Kuala Lumpur, Malaysia

ABSTRACT

Introduction: Psychosocial stressors appear to alter the state of mind and adoption of overeating behaviour, resulting in high body mass index. This study was conducted to determine the magnitude of psychosocial stressors on male employees' well-being.

Method: This study used secondary data retrieved from a cross-sectional study involving 492 male employees' completed data. Eligible participants completed validated questionnaires of the Psychosocial Safety Climate (PSC-12) scale, short version Demand Induced Strain Compensation (DISQ 2.1), Oldenburg Burnout Inventory - Emotional Exhaustion domain and the Three Eating Factor Questionnaire (TEFQ) -Uncontrolled Eating domain; assessing psychosocial safety climate, job demands and job resources, emotional exhaustion, and uncontrolled eating behaviour, respectively. Body mass index (BMI) was calculated based on weight and height. The research statistical model was tested by two-steps of assessment replicating partial least squares structural equation modelling (PLS-SEM).

Result: The results show that psychosocial stressors (psychosocial safety climate, job demands and job resources) had significant effects on emotional exhaustion (β = -0.149, p=0.004; β = 0.223, p<0.001; β = -0.127, p=0.013). Emotional exhaustion predicted by work stressors may act as a chain reaction which could result in uncontrolled eating (β =0.138, p=0.005) and high BMI (β =0.185, p<0.001). Emotional exhaustion does mediate the relationship between PSC and uncontrolled eating behaviour (β = -0.021 [95% boot Cl bias corrected: -0.048, -0.002]).

Conclusion: The psychosocial stressors at work are significant factors for emotional exhaustion, which further signifies the positive effect on uncontrolled eating behaviour and BMI among Malaysian male employees.

INTRODUCTION

Psychosocial factors at work have long been linked to health of employees, pertaining to work related-stress and its associated consequences. Although the psychological and physiological well-being of employees have become important elements in creating a successful Malaysian industry, about 70% of Malaysian employees have experienced an increase in stress-related sickness.¹ Such illness is poorly recognised, as only a few cases have been notified as 'psychosocial problems' under 'types of diseases' and only minimal number of cases have been reported as mental health cases to the Department of Occupational Safety and Health as of 2015.²

Stress itself is not a disease, but it is manifested as the psychological, physiological and behavioural pre-risk factors of many chronic diseases. Psychologically, feeling of stress is manifested as emotional exhaustion. It results from the depletion of the emotional resources of employees on prolonged exposure to psychosocial stressors as result of the active interaction between an individual factor and work environment.³ Stress is considered an important occupational health psychology outcome as well as an organisational outcome. Therefore, it is crucial to identify specific work predicting stressors in and understanding the aforementioned psychosocial outcome.

Numerous psychosocial factors at the workplace have been widely studied such as under psychosocial safety climate (PSC), job demands and job resources. PSC is a facet of specific dimension of organisational climate and refers to policies, practices and procedures for the protection of employees' psychological health and safety4 in an organisation. In the international context and local workplaces PSC is a significant precursor for job demands reduction and job resources increment and this leads to a favourable work environment and a reduced stress-health impact.^{4,5} Previous studies have found significant evidence regarding stress resulting from work environmental stressors which leads to psychological changes, e.g., emotional exhaustion, $^{\scriptscriptstyle 6}$ burnout, $^{\scriptscriptstyle 7}$ anxiety and depression, $^{\scriptscriptstyle 8}$ and other physiological and physical impairments such as cardiovascular disease⁹ and musculoskeletal disorders.¹⁰ The presence of excessive stress from the active interaction between work environment and individual factors may lead to employees' health impairment directly. This occurs directly through sustained autonomic nervous system activation, and indirectly by fostering a range of negative behaviours, such as increased cigarette smoking, unhealthy diet, heavy alcohol assumption and sleep disorders.¹¹

Growing attention is also being paid to the psychosocial stress that may influence eating behaviour that can lead to obesity.¹² Employees who experience psychosocial stress are more likely to consume high fatty foods and high calorie palatable food^{13,14} which may lead to obesity.^{14,15} In a situation

This article was accepted: 7 December 2018 Corresponding Author: Dr Rosnah Ismail Email: drrose@ppukm.ukm.edu.my

of ongoing psychological stress, prolonged elevated glucocorticoids can stimulate chronic eating behaviour and excessive weight gain by enhancing the tendency to eat high calorie palatable food via its interaction with central reward pathways.¹⁴ The literature also provides evidence of differences between male and female employees in altered patterns eating behaviour when experiencing psychosocial stress. Male employees with high job demands showed uncontrolled eating behaviour by consuming more calories from high-fat foods compared to female employees.¹³ However, the magnitude of effect of work related stress on eating behaviours is still uncertain.

Therefore, this research is to assess the magnitude of the effect of psychosocial factors at work, and the relationship with health of male employees. It will also to assess mediating effect of emotional exhaustion on the relationship between psychosocial factors and uncontrolled eating behaviour.

METHODS AND MATERIALS

Study Setting and Participants

The study used secondary data retrieved from a one-time survey at multi-worksites that was conducted from November 2012 to May 2013. The sampling method for this survey was purposive sampling to ensure a diverse variation in both job scopes and work environment factors pertaining to job stress indirectly. The sampled population consisted of employees in the manufacturing, services, and plantations sectors in Selangor, the Federal Territory of Kuala Lumpur and Pahang. A total of 509 male participants aged 20 to 60 years were recruited from three lists of companies, i.e., the list of licensed companies of a City Council as of April 2012, the list of companies for a road safety program from November 2012 to May 2013, and a list of companies from personal and professional connections. Initially the targeted companies from three lists were invited to participate in the survey via electronic emails, phone calls and meetings. Only 36 companies agreed to participate, i.e., four out of 58 from the City Council list, all 16 listed companies from the road safety program and 16 out of 17 from personal and professional connections. From companies that agreed, five to 20 eligible employees per company were requested to complete the survey on a designated date. Inclusion criteria were Malaysian male permanent workers, with at least one year working experience in the company and no history of disability over the previous year resulting from injury and/or illness. Those participants who did not agree were excluded from the study. Male employees were selected as the sample because of the objective of the study which focused on eating behavior patterns among male workers.

Study Instruments

The questionnaire consisted of a socio-demographic profile (including date of birth, race, marital status, the education level, type of industry, mean household income per month, duration of service and current position in the company), validated questionnaires to assess psychosocial factors at work (PSC, job demands, job resources) and male employees' health (emotional exhaustion, uncontrolled eating). PSC was measured by a 12-item Psychosocial Safety Climate (PSC-12) Scale.1⁷ The PSC-12 scale measures senior management involvement in commitment and support, the management priority, the organisational communication upwards and downwards, and the extent of organisational participation in solving the psychological issues of employees. Examples of items include: 'The psychological well-being of staff is a priority for this organisation'; 'Senior management considers employee psychological health to be as important as productivity'; 'Information about workplace psychological well-being is always brought to my attention by my manager/supervisor'; and 'In my organization, the prevention of stress involves all levels of the organization'. These items were scored on a five-point Likert scale (1=Strongly disagree to 5=Strongly agree). Emotional, cognitive and physical job demands and resources were measured by a short version of a 19-item Demand-Induced Strain Compensation scale (DISQ 2.1).¹⁸ These are generic in nature and suitable for various occupational settings, irrespective of the particular demands and resources involved. Emotional job demands were measured by three items. They refer to the effort necessary to deal with job inherent emotions during interpersonal transactions. An item example is: employee X will have to ... 'do a lot of emotionally draining work'. Physical job demands were measured by three items. An item example is: employee X will have to ... 'work in uncomfortable or impractical postures to do his/her work'. Finally, the cognitive job demands were measured by three items. They refer to cognitive control opportunities at work. An item example is: employee X will have to ... 'make complex decisions at work'. Meanwhile, emotional job resources were measured by three items. An item example is: 'employee X will feel esteemed at work by others'. Physical job resources were measured by three items. An item example is 'employee X will be able to decide what posture he/she uses to perform physically strenuous tasks'. Finally, cognitive job resources were measured by four items. An item example is 'employee X will have the opportunity to take a mental break when tasks require a lot of concentration'. These items were scored on a five-point Likert scale (1=Never to 5=Always). Emotional exhaustion was measured by a 4-item exhaustion domain of Oldenburg Burnout Inventory (OLBI-exhaustion). For example, 'there are days when I feel tired before I arrive at work', 'after work, I tend to need more time than in the past in order to relax and feel better', 'during my work, I often feel emotionally drained' and 'after my work, I usually feel worn out and weary'. These items were scored on a four-point Likert scale (1=Strongly agree to 4=Strongly disagree). The uncontrolled eating behavior was measured by a 7-item uncontrolled eating behavior domain of the Three-Eating Factor Questionnaire (TEFQ-R21).19 For example, 'Sometimes when I start eating, I just can't seem to stop', 'I am always hungry enough to eat at any time' and 'Being with someone who is eating often makes me also want to eat'. These items were scored on a four-point Likert scale (1=Strongly agree to 4=Strongly disagree). All the measurement items underwent ten steps of translation and a cultural adaptation process.²⁰ The questionnaires were measured through Likert-style response categories. Weight was measured with optimal clothing by a calibrated mobile weighing machine to the nearest 0.1kg, while height was measured by a measuring tape to the nearest 0.5cm without wearing shoes and the head position at Frankfort horizontal parallel to the floor.

Body mass index (BMI) was derived from weight (kg) per height squared (metre²).

Data Analysis

For data analysis, we used IBM SPSS 22 for descriptive analysis and SmartPLS 3.0 software21 for PLS-SEM analysis for the built research model assessment. The analytical procedures of the measurement model and structural model followed the guidelines²² in reporting the PLS-structural equation modelling approach. As both predictors (PSC, job demands, job resources) and outcome (emotional exhaustion, uncontrolled eating behaviour) variables were obtained from the same person via self-reported questionnaire data collection, it was necessary to examine common method bias using Harman's single factor procedure. We ran the Harman's single factor and it only explained 17.3%, which is much lower than the majority, thus indicating that method bias is not a serious issue in this study. All IBM SPSS data were saved into a 'csv' file before submitting it for further analysis using the PLS structural equation modelling (PLS-SEM) approach. PLS-SEM is primarily used in this study to assess the effect sizes purpose in order to achieve the study's objective. We used the bootstrapping method (500 resamples because the value was larger than our sample, n=492) to determine the significance levels for loadings (items to construct), regression weights and path coefficients (inter-constructs). The reflective-reflective second-order measurement model for each scale with repeated indicator approach was used in view of the multidimensional nature of the job demand and job resources scales. We applied a step approach, i.e. an assessment of the reflective measurement model followed by an assessment of the structural model.²³

Assessment of the Reflective Measurement Model

Three main assessment criteria were examined, i.e., the internal consistency reliability, convergent validity and discriminant validity. In this article, we reported composite reliability (CR)²³ instead of the traditional Cronbach's alpha (CA) value to demonstrate internal consistency reliability. The latest statistical knowledge reveals that CA typically underestimates the true reliability and should therefore be regarded as a lower boundary to the reliability. Meanwhile, CR tends to overestimate the internal consistency reliability and should therefore be regarded as an upper boundary to the reliability. The reliability. The acceptable value of CR for each construct is 0.7.

The convergent validity of measurement model was ascertained by examining factor loadings and average variance extracted (AVE). Factor loading indicates the extent to which an indicator or a set of indicators was consistent with what it intends to measure. The loading values equal to and greater than 0.5 are acceptable if the summation of loadings results in high loading scores, contributing to AVE scores of greater than 0.5. AVE is a grand mean value of the squared loadings of all indicators associated with the construct. For adequate convergent validity, each construct should account for at least 50 percent of the assigned indicators' variance (AVE \geq 0.50).

The discriminant validity of the measurement model refers to the extent that the constructs under investigation are truly distinct from one another. It is assessed by Fornell and Larcker's criterion that compares the correlations between constructs and the square root of the AVE for that construct. We also report a Multitrait and Multimethod matrix to assess discriminant validity called the heterotrait-monotrait ratio of correlations (HTMT). HTMT refers to the ratio of correlations within the constructs to correlations between the constructs. The two constructs are distinct when the HTMT value is less than 0.85 and the 90 percent bootstrap confidence interval of HTMT does not include the value of one.

The Assessment of the Structural Model

Assessment of the structural model is ascertained by examining the coefficient of determination (R²), beta and the corresponding t-values for significance testing of the structural path via a bootstrapping procedure with a resample of 500.²² We also reported the effect sizes (f²) in order to achieve the objective of this study. First, the collinearity issue was examined at the initial stage by establishing the variance inflation factor (VIF). A VIF value of five or higher indicates a potential collinearity problem. Second, the R² value was determined in which an R² value of 0.26, 0.13 and 0.02 indicates a substantial, moderate and weak model, respectively. Third, we assessed the effect size (f²) of a predictor constructs using Cohen's f². The f2 values of 0.35, 0.15 and 0.02 are considered large, medium and small effect sizes, respectively. In reporting and interpreting studies, both substantive significance (effect size) and statistical significance (p value) are essential results for reporting. Lastly, we assessed the significance of mediation by examining the 95% boot confidence interval (CI) bias corrected value. The value should not straddle 0 in between values. Age was used as the controlled variable as age related to the job demands and resources variables under the study.

Ethical Considerations

Ethical approval for the study was obtained from the Research Ethics Committee of National University of Malaysia (Research code: FF-288-2012). Respondents were clearly informed regarding their voluntary participation in the study and could withdraw from the study at any time.

RESULTS

Descriptive Analysis

A total of 509 out of 519 questionnaires were returned, giving response rate of 98.1%. The characteristics of non-respondents were not known. Out of 509 returned questionnaires, only seven of them were excluded from the analysis because they showed misfit pattern in at least three constructs. The misfit respondents were comparable to fit respondents pertaining to age (p=0.764), service duration (p=0.772), body mass index (p=0.220), uncontrolled eating behaviour (p=0.924), psychological job stress (p=0.912), psychosocial safety climate (p=0.850), emotional demands (p=1.000), physical demands (p=0.793), cognitive demands (p=0.853), emotional resources (p=0.661) and physical resources (p=0.907). Additional 10 data were discarded to enhance valid contrast. A total of 492 cleaned, complete pieces of data were analysed. There was no missing data that

First-Order Construct	Second-Order Construct	Items	Loadings	CR	AVE	
Psychosocial Safety Climate		PSC1	0.734	0.940	0.566	
		PSC2	0.769			
		PSC3	0.795			
		PSC4	0.706			
		PSC5	0.863			
		PSC6	0.845			
		PSC7	0.799			
		PSC8	0.747			
		PSC9	0.663			
		PSC10	0.712			
		PSC11	0.699			
		PSC12	0.667			
Emotional Demand		DIS1	0.671	0.812	0.593	
		DIS2	0.850			
		DIS3	0.778			
Cognitive Demand		DIS4	0.806	0.856	0.665	
5		DIS5	0.829			
		DIS6	0.811			
Physical Demand		DIS7	0.830	0.876	0.702	
,		DIS8	0.860			
		DIS9	0.824			
	Job Demand	Emotional Demand	0.784	0.792	0.563	
		Cognitive Demand	0.832			
		Physical Demand	0.619			
Emotional Resources		DIS10	0.677	0.814	0.523	
		DIS11	0.759			
		DIS12	0.688			
		DIS13	0.763			
Cognitive Resources		DIS14	0.815	0.857	0.667	
		DIS15	0.839			
		DIS16	0.795			
Physical Resources		DIS17	0.800	0.859	0.671	
,		DIS18	0.873			
		DIS19	0.781			
	Job Resources	Emotional Resources	0.811	0.835	0.629	
		Cognitive Resources	0.794			
		Physical Resources	0.773			
Emotional Exhaustion		EPS1R	0.778	0.743	0.494	
		EPS4R	0.737			
		EPS6R	0.578			
Uncontrolled Eating		UE1O3	0.617	0.824	0.485	
5		UE2O6	0.740			
		UE4Q9	0.711			
		UE5012	0.671			
		UE7Q15	0.736			
Body mass index		BMI	NA	NA	NA	

Table I: Measurement Model

Note: CR = composite reliability; AVE = average variance extracted EPS5, UE3 and UE6 were deleted due to low loadings

Table II: Discriminant validity (Fornell&Larcker criterion)

		_	-	-	-	-	
Constructs	1	2	3	4	5	6	
1. Body Mass Index	NA						
2. Emotional Exhaustion	0.013	0.703					
3. Job Demand	0.057	0.196	0.601				
4. Job Resources	0.095	-0.077	0.327	0.619			
5. PSC	0.033	-0.19	-0.095	0.156	0.753		
6. Uncontrolled eating	0.152	0.145	<-0.001	-0.074	-0.082	0.697	

Note: PSC= Psychosocial Safety Climate; values on the diagonal (bolded) are square root of the AVE while off diagonals are correlations Discriminant validity is fulfilled when the bolded value exceeded the off-diagonal values in their corresponding row and column

Table II	I: Discriminant	validity	(HTMT	criterion)
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					i
Constructs	1	2	3	4	5
1. Body Mass Index	-				
2. Emotional Exhaustion	0.038				
	CI.90 (0.006, 0.058)	-			
3. Job Demand	0.076	0.336			
	CI.90 (0.025, 0.113)	CI.90 (0.218, 0.440)	-		
4. Job Resources	0.106	0.151	0.434		
	CI.90 (0.041, 0.177)	CI.90 (0.088, 0.186)	CI.90 (0.348, 0.503)	-	
5. Psychosocial Safety Climate	0.038	0.249	0.153	0.185	
	CI.90 (0.028, 0.050)	CI.90 (0.147, 0.370)	CI.90 (0.123, 0.175)	CI.90 (0.126, 0.245)	-
6. Uncontrolled eating	0.184	0.211	0.104	0.125	0.12
-	CI.90 (0.098, 0.276)	CI.90 (0.099, 0.303)	CI.90 (0.102, 0.111)	CI.90 (0.104, 0.132)	CI.90 (0.093, 0.137)

Table IV: Hypothesis Testing

Relationship		Std B	95%CI for Std. B		SE t-test	p-values	f²	VIF	R ²	
	• • • • •		LL	UL						
H1	Psychosocial Safety Climate ->									
	Emotional Exhaustion	-0.149	-0.254	, -0.039	0.057	2.634	0.004	0.023	1.050	0.076
	Job Demand -> Emotional Exhaustion	0.223	0.113	, 0.327	0.057	3.929	<0.001	0.047	1.147	
	Job Resources -> Emotional Exhaustion	-0.127	-0.236	, -0.013	0.057	2.243	0.013	0.015	1.165	
H2	Psychosocial Safety Climate -> Job Demand	-0.095	-0.178	, -0.016	0.051	1.867	0.031	0.009	1.000	0.007
	Psychosocial Safety Climate -> Job Resources	0.156	0.040	, 0.252	0.054	2.859	0.002	0.025	1.000	0.022
H3	Emotional Exhaustion -> Uncontrolled eating	0.138	0.022	, 0.232	0.054	2.579	0.005	0.020	1.002	0.045
H4	Uncontrolled eating -> Body Mass Index	0.185	0.046	, 0.269	0.052	3.594	<0.001	0.035	1.051	0.051
	Emotional Exhaustion -> Body Mass Index	-0.007	-0.077	, 0.075	0.041	0.161	0.436	<0.001	1.022	
H5	Mediation analysis Psychosocial Safety Climate ->									
	Emotional Exhaustion -> Uncontrolled eating	-0.021	-0.045	, -0.002	0.012	1.715*	0.087			

*p<0.05 at two-tailed



Fig. 1: Figure 1: Predicting Emotional Exhaustion from PSC, Job Demands and Job Resources Bootstrapping with Procedure

needed to be handled prior to PLS-SEM analysis. The range of age of participants was between 20 to 59 years old with a mean (Standard Deviation, SD) of 34.92 (9.68) years old. The majority of respondents were aged below 40 years (68.9%), Malay (84.1%), married (64.6%), had tertiary education (51.1%), worked in services and manufacturing (95.8%) and had a household income of RM2001-RM4000 (42.3%). The range of services in the recent organisation was 1 to 40 years. The mean (SD) BMI was 26.23 (4.92) kg/m².

Research Model Assessment

Measurement Model Assessment

All three criteria, i.e., the internal consistency reliability, convergent validity and discriminant validity, were fulfilled after deleting one item from the emotional exhaustion construct and two items from the uncontrolled eating behaviour construct. Although the construct of emotional exhaustion and uncontrolled eating were 0.494 and 0.485 respectively, their AVE values were approaching 0.5, as suggested in the literature. Table I shows the loading for each item (indicator), CR and AVE value for each construct.

Structural Model Assessment

In this study, the psychosocial factors at work (PSC, job demands, job resources) significantly affected the health of the male employees (emotional exhaustion, uncontrolled eating). However, the effect sizes were small, ranging from 0.009 to 0.047. PSC (β =-0.149, p=0.004) and job resources (β =-0.127, p=0.013) were negatively related to emotional exhaustion, while job demands (β =0.223, p<0.001) was positively related to emotional exhaustion, explaining 7.6% of the variance in emotional exhaustion. Emotional exhaustion (β =0.138, p=0.005) was positively related to uncontrolled eating, explaining 4.5% of the variance in uncontrolled eating, while uncontrolled eating (β =0.185, p<0.001) was positively related to BMI, explaining 5.1% of the variance in BMI. Emotional exhaustion does mediate the relationship between PSC and uncontrolled eating behaviour $(\beta = -0.021$ [95% boot Confidence Interval (CI) bias corrected: -0.045, -0.002]).

DISCUSSION

This article investigated the relationship between the psychosocial factors and health of employees among male Malaysian workers by replicating PLS-SEM technique. The study revealed that PSC, job demands and job resources were significant predictors for emotional exhaustion with age as a controlled variable, similar to previous studies in various job titles.^{24,25}

This study affirms the importance of PSC as the precursor to a conducive work environment and the reduction of psychological health problems.⁴ This is because PSC is a protective factor in the workplace setting and provides the opportunity for organisations to identify and mitigate the psychosocial risk at the workplace by establishing a system to create and sustain healthy workplace conditions associated with healthy well-being and the benefits of productivity.²⁶ In addition, a majority of the visited organisations had safety and health officers or a safety committee, implying that employers have been monitoring the health and safety aspect of employees, including psychosocial stressors at work. The results indicate that PSC has a significant effect on reducing job demand and increasing job resources, similar to previous studies.²⁷ Therefore, the results suggests that it is negatively related to emotional exhaustion, similar to previous studies.²⁸

In our participants, job demands and job resources were measured based on theoretical human function domain i.e. emotional, cognitive and physical. Since the majority of the subjects work in the service and manufacturing industries, they most likely experience emotional transaction and cognitive processing speed in their job scope, especially among those with leading responsibilities. Most of the time, those who work in services have to suppress their own emotions in front of difficult customers to comply with the company policy and job scope,29 thus depleting their own emotional resources, which leads to emotional exhaustion. They also have to deal with cognitive speed when making decisions involving client and employer expectations as well as conforming to the job performance involving delegating tasks, processes and resources,³⁰ thus depleting personal cognitive resources. However, cognitive demand is regarded as a positive rather negative stressor in Asian countries.

This study shows that emotional exhaustion has a positive effect on uncontrolled eating behaviour and further signifies the positive effect on BMI. In view of the nature of the study design, the assumption of uncontrolled eating behaviour made due to exposure to job stress could not be ascertained. However, it was further substantiated in a recent longitudinal study³¹ that provided a significant finding of association between a stressful state and the tendency of overeating behaviour among the males, followed by significant weight gain. In a recent review unhealthy eating behaviour (increased food intake and poor nutritional food choice) was consistently shown by negative emotions (such as distress and fear).³² This will eventually foster emotional overload which in turn triggers the weight gain process through the coping strategy of maladaptive eating to supress stress and negative emotion.³³ In the neurochemical response towards stress reaction, the glucocorticoid-mediated hunger and eating behaviour is stimulated by the hypothalamicpituitary-adrenal axis following hours of a stressful state, and augments the tendency to eat high-calorie palatable food through its central reward pathway and stress-induced ahrelin hormone that is responsible for appetite increment.¹⁴ A review found that the psychosocial stressor was one of the types of stressors that produces differential effects on eating behaviour style³⁴ by increasing snacking on high energy and high-fat sugar snacks in response to psychosocialstress.35 Therefore, the mediating role of emotional exhaustion between PSC and overeating in this article is supported, as PSC also acts as a preeminent stress risk.³⁶ The finding explains that PSC does not directly affect an employee's eating behaviour, but when an employee experiences emotional exhaustion following due to little regard for the well-being of employees in an organisation, the employee will exhibit uncontrolled eating behaviour.

Despite findings showing that work environmental stressors have significantly affected employees' health, the effect sizes

are small but hard to ignore. This is because, in research that explains human behaviour toward health or other outcomes, the small effect size is considered as the norm.³⁷ To date, there is no agreement on what magnitude of effect is necessary to establish practical significance. Medically uncontrolled eating and its relationship toward obesity is tangible among male workers.³⁸ This study narrows its focus on psychosocial factors at work which are the minute part of the obesogenic environment in the life of an individual. The phenomena of emotional exhaustion predicted by work environment stressors act as a chain reaction, like nuclear fusion. Emotional exhaustion is the central strain dimension of burnout³⁹ that is capable enough to initiate gigantic responses through physiological,14 psychological27 and behavioural responses.¹¹ In appraising the aforementioned deleterious psychosocial stress effects, the diversity of the work environmental stressor warrants special attention by organisation management in order to break the complicated chain that exists as we devote a third of our daily life to the workplace. Furthermore, creating healthy food and eating in the workplace is believed to contribute to weight reduction among employees.⁴⁰

The utilisation of a cross-sectional design limits one's ability to capture changes in psychosocial stressors and employees' health over time as well as precluding causality. We recommend that the study be conducted longitudinally which follows individuals over a period of time for the better understanding of the process of becoming a health-related outcome. We suggest that future research should examine other stress-related health and organisational outcomes (e.g., work engagement), as well as including both male and female employees in order to expand the research model so that it can be generalised to a wider population. In view of measuring perception towards overeating behaviour that gives a subjective response to the construct, it is recommended to use an objective measurement of overeating evidence to reduce the bias in the study.

CONCLUSION

In conclusion, the psychosocial factors at work (PSC, job demands, job resources) are significant predictors for the emotional exhaustion male employees, which further signifies the positive effect on uncontrolled eating behaviour and BMI. This finding provides an evidence-based opportunity to plan effective interventions on states of emotional exhaustion.

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DECLARATION OF CONFLICTING INTERESTS

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REFERENCES

- 1. The Isosceles Group. Workplace Wellness Assessment Malaysia 2017. Boston MA 2017 [cited April 2019]. Available from: http://www.theisogroup.com/uploads/2/6/3/8/26383809/malaysia_workp lace_wellness_assessment_p.pdf.
- 2. DOSH. National Occupational Safety and Health Profile for Malaysia, 2016.
- Khamisa N, Peltzer K, Oldenburg B. Burnout in relation to specific contributing factors and health outcomes among nurses: A systematic review. Int J Environ Res Public Health 2013; 10(6): 2214-40.
- Dollard MF, Bakker AB. Psychosocial safety climate as a precursor to conducive work environments, psychological health problems, and employee engagement. J Occup Organ Psychol 2010; 83(3): 579-99.
- employee engagement. J Occup Organ Psychol 2010; 83(3): 579-99.
 5. Idris MA, Dollard MF, Winefield AH. The effect of globalization on employee psychological health and job satisfaction in Malaysian workplaces. J Occup Health 2011; 53(6): 447-54.
- Khoo EJ, Aldubai S, Ganasegeran K, Lee BX, Zakari NA, Tan KK. Emotional exhaustion is associated with work related stressors: A cross-sectional multicenter study in Malaysian public hospitals. Arch Argent Pediatr 2017; 115(3): 212-8.
- 7. Zubairi AJ, Noordin S. Factors associated with burnout among residents in a developing country. Ann Med Surg (Lond) 2016; 6: 60-3.
- 8. Kinman G, Člements AJ, Hart J. Job demands, resources and mental health in UK prison officers. Occup Med (Lond) 2017; 67(6): 456-60.
- Wood SK, Valentino RJ. The brain norepinephrine system, stress and cardiovascular vulnerability. Neurosci Biobehav Rev 2017; 74(Pt B): 393-400.
- Oakman J, de Wind A, van den Heuvel SG, van der Beek AJ. Work characteristics predict the development of multi-site musculoskeletal pain. Int Arch Occup Environ Health 2017; 90(7): 653-61.
- 11. Siegrist J, Rödel A. Work stress and health risk behavior. Scand J Work Environ Health 2006; 32(6): 473-81.
- 12. Greeno CG, Wing RR. Stress-induced eating. Psychol Bull 1994; 115(3): 444-64.
- 13. Hellerstedt WL, Jeffery RW. The association of job strain and health behaviours in men and women. Int J Epidemiol 1997; 26(3): 575-83.
- 14. Sominsky L, Spencer SJ. Eating behavior and stress: A pathway to obesity. Front Psychol 2014; 5: 434.
- Bray GA, Popkin BM. Dietary fat intake does affect obesity! Am J Clincal Nutr 1998; 68(6): 1157-73.
- Bakker AB, Demerouti E. Job Demands-Resources Theory. In: Chen PY, Cooper C, editors. Wellbeing: A Complete Reference Guide, Volume III, Work and Wellbeing. Wiley Blackwell; 2014; 37-64.
- Hall GB, Dollard MF, Coward J. Psychosocial safety climate: Development of the PSC-12. International Journal of Stress Management 2010; 17(4): 353-83.
- De Jonge J, Dormann C. The DISC model: Demand-induced strain compensation mechanisms in job stress. In Dollard M, Winefield HR, Winefield AH, editors. Occupational Stress in the Service Professions. 1st ed. London and New York: Taylor & Francis; 2003: 43.
- Karlsson J, Persson L-OO, Sjöström L, Sullivan M. Psychometric properties and factor structure of the Three-Factor Eating Questionnaire (TFEQ) in obese men and women. Results from the Swedish Obese Subjects (SOS) study. Int J Obes Relat Metab Disord 2000; 24(12): 1715-25.
- Rosnah I, Noor Hassim I, Shafizah AS. A systematic translation and cultural adaptation process for Three-Factor Eating Questionnaire (TFEQ-R21). Med J Malaysia 2013; 68(5): 424-34.
- 21. Ringle CM, Wende S, Becker JM. SmartPLS 3. Boenningstedt: SmartPLS GmbH; 2015.
- 22. Hair JF, Hult GTM, Ringle C, Sarstedt M. A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). USA: Sage Publications; 2016.
- Ramayah T, Cheah J, Chuah F, Ting H, Memon MA. Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 3.0: An Updated Guide and Practical Guide to Statistical Analysis. Malaysia: Pearson; 2016.
- Adriaenssens J, Hamelink A, Van Bogaert P. Predictors of occupational stress and well-being in First-Line Nurse Managers: A cross-sectional survey study. Int J Nurs Stud 2017; 73: 85-92.
- Fernandez-Prada M, Gonzalez-Cabrera J, Iribar-Ibabe C, Peinado JM. Psychosocial risks and stress as predictors of burnout in junior doctors performing emergency guards. Gac Med Mex 2017; 153(4): 450-8.
 Dollard MF, Neser DY. Worker health is good for the economy: Union
- 26. Dollard MF, Neser DY. Worker health is good for the economy: Union density and psychosocial safety climate as determinants of country differences in worker health and productivity in 31 European countries. Soc Sci Med 2013; 92: 114-23.
- Weigl M, Stab N, Herms I, Angerer P, Hacker W, Glaser J. The associations of supervisor support and work overload with burnout and depression: a cross-sectional study in two nursing settings. J Adv Nurs 2016; 72(8): 1774-88.

- 28. Idris MA, Dollard MF, Winefield AH. Integrating psychosocial safety climate in the JD-R model: A study amongst Malaysian workers. SA Journal of Industrial Psychology 2011; 37(2): 851. Grandey AA, Dickter DN, Sin HP. The customer is not always right:
- 29 customer aggresion and emotion regulation of service employees. Journal of Organizational Behavior 2004; 25(3): 397-418.
- 30. Botvinick MM, Rosen ZB. Anticipation of cognitive demand during decision-making. Psychol Res 2009; 73(6): 835-42.
- 31. Hootman KC, Guertin KA, Cassano PA. Stress and psychological constructs related to eating behavior are associated with anthropometry and body composition in young adults. Appetite 2018; 125: 287-94.32. Devonport TJ, Nicholls W, Fullerton C. A systematic review of the
- association between emotions and eating behaviour in normal and overweight adult populations. J Health Psychol 2019; 24(1): 3-24.
- 33. Hemmingsson E. A new model of the role of psychological and emotional distress in promoting obesity: Conceptual review with implications for treatment and prevention. Obes Rev 2014; 15(9): 769-79. Scott C, Johnstone AM. Stress and eating behaviour: Implications for
- 34 obesity. Obes Facts 2012; 5(2): 277-87.

- 35. O'Connor DB, Jones F, Connor M, McMillan B, Ferguson E. Effects of Daily Hassles and Eating Style on Eating Behavior. Health Psychol 2017; 27(1S): S20-31.
- 36. Idris MA, Dollard MF, Coward J, Dormann C. Psychosocial safety climate: Conceptual distinctiveness and effect on job demands and worker psychological health. Saf Sci 2012; 50(1): 19-28.
- 37. Rosnow RL, Rosenthal R. Effect sizes for experimenting psychologists. Can J Exp Psychol 2003; 57(3): 221-37.
- 38. Rosnah I, Idris MA, Azmi MT, Noor Hassim I. Job stress on abdominal obesity: The moderating effects of anger and overeating behaviour. Malaysian Journal of Nutrition 2017; 23(3): 437-48.
- Bakker AB, Costa PL. Chronic job burnout and daily functioning: A 39. theoretical analysis. Burnout Research 2014; 1(3): 112-9.
- 40. Quintiliani L, Poulsen S, Sorensen G. Healthy eating strategies in the workplace. Int J Work Heal Manag 2010; 3(3): 182-96.