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A Study on the Correlation between Working Pressure and Job Satisfaction from the Viewpoint of Work Exhaustion

Kai-Ping HUANG¹, Karen Yuan WANG²

Abstract

Under the rapid industrialization, the country has become a major high-tech industry in Asia. Being an important industry in domestic strategic development, high-tech industry attracts a lot of manpower. During the depression after the financial crisis, organizations' adoption of layoffs and unpaid leave to increase work or transfer positions induced employees' worries. There was news about hi-tech millionaires dying young of overwork in past years. Working pressure therefore became the major problem emphasized by human resource managers. Stress management related issues have been discussed academically or practically in recent years. Aiming at high-tech employees of Hsinchu Science Park in Taiwan, 500 copies of questionnaire are distributed and 387 valid copies are retrieved, with the retrieval rate 77%. The research results reveal 1.positive relations between working pressure and work exhaustion, 2.negative relations between work exhaustion and job satisfaction, and 3.negative relations between working pressure and job satisfaction. According to the results, suggestions are proposed, expecting to assist high-tech industry in improving employees' working pressure to largely benefit employee health and industrial yield.

Keywords: work exhaustion, working pressure, job satisfaction, high-tech industry, crisis, working environment.

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Introduction

Under the rapid industrialization, the country has become the major high-tech industry in Asia in past decades. High-tech industry is a primary industry in domestic strategic development that a lot of manpower is attracted. Since the transformation from agricultural society to industrial society, paddy fields are disappearing and high buildings and factories are everywhere. Living in the society with constant transformation, people do not simply face the problem of eating. Nonetheless, people merely see the bright side of hi-tech millionaires from electronic media or newspaper and magazines, such as high year-end bonus, wonderful year-end feast and lucky draw or employee stock bonus, but seldom concern about the relatively high working pressure and even job burnout behind the rich income. During the depression after the financial crisis, organizations' adoption of layoffs and unpaid leave to increase work or transfer positions has induced employees' worries. High-tech employees therefore perceive strong pressure that a lot of employees feel uncomfortable due to long-term insomnia and are affected the health because of not stopping the work.

Health problems caused by overwork have been largely emphasized by the public, including the acute exacerbation of cardiovascular and cerebrovascular diseases, and the extreme result would be sudden death. Such cases occur in various industries; and, it is broadly concerned as such elites die young and without warnings. High-tech industry presents the advantages of capitals, technologies, and talents that the occupational safety and health is considered higher than general industries. Nevertheless, there was news about hi-tech millionaires dying of overwork in past years. Working pressure therefore becomes a major problem in workplaces and is emphasized by human resource managers. Stress management related issues have been discussed academically or practically in past years. Such studies focus more on physiological dimensions, e.g. ergonomics, skin symptoms, and reproductive system effect, but seldom on employees' psychological dimensions, e.g. working pressure. A lot of diseases with indefinite causes such as overwork and chronic fatigue might be related to working pressure. In this case, improperly dealing with working pressure might influence health and even result in low work efficiency. High-tech industry is a high-pressure industry; finding out major sources of working pressure for the improvement would largely benefit employee health and industrial yield.

Literature review

Working pressure

Liu, Aunguroch, & Yunibhand (2016) indicated that working pressure was regarded as the sum of various pressure sources in working situations; work-related situations were full of pressure for an individual. For instance, there were lots of requirements for workers in the working situation full of pressure and supervisors seldom concerned about workers but showed increasing criticism; such were the pressure sources in working situations (Amilin, 2016; Hung, Lee, & Lee, 2018). Accordingly, working pressure referred to a specific worker experiencing stress in specific work. Roy, van der Weijden, & de Vries (2017) regarded working pressure as various physiological and psychological reactions of a worker experiencing the work or adapting to a new working environment. Kiarie, Maru, & Cheruiyot (2017) indicated that working pressure was the interaction between individual cognition and external environment; after evaluating self-resources and the challenge of external environment, self-psychological unbalance would appear, when not being able to load, to affect individual psychological balance.

Referring to Zheng *et al.* (2017), the following dimensions are defined for working pressure:

- (1) *Work nature*: Work nature refers to the nature of work contents, including work exertion, work load, work plan and schedule, work pace, repetitive work, characteristics of tasks, excessive working hours, work perception, customer/case service, and work loading.
- (2) *Interpersonal nature*: Interpersonal pressure refers to the pressure from the work and the interactive relations with others, containing various conflicts among supervisors, employees, and colleagues, communication with colleagues, and communication between professions.
- (3) *Character nature*: Individual work role covers work role contents, role ambiguity, role conflict, role load, and work responsibility. It is inevitable that an individual has to bear the pressure caused by the work role, and it is often accompanied with the work. It is also regarded as the major source of individual work pressure.

Work exhaustion

Hayes (2017) defined exhaustion as the indicator of the mismatch between what people were and what they had to do. It represented individual corrosion of value, dignity, spirit, and willingness, the corrosion of human spirit. Bower (2015) pointed out the cause of work exhaustion that the requirement for an objective resulted in individual value excessively pursuing the work, not being able to effectively cope with it to generate working pressure and frustration, gradually perceiving emotional exhaustion, and facing with negative attitudes

and reducing work motivation and achievement to further damage the work performance and physical health. Korpál (2016) regarded work exhaustion as the function of individual perceived pressure. Under long-term pressure, an individual might shrink back from or not be willing to devote to the work to result in physical, emotional, and attitude exhaustion and further affect the quality of work. Cameron, Bright, & Caza (2004) argued that high expectation or not being able to effectively cope with long-term working pressure and frustration in the interaction process with working environment would result in individual emotional exhaustion and loss of enthusiasm and ideal, responses with dehumanized attitudes of shrinking and indifference, and dissatisfaction with job achievement.

Referring to Chuang *et al.* (2016), three core dimensions are defined for work exhaustion:

(1) *Emotional exhaustion*: Emotional exhaustion refers to the exhaustion of emotional energy and the feeling of inadequate individual emotional resources to cope with situations.

(2) *Dehumanization*: Dehumanization refers to individual indifferent attitudes towards others and purposively keeping distance with others. Although the nervous emotional reaction is reduced, the reaction in the problem situation would be hindered, and the alienation from others would appear dull attitudes and ironic behaviors.

(3) *Lack of personal achievement*: Lack of personal achievement refers to an individual negatively evaluating the behavior and performance to result in ineffective feeling at work and be incapable of completing the objective.

Job satisfaction

Zacher *et al.* (2017) regarded job satisfaction as the degree of an employee liking or disliking the work. Krishnan & Nor (2016) pointed out job satisfaction as individual general attitudes towards the work. An employee with high job satisfaction revealed positive attitudes towards the work; on the contrary, an employee being dissatisfied with the work would appear negative attitudes. Brown, Wey, & Foland (2018) considered job satisfaction as the perception based on desire, needs, motivation, and working environment, i.e. a worker's stable satisfaction or inner dissatisfaction with the work. Spetor & Jex (1998) referred job satisfaction as the degree of an individual or numerous employees satisfying with the work, which was correlated with pay, way of increasing pay, working hours, working environment, promotion opportunity, interpersonal relationship, and management method. Crum *et al.* (2017) indicated that job satisfaction was individual subjective judgment of the work, work process, work result & work experience, and work role, which were the overall reaction of affection, emotion, or evaluation. Rudolph *et al.* (2016) defined job satisfaction as individual attitudes towards current position, affective response, and overall feeling of work process.

Referring to Huang *et al.* (2015), the following dimensions are proposed for job satisfaction in this study:

- (1) *Internal satisfaction*: ability, achievement, authority, independence, morality, responsibility, guarantee, creativeness, social service, social status, and diversity.
- (2) *External satisfaction*: promotion, company policy, salary, identity, supervisor relationship, and technology.
- (3) *General satisfaction*: working environment, colleagues.

Relations between working pressure and work exhaustion

Taking doctorate consultants in a consultation center as the object, Zheng *et al.* (2017) studied the relationship between working pressure and work exhaustion and pointed out the higher working pressure, the higher work exhaustion of consultants. Taking psychologists as the object, Deppa & Saltzberg (2016) predicted work exhaustion (overall work exhaustion, emotional exhaustion, dehumanization, and low individual achievement) with role strain (overall role strain, role ambiguity, role conflict, and role overload) and found out 21.6%, 13.2%, 3.8%, and 20% predictability of role overload to emotional exhaustion, dehumanization, low individual achievement, and overall work exhaustion, respectively, as well as 1.5% predictability of role conflict to dehumanization. Yalabik *et al.* (2015) pointed out the larger working pressure, the higher work exhaustion, consultants with supervisor and peer support showing lower work exhaustion, and the predictability of working pressure to emotional exhaustion and low individual achievement. Laurence, Fried, & Raub (2016) discovered 25% predictability of medical social workers' working pressure to work exhaustion as well as 29% predictability of working pressure and social support to work exhaustion. Accordingly, the following hypothesis is inferred.

H1: Working pressure reveals significantly positive relations with work exhaustion.

Relations between work exhaustion and job satisfaction

Hayes (2017) indicated that work exhaustion would reduce job satisfaction and organizational commitment. Vandevala *et al.* (2017) studied the factors of work exhaustion, role conflict, and physiological health and revealed the negative correlations between emotional exhaustion and job satisfaction. In the research on the correlations among employees' emotional labor, job satisfaction, job burnout, and turnover intention, Gandolfi & Stone (2017) found out the direct and negative relations between job satisfaction and job burnout. Aiming at high school and elementary school teachers in Norway, Lutchyn *et al.* (2015) proposed emotional exhaustion and dehumanization as the key predictive dimensions of job satisfaction. Aiming at the relations among work exhaustion, depression, job satisfaction, and absenteeism of nurses in Japan and Mainland China, Chuang *et al.* (2016) revealed

the negative relations between work exhaustion and job satisfaction. From above literatures, the following hypothesis is inferred.

H2: Work exhaustion shows notably negative relations with job satisfaction.

Relations between working pressure and job satisfaction

Liu, Aungsuroch, & Yunibhand (2016) pointed out the effect of pressure on various dimensions, including subjectivity, behavior, cognition, physiology, health, and organization, where the effect of organization contained bad absence, reducing work efficiency, low work morale, bad interpersonal relationship, high turnover rate, and dissatisfaction with job. Hashim, Ahmad, & Jamaludin (2017) considered that job satisfaction could be the buffer of an individual bearing working pressure. Apparently, working pressure, to some degree, showed correlations with job satisfaction. Huang *et al.* (2015) discovered the negative correlations between working pressure and job satisfaction of teachers in North America. Oshio, Tsutsumi, & Inoue (2015) studied the relations among working pressure, job satisfaction, and organizational commitment of teachers from elementary to high schools and found out the higher working pressure, the lower job satisfaction. Accordingly, the following hypothesis is inferred in this study.

H3: Working pressure presents remarkably negative relations with job satisfaction.

Methodology

Research sample and object

Aiming at high-tech employees in Hsinchu Science Park in Taiwan, total 500 copies of questionnaire are distributed, and 387 valid copies are retrieved, with the retrieval rate 77%.

Reliability and validity test

Validity refers to a measuring tool being able to measure what a researcher intend to measure. Validity is generally divided into content validity, criterion-related validity, and construct validity. The questionnaire items in this study are referred to domestic and international research that it presents certain content validity. Dimensions of working pressure, work exhaustion, and job satisfaction in this study are tested the causal relations with linear structural relation model, and the data input are based on the correlation coefficient matrix of above observation variables. The linear structural relation model analysis results reveal the overall model fit achieving the rational range that it shows favorable convergent validity

and predictive validity. Item-to-total correlation coefficients are utilized for testing the construct validity of the questionnaire contents, i.e. reliability analysis. The calculated item-to-total correlation coefficients are used for judging the questionnaire content. The item-to-total correlation coefficients of the dimensions in this study are higher than 0.7, revealing certain degree of construct validity of the dimensions.

To further understand the reliability and validity, reliability and validity analyses are preceded in this study. The higher Cronbach's α presents the better reliability. According to the standards, the formal questionnaire is developed in this study, and the measured Cronbach's α appears in 0.70~0.90, apparently conforming to the reliability range.

Results

LISREL model evaluation index

LISREL (linear structural relation) model combines factor analysis and path analysis in traditional statistics and adds simultaneous equations in econometrics that it could calculate multiple factors and multiple causal paths at the same time. The goodness-of-fit of the model could be evaluated with preliminary fit criteria, overall model fit, and fit of internal structure of model.

The research data are organized in *Table 1*. The preliminary fit criteria, fit of internal structure of model, and overall model fit are explained as follows.

From *Table 1*, three dimensions of working pressure (work nature, interpersonal nature, character nature) could significantly explain working pressure ($t > 1.96$, $p < 0.05$), three dimensions of work exhaustion (emotional exhaustion, dehumanization, lack of personal achievement) could remarkably explain work exhaustion ($t > 1.96$, $p < 0.05$), and three dimensions of job satisfaction (internal satisfaction, external satisfaction, general satisfaction) could notably explain job satisfaction ($t > 1.96$, $p < 0.05$). Apparently, the overall model presents good preliminary fit criteria.

In regard to fit of internal structure of model, working pressure shows positive and significant correlations with work exhaustion (0.836, $p < 0.01$), work exhaustion shows negative and remarkable correlations with job satisfaction (-0.855, $p < 0.01$), and working pressure reveals negative and notable correlations with job satisfaction (-0.876, $p < 0.01$) that H1, H2, and H3 are supported.

In terms of overall model fit, the overall model fit standards $\chi^2/DF=1.413$, smaller than the standard 3, and RMR=0.005 show proper result of χ^2/DF and RMR. Besides, chi-square is sensitive to sample size that it is not suitable for directly judging the fit. However, the overall model fit standards GFI=0.978 and AGFI=0.911 reach the standard 0.9 (the closer GFI and AGFI to 1 revealing the better model fit) that this model presents better fit indices.

Table 1: Overall linear structural model analysis

evaluation item	parameter/evaluation standard	result	t	
preliminary fit	working pressure	work nature	0.657	8.57*
		interpersonal nature	0.644	8.13*
		character nature	0.638	7.22*
	work exhaustion	emotional exhaustion	0.686	10.37**
		dehumanization	0.692	10.96**
		lack of personal achievement	0.677	9.14**
	job satisfaction	internal satisfaction	0.702	11.44**
		external satisfaction	0.725	12.26**
		general satisfaction	0.713	11.83**
fit of internal structure of model	working pressure→work exhaustion	0.836	23.16**	
	work exhaustion→job satisfaction	-0.855	-27.44**	
	working pressure→job satisfaction	-0.876	-31.27**	
overall model fit	X2/Df		1.413	
	GFI		0.978	
	AGFI		0.911	
	RMR		0.005	

Note: * stands for $p < 0.05$, ** for $p < 0.01$, and *** for $p < 0.001$.

Table 2: Hypothesis test

research hypothesis	correlation	empirical result	P	result
H1	+	0.836	$P < 0.01$	supported
H2	-	-0.855	$P < 0.01$	supported
H3	-	-0.876	$P < 0.01$	supported

Conclusion

The research results indicate distinct working pressure and work exhaustion under different time and space variables. Working pressure appears significantly positive correlations with work exhaustion, and work exhaustion would be generated under long-time working pressure. For this reason, improving working pressure is a key issue in high-tech industry and could reduce work exhaustion and avoid low job satisfaction. However, it requires the interference of the organization or an individual in dealing with pressure in high-tech industry that organizational reform and individual adjustment are necessary. Working pressure and work exhaustion are key negative factors in job satisfaction and physical & mental health. The change in organizational structure could fundamentally solve the problem of working pressure, but it requires the support of management level in the company. When the management is short-term profits oriented, it would not be easily promoted. High-tech employees have presented obvious working pressure

and work exhaustion, but adopted positive ways to face pressure, where “problem solving” and “emotional adjustment” are mostly approved. Apparently, it does not simply require knowledge and capability to solve problems, but emotional management and individual health management are also important.

Suggestions

By organizing the research results and findings, the following practical suggestions are proposed in this study.

(1) High-tech managers should reduce the impact of work nature on employees. The work nature of the industry is comparatively fragmented and the production personnel are independently in charge of the stage work. When the personnel are grouped for the entire process, increasing the diversity of work skills, and avoiding doing repetitive affairs, the work exhaustion could be reduced. Moreover, employees could be properly distributed work loadings and provided proper rest time to reduce work exhaustion caused by long-term concentration.

(2) A high-tech organization could design a pressure support system and good working culture, reinforce interpersonal relationship in the organization, enhance employees' identity and morale, reduce employees' pressure, and provide effective incentive rewards, such as increasing pay for good job performance, stressing on employees' career plans, and open promotion system, to induce employees' potential and promote the job satisfaction.

(3) A high-tech business could hold speeches or health education, inviting experts to provide the concepts and methods for positively coping with pressure. Employees could adjust the pressure by self-changes, e.g. applying pressure-release skills, including proper exercises, muscle relaxation, and surrounding resources (talking to friends).

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