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DEMONSTRATING THE EFFECT OF JOB STRESS  
ON HIGH-TECHNOLOGY WORKERS

*With the rapid globalization, enterprises expand overseas. An enterprise would encounter how to choose appropriate personnel and maintain the overseas business operation. The purpose of this study is to investigate the relationship between job stress and the willingness to relocate in the high-tech industry in Taiwan. Considering the results, some suggestions are made for high-tech industry and further research.*

*Keywords: job stress; willingness to relocate; high-tech industry.*

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ВПЛИВ РОБОЧОГО СТРЕСУ НА РОБІТНИКІВ ГАЛУЗИ  
ВИСОКИХ ТЕХНОЛОГІЙ

*У статті обгрунтовано, що високі темпи глобалізації змушують підприємства виходити за кордони країни. Для бізнес-діяльності за кордоном підприємство повинно мати відповідний персонал. Тому досліджено залежність між робочим стресом та бажанням перейти до зарубіжного представництва на прикладі сектору високих технологій на Тайвані. За результатами дослідження розроблено пропозиції для підприємств сектору, а також для подальших досліджень.*

*Ключові слова: робочий стрес; бажання перейти до зарубіжного представництва; сектор високих технологій.*

*Рис. 1. Табл. 2. Літ. 7.*

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ВЛИЯНИЕ РАБОЧЕГО СТРЕССА НА СОТРУДНИКОВ  
СФЕРЫ ВЫСОКИХ ТЕХНОЛОГИЙ

*В статье обосновано, что высокие темпы глобализации заставляют предприятия расширяться за рубеж. Для бизнес-деятельности за рубежом предприятие должно иметь подходящий персонал. Поэтому исследована зависимость между рабочим стрессом и желанием перейти в зарубежное представительство на примере сектора высоких технологий на Тайване. По результатам исследования вынесены предложения для предприятий сектора, а также для дальнейших исследований.*

*Ключевые слова: рабочий стресс; желание перейти в зарубежное представительство; сектор высоких технологий.*

**1. Introduction.** In the recent years, many hi-tech companies moved their factories to mainland China because they lost their competitive advantages due to the increase of labor costs and deterioration of domestic investment environment. This increased the chances for company staff to work overseas. When facing the critical international competition, hi-tech companies in Taiwan must seek low cost and high reward market or develop better techniques to enhance their competitive advantage, so that they can be more competitive among global companies. Recently, many hi-

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tech companies started to either set up research and development departments in developed countries (Japan, Singapore, USA), or set up new plants in the low-cost countries (mainland China or other South Asian countries). This makes the operations overseas very important. The first problem a company would encounter is how to find qualified staff to operate overseas business. The most common way for companies to do is to send the experienced staff from the headquarter to overseas branches. Those experienced ones can supervise and control the overseas branch. This is a win-win situation for both employees and companies. The issue of relocating staff overseas has become extremely important.

On the other hand, working under high competition environment usually causes employees' working attitudes and efficiency. Although some stress might enhance employees' performance, extreme pressure might affect employees' working satisfaction, attention or commitment in a negative way. Those stresses might lower employees' willingness to work overseas. Therefore, stress from work, one of the factors which affect employees' willingness to work overseas, has become a big issue for many hi-tech companies which have set up branches overseas.

## **2. Literature Review**

**2.1. Job Stress.** Parker & DeCotiis (1983) define job stress as a feeling of discomfort that an individual suffers when the job related chances, limits, and demands couldn't meet the individual's expectations and caused the individual lose his/her balance. They categorize factors of job stress as job itself, organization character, role played in an organization, interpersonal relationship, career development, and commitment. The results from the stress were categorized as organization commitment, job satisfaction, behavior, and work performance.

Some scholars suggest that job stress has become a very common problem nowadays. In fact, a quarter of the working population is suffering from job stress. This number shows how common job stress is. Job stress has a very negative impact on employees, organizations, as well as the society as a whole. Job stress also threatens individual's physical and mental health. The higher the job stress is, the worse an individual's health would be. Job stress is a distinctive result from an individual's continuously coordinating and interacting.

The researchers also found that, appropriate stress is positive to employees, but when stress becomes extreme and causes employees feel pain and discomfort, it would have a very negative impact. Based on this, the researchers learned that it is important and necessary to find ways to release the employees' job stress.

**2.2. Willingness to relocate.** The whole world has become a global village. Many companies are internationalized to increase their competitive advantages. Dispatching staff has become an important issue for companies that want to internationalize themselves. Many studies about successful dispatching staff overseas indicate that willingness is a very important factor of the dispatching success (Tung & Miller, 1990; Brett, Stroll & Reilly, 1993; Borstorff, Harris & William, 1997).

In Taiwan, among the studies on this topic, Naumann (1993) indicate that if a company can make a career plan for employees when dispatching them, it usually increases their willingness to go overseas. Some other scholars think most expatriates worry that working overseas might affect their career development. This proves once again that employees' career plan is significantly related to their willingness to go overseas.

**2.3. Relation between job stress and willingness to relocate.** In the recent years, many enterprises including companies in Taiwan started moving their businesses to mainland China because of its advantage of low cost and huge market. So, many companies in Taiwan are facing the issue of dispatching staff. In the previous studies the results were stated as following:

*2.3.1. Problems arise when dealing with Chinese government and companies, hiring and managing local employees, inconvenience of transportation, uncomfortable working environment.*

*2.3.2. Unfamiliar diet, missing family, monotonous life, lack of information, insufficient medical system, crowded traffic, law and regulation disorderliness, and bad customer service attitude.*

*2.3.3. Those who have higher sociality and adaptability feel less stress. Those who have higher adaptability and sociality but lower creativity feel less living stress. Those who have higher sociality and creativity feel more living stress.*

*2.3.4. Living stress causes physical inadaptability; job stress affects mental inadaptability.*

**3. Study Design.** Based on the research motivation of this study and the results of the previous studies, the research design follows the structure shown on Figure 1.

**3.1. Study structure and hypotheses.** According to the structure and purpose of this study, we develop the following hypotheses:

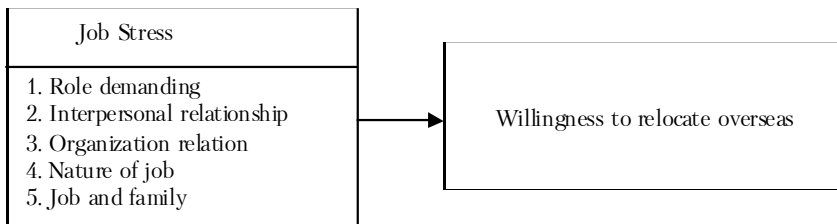


Figure 1. Research structure

H-1: The relationship between employees' job stress and the willingness to relocate overseas is significant.

H1-1: The relationship between the role demanding and the willingness to relocate overseas is significant.

H1-2: The relationship between interpersonal relationship and the willingness to relocate is significant.

H1-3: The relationship between the organization relationship and the willingness to relocate overseas is significant.

H1-4: The relationship between the nature of the job and the willingness to relocate overseas is significant.

H1-5: The relationship between job and family and the willingness to relocate overseas is significant.

**3.2. Measurement Design**

**3.2.1. Measurement of job stress.** The measurement the researchers used for this part of study is measurement of self-evaluation of job stress developed by Lan (2000).

The part related to work overload is compiled from "The measurement of Taiwan labor working pressure" from Institute of vocational safety and health. There are 30 questions in the measurement, including 5 factors: 1. Role demanding 2. Interpersonal relationship 3. Organization relation characters 4. The nature of the job 5. Job and family. The Cronbach's  $\alpha$  is 0.703, 0.782, 0.763, 0.700, 0.728 for each factors respectively. All of the coefficients are higher than 0.7, which shows the consistency of this measurement.

**3.2.2. Measurement for willingness to relocate overseas.** Measurement developed by Landau, Shamir & Arthur (1992) was translated and used in this part of the study. Landau et. al (1992) indicate that the willingness of being dispatched overseas includes two parts. One is "organization and personal development", the other one is "continuously stay in the job". However, there is only one question in the part of "continuously stay in the job" and according to the effectiveness analysis of this measurement, the researchers learned that the effectiveness of this factor is lower than the others, in addition, it was designed to the same factor along with other questions. Other than that, the entire Cronbach's  $\alpha$  was higher than 0.758, so the researchers suggested to classify this measurement as one of the factors of willingness of being dispatched overseas.

**3.3. Study subject and questionnaire survey.** This study aims the hi-tech employees in Taiwan as the study subjects; the researchers used random questionnaire survey as the study method. Through questionnaire pretest data analysis the researchers found that the result is highly consistent. The questionnaire survey was held between the 15<sup>th</sup> of Jan. and the 28<sup>th</sup> of Feb. 2009. The total questionnaires sent were 550; returned questionnaires were 367 with the returned rate 66%; out of which 340 questionnaires were valid and 27 were invalid ones. The valid recovery rate was 62%.

**3.4. Reliability of the measurements.** Since the measurements were developed from the previous scholars' studies, they are considered fairly reliable. However, since the subjects are different from the ones in the previous study, our study testified the data by factor analysis. The researchers found that factors were fairly described and assigned to each category. The cumulative variance explained is 61.174% for working pressure and 73.986% for the willingness to relocate overseas. Cronbach  $\alpha$  for each factor is between 0.7-0.9; it shows this measurement is fairly consistent. The integral  $\alpha$  coefficient is 0.820 for job stress and 0.911 for willingness to relocate overseas.

#### **4. Data Analysis**

**4.1. Pearson's Correction Analysis.** Table 1 shows that job stress is positively correlated to the willingness to relocate overseas. The correlation is 0.623, so H1 is supported. Table 2 indicates that 5 factors of job stress are positively correlated to the willingness of being sent overseas. The correlation coefficients between each factor and willingness to relocate overseas are as following: 0.104 for role demanding, 0.129 for interpersonal relationship, 0.120 for organization character, 0.150 for nature of the job, and 0.207 for work and family. These results show:

**4.1.1. The correlation between the role demanding and the willingness to relocate overseas is significant; H1-1 is not supported.**

**4.1.2. The correlation between interpersonal relationship and the willingness to relocate overseas is significant; H1-2 is supported.**

4.1.3. *The correlation between the organization character and the willingness to relocate overseas is significant; H1-3 is supported.*

4.1.4. *The correlation between the nature of the job and the willingness to relocate overseas is significant; H1-4 is supported.*

4.1.5. *The correlation between job and family and the willingness to relocate overseas is significant; H1-5 is supported.*

**Table 1. Correlation analysis of job stress and willingness to relocate overseas**

	Job Stress	Willingness to relocate overseas
Job Stress	1	
Willingness to relocate overseas	0.623	1

**Table 2. Correlation analysis between factors of job stress and willingness to relocate overseas**

		Willingness to relocate overseas
Job Stress	Role demanding	0.104
	Interpersonal relationship	0.129
	Organization character	0.120
	Nature of the job	0.150
	Work and family	0.207

**5. Conclusion and Suggestion**

**5.1. Conclusion.** Table 1 and 2 show the correlation coefficient between job stress and its factors and willingness to relocate overseas for hi-tech employees, each factors of job stress almost reached the significant level. Among them, the correlation coefficient between job stress and willingness to relocate overseas is 0.623, it indicates that job stress is positively correlated to the willingness to relocate overseas and proves that the higher the job stress is, the more likely the willingness would be affected.

**5.2. Suggestions**

**5.2.1. Suggestions to the management of hi-tech companies.** Management should understand what purpose and goal employees' have in their career and what stress and problem they encounter in their current working environment, so that to find feasible solutions and encouragement plans to eliminate the employees' job stress. This will also solve employees' problem and increase their job satisfaction and performance. Measuring the job stress and willingness to relocate overseas helps to understand the employees, to find out who of them hope to continuously work in the familiar field. Those the management should encourage by promoting for more important positions. If employees hope to gain job satisfaction and achievement by challenging tasks, management should then assign more challenging projects to them such as overseas assignment or special projects.

In short, employees should know their own advantages and disadvantages and the problems and stress they encounter at work, try to take advantage of the assistance plan offered by employers to release their stress, and set up their career scheme. In addition, they should also be positive about the chance of getting promoted or being assigned overseas so that they can gain more experience and create more value for both themselves and their companies.

**5.2.2. Suggestions for future research.** Future research can extend the study subjects to different industries. If they get similar results it will prove the results of this

study and make grounds for empirical generalizations. Moreover, the measurements for job stress, employee assistance plan and willingness to relocate overseas are used by many scholars. The researchers didn't adopt many measurements in this study; we hope future studies can choose more variable measurements for comparative and empirical research.

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