

A Study on the Inverted U-Shape between Time Pressure and Job Satisfaction

Xiang-hong Que^{1,a}, Ping Zhong^{1,b}

¹School of Business Administration, Guangdong University of Finance and Economics, Guangzhou, Guangdong 510320, China

^a952323518@qq.com, ^b1097441988@qq.com

Keywords: Time pressure, Job satisfaction, Inverted u-shape relationship

Abstract. Time pressure generally affects the work and life of employees. This paper conducts a questionnaire survey of 166 employees of Guangzhou hotel and catering enterprises to explore the impact of time pressure on job satisfaction. The results show that the time pressure at work has an inverted U-Shape effect on job satisfaction, what is, there is a stress level for optimal working hours. At this point, the job satisfaction of individual reaches the highest value. If it lower or higher than this pressure level, the individual's job satisfaction is far from the best job satisfaction level. Based on the research conclusions, this paper suggests that enterprise managers should update the concept of time management, rationally design their work, and find the balance point of using time pressure at work to motivate employees, thus stimulating employees' work motivation and improving their work performance.

1. Introduction

As the pace of life and work continues to accelerate, the pressure on corporate employees is growing. More and more people are asking questions about where to go. There is not enough time to rest so much so that many employees feel tired in physically and tired of work. As a result, they are not willing to invest in work and always carry the burden to complete work, or even fail to complete the work. According to the "China White-collar Job Satisfaction Index Survey in 2014" published by Zhi Lian Hiring, white-collar workers in China have more pressure on working time, having lower life satisfaction and job satisfaction, only 2.22 and 2.41 (full score of 5). Therefore, it can be seen that in fast-paced society, problems of time pressure are widespread in people's lives and have an important impact on people's work and life. In view of the universality of time pressure and its important influence, the study of time pressure on job satisfaction has theoretical significance and practical value.

2. Theoretical basis and assumptions

2.1 Time pressure

Time pressure is generally considered as a kind of pressure produced by employees when working hours are limited. Different theories have different understandings about time pressure. According to the cognitive evaluation theory, time pressure is a subjective feeling produced by individuals after interacting with the objective conditions of insufficient time^[1]. Some scholars regard time as a finite resource, according to the theory of conservation of resources, all kinds of things in work and life will take up time, resulting in the continuous reduction of time resources. The reduction or lack of such resources will bring pressure^[2]. By reviewing domestic and foreign literature, we find that the reason why there are so many theoretical explanations is because scholars are controversial with the dimension of time pressure. At present, scholars generally believe that time pressure can be classified according to its nature, duration and intensity, and can be divided into high time pressure and low time pressure according to its intensity. Janssen believes that the different intensity of time pressure has different effects on individual or team behavior^[3]. This paper mainly studies the effect of time

pressure on job satisfaction. The subjective feelings of employees who are busy and can complete their work within a limited time will directly affect job satisfaction. Based on intensity of pressure, time pressure can be divided into high time pressure and low time pressure, to explore the impact of time pressure on job satisfaction.

2.2 Job satisfaction

The concept of job satisfaction was first proposed by Hopke, who defined job satisfaction as the psychological and physiological satisfaction of the working environment to the workers. Later scholars expanded the definition of job satisfaction. Kreitner & Kinicki (1998) argue that "job satisfaction is the emotional expression of employees in all aspects of their work". Shi Kan, Luo Jia (2005) believes that job satisfaction is the attitude of employees to their work and work experience ^[4]. Zhou et al.(2008) proposed that "job satisfaction can be seen as the feeling that employees get after they have experienced their work environment, it mainly refers to one side about working environment that can change the employees' job satisfaction"^[5]. Based on the above definitions, this paper argues that job satisfaction is a subjective psychological assessment with emotional color of the specific work and working conditions and related conditions.

2.3 Time pressure and job satisfaction

Reviewing the previous literature, we found that previous studies on the relationship between time stress and job satisfaction generally believed that stress would lead to a decline in job satisfaction. But some studies also show that time stress has a double-edged effect ^[6], So how does time stress affect job satisfaction? This requires further research and discussion. According to activation theory, each individual has unique optimal activation level. At this level, the individual's state is the best, and positive emotions and the efficiency of behavioral activities are the best. If below or above the optimal level of activation will result in individuals staying away from the best condition. Based on this, activation theory suggests that there may be an inverted u-shape relationship between stressors and job satisfaction. When the level of pressure about working time is too low, individuals often feel that the work content is simple and boring, empty and lacking motivation. Then, the work input drops, which easily leads to the decline of individual satisfaction with work and life. As time pressure rises, job satisfaction increases. When the level rises to the best state, the individual thinks that work is not only full of challenges, but also within the scope of ability. The individual has the highest level of motivation and satisfaction. If the time pressure continues to increase, it will make individuals feel that work is too difficult and tasks are too many, anxiety, emotional exhaustion and other negative effects lead the decline of job satisfaction level. Based on the above theory, we hypothesize that there is an inverted u-shape curve relationship between the time pressure of work and individual's job satisfaction. In order to prove this hypothesis, we carried out the following research.

3. Research design

On the basis of the interview study, the questionnaire was revised and divided into three parts. The first part is the measurement of time pressure of working, the second part is the measurement about job satisfaction, the third part is the basic information of individuals, including gender, age, working age, average monthly income and education. A total of 200 questionnaires were sent out and 166 valid questionnaires were recycled, with an effective rate of 83%. This study used SPSS21.0 for descriptive statistics, correlation analysis, reliability analysis and regression analysis.

The scale of time pressure. In this paper, the measurement of time pressure is focused on the intensity. Therefore, the time pressure subscale in the analysis scale about tasks of pressure-oriented is selected, and there are 5 items. The Cronbach value of the scale is 0.89.

The scale of job satisfaction. In this paper, the measurement of job satisfaction focuses on the general satisfaction of the work, mainly referring to the more mature questionnaire about overall job satisfaction, and there are 4 items. The Cronbach value of the job satisfaction questionnaire was 0.86.

4. The results

4.1 Descriptive statistics and correlation analysis

Descriptive statistics and correlation analysis were performed using SPSS 21.0 (see Table 1). Among them, age and daily working time were significantly positively correlated with time pressure, and the correlation coefficient between each latent variable was medium to low, indicating that there isn't a serious multicollinearity problem in this study. Time pressure was significantly positively correlated with job satisfaction ($r=0.53$, $p<0.01$), which is different from previous research results. According to the activation theory, the reason may be that the level of time pressure measured in this study does not exceed the optimal value. It is in line with the actual work situation of the surveyed company. Therefore, regression analysis is needed to further prove the inverted u-shape relationship between time pressure in working and individual's job satisfaction.

Table 1. Mean, standard deviation and correlation coefficient matrix

	M±SD	1	2	3	4	5
1、 Gender	1.57±0.48					
2、 Age	1.95±0.82	-0.11				
3、 Average monthly income	1.75±1.38	-0.03	0.32**			
4、 Working hours of the day	8.75±1.77	-0.16**	0.11	-0.08		
5、 Time pressure at work	3.32±0.71	0.03	0.13*	0.02	0.43**	
6、 Job satisfaction	3.88±0.75	0.05	-0.03	0.03	-0.09	0.53**

Note: * means $P < 0.05$, ** means $P < 0.01$, *** means $P < 0.001$

4.2 The results of regression analysis about time pressure and job satisfaction

In this paper, polynomial hierarchical regression analysis is used to test the inverted u-shape curve relationship between time pressure and job satisfaction. In the stratified regression, the first step is to put control variables into the model, such as gender. The second step is to put into time pressure of working. The third step is to put the square of time pressure, and the dependent variable is job satisfaction. The results are shown (see Table 2).

The square of time pressure was significant ($r=-1.87$, $p<0.001$), and the amount of change ($r=0.08$, $p<0.001$) reached a significant level. According to the activation theory, this conclusion indicates that when time pressure doesn't exceed the optimal value, time pressure is significantly positively correlated with job satisfaction, and when time pressure exceeds the optimal value, time pressure and the job satisfaction are significantly negative. So, it indicates that there is an inverted u-shape relationship between time pressure and job satisfaction.

Table 2. Relationship between time pressure at and job satisfaction

variable	First step	Second step	Third step
gender	0.03	0.03	0.05
age	-0.09	-0.09	-0.06
Average monthly income	0.14*	0.15*	0.16**
Working hours of the day	-0.09	-0.04	0.01
Time pressure at work		-0.12	1.71***
the square of time pressure at work			-1.87***
R ²	0.03	0.04	0.11
Δ R ²		0.01	0.08***

Note: * means $P < 0.05$, ** means $P < 0.01$, *** means $P < 0.001$

5. discussion

Based on the results and differences of existing research, this study explores the impact of time pressure in working and job satisfaction, and finally draws the conclusion that time pressure has an

inverted u-shape curve for job satisfaction. Specifically, the theoretical significance and practical value of this study include the following:

Firstly, this study successfully reveals the inverted u-shape curve effect of time stress on job satisfaction, what is, there is an optimal level of time pressure, when individual's job satisfaction reaches the highest level, lower or higher than the optimal level of time pressure, and job satisfaction is far away from the optimal level of job satisfaction. This conclusion complements the shortcomings of the existing research.

Secondly, it enlightens business managers to update the concept of time management and objectively understand the impact of time pressure. Previous studies have mostly highlighted the negative effects of time pressure, such as job burnout, damage to happiness etc. This paper found that time pressure can also lead to job satisfaction. On the other hand, managers should not give employees too much time pressure. In practical work, some managers believe that "pressure is power", and should put more time pressure on employees to stimulate their work potential and improve their work efficiency. However, this study found that moderate time pressure in the field of work can improve individual job satisfaction, but too much time pressure can also bring harm to employees. Therefore, this study suggests that entrepreneurs should rationally design their work and find a balance point to motivate employees by using time pressure. They should not only avoid working time pressure and task difficulty, but also avoid working time pressure and task difficulty. Moderate time pressure can improve individual job satisfaction, and then bring a series of positive effects.

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