

Relationship between Work Connectivity Behavior After-hours and Job Satisfaction: An Empirical Study on Frontier Employees in Chinese Enterprises

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Abstract. Now highly competitive business environment in today's world, Chinese enterprises are constantly seeking ways to improve their own competitiveness. Employee satisfaction is a key factor in determining the success of an enterprise. This research aims to quantitatively explore the relationship between work connectivity behavior after-hours and job satisfaction among frontier employees in Chinese enterprises. The study focuses on this specific group of employees. By employing multiple linear regression for data analysis, it precisely measures the connection between these two factors. Rigorous data analysis reveals that work connectivity behavior after-hours has no significant impact on job satisfaction. The findings of this study can assist Chinese enterprises in formulating more targeted human resource policies to enhance the job satisfaction of frontier employees and provide valuable experience and references for relevant enterprise management strategies. Finally, the conclusion is that after-hours work connectivity behavior has no substantial impact on the job satisfaction of frontier employees in enterprises in China. Based on the research conclusions, the following revelations can be drawn: Chinese enterprises should pay attention to improving employees' material conditions, especially the salary level. They should provide appropriate salary incentives for front-line employees to enhance their job satisfaction. At the same time, Chinese enterprises should implement different management methods for front-line employees of different ages to achieve flexible employment and management and thereby improve employees' job satisfaction.

Keywords: Frontier employees; Job satisfaction; Work connectivity behavior after-hours.

1. Introduction

Work connectivity behavior after-hours is defined as the act of individuals engaging in work through communication devices during non-working hours while simultaneously taking on multiple roles in work and life. Boswell I and Olson-Buchanan JB were the first to put forward the concept of the use of work-related communication tools during non-working hours. Subsequently, Richardson and Benbunan-Fich evolved the concept of work connectivity behavior after-hours based on Boswell's research [1].

Job satisfaction is an important aspect of organizational behavior. It generally refers to an individual's degree of satisfaction with the work itself, related environments, roles, and responsibilities within an organization. It is influenced by various factors such as remuneration, working conditions, recognition, and relationships with superiors and colleagues. For instance, in their report on the influencing factors of job satisfaction, Zhang Yaoyao and Jiang Yan elaborated that Weiss believes that job satisfaction is an person's subjective psychological feeling, a positive emotional state, emotional response to work, and work attitude experienced by employees during the work process. The main factors affecting job satisfaction can be divided into environmental factors and personal attribute factors [2]. Understanding the interaction between work connectivity behavior after-hours and job satisfaction is crucial for designing effective organizational practices and improving employee welfare.



In this study, frontier employees refer to those who are at the forefront of business, technology, or market fields in organizations or enterprises. These employees typically are the first to encounter new problems and opportunities. They possess strong innovation ability, adaptability, and problem-solving skills and can play a crucial role in frontier fields, providing important support and impetus for organizational development.

Simultaneously, studying the influence of work connectivity behavior after-hours on job satisfaction has multiple significance. This paper analyzes and combs through the theory and development of work connectivity behavior after-hours, which is beneficial for its application in practice. This research is based on data collection about frontier employees in Chinese enterprises and analyzes the correlation between work connectivity behavior after-hours and job satisfaction. Through empirical estimation of this impact, organizations can adjust their management practices to better adapt to the cultural background of employees, thereby improving job satisfaction and overall organizational performance. Additionally, this study can contribute to the broader fields of cross-cultural management and organizational behavior. By filling the gaps in existing literature, it provides practical suggestions for multinational companies and multicultural teams.

2. Research Status

A considerable body of research has emerged over the past few decades examining the relationship between work connectivity behavior outside of normal working hours and job satisfaction. This field of study has encompassed an array of topics, including the impact of such behavior on employee communication, initiative, job satisfaction, and stress levels. In the field of studying employees' job satisfaction, most of the studies have explored the factors that may affect employees' satisfaction as well as the strategies to enhance satisfaction, and there are more studies discussing and analysing the job satisfaction situation of employees at different levels in different industries. According to Wei Liu's research and analysis, in China, it has become a norm for employees to maintain full-time communication, and behaviours indicating that employees are available outside of normal working hours can increase the sense of trust that employees feel towards their employer, which in turn increases their happiness at work [3]. In contrast, Yue Zhao et al.'s study indicated that work connectivity behaviour after-hours can result in outcomes with both positive and negative impacts, and the positive impact on employees is stronger than the negative impact [4]. By constructing a dual-mediation model, Ying Gao investigated the impact of off-hours work connectivity behaviour on employees' engagement and burnout and found that it causes a significant positive impact and that frequency and duration exacerbate this impact [5]. In addition, according to Shihua Liang's study, proactive work connectivity behavior after-hours has a positive effect on job satisfaction, and on the contrary, passive work connectivity behaviour outside of working hours has a detrimental effect on employee emotional states, leading to lower job satisfaction levels [6].

Simultaneously, international research on after-hours work connectivity behavior is expanding. There are some early essays that have studied the antecedents of work connectivity behavior after-hours. For example, Richardson and Benbunan-Fich mentioned in their article that work connectivity behavior after-hours is mainly influenced by personal characteristics and technological devices [7]. In addition, it was noted that after-hours work connectivity behavior positively correlates with employee burnout, with perfectionist employees experiencing higher levels of burnout [8]. Moreover, job satisfaction is closely related to employees' performance and the quality of their work, and some studies have shown that employees with high job satisfaction help and participate in the success of the organisation [9]. In conclusion, although there is growing evidence regarding the impact of after-hours work connectivity on job satisfaction, a clear understanding of the detailed mechanisms and context-specific factors is still lacking. More research is needed to investigate these dynamics in different organizational and cultural settings.

3. Analysis of the Data

3.1. The source of the Data

This paper mainly explores the relationship between work connectivity behavior after-hours and job satisfaction. The study data and samples were selected from the China Comprehensive Social Survey 2021 (CGSS2021), which covered more than 12,000 households in more than 100 county-level units in 31 provinces, municipalities and autonomous regions of Chinese mainland, including the respondents' marriage, education, interpersonal relationship, occupation, income and other conditions. This data not only describes the objective characteristics of individuals, but also has subjective perceived feedback, with a large sample size and a very wide distribution area, so it is suitable for data analysis in this study.

After retaining relevant data and deleting missing values, 1632 valid samples were obtained. The index variables included in the data set include: job satisfaction, work connectivity behavior after-hours, gender, age, logarithm of annual income, household registration, educational level, and index variables, so that the impact of work connectivity behavior after-hours on job satisfaction can be calculated on the basis of controlling other variables.

3.2. Measurement of the Variables

Since the gender, education level, income and age of individuals can also affect their job satisfaction, this paper organizes and analyzes gender, educational background, logarithm of annual income and age as control variables. The variable measures are shown in Table 1. In terms of independent variables, the problem that best reflects work connectivity behavior after-hours during the questionnaire is, "did you have the phone on call in your work in the past month?". The original data of the problem is sorted out and processed twice. If the answer is "yes", the value is 1, but the value is 0.

Table 1. Variable measurements and data processing.

variable	variable name	Measure the item	data processing
independent variable	work connectivity behavior after-hours	Have you had an on-call situation at work in the past month?	If the value is 1, the value is 0
controlled variable	personal feature	1. gender	1 for males and 0 for females
		2. date of birth	2021 minus date of birth to get age
		3. annual income	The annual income is log-normalized and integrated
		4. household registration	The non-agricultural household value is 1, and the rural household value is 0
		5. maximum educational level	Raw data, the larger the value, the higher the degree, remove the missing values
dependent variable	job satisfaction	Overall, are you satisfied with your current job?	Raw data, the higher the value, the higher the satisfaction degree, excluding the missing values

3.3. Descriptive Statistical Analysis

Table 2. Descriptive statistical analysis.

variable name	observed value	mean value	standard deviation	minimum	median	maximum
job satisfaction	1632	3.66	0.836	1	4.00	5
work connectivity behavior after-hours	1632	0.61	0.489	0	1.00	1
gender	1632	0.53	0.499	0	1.00	1
age	1632	41.20	11.732	18	40.00	77
logarithm of annual income	1632	10.83	1.011	3	11.00	14
household registration	1632	0.55	0.497	0	1.00	1
maximum educational level	1629	7.42	3.517	1	7.00	13

Table 2 shows the results of descriptive statistical analysis of processed data with missing values removed. A total of 1632 valid samples were obtained. It can be seen that the average value of work connectivity behavior after-hours is 0.61, and the number of people with work connectivity behavior after-hours is 995, while the number of people without working connectivity behavior in non-working hours is 637, indicating that the distribution of the two is relatively uniform. In terms of individual characteristics, the average gender was 0.53, 864 males and 768 females, indicating that the gender distribution was relatively balanced, with the oldest age being 18 and the youngest age being 77, and the respondents were all adults. After removing the missing value, the average educational level is 7.42. In the variable of "highest educational level", the educational level corresponding to score 1 is "did not receive any education", the educational level corresponding to score 2 is "private school and literacy class", the educational level corresponding to score 3 is "primary school", and the educational level corresponding to score 4 is "junior high school". Score 5 corresponds to the education level of "vocational high school", score 6 corresponds to the education level of "ordinary high school", score 7 corresponds to the education level of "technical school", score 8 corresponds to the education level of "technical school", score 9 corresponds to the education level of "college junior college (adult higher education)". A score of 10 corresponds to the education level of "junior college (formal higher education)", a score of 11 corresponds to the education level of "undergraduate college (adult higher education)", a score of 12 corresponds to the education level of "undergraduate college (formal higher education)", and a score of 13 corresponds to the education level of "postgraduate and above", which indicates that the average education level is a technical secondary school level. The average logarithm of an individual's total annual income is 10.83. In the variable of "job satisfaction", score 1 corresponds to "very dissatisfied", score 2 corresponds to "not very satisfied", score 3 corresponds to "average", score 4 corresponds to "relatively satisfied", score 5 corresponds to "very satisfied", and the average value is 3.66. In terms of distribution frequency, 1,028 people have "average" or above job satisfaction. This shows that more than half of the people are relatively satisfied with their jobs.

3.4. Regression Analysis

3.4.1. Establishment of the regression model

$$JoS = \alpha_0 + \alpha_2 B_2 + \beta \chi_1 + \varepsilon \quad (1)$$

In this model, JoS represents the respondents' job satisfaction. α_2 is a dummy variable, used to represent the respondents' work connectivity behavior after-hours, which is replaced by WorkConnection in the specific regression analysis, where = 1 indicates that the respondents have

work connectivity behavior after-hours. χ_i is for control variables, such as gender, age, maximum educational level, logarithm of annual income, household registration. ε is the error term.

3.4.2. Analysis of the Results

Table 3. Model estimation results.

	(1)	(2)
	JodSatisfaction	JodSatisfaction
gender	-0.127***	-0.121***
	(0.042)	(0.042)
age	0.014***	0.014***
	(0.002)	(0.002)
lninc	0.043*	0.043*
	(0.023)	(0.023)
hukou	-0.018	-0.023
	(0.046)	(0.046)
edu	0.026***	0.026***
	(0.008)	(0.008)
WorkConnection		-0.057
		(0.042)
_cons	2.510***	2.532***
	(0.262)	(0.263)
N	1629	1629
R²	0.035	0.036
Adj. R²	0.03	0.03

Note: *** means significant at 1% significance level; ** indicates significant at the 5% significance level; * indicates significant at the 10% significance level

As shown in Table 3 of the estimated results, work connectivity behavior after-hours does not have a significant impact on job satisfaction, which indicates that the existence of work connectivity behavior after-hours is not an important indicator to judge the job satisfaction of frontier employees in Chinese enterprises. Gender has a significant impact on job satisfaction. The job satisfaction of female frontier employees is higher than that of male employees, which reflects the research conclusion of Zhu Nan in 2022 [10]. Age, maximum educational level and income all have significant positive effects on job satisfaction.

The reason for the above results may be that China is generally regarded as a country with a high power distance, and people are accustomed to the phenomenon of "being on call" due to long-term infiltration of relevant ideas and concepts, forming a high degree of obedience to leadership and authority at work. Affected by the epidemic and economic downturn, the profitability of enterprises in China has declined, the job market is cold, and the income and living standards of Chinese residents have suffered negative effects caused by it, while the non-working hours work connectivity behavior does not have a critical impact on job satisfaction.

In summary, this study uses the data of CGSS2021 to explore the influence of non-working work connectivity behavior on job satisfaction. The estimated results show that the influence of work connectivity behavior after-hours on job satisfaction is not significant. Therefore, based on the above empirical estimation results, this study draws the following conclusion: work connectivity behavior after-hours has no substantial impact on the job satisfaction of frontier employees in enterprises in China.

4. Conclusion

Based on the above research and conclusions, the following enlightenments are drawn: enterprises in China should pay attention to the improvement of employees' material conditions, especially the salary level, and should provide frontier employees with appropriate salary incentives to enhance their job satisfaction; Enterprises in China should implement different management methods for frontier employees of different ages to achieve flexible employment and flexible management, and improve employees' job satisfaction.

In addition, there are still shortcomings in this study: limited by data, this study only explores the relationship between cutting-edge employees' work connectivity behavior after-hourss and job satisfaction, ignoring the distinction between active and passive work connectivity behavior after-hourss. The data of this study was collected in 2021, which is difficult to truly and effectively reflect the current social reality. In this study, due to the questions in the questionnaire, it is impossible to objectively and comprehensively measure the work connectivity behavior after-hourss. Therefore, future studies can explore the possible mechanisms and make reasonable explanations from these perspectives.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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