

# The Influence of Working Time Flexibility on Job Satisfaction of Warehouse Employees: A Simple Intermediary of Family-Work Balance

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**Abstract:** In the current rapidly changing working environment, working time flexibility, as an important human resource management strategy, has a significant impact on employees' job satisfaction. Through questionnaire survey and structural equation model analysis, this study investigates the influence of working time flexibility on job satisfaction of warehouse employees and its mechanism. The research results reveal that working time flexibility not only directly and positively affects job satisfaction, but also indirectly improves employees' job satisfaction by enhancing family-work balance. These findings provide empirical support and practical guidance for organizations to improve employee satisfaction by implementing flexible work arrangements and promoting work-life balance.

**Keywords:** Working Time Flexibility; Job Satisfaction; Family-work Balance.

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## 1. Introduction

Driven by globalization and digitalization, the modern working mode is undergoing profound changes, and working time flexibility, as a new working arrangement, has been widely concerned by academic circles and enterprise management. Working time flexibility not only affects employees' job satisfaction, but also relates to the balance between family and work, which is of great significance for improving employees' happiness and work efficiency. However, the specific mechanism of how working time flexibility affects job satisfaction through family-work balance is still unclear. The purpose of this study is to explore the influence of working time flexibility on job satisfaction of warehouse employees, and to investigate the intermediary role of family-work balance in it, in order to provide theoretical basis and practical guidance for organizations to formulate more effective human resource management strategies.

## 2. Literature Review and Research Hypothesis

### 2.1. Working Time Flexibility and Job Satisfaction

Under the tide of globalization and digitalization, the modern working mode is undergoing profound changes. As a new working arrangement, working time flexibility has gradually become the focus of academic circles and enterprise management. Liu and Guo pointed out that working time flexibility has a significant positive impact on job satisfaction. Employees can flexibly arrange working hours according to their own conditions, so that work and life can be better balanced, thus improving their satisfaction with work and enhancing their happiness [1]. ARDUÇ and Beyhan's research on female groups also shows that there is a close relationship between working time flexibility and job satisfaction [2]. Because of the particularity of women's family and social roles, working time flexibility can better

meet their dual needs of work and family, thus improving job satisfaction. Putra et al found that during the COVID-19 epidemic, factors such as working time flexibility, telecommuting and work-life balance had a significant impact on employee satisfaction [3]. The Working time flexibility enables employees to cope with the changes in work and life brought about by the epidemic more flexibly, reduce the conflict between work and life, and thus improve employees' job satisfaction. These studies fully illustrate the important role of working time flexibility in promoting job satisfaction, and provide a useful reference for organizations in human resource management. Therefore, this study puts forward the following assumptions:

H1: Working time flexibility has a significant positive impact on job satisfaction.

### 2.2. Working Time Flexibility and Family-work Balance

In today's society, with the acceleration of work pace and the increase of family responsibilities, the balance between family and work has become a topic of great concern. Chung and Van der Lippe pointed out that working time flexibility is of great significance for achieving work-life balance, which enables employees to better coordinate their work and family responsibilities, especially plays an active role in promoting gender equality [4]. Women often face greater work-life balance challenges due to family responsibilities, and working time flexibility provides them with more space to independently arrange work and family affairs. Waddington and Bell analyzed the right to request flexible working arrangements under the work-life balance command from a comparative perspective. They discussed the differences in the implementation of flexible working arrangements policies in different countries and their impact on family and work balance, and emphasized the key role of policy guarantee in promoting employees to obtain flexible working hours to achieve work-life balance [5]. Indradewa and Prasetyo further explored the influence of working time flexibility and work-life balance on job satisfaction, and built a two-level

mediation model [6]. It was found that working time flexibility had a positive impact on job satisfaction by improving work-life balance, which indicated that working time flexibility not only helped employees to achieve the balance between family and work, but also improved their job satisfaction, thus promoting their personal development and the stable development of the organization. These studies jointly reveal the important value of working time flexibility in promoting the balance between family and work, and provide useful reference for organizations and policy makers. Therefore, this study puts forward the following assumptions:

H2: Working time flexibility has a significant positive impact on family-work balance.

### 2.3. Family-work Balance and Job Satisfaction

In today's fast-paced society, the influence of family and work balance on employee job satisfaction has gradually become the focus of academic and business circles. Waworuntu et al systematically reviewed the work-life balance and job satisfaction of millennials and Z generation employees, and found that a good work-life balance can significantly improve employees' job satisfaction [7]. This shows that when employees can find a balance between work and family life, they are more likely to have positive feelings and attitudes towards work. Susanto et al further explored the relationship between work-life balance and job satisfaction of employees in small and medium-sized enterprises [8]. The research shows that employees have a stronger sense of work-life balance and higher job satisfaction when supervisors show family support behavior. Aruldoss et al studied the relationship between job satisfaction and work-life balance with India as the background. They pointed out that work-life balance can relieve work pressure, enhance employees' work commitment, and thus improve job satisfaction [9]. These studies jointly reveal the positive impact of work-life balance on job satisfaction, and emphasize the responsibility and role of organizations in helping employees achieve work-life balance, which provides a useful reference for improving

employees' job satisfaction. Therefore, this study puts forward the following assumptions:

H3: Family-work balance has a significant positive impact on job satisfaction.

### 2.4. The Mediating Role of Family-work Balance between Working Time Flexibility and Job Satisfaction

In the research on the relationship between working time flexibility and job satisfaction, the intermediary role of family-work balance has been widely concerned. Indradewa and Prasetyo constructed a two-level mediation model, which revealed the path of working time flexibility to improve job satisfaction by improving family-work balance. They pointed out that the Working time flexibility provides employees with more autonomy, which enables employees to better coordinate their work and family life, thus reducing the conflict between work and family and enhancing job satisfaction [10]. The research of Dhia reached a similar conclusion, and found that working time flexibility had a positive impact on the job satisfaction of employees in start-up companies by promoting family-work balance [11]. This shows that working time flexibility can not only directly improve employees' job satisfaction, but also indirectly enhance employees' positive feelings about work by improving family-work balance. These studies consistently emphasize the important intermediary role of family-work balance between working time flexibility and job satisfaction, which provides an important reference for organizations to formulate human resource management strategies. Therefore, this study puts forward the following assumptions:

H4: Family-work balance plays a significant mediating role between working time flexibility and job satisfaction.

To sum up, this study puts forward a conceptual framework of the influence of working time flexibility on job satisfaction mediated by family-work balance, as shown in Figure 1.

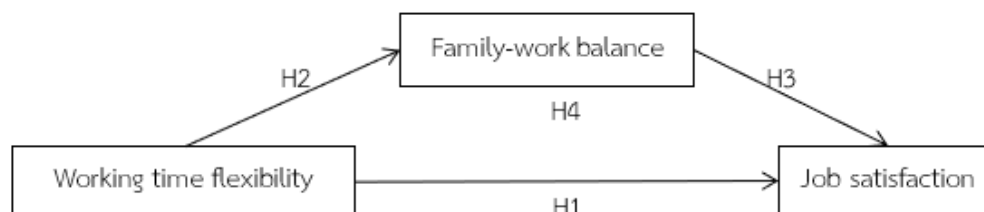


Figure 1. Conceptual Framework

## 3. Research Design and Methods

### 3.1. Questionnaire design

Table 1. Questionnaire Scale

| Variable                 | Item                                                                               | References      |
|--------------------------|------------------------------------------------------------------------------------|-----------------|
| Working time flexibility | I think the Working time flexibility can meet my work needs.                       | Ren & Yang [12] |
|                          | I think flexible working hours can improve my work efficiency.                     |                 |
|                          | I think flexible working hours can improve my job satisfaction.                    |                 |
|                          | I think flexible working hours can improve my working environment.                 |                 |
| Family-work balance      | After returning home, the troubles or problems at work didn't haunt me.            | Zeng & Yan [13] |
|                          | Busy work still allows me to participate in family activities.                     |                 |
|                          | Work is so tiring, but I still have the energy to deal with family affairs.        |                 |
|                          | The pressure of work keeps me emotionally stable at home.                          |                 |
| Job satisfaction         | Satisfied with the current workload                                                | Zhang [14]      |
|                          | Satisfied with the sense of accomplishment gained from work.                       |                 |
|                          | I am satisfied with the opportunity to get in touch with different things at work. |                 |
|                          | I am satisfied with the opportunity to play an important role in the team.         |                 |

The questionnaire design of this study includes two parts. The first part is basic information, which involves basic information such as gender, age and length of service of employees, so as to understand the characteristics of the sample. The second part is the scale topic of three variables, all of which are adjusted with reference to the mature scale of previous scholars. The questionnaire uses Richter scale 5, ranging from "very different" to "very agree". The specific topics are shown in Table 1. Through these topics, data are collected comprehensively and scientifically to explore the relationship between variables.

### 3.2. Data Collection

This study focuses on the specific group of warehouse employees, aiming to deeply understand the influence of working time flexibility on their job satisfaction and the intermediary role of family-work balance in it. In order to obtain accurate and representative data, this study carefully designed the questionnaire, and distributed it through the test paper platform to ensure that the questionnaire can reach the target object efficiently and conveniently. During the investigation, a total of 200 questionnaires were distributed to warehouse employees, who are distributed in different warehouse enterprises and are widely representative. After a period of collection, 197 valid questionnaires were finally collected, and the questionnaire recovery rate reached 98.5%, which provided a solid and reliable data foundation for subsequent data analysis and research conclusions, enabling this study to deeply analyze the relationship between variables and provide valuable reference for the management practice of warehousing enterprises.

## 4. Data Analysis and Results

### 4.1. Reliability and Validity Analysis

#### (1). Reliability analysis

It is very important to ensure the reliability of the questionnaire when conducting research, which is related to the reliability of the research results. The reliability of the questionnaire was analyzed by Cronbach's Alpha coefficient. The results showed that Cronbach's Alpha values of working time flexibility, family-work balance and job satisfaction were 0.761, 0.814 and 0.758, respectively. These values are higher than 0.7, indicating that the questionnaire has good internal consistency, that is, each topic in the scale can measure the same concept stably. Especially the Cronbach's Alpha value of family-work balance is the highest, reaching 0.814, which shows that this part of the topic has high consistency and reliability in measuring family-work balance. Cronbach's Alpha values of working time flexibility and job satisfaction are relatively low, but they are still within the acceptable range, which shows that these topics can also reflect their corresponding variables well.

**Table 2.** Reliability Analysis of Questionnaire

| Variable                 | Cronbach's Alpha |
|--------------------------|------------------|
| Working time flexibility | 0.761            |
| Family-work balance      | 0.814            |
| Job satisfaction         | 0.758            |

#### (2). Validity analysis

Validity analysis is the key step to ensure the accuracy of questionnaire measurement content. The validity of the questionnaire was evaluated by KMO and Bartlett sphericity test. The suitable metric of KMO sampling is 0.738, which indicates that the data is suitable for factor analysis. The approximate chi-square value of Bartlett's sphericity test is 1642.356, the degree of freedom is 426, and the significance level is 0.000, far less than 0.05, which shows that there is significant correlation between variables and it is suitable for factor analysis. These results show that the questionnaire has good structural validity and can accurately reflect the structure of the study. The results of factor analysis will help identify the potential factor structure and ensure that the questionnaire can accurately measure the three variables of working time flexibility, family-work balance and job satisfaction. Validity analysis can enhance the credibility and explanatory power of the research results and provide a solid foundation for the subsequent analysis of intermediary effects.

**Table 3.** Validity Analysis of Questionnaire

| KMO sampling suitability quantity |                        | 0.738    |
|-----------------------------------|------------------------|----------|
| Bartlett sphericity test          | Approximate chi-square | 1642.356 |
|                                   | Freedom                | 426      |
|                                   | Significance           | 0.000    |

### 4.2. Descriptive Statistical Analysis

In this survey, the basic information of 197 warehouse employees was collected in order to understand the distribution of their gender, age and length of service. In terms of gender, there are 120 male employees and 77 female employees, which shows the imbalance of gender ratio. In terms of age distribution, employees are mainly between the ages of 25 and 35, with a total of 90 people, followed by 60 people in the age group of 36 to 45, while there are relatively few employees over 46, with only 47 people, which may reflect the great demand for young labor in the warehousing industry. In terms of length of service, most employees have a length of service of 1 to 5 years, with a total of 85 employees, followed by employees with a length of service of 5 to 10 years with 62 employees, while employees with a length of service of more than 10 years have 50 employees. These data show that the storage workforce is mainly young and middle-aged, and most of the employees have a short length of service, which may mean that the employees in this industry are highly mobile, or the industry has attracted a large number of new employees in recent years.

### 4.3. Correlation Analysis

According to the results of correlation analysis in Table 4, there is a significant positive correlation between working time flexibility and family-work balance, and the correlation coefficient is 0.425, which is significant at the level of 0.05, indicating that the increase of working time flexibility is helpful to improve employees' sense of family-work balance. At the same time, the correlation coefficient between working time flexibility and job satisfaction is 0.761, which is significant at the level of 0.01, indicating that working time flexibility has a significant positive impact on job satisfaction. In addition, the correlation coefficient between family-work balance and job satisfaction is 0.720, which is also significant at the level of 0.01, which further confirms the important role

of family-work balance in improving job satisfaction. These results show that working time flexibility not only directly affects job satisfaction, but also indirectly affects job satisfaction by improving family-work balance. This indirect effect may explain part of the mechanism of the influence of working time flexibility on job satisfaction, and provide a basis for further analysis of the intermediary effect. On the whole, these correlation analysis results provide preliminary support for the research hypothesis, indicating that there is a close relationship between working time flexibility, family-work balance and job satisfaction.

**Table 4.** Correlation Analysis of Variables

| Variable                 | Working time flexibility | Family-work balance | Job satisfaction |
|--------------------------|--------------------------|---------------------|------------------|
| Working time flexibility | 1                        |                     |                  |
| Family-work balance      | 0.425*                   | 1                   |                  |
| Job satisfaction         | 0.761**                  | 0.720**             | 1                |

\*P<0.05,\*\*P<0.01

#### 4.4. Structural Equation Model Analysis

##### (1). Path analysis

According to the results of path analysis in Table 5, working time flexibility has a significant positive impact on job satisfaction, with the path coefficient of 0.264, the standard error of 0.047, the critical ratio CR of 2.684, and the p value of 0.004, which is less than 0.01, indicating that the impact of working time flexibility on job satisfaction is significant and supporting the H1 hypothesis. At the same time, working time flexibility has a significant positive impact on family-work balance. The path coefficient is 0.361, the standard error is 0.054, the critical ratio CR is 3.185, and the p value is 0.000, which is far less than 0.01, indicating that working time flexibility has a significant impact on family-work balance, which supports the H2 hypothesis. In addition, family-work balance also has a significant positive impact on job satisfaction, with the path coefficient of 0.267, the standard error of 0.063, the critical ratio of CR of 2.641, and the p value of 0.006, which is less than 0.01, indicating that the impact of family-work balance on job satisfaction is also significant, supporting the H3 hypothesis. To sum up, the results of path analysis support the hypothesis that working time flexibility indirectly affects job satisfaction through family-work balance, that is, working time flexibility not only directly affects job satisfaction, but also indirectly affects job satisfaction through improving family-work balance.

**Table 5.** Path Coefficient Test of Structural Equation Model

| Suppose | Path                     |     |                     | Standardization Coefficient | Non-Standardized Coefficient | S.E.  | C.R.  | P     | Conclusion |
|---------|--------------------------|-----|---------------------|-----------------------------|------------------------------|-------|-------|-------|------------|
| H1      | Working time flexibility | --- | Job satisfaction    | 0.264                       | 0.228                        | 0.047 | 2.684 | 0.004 | support    |
| H2      | Working time flexibility | --- | Family-work balance | 0.361                       | 0.287                        | 0.054 | 3.185 | 0.000 | support    |
| H3      | Family-work balance      | --- | Job satisfaction    | 0.267                       | 0.248                        | 0.063 | 2.641 | 0.006 | support    |

\*\*\*p<0.001; S.e.: standard error; C.R.: critical ratio.

##### (2). Intermediary effect

**Table 6.** Test Results of Intermediary Effect

| Path                                                              | Effect type       | Effect value | Bootstrapping 1,000 times 95% CI |       | p     |
|-------------------------------------------------------------------|-------------------|--------------|----------------------------------|-------|-------|
|                                                                   |                   |              | Lower                            | Upper |       |
| Working time flexibility-> family-work balance-> job satisfaction | Direct effect 1   | 0.264        | 0.048                            | 0.364 | 0.000 |
|                                                                   | Indirect effect 1 | 0.284        | 0.064                            | 0.284 | 0.001 |
|                                                                   | Total effect 1    | 0.345        | 0.064                            | 0.291 | 0.006 |

Table 6 shows that the direct effect of working time flexibility on job satisfaction is 0.264, the 95% confidence interval is [0.048, 0.364], and the P value is 0.000, indicating that working time flexibility has a significant positive direct impact on job satisfaction. At the same time, the indirect effect of working time flexibility on job satisfaction through family-work balance is 0.284, the 95% confidence interval is [0.064, 0.284], and the P value is 0.001, which shows that family-work balance plays a significant intermediary role between working time flexibility and job satisfaction. In addition, the total effect of working time flexibility on job

satisfaction is 0.345, the 95% confidence interval is [0.064, 0.291], and the P value is 0.006, which further confirms the significant influence of working time flexibility on job satisfaction. These results show that working time flexibility not only directly affects job satisfaction, but also indirectly affects job satisfaction by improving family-work balance, in which family-work balance plays an important intermediary role. This finding supports hypothesis H4, and provides an important empirical basis for understanding the influence mechanism of working time flexibility on job satisfaction.

#### 5. Conclusion

Through questionnaire survey and structural equation model analysis, this study discusses the influence of working time flexibility on job satisfaction of warehouse employees and its mechanism. The results show that working time flexibility has a significant positive impact on job satisfaction, and also has a positive effect on family-work balance. In addition, family-work balance plays a significant mediating role between working time flexibility and job satisfaction. Specifically, working time flexibility can not only directly improve employees' job satisfaction, but also indirectly enhance employees' positive feelings about work by improving family-work balance. This finding supports the

hypotheses H1, H2, H3 and H4, and provides an important empirical basis for understanding the mechanism of the impact of working time flexibility on job satisfaction. The research results emphasize that in the practice of human resource management, organizations should pay attention to the arrangement of working time flexibility to promote employees' job satisfaction and family-work balance. At the same time, organizations should also pay attention to the measures to promote family-work balance, because this can not only improve the quality of life of employees, but also indirectly improve their job satisfaction and organizational commitment. These findings have important implications for human resource management in warehousing industry, and help to build a more humane and efficient working environment.

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