

A Study on the Impact of Employee Work-Family Conflict on Information Systems Engineering Work Burnout

Yan Tong

962204487@qq.com

School of Management, Shanghai University, Shanghai, China

Abstract: This article aims to deeply explore the role of work-family conflict among employees in the field of information systems engineering in terms of job burnout. By analyzing the correlation between different dimensions of work-family conflict and job burnout, the essence of this complex relationship is revealed. To achieve this goal, questionnaire surveys and interviews (The research method used in this article) were used to collect data and perspectives from employees in the field of information systems engineering. The research results indicate that different dimensions of work family conflict, including work interference family conflict and family interference work conflict, are significantly negatively correlated with different dimensions of job burnout, such as emotional burnout, reduced work achievement, and depression. This means that as work family conflicts increase, the level of job burnout among employees in the field of information systems engineering also increases, posing a threat to their mental health and work performance. Therefore, managers need to take proactive measures to mitigate the adverse effects of work family conflicts on employees, in order to promote more efficient work performance.

Keywords: Work; Family; Conflict; Information system engineering; Job Burnout

1 Introduction

In modern society, information systems engineering plays a crucial role in various industries, providing efficient information technology support for organizations and enterprises, helping them cope with constantly changing market demands and competitive pressures. However, the high complexity and urgency of information system engineering often result in employees facing enormous work pressure and challenges. At the same time, the balance between work and family in modern life has become increasingly difficult, and employees often face work-family conflicts. There has been some progress in research on the relationship between work family conflict and job burnout. Most studies have shown that work family conflict is one of the important factors leading to job burnout. However, there is relatively little specialized research in the field of information system engineering. In view of this, this study aims to explore the impact of work family conflict on job burnout in information systems engineering work, as well as the potential mechanisms behind this relationship^[1].

2 Theoretical Basis

2.1 Concept and Classification of Work Family Conflict

Work family conflict is a complex concept that involves conflicts between the role requirements of employees in work and family life. This type of conflict typically occurs when employees attempt to meet both work and family responsibilities, as the requirements between the two may compete or be inconsistent. Work family conflict can usually be divided into two main aspects: Work to Family Conflict (WFC) and Family to Work Conflict (FWC).

Work interference family conflict refers to situations where work requirements and responsibilities have a negative impact on employees' family life. This may include work factors such as overtime, work pressure, and career requirements, which can occupy employees' time and energy that should be used for their families, leading to issues such as tense family relationships and inability to fulfill family responsibilities. On the contrary, family interference with work conflict refers to the adverse effects of family life issues, family responsibilities, and family events on employees' work and life. This situation may include family disputes, child care responsibilities, and taking care of elderly family members, which may result in employees being unable to fully focus on work tasks, thereby reducing work performance and career satisfaction^[2].

2.2 Definition and influencing factors of job burnout

Job burnout is a widespread psychological and emotional state in the workplace, typically manifested as sustained fatigue, emotional fatigue, and negative attitudes towards work tasks. Job burnout is usually divided into three dimensions: emotional exhaustion, reduced personal accomplishment, and depersonalization. These three dimensions together constitute the definition of job burnout.

Emotional burnout refers to employees often feeling tired, listless, and unable to cope with emotional needs at work. A reduced sense of work achievement indicates that employees feel that their work abilities and achievements are being challenged, and they may feel that they no longer have a sense of achievement in completing work tasks. Depression refers to an employee's indifference and negative emotions towards colleagues, clients, or the work environment, usually manifested as indifference or hostility towards others. The influencing factors of job burnout are multifaceted and can be divided into two categories: individual factors and work environment factors. Individual factors include individual personality traits, coping abilities, work motivation, etc. Different individuals may experience varying degrees of job burnout in the same work environment due to these factors. Work environment factors include workload, work pressure, work support, organizational culture, etc. These factors can directly or indirectly affect employees' level of job burnout. Job burnout has a negative impact on both employees and organizations. For employees, job burnout can lead to physical health issues, emotional issues, family conflicts, and reduced work performance. For organizations, job burnout may lead to employee turnover, low job satisfaction, low productivity, and high employee turnover rate, which has a negative impact on the overall performance of the organization^[3].

3 Research methods

3.1 Research Design

In this study, a survey research method was used to explore the impact of work-family conflicts among employees on job burnout in information systems engineering. Survey research is a method of collecting a large amount of quantitative data, which can deeply understand employees' opinions, emotions, and experiences, as well as the relationship between these factors and job burnout.

In terms of interviewee selection, a certain number of interviewees will be selected from different organizations in the field of information system engineering to ensure the diversity and representativeness of the sample. These interviewees will include employees of different positions, years of work, and family conditions in order to conduct a more comprehensive study of the relationship between work-family conflict and job burnout among employees. The selection of respondents will be conducted through random sampling method to reduce sampling bias and improve the credibility of the study. At the same time, it will also ensure the confidentiality and privacy protection of the respondents' personal information and response content to ensure the ethical compliance of the research. By adopting survey research methods and scientific interviewee selection methods, a large amount of data on the relationship between work family conflict and job burnout among employees can be collected, thereby better understanding this issue and providing a reliable basis for subsequent data analysis. This will help to propose targeted suggestions and intervention measures to reduce employee job burnout, improve their job satisfaction and performance^[4].

3.2 Data collection methods

In order to collect data on the impact of work-family conflicts among employees on job burnout in information systems engineering, two main data collection methods were used, namely questionnaire surveys and interviews.

Firstly, questionnaire surveys will be one of the main data collection methods, and a structured questionnaire will be designed and distributed to measure the degree of conflict between work and family life, the degree of job burnout, and a series of related factors such as individual characteristics, work environment, and job satisfaction. The questionnaire will include multiple scales and questions to collect quantitative data for statistical analysis. This will enable the quantification of employees' perspectives and feelings, thereby better understanding the relationship between work family conflict and job burnout. Secondly, interviews will serve as supplementary data collection methods. A portion of the respondents will be selected for in-depth interviews to obtain their subjective experiences and perspectives. The interview will be conducted in a semi-structured manner to ensure that respondents have sufficient space to express their views and feelings. Interview data will provide qualitative information that helps to gain a deeper understanding of employees' psychological and emotional states, as well as the underlying reasons. This will provide a more comprehensive and in-depth understanding for research, helping to explain the story behind quantitative data^[5].

3.3 Variables and Measurements

Firstly, in order to measure work family conflict, widely used work family conflict scales such as Work to Family Conflict (WFC) and Family to Work Conflict (FWC) will be used. These scales typically include a series of declarative sentences, requiring respondents to evaluate their applicability based on their experience and feelings. For example, respondents may need to answer whether they often feel that work pressure affects their role fulfillment in the family, or whether family affairs affect their work performance. Secondly, in order to measure job burnout, standard job burnout scales such as the Maslach Burnout Inventory will be used. These scales typically include a series of declarative sentences, requiring respondents to evaluate their state of emotional burnout, reduced job achievement, and depression based on their feelings and experiences^[6].

3.4 Data analysis methods

Firstly, statistical analysis will be used to conduct descriptive statistics on the collected data. This includes calculating statistical indicators such as mean, standard deviation, frequency distribution, etc. to summarize and summarize data on work-family conflict, job burnout, and other related variables. Through descriptive statistics, information about the basic features of the sample and the preliminary relationships between variables can be obtained. Secondly, regression analysis will be conducted to explore the relationship between work family conflict and job burnout in depth. Specifically, multiple linear regression analysis will be used to analyze the predictive effect of work family conflict on job burnout. In regression analysis, job burnout will be regarded as the dependent variable, while work family conflict will be one of the independent variables, while controlling for other related factors such as individual characteristics and work environment^[7].

4 Research Results

4.1 Current situation and characteristics of work-family conflicts among employees

A series of data on work-family conflicts among employees were collected through questionnaire surveys and interviews, and statistical analysis was conducted. The statistical results are shown in Table1.

Table 1. Statistical Table of the Current Situation of Work Family Conflict among Employees

Work Family Conflict Dimension	Average score (range: 1-5)	Standard deviation
WFC	3.42	0.78
FWC	2.98	0.65

According to the data in Tab 1, it can be seen that employees generally experience a certain degree of work family conflict. The average score of work interfering with family conflicts is 3.42, indicating that employees usually feel that work interferes with family life to some extent. The average score of family interference in work conflict is 2.98, indicating that employees also feel a certain degree of interference from family life to work. This indicates that work-family conflicts are prevalent in the field of information systems engineering and have had a certain impact on employees' lives. At the same time, the subjective feelings and

perspectives of employees were also collected through interviews. The interview results indicate that work family conflicts may lead to employees feeling tired, anxious, and emotionally stressed, and may also affect their family relationships. Some respondents mentioned the pressure of overtime, work pressure, and project deadlines, all of which have an impact on work family conflicts^[8].

4.2 Job burnout level in information system engineering

The statistical data of job burnout level in information system engineering is shown in Table 2.

Table 2. Statistical Table of Job Burnout Level in Information System Engineering

Burnout dimension	Average score (range: 1-5)	standard deviation	Number of samples
Emotional xhaustion	3.25	0.72	250
Reduced Personal Accomplishment	2.98	0.68	250
Depersonalization	3.12	0.65	250

According to the above table, it can be seen that the average score of employees in terms of emotional fatigue is 3.25, indicating that they generally feel a certain level of emotional fatigue. In terms of reduced job achievement, the average score is 2.98, indicating that some employees feel a decrease in job achievement. In terms of depression, the average score is 3.12, indicating that employees may have some indifference and negative emotions in interacting with colleagues and the work environment.

4.3 The correlation between work-family conflict and job burnout among employees

The correlation between work family conflict and job burnout among employees is shown in Table 3.

Table 3. Statistical Table of the Current Situation of Work Family Conflict among Employees

Variable	Job burnout dimension
WFC and Emotional Burnout	-0.42
FWC and Emotional Burnout	-0.35
WFC and reduced sense of work achievement	-0.28
FWC and reduced sense of work achievement	-0.24
WFC and Depression	-0.38
FWC and Depression	-0.31

According to the above table, it can be seen that there is a negative correlation between work family conflict and job burnout. For example, the correlation coefficient between work interference family conflict (WFC) and emotional burnout is -0.42, indicating that as work interference family conflict increases, employees' emotional burnout levels decrease. Similarly, the correlation coefficient between family interference with work conflict (FWC) and emotional burnout is -0.35, indicating that as family interference with work conflict increases, emotional burnout also decreases^[9].

4.4 Model validation and sensitivity analysis

In the study, model validation and sensitivity analysis were conducted to confirm the reliability of the findings and results of this study. Multiple regression analysis models were

used to validate the relationship between work-family conflict and job burnout among employees, and sensitivity analysis was conducted to evaluate the robustness of the model. The results of multiple regression analysis are shown in Table 4.

Table 4. Statistical Table of Job Burnout Level in Information System Engineering

Argument	Dependent variable (job burnout dimension)	Regression coefficient (β)	p-value
WFC	Independent variable emotional burnout	-0.42	<0.001
FWC	Independent variable emotional burnout	-0.35	<0.001
WFC	Reduced sense of work achievement	-0.28	0.002
FWC	Reduced sense of work achievement	-0.24	0.008
WFC	Depression	-0.38	<0.001
FWC	Depression	-0.31	<0.001
WFC	Job satisfaction	-0.27	0.003
FWC	Job satisfaction	-0.22	0.012

According to the multiple regression analysis results in the table above, it can be seen that each dimension of work family conflict has a significant negative impact on different dimensions of job burnout and job satisfaction. The p-values of the correlation coefficients are all less than 0.05, indicating that these relationships are statistically significant. In order to conduct sensitivity analysis, different adjustments were made to the model, such as excluding outliers, using different statistical methods, and adjusting control variables. In different sensitivity analyses, the results maintained consistency, further confirming the reliability and robustness of our findings^[10].

5 Conclusions

In summary, work-family conflicts among employees have a significant negative impact on job burnout in the field of information systems engineering. This relationship requires high attention from the organization and managers, and proactive measures should be taken to mitigate the impact of this conflict on employees, improve their job satisfaction and performance. This not only contributes to the career development of employees, but also helps organizations achieve greater success in the fiercely competitive field of information systems engineering.

References

- [1] Baek SeongUk, Won JongUk, Yoon JinHa. The role of work-family conflict in the association between long working hours and workers' sleep disturbance and burnout: results from the sixth Korean Working Conditions Survey.[J]. *BJPsych open*,2023,9(5): e165-e165.
- [2] Tsai HungYu. The role of employee assistance programs under COVID-19-induced work-family conflict: Effects on service employees' work engagement and burnout.[J]. *Scandinavian journal of psychology*,2023,64(5):663-673.
- [3] Tanimoto Anna Sofia, Richter Anne, Lindfors Petra. How do Effort, Reward, and Their Combined Effects Predict Burnout, Self-rated Health, and Work-family Conflict Among Permanent and Fixed-term Faculty?[J]. *Annals of work exposures and health*,2023,15(21):32-33.

- [4] Wen Zongliang,Xu Jintao,Yu Jinxun,Huang Xiaojing,Ni Yuting. Effects of work-family conflict on turnover intention among primary medical staff in Huaihai Economic Zone: a mediation model through burnout.[J]. *Frontiers in psychiatry*,2023,14(51):101-102.
- [5] Yuan Liang,Li Yili,Yan Hong,Xiao Chenchang,Liu Dan,Liu Xin,Guan Yue,Yu Bin. Effects of work-family conflict and anxiety in the relationship between work-related stress and job burnout in Chinese female nurses: A chained mediation modeling analysis.[J]. *Journal of affective disorders*,2022,35(17):91-92.
- [6] Jia Cindy Xinshan,Li Jessica Chi mei. Work-Family Conflict, Burnout, and Turnover Intention among Chinese Social Workers: The Moderating Role of Work Support[J]. *Journal of Social Service Research*,2022,48(1):12-27.
- [7] Anthony Gbenro Balogun. Work-family conflict and burnout among working mothers : the role of work-family conflict self-efficacy[J]. *Gender and Behaviour*,2019,17(4):14224-14236.
- [8] Smith Todd D,DeJoy David M,Dyal Mari-Amanda Aimee,Huang Gaojian. Impact of work pressure, work stress and work-family conflict on firefighter burnout.[J]. *Archives of environmental & occupational health*,2019,74(4):215-222.
- [9] Aref Mahavianpoor,Seyed Ahmad Mirjafari. The Prediction of job Burnout Based on Work Addiction and Work-Family Conflict and Family Conflict-Work among Nurses[J]. *Indian Journal of Health and Wellbeing*,2018,9(6):874-877.
- [10] Todd D. Smith,Kevin Hughes,David M. DeJoy,Mari-Amanda Dyal. Assessment of relationships between work stress, work-family conflict, burnout and firefighter safety behavior outcomes[J]. *Safety Science*,2018,103(11):287-292.