



The Impacts of Working Hours and Job Demands on Front-line Manufacturing Workers

A Mixed-Methods Research in China

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Declaration

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I acknowledge the use of artificial intelligence tools for language translation and grammar correction of this thesis. All AI-generated content has been carefully reviewed, revised, and verified by myself. The core research, ideas, analysis, and conclusions of this thesis are entirely my own original work.

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ABSTRACT

China's front-line manufacturing workers constitute a large-scale workforce. They face persistent challenges like long working hours and poor working conditions. Governments and organizations tend to address these challenges primarily by reducing working hours. However, such efforts have met strong resistance from workers themselves. This thesis therefore examines the impacts of working hours and working conditions on employee outcomes, specifically well-being, work-family conflict, and turnover intentions, and explores potential strategies for improvement. Job demands, specifically workload and time pressure, are adopted to represent working conditions. Working hours in this thesis are treated as an independent factor rather than a component of job demands.

This thesis employs a mixed-methods research design, combining questionnaire surveys (N=504) and semi-structured interviews (N=30) to examine the impacts of working hours and job demands, specifically workload and time pressure, on well-being, work-family conflict, and turnover intentions among front-line manufacturing workers. Questionnaire surveys were conducted and analyzed first, followed by semi-structured interviews to explore the underlying mechanisms. This thesis further examines the results through data triangulation with operational metrics from the case company.

The quantitative results indicate that the impact of working hours on front-line manufacturing workers' well-being is significant, while the impacts on work-family conflict and turnover intentions are not significant. The impact of job demands specifically workload and time pressure on front-line manufacturing workers' well-being is not significant, while the impacts on work-family conflict and turnover intentions are significant. Fatigue plays a mediating role in all the significant impacts. ($p < 0.05$ for all significance levels)

Qualitative research explains the impacts of working hours and job demands specifically workload and time pressure on well-being, work-family conflict, and turnover intentions from three aspects: negative impact factors, mitigating factors, and positive impact factors. The significant impact of working hours on well-being comes from insufficient discretionary time and fatigue. However, high autonomy over working hours can mitigate the negative impact. Long working hours can also bring positive effects such as increased income and fulfillment of social needs. The non-significant impact of working hours on work-family conflict is attributed to certain cultural factors (e.g., attitudes toward family, expectations, etc.), high autonomy over working hours, and family support. The non-significant impact of working

hours on turnover intentions is due to the mitigating effects of certain cultural factors (e.g., concepts, concerns about potential discrimination), company benefits, and economic pressure. The impact of job demands specifically workload and time pressure on well-being is caused by high workload and demanding work arrangements. This finding differs from the conclusions of quantitative research, mainly because of differing understandings of well-being in different situations. However, certain cultural factors (e.g., family concepts, expectations) and the higher income resulting from high job demands can mitigate the related negative impacts. The significant impact of job demands specifically workload and time pressure on work-family conflict also comes from high workload and demanding work arrangements. Family support can mitigate these negative impacts. The impact of job demands specifically workload and time pressure on turnover intentions is primarily due to high workload. However, some cultural factors (e.g., concepts, expectations) can mitigate the impact of job demands specifically workload and time pressure on turnover intentions. From the qualitative study, the factors influencing fatigue and well-being are explored, which is useful for developing measures to improve working conditions from the perspective of front-line manufacturing workers themselves.

Finally, from a pragmatic perspective, this study provides recommendations for improving the working hours and working conditions of front-line manufacturing workers, as well as outlines practical practices of the case company, aiming to enhance their lives based on the genuine interests of both labor and management.

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Chapter 1: Introduction

1.1 Background

Since the 21st century, China's manufacturing industry has experienced rapid growth, establishing itself as the "world factory" (Liu et al. 2025). As a pillar industry of China's national economy, manufacturing is a key representative of the country's creativity, competitiveness, and comprehensive national strength. It provides the material basis for modern industrial society and supplies advanced equipment and technologies for the information and knowledge-based society (Li 2023). China's manufacturing industry is highly developed, maintaining the world's largest overall scale for 15 consecutive years (Qiu 2025), and accounting for more than a quarter of the country's GDP (Chu 2024). The robust development of China's manufacturing industry has also driven a large manufacturing employment population. The manufacturing industry absorbs 14.2% of the total employed population (Xueqiu 2025). Over the decade starting from 2015, manufacturing enterprises have driven an average of more than 45 million jobs annually, playing a critical role in absorbing the rural surplus labor transferred during the urbanization process (Chu 2024).

While China's manufacturing industry is advancing, it also faces numerous challenges. The working hours and working conditions of front-line manufacturing workers have long been a key concern of various stakeholders (Wu and Wang 2004; Kong et al. 2014; Chi 2015). One of the main challenges is long working hours. According to data from the National Bureau of Statistics, the average weekly working hours of employees in Chinese enterprises reached 48.6 hours in 2025 (Baidubaike 2025), exceeding the 40-hour weekly limit stipulated by China's Labor Law by 8.6 hours. The situation is even more severe in the manufacturing industry: the two-shift system is the most widely adopted work arrangement, with 11-hour workdays being the norm (Kong et al. 2014). Long working hours not only affect workers' physical and mental health but also has potential negative impacts on their family and well-being (Chi 2015). Nevertheless, long working hours remain an important means for manufacturing workers to increase their income (Huo 2019; Kong 2014; Li et al. 2012; Liu 2022; Wang and Liao 2015; Li 2023). Despite the various drawbacks of long working hours, many workers have a strong willingness to work overtime to increase their income (Lao 2008).

Manufacturing workers also face demanding working conditions especially high job demands which include workload and time pressure (Working hours are not treated as job demands. Please see 1.4 for the definition of Job demands. The definition of job demands refer to this

definition which specifically refers to workload and time pressure throughout the thesis). Many manufacturing factories operate assembly lines, where workers must keep pace with machine speeds, resulting in long periods of high mental tension. Cases of death from overwork occur from time to time due to the high workload (Chi 2015). Repetitive physical labor and limited rest time are typical characteristics of manufacturing enterprises. Overall, the job demands in manufacturing are higher than the average level (He and Peng 2023).

In addition, manufacturing enterprises suffer from high turnover rates and recruitment difficulties. Particularly for front-line workers in manufacturing factories, the high turnover rate has largely become a bottleneck for enterprise development (Wang et al. 2016). With the rapid growth of the tertiary industry in recent years, a large number of workers have transitioned from manufacturing to the service sector (Wang 2014). Furthermore, there is a prevailing social prejudice against manufacturing jobs. The saying "screwing in a factory(进厂打螺丝)" has become a synonym for low-end jobs (Fakutownee 2021). The whole society's lack of recognition for vocational education and manufacturing occupations has also driven a mindset that values white-collar jobs over blue-collar ones (Fan and Li 2024). The aforementioned issues, long working hours, high job demands, low social status, limited career development opportunities, and relatively low income, have contributed to the resignation of existing manufacturing employees and the reluctance of new laborers to enter the manufacturing sector (Chu 2024).

1.2 Define the Problem

The working hours and working conditions of front-line manufacturing workers have attracted growing attention from various parties. Organizations, governments, and scholars have all made efforts to demonstrate their concern for workers' working hours and working conditions. Reducing their working hours have emerged as a primary way for all stakeholders to express this concern (Chen 2021). The government has been gradually reinforcing the implementation of the Labor Law and the Labor Contract Law (Zhu et al. 2009). Scholars have conducted a lot of research on the impacts of working hours on front-line workers' well-being, work-family conflict, physical and mental health, and other aspects (Xu et al. 2011; Ma and Dai 2022). Many well-known enterprises have imposed restrictions on the working hours of employees in their own factories and those of their suppliers in China. For example, McDonald's, Walmart, Nike and Coles require their Chinese suppliers to cap weekly overtime hours at no more than 66 or 60 hours.

With the increasing social emphasis on labor rights and interests, both the governments and society have invested substantial resources in protecting and improving front-line manufacturing workers' working situations. Enterprises and workers are direct stakeholders in this process, and several problems have emerged through these efforts. The key problems are as follows.

Controversies on Working Hours

On the one hand, the government is promoting the strict implementation of the Labor Law and the Labor Contract Law, such as limiting monthly overtime hours to no more than 36 hours (Labor Law of the People's Republic of China 2018). For instance, to maintain their brand image, some brand owners such as McDonald's and Walmart require their Chinese suppliers to restrict weekly overtime hours to no more than 66 or 60 hours and hire auditing firms to audit their suppliers. A large body of research has also demonstrated the various harms of long working hours to employees and enterprises (Liu 2022; Guo and Zhang 2020). These practices are largely uncontroversial in many industries. However, what are the views of manufacturing enterprises and their front-line workers who are the direct stakeholders in the manufacturing sector?

From the enterprise perspective, most enterprises support employee overtime work, mainly based on the following two considerations:

Operational flexibility: Enterprises can rely on overtime work to cope with fluctuations in order demands (Chen and Lian 2015). Towards demand uncertainty, enterprises weigh the options of maintaining a larger workforce under standard working hours or adjusting employee working hours through overtime. Hiring and laying off employees involve uncertainties, and labor laws prohibit arbitrary staff reductions. Therefore, enterprises prefer to adjust employees' working hours to address order fluctuation problems.

Operational costs: Enterprises do not need to maintain a large workforce to meet peak production seasons or order fluctuation, thereby reducing labor costs (Chen and Liang 2015). Many low-end manufacturing enterprises operate on low profit margins of 5%–8% and are thus highly sensitive to cost changes. For example, the implementation of the new Labor Contract Law led to an 8% increase in labor costs for enterprises, resulting in the closure of a large number of manufacturing firms (Wu and Wang 2004; Zhu et al. 2009). This has also made it difficult for law enforcement agencies to strictly implement the working hour regulations stipulated in the Labor Law.

From the employees' perspective, different groups hold vastly divergent attitudes toward overtime work. Judging from the social criticism of the "996" work system (Zhen 2020), some

employees oppose overtime work. However, some workers from another group, front-line workers in the manufacturing industry, welcome overtime work. They hope to increase their income and expand their social interactions through overtime (Kong et al. 2014; Guo and Zhang 2020). Research has found workers' willingness to work overtime (Huo 2019; Kong et al. 2014; Li et al. 2012; Liu 2022; Wang and Liao 2015; Li 2023): overtime work can increase income, earn recognition from colleagues, and provide opportunities for social engagement (as opposed to staying at home with nothing to do but play mahjong) (Chen and Lian 2015). Workers in famous and large enterprises such as MY Company in Foshan, YF Company in Jiangsu, JP Company in Dongguan, JW Company in Zhejiang, and Foxconn all have a strong willingness to work overtime to increase their income (Lao 2008). Different workers show significant differences in their attitudes toward long working hours based on factors such as physical health, age, family financial burden, education level, awareness of exploitation, and the level of commodity economy development in their localities (Sun and Huang 2021). Many companies have serious issues with excessive overtime but never experience labor disputes (Huo 2019).

Lack of Attention to Job Demands

Currently, the government and society have paid considerable attention to working hours. However, there is relatively little focus on working conditions especially job demands. Job demands are an aspect of working conditions. It mainly includes workload and time pressure as defined in 1.4. There are no direct legal regulations regulating job demands in China's current legal system. Relevant documents on job demands are mainly found in national or industry standards and they are rare. For example, Limit Values for Manual Handling Weights (GB 3869-1997), a mandatory national standard, specifies the maximum weight for a single manual lift and the total daily lifting weight. It has been withdrawn already. These standards primarily regulate and classify job demands from the perspective of workers' occupational health and safety, but they have not received sufficient attention from the government and society in the context of improving workers' working conditions. Academic research on job demands have mostly focused on their impacts on workers' health, job burnout, work performance, and other outcomes (Ruan et al. 2024; Wang et al. 2017; Zhang 2007). Few studies have examined job demands as a key factor in improving workers' working conditions. In the actual operation of enterprises, however, job demands are a more direct factor affecting workers' quality of life. For example, in the same enterprise, a security guard responsible for operating gate opening and closing buttons in the security room and a manual handler doing

physical labor in the warehouse may work the same long hours, but their quality of life differs significantly.

Lack of Understanding to Workers' Needs

All sectors of society are concerned about workers' interests, with working hours, job demands, and income being the key areas of focus. However, when these factors conflict with each other and cannot be satisfied simultaneously, what do workers themselves need? Currently, academic research on this question is relatively scarce.

The core contradiction here lies in the following: The government and organizations try to reduce working hours to improve front-line manufacturing workers' working situations. However, the workers may not buy in. So, whether reducing working hours is a good way to improve front-line manufacturing workers' lives is a question worth exploring. Additionally, it is also necessary to ask whether there are other better approaches to achieve this goal.

1.3 Research Objectives and Research Questions

Based on the above background, this thesis aims to explore the impacts of working hours and job demands specifically workload and time pressure on the employee outcomes of front-line manufacturing workers with a specific interest in their well-being, work-family conflict, and turnover intentions.

Working hours have become the primary target of interventions by various stakeholders to improve workers' situation (Tang 2022; Zheng 2020). However, it remains unclear whether and how long working hours impact employee outcomes of front-line manufacturing workers. In addition, this thesis incorporates job demands specifically workload and time pressure as another core influencing factor. Drawing on the author's practical work experience, job demands are identified as a critical factor affecting employee outcomes (Song 2017). Currently, there is a limited number of research on the impacts of working hours and job demands specifically workload and time pressure on front-line manufacturing workers. Therefore, this thesis treats both working hours and job demands as influencing factors.

For employee outcomes, this thesis selects well-being, work-family conflict, and turnover intentions as the key indicators reflecting the front-line manufacturing workers' situations. Regarding well-being, for a long time, the pursuit of happiness has been a core life goal for people both in China and the West (Zheng et al. 2015). Within the organizational context, well-being is not only related to individual quality of life but also bears on the survival and development of enterprises (Spreitzer and Porath 2012). Thus, well-being is a necessary

indicator for assessing employee outcomes. Regarding work-family conflict, as a widely adopted variable in existing literature (Wang 2013). It serves as a key metric for investigating the interaction between work and family areas of workers. For turnover intentions, given the aforementioned issues of high turnover rates and recruitment difficulties in the manufacturing industry, this thesis introduces turnover intentions as an affected factor of employee outcomes. According to Boundary Theory, long working hours inevitably occupy time allocated to family life (Xue et al. 2021). Meanwhile, high job demands may lead to fatigue or burnout (Ma et al. 2012). On this basis, work-family conflict is also included as a factor of employee outcomes. In addition, this thesis incorporates fatigue as a mediating factor. Numerous studies have confirmed that fatigue is affected by working hours and job demands (Tian et al. 2024; Ma et al. 2012; Li and Liu 2021). However, this factor has not been examined in previous research focusing on front-line manufacturing workers.

This thesis pursues two core objectives. First is to explore the impacts of working hours and job demands specifically workload and time pressure on the well-being, work-family conflict, and turnover intentions of front-line manufacturing workers, as well as the mediating role of fatigue in these impacts. Another is to identify the underlying mechanisms driving these impacts.

This thesis provides insights to address the challenges encountered by governments and enterprises in improving the working hours of front-line manufacturing workers. Specifically, it clarifies two key issues: first, whether reducing working hours can truly improve employee outcomes; second, if reducing working hours is not the optimal solution, what alternative measures may bring better outcomes.

This thesis addresses the following two research questions:

1. What is the impact of working hours and job demands specifically workload and time pressure on the well-being, work-family conflict, and turnover intentions of front-line manufacturing workers?
2. How do the impacts of working hours and job demands specifically workload and time pressure of front-line workers on their well-being, work-family conflict and turnover intentions occur?

A mixed-methods research design is adopted to address the research questions. The first question is explored through quantitative research, where data is collected via questionnaire surveys and analyzed to examine the impacts of the influencing factors including working hours and job demands on the employee outcomes including well-being, work-family conflict and turnover intentions among front-line manufacturing workers. The second question is

investigated through qualitative research, using semi-structured interviews to uncover the mechanisms underlying the impacts identified in the quantitative analysis.

1.4 Definition of Terms

The key terms of this thesis are manufacturing industry, front-line workers, working hours, job demands, well-being, work-family conflict, turnover intentions and fatigue. This section briefly gives definitions of the key terms. Detailed definitions and justifications will be given in the literature review section.

Manufacturing Industry

For manufacturing industry, there is an official definition. It exists in the Chinese Standard GB/T 4754-2011. It refers to a new product after physical or chemical changes, whether it is made by power machinery or by hand, or whether the product is sold wholesale or retail, it is regarded as manufacturing. The production of all kinds of finished products and spare parts in buildings should be regarded as manufacturing. However, the assembly of main components into bridges, warehouse equipment, railways and elevated roads, elevators and elevators, pipeline equipment, water spraying equipment, heating equipment, ventilation equipment and air conditioning equipment, lighting and installation of wires, as well as the installation of buildings at the construction site are all listed as construction activities. This category includes the remanufacturing of mechanical and electrical products, which refers to the batch production process of specialized repair of used automobile parts, construction machinery and machine tools, and the remanufactured products reach the same quality and performance as the original new products. (GB/T 4754-2011, 2011)

Front-line Workers in Manufacturing

Front-line employees generally refer to those in enterprises who have a direct relationship with production and business activities. This includes production staff below the leadership level, direct customer-oriented service personnel, technical staff, etc. (Li 2023) In manufacturing enterprises, front-line workers are those who are in direct contact with materials. The work behaviors of front-line workers can directly impact the production revenue of the enterprise, significantly influencing its operations (Li 2023).

Working Hours

Working hours refer to the total amount of time employees devote to work-related activities (Ng and Feldman 2008). In this thesis, working hours are the total weekly working hours, including both regular working hours and overtime hours (Song 2017).

Regarding the definition of regular working hours and overtime, below is the definition of working hour based on the Labor Law of China. According to Chapter Four, Article 36 of the Labor Law of the People's Republic of China (2018) titled "Working Time, rest, and leave", the daily working hours should not exceed 8 hours, and the average weekly working hours should not exceed 44 hours. Additionally, Article 38 stipulates that there should be at least one day of rest per week. Furthermore, article 41 specifies that daily overtime should not exceed one hour under normal circumstances and should not exceed three hours under special circumstances (ensuring the condition of labor health). The monthly overtime should not exceed 36 hours. Article 44 regulated the payment for overtime. On normal working days, overtime pay is 1.5 times the regular wage. In weekends, it is two times the regular wage. On statutory holidays, it is three times the regular wage. (Labor Law of the People's Republic of China 2018).

Job Demands

This thesis adopts the definition of job demands proposed by Karasek (1979). They conceptualize job demands in quantitative terms, the key factors are workload and time pressure (Van Der Doef and Maes 1999). Role conflicts, together with physical and emotional demands, are widely recognized as core components in the analysis of job demands (Karasek et al. 1998).

Throughout the thesis, job demands refer to the key factors which are workload and time pressure. Physical and emotional demands can be summarized into workloads while role conflicts can be included in time pressure.

Well-being

Well-being is an assessment of one's life. (Diener 2009). It can be called employee well-being if it is used in work-related studies (Tims et al. 2013). It can be categorized into two types: hedonic well-being and eudaimonic well-being. Hedonic well-being, often referred to as subjective well-being, represents a subjective experience of happiness that is derived from external sources. In contrast, eudaimonic well-being, also known as psychological well-being, stems from personal achievement or growth and is internally generated (Zheng et al. 2015, Kundi et al. 2021).

Employee well-being is conceptualized as the integration of life well-being, workplace well-being, and psychological well-being. Zheng et al (2015).

Work-Family Conflict

Work-family conflict is "a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respects" (Greenhaus and Beutell 1985,

p. 77). In this thesis, we focus on that work demands interfere with family obligations (work-to-family conflict, or WFC), (Frone et al. 1992; Greenhaus and Beutell 1985). Work-family conflict specifically refers to the impact of work on family life.

Turnover Intentions

Job dissatisfaction leads to thinking of quitting. Fairly strong and consistent thinking of quitting lead to turnover behavior (Mobley et al. 1978). Turnover intentions can also be called the intention to quit (Mobley et al. 1978). Schneider (1976) demonstrated that inclusion of perceived alternatives enhanced the prediction and understanding of withdrawal intentions.

Fatigue

Fatigue is the awareness of a decreased capacity for physical and/or mental activity due to an imbalance in the availability, utilization, and/or restoration of resources needed to perform activities (Lee and Jung 2007).

1.5 Theoretical Foundation

The objectives of this thesis are to explore the impact of working hours and job demands specifically workload and time pressure to well-being, work-family conflict and turnover intentions among the front-line worker in manufacturing industry as well as to identify the mechanisms behind these impacts. In order to explain why and how the impacts occur, this thesis uses the theoretical framework as a combination of Job Demands-Resources (JD-R) and the Conservation of Resources (COR) Theory.

There are several reasons for why using the combination of JD-R and COR. First, JD-R model is primarily for explaining the stress and motivational effects from job demands and resources from the work environment (Bakker and Demerouti 2017). It has strong explanatory power for work-related variables such as working hours, job demand, whereas the COR model has a more robust account of non-work-related issues referring to workers' well-being and family (Song 2017). Second, the JD-R model demonstrates superior explanatory power for understanding objective work-related impacts on employees, while the COR model places more emphasis on individual coping strategies and highlights the spiral effect of resource depletion and subjective appraisal of resources (Hobfoll 1989). For instance, the COR model has stronger explanatory power when interpreting subjective factors such as turnover intentions. Third, the JD-R model is more referred to environmental resources in the workplace, while the COR model focuses more on personal resources of individuals. The two frameworks complement one another,

enabling multi-perspective explanations of research phenomena (Xanthopoulou et al., 2007). The integration of these two theoretical frameworks allows for their mutual supplementation and mitigates the one-sidedness inherent in explanations derived from a single theoretical perspective. Below introduces the two theories and how they connect to the thesis.

Job Demands-Resources (JD-R) Model

JD-R model categorize the stress-related risk factors into two types: job demands and job resources (Bakker and Demerouti 2017). Job demands are negative factors that deplete employees' energy; while job resources are positive factors that replenish employees' energy. Certain studies found that high job demands lead to reduced well-being and turnover intentions (Wang et al. 2016; Zhang 2024). By contrast, job resources help reduce job demands and associated physical and psychological costs, improve performance, and promote employees' personal growth, learning, and development (Wu 2020).

Dual-path mechanism and buffer mechanism are two key propositions which are closely related to this thesis. Dual-path mechanism refers to health impairment path and motivation path. Health impairment path describes how job demands lead to burnout and health issues (Bakker et al. 2021). It leads to fatigue so as affect well-being and turnover (Demerouti and Bakker 2011). Motivational path means job resources lead to work engagement. Sufficient job resources satisfy individuals' needs for autonomy, competence, and relatedness (Deci and Ryan 1985), thereby promoting their growth and improve job performance (Van Der Lippe and Lippényi 2020; Saks 2021).

The buffer mechanism refers to how job resources buffer the impact of job demands on stress. Job resources can mitigate the effect of high job demands on work stress (2007). The Demand–Control Model posits that an individual's control over task execution (autonomy) can buffer the work stress caused by excessive workload (Karasek 1998).

In this thesis, one of the influencing factors is the job demands of front-line manufacturing workers. Through the health impairment path, these demands deplete employees' physical and psychological resources (Bakker et al. 2021), thereby affecting their fatigue and well-being (Hockey 1993, Demerouti and Bakker 2011). Fatigue caused by high job demands may be carried over into employees' family lives, leading to work–family conflict. In response to the negative impacts of high job demands, individuals may adopt avoidance strategies, which in turn leads to turnover intentions (Song 2017).

Meanwhile, relevant resources provided by the organization (as job resources) and employees' personal attributes (as personal resources) can explain the mitigating effect of protective factors on the affected factors through motivational path and buffer mechanism (Xanthopoulou et al.

2007). For example, the autonomy at work as a job resource can mitigate job demand (Demerouti and Bakker 2011).

However, the impact assumptions by JD-R to well-being, work-family conflict and turnover intentions are more from objective view and from work. COR can support the explanation from subjective perspectives and individual level.

Conservation of Resources (COR) Theory

COR Theory posits that individuals strive to retain, protect, and build resources; stress arises from the potential or actual loss of resources, or the lack of resource gain after resource investment. (Hobfoll et al. 2018). COR Theory posits that individuals have an inherent tendency to overestimate the value of lost resources and underestimate the value of gained resources (Hobfoll et al. 2018). COR Theory also argues that individuals tend to acquire as many resources as possible—greater resource stock enhances their ability to obtain more resources and reduces vulnerability to resource threats. This is called the gain spiral. The opposite also works, and it is called the loss spiral (Dohrenwend 1985). Resources mainly fall into four categories: objective resources, condition resources, personal characteristic resources and energy resources. (Hobfoll 1989).

According to Hobfoll(1989), resources are exclusive which means that resources spent by individuals in one domain are unavailable in other domains (Hobfoll 1989). This characteristic can explain the conflict between resources in the work and family domains. Therefore, an increase in resources allocated to work occupies and reduces the resources available for family life (Zeng 2023). Resources are also transferable; resources can be transferred between domains other than work and family. This characteristic helps explain how the consumption of resources at work affects well-being and how family support mitigates the consumption of work-related resources. For example, to cope with increased time demands at work, an individual may spend less time sleeping or pursuing hobbies to preserve intact family time. Alternatively, due to family support, they may spend less time on family matters and more time on work or personal hobbies (Zeng 2023).

In this thesis, working hours are a typical type of energy resource (Hobfoll 1989), while job demands are factors that affect employees' physical and psychological resources. When individuals' time is largely consumed by work, it inevitably reduces the time available for personal entertainment and family companionship, thereby influencing their well-being and work-family conflict (Zeng 2023). It can be explained by the exclusive characteristic of resources (Hobfoll 1989). High work demands consume individuals' energy, leading to fatigue; after work, they are in a state of resource exhaustion, unable to engage in other entertainment

activities or effectively take family roles, then causes negative impact on well-being and work-family conflict (Zeng 2023). To prevent the continuous loss of resources, employees may have turnover intentions as a self-protective strategy (Zeng 2023). The transferable characteristic of resources helps to explain the mitigating effect on the negative impacts. COR Theory argues that individuals tend to overestimate the value of losses (Hobfoll et al. 2018), which can explain why employees may have strong objections to potential income changes caused by reduced working hours.

1.6 Significance of the Thesis

This thesis has four key theoretical and practical significant points for research on front-line manufacturing workers in China.

Firstly, it supplements the research sample of studies on working hours and job demands specifically workload and time pressure among Chinese front-line manufacturing workers. Existing related research in China primarily focuses on macro-level subjects or specific sectors such as educational institutions and hospitals, while lacking empirical investigations on factory-based front-line manufacturing workers. Additionally, this study enriches the empirical application of JD-R model and COR model in the manufacturing industry context.

Secondly, it addresses the gap of limited qualitative and mixed-methods research on the impacts of working hours and job demands on employee outcomes in China, particularly for front-line manufacturing workers. Most existing studies on this topic rely solely on quantitative methods, with few adopting mixed or qualitative approaches. Complementing quantitative analysis, this thesis employs semi-structured interviews to explore the underlying mechanisms and subjective reasons behind the impacts, providing insights from the perspective of the research participants.

Thirdly, it answers the question of why governments and organizations encounter resistance when attempting to reduce working hours for front-line manufacturing workers, by presenting the workers' own perspectives on working hours and job demands. Governments and organizations often formulate improvement measures based on macro-level research and their own perceptions, while ignoring the unique characteristics and actual needs of front-line manufacturing workers.

Lastly, based on empirical findings, participants' perspectives, and practical enterprise experiences, this thesis provides actionable recommendations for optimizing the management of working hours and job demands, as well as for improving the well-being, alleviating work-

family conflict, and reducing turnover intentions among Chinese front-line manufacturing workers. It can provide practical reference to interested parties to improve the life of front-line manufacturing workers or people in similar situations.

1.7 Contributions of the Thesis

This thesis makes key theoretical, methodological, and practical contributions to the literature on working hours, job demands specifically workload and time pressure, and employee outcomes among front-line manufacturing workers in China.

Theoretical Contributions

This thesis examines the impacts of working hours and job demands specifically workload and time pressure on front-line manufacturing workers' well-being, work-family conflict, and turnover intentions through quantitative analysis, complemented by a qualitative study to explore the underlying mechanisms of these impacts. Innovatively, this study introduces mitigating factors and positive factors to explain the mitigation of negative effects and the positive perceptions of working hours and job demands among some workers. First, it addresses the empirical gap in research focusing specifically on front-line manufacturing workers, a large but understudied group in the literature on working hours and job demands. Second, the introduction of mitigating and positive factors enriches the empirical literature on working hours and job demands, which has predominantly focused on negative factors and adverse outcomes, thereby providing a more balanced understanding of the dual effects of working hours and job demands. Third, it extends the application of JD-R model and COR model to the context of front-line manufacturing workers, enhancing the generalizability of these theoretical frameworks in front-line workers and industrial settings.

Methodological Contributions

This thesis adopts a mixed methods research design that integrates questionnaire surveys, semi-structured interviews, and operational data triangulation from the case company. This design addresses the limitations of existing research on front-line manufacturing workers, which relies primarily on single-method quantitative approaches and lacks in-depth exploration of workers' subjective experiences and contextual mechanisms. The triangulation of quantitative data (for identifying impacts), qualitative data (for exploring impact mechanisms), and real-world operational data (for validating external validity) enhances the rigor, credibility, and external validity of the research findings. Furthermore, this mixed methods framework provides a

replicable methodological reference for future studies investigating working conditions and employee outcomes of front-line manufacturing workers and other blue-collar populations.

Practical Contributions

The findings of this thesis offer actionable implications for governments and organizations to improve front-line manufacturing workers' well-being, alleviate work-family conflict, and reduce turnover intentions by optimizing the management of working hours and job demands specifically workload and time pressure. Specifically, this study incorporates the subjective perspectives of front-line manufacturing workers, providing insights into their actual needs and perceptions that can inform more targeted improvement measures. The identified mitigating and positive factors of working hours and job demands enable governments and organizations to develop contextually appropriate interventions that well match employee expectation. Additionally, practical suggestions and enterprise examples derived from the case company are provided, enabling relevant stakeholders to draw concrete and implementable lessons for workplace management and policy development.

Chapter 2: Literature Review

2.1 Introduction to the Chapter

This thesis aimed to explore the impacts of working hours and job demands on well-being, work-family conflict, and turnover intentions of front-line workers in the manufacturing industry, as well as the mechanism behind these impacts. This chapter introduces the existing studies on all the related terms of the thesis. The terms include manufacturing industry and front-line workers, working hours, job demands, well-being, work-family conflict, turnover intentions, and fatigue.

This chapter is structured as follows. First, front-line manufacturing workers as the research subjects are introduced. The following sections introduce the relevant studies on the key factors of the thesis. Then the research related to the relationships between these factors is discussed. Finally, the research gaps are summarized.

2.2 Research Subjects: Front-line Manufacturing Workers

2.2.1 The Importance of Manufacturing Industry in China

Manufacturing plays an important role in China. It contributes greatly to employment and also plays a key role in China's national economy, significantly contributing to the country's GDP. The stable development of manufacturing provides a solid foundation for economic growth.

The manufacturing industry plays an important role in China. However, the people working in the industry have received insufficient attention from society and academia, especially front-line workers, who account for the majority of the workforce.

2.2.2 The Front-line Manufacturing Workers

Front-line workers in the manufacturing industry are the study subjects of this research. The term "front-line worker" is frequently encountered in the media, everyday conversation, and academic literature, yet the literature rarely provides a clear definition of this term. According to Qin et al. (2016), front-line employees refer to individuals who work on the front lines of an enterprise. They directly create value and contribute to social wealth for the organization, including production workers in the manufacturing industry, service personnel in the service industry, sales representatives in sales enterprises, and other grassroots employees (Qin et al. 2016). In some literature, they are also referred to as front-line staff or labor (Brown et al. 2009).

Li's (2023) definition is more applicable to this research. According to Li, front-line employees generally refer to those in enterprises who have a direct relationship with production and business activities. This includes production staff below the leadership level, direct customer-oriented service personnel, technical staff, and so on. In manufacturing enterprises, front-line workers are those who are in direct contact with materials. The work behaviors of front-line employees can directly impact the production revenue of the enterprise, and thus significantly influence its operations (Li 2023). This definition is also close to the way manufacturing enterprises define direct labor.

2.2.3 The Characteristics of Front-line Manufacturing Workers of China

The front-line manufacturing workers often share the following common characteristics:

1. Low Salary Levels (Yang 2023; Li 2012). Their salaries are generally low, with overtime pay being an important component of their income (Kong et al. 2014; Chi 2015; Guo and Zhang 2020). They often receive the regional minimum salary or a slightly higher base salary. However, it is challenging to survive on base salary in cities like Shenzhen, Guangzhou. They must rely on overtime pay and bonuses to increase their earnings. In many cases, the overtime pay is equal to or even higher than their base salary. Because of this, they are more sensitive to income variance and monetary incentive (Wang 2015). It is a key reason for the resignations of front-line manufacturing workers (Lu 2024).
2. Long Working Hours: Their working hours are typically long. And companies often require front-line workers to work overtime (Lou 2009; Kong 2014; Li et al. 2012). Most companies employ a two-shift system to save on labor costs and improve the utilization of equipment and other resources. Front-line workers usually work 11 hours a day, excluding break times, and working six days per week is the norm. Apart from normal working hours, all other hours are counted as overtime and companies pay overtime. However, these overtime hours are often expected as standard, and employees are expected to work overtime unless special circumstances apply.
3. High Workload. Their workload is relatively high. Assembly line jobs and machine operation are commonly found in manufacturing enterprises. Such roles typically involve repetitive physical movements with limited opportunities for rest. In most cases, the workload is higher than average (He and Peng 2023).
4. Low Education Levels: The education level of front-line workers in the manufacturing industry is relatively low, with most holding qualifications only up to junior high school or senior high school equivalent. Enterprises also exhibit limited willingness to hire individuals

with higher education qualifications. This trend can be attributed to several factors. Firstly, most positions in the sector do not require advanced educational backgrounds. Front-line workers primarily engage in manual labor rather than cognitive tasks, with their jobs often characterized by mechanistic and repetitive activities. Their responsibilities are relatively straightforward, and they typically operate with a limited degree of autonomy (Zhang 2016). Secondly, considerations related to cost and working conditions play significant roles in this hiring practice (Ren 2013; Deng et al. 2024). Individuals with better educational backgrounds generally prefer not to work in such conditions (Fakutownee 2021).

5. Large Population: According to the 2022 Monitoring Survey Report on Migrant Workers, the total number of migrant workers in the country reached approximately 29.56 million in 2022, making them a significant force in industrial labor and urbanization efforts. The proportion of workers engaged in manufacturing is 27.4% (Chu 2024).

Based on the characteristics described above, it is clear that these workers experience low incomes, work long hours, and often find themselves in a disadvantaged position in society. However, their large numbers make them a typical representation of the broad mass of people at the bottom of the socioeconomic scale in China. This is one of the reasons why this thesis focuses on this group as its research subjects.

2.2.4 Why They Are Called Front-line Workers Instead of Migrant Workers

Current research in China regarding front-line workers in the manufacturing sector often refers to them as "migrant workers" (Kong et al. 2014; Yang 2023; Liu 2022; Li et al. 2022). This terminology has historical origins. Before the reform and opening-up, over 80% of China's population lived in rural areas. As a result, the workforce in manufacturing enterprises predominantly consisted of rural residents, leading academia to use the term "migrant workers" to describe these industrial employees. However, by 2020, the urbanization rate had reached 66% (National Bureau of Statistics 2021). This data indicates that most workers have settled in cities, making the term "migrant workers" increasingly inappropriate for describing their current circumstances.

Another reason for this shift is that the barriers to urban residency are gradually lowering in most cities. As housing prices decline, more rural residents are choosing to settle in urban areas. For example, in Guangdong Province, the "Guangdong New Urbanization Plan (2021-2035)"(《广东省新型城镇化规划(2021-2035年)》)(2020) indicates that the urbanization rate of the province's permanent residents reached 74.15% in 2020, entering a mature phase of urban

development. The plan forecasts that by 2025, this rate will rise to 77%, with comprehensive measures to relax residency restrictions and increase housing supply (qq.com 2021).

For these reasons, the term "migrant workers" is no longer suitable for the current social and economic context. Therefore, this thesis uses the term "front-line workers, " which more accurately and appropriately reflects the research subjects.

2.3 Working Hours and Job Demands

2.3.1 Working Hour and Overtime Work

Working Hours and Overtime in Labor Law

Below is the definition of working hours based on the Labor Law of China. According to Chapter Four, Article 36 of the Labor Law of the People's Republic of China (2018) titled "Working Time, Rest, and Leave, " the daily working hours should not exceed 8 hours, and the average weekly working hours should not exceed 44 hours. Additionally, Article 38 stipulates that there should be at least one day of rest per week. Furthermore, Article 41 specifies that daily overtime should not exceed one hour under normal circumstances and should not exceed three hours under special circumstances (ensuring the condition of labor health). The monthly overtime should not exceed 36 hours. Article 44 stipulates the payment for overtime. On normal working days, overtime pay is 1.5 times the regular wage. On weekends, it is 2 times the regular wage. On statutory holidays, it is 3 times the regular wage. (The labor law of people's republic of China 2018).

The definition in the Labor Law is the official one (Zheng 2020). However, individuals may not strictly adhere to the working hour regulations stipulated in the Labor Law. In many cases, they may work beyond the legal limits, yet they do not have a strong inclination to actively advocate for the daily 8-hour (or weekly 40-hour) work duration as required by law. This gives rise to another definition of overtime—a constructed definition of working hours and overtime.

Constructed Definitions of Working Hours and Overtime

The constructed definition of working hours and overtime refers to the practice whereby, in a given context, people generally work in line with established customs or conventions. In such situations, working hours may be longer than the legal requirement, yet people do not define the extra time as overtime, but regard it as part of normal working hours. Only time beyond the usual practice is treated as overtime (Zheng 2020). For example, the 996 working schedule commonly observed in China's IT industry—9 a.m. to 9 p.m., six days a week—clearly exceeds the standard working hours stipulated by the Labor Law (Zheng 2020). However, IT practitioners generally do not consider work within the 996 schedules as overtime; only hours

beyond this pattern are viewed as overtime. A further understanding of working patterns also exists: many workers regard work arrangements as non-overtime as long as the workload is reasonable, even if the total hours exceed legal limits, and only the unreasonable component of working time constitutes overtime (Wu 2020).

For this thesis, within the context of the manufacturing industry, the definition provided in the Labor Law is adopted.

2.3.2 The Impact of Long Working Hours

The Impact on Employees

The literature on the impact of long working hours on employees focuses on two main aspects: health and life. The literature on health impacts is extensive, and scholars argue that overwork affects the physical and mental health of workers (Guo and Zhang 2020). Sun et al. (2018) analyzed the impact of overtime work on the mental health of migrant workers; Zhang et al. (2018) examined the impact of working hours on the health of urban workers and pointed out that working hours represent an important negative factor influencing the self-assessed physical and mental health of urban workers (Guo and Zhang 2020).

With regard to life impacts, numerous studies have concluded that long working hours can cause work-family conflict (Guo and Zhang 2020). Some scholars argue that long working hours reduce family well-being (Liu 2022). Guo and Zhang (2020) argued that working overtime does not increase employees' income. They maintain that many studies misinterpret the causal relationship: it is higher income that reduces the need for overtime, rather than more overtime leading to lower wages.

The Impact on Enterprises and Society

Most studies regarding the impact of overtime work on enterprises and society tend to focus on its negative consequences. In terms of enterprises, some research indicates that long working hours are a significant cause of labor-capital conflicts (Zhuang; 2018). Additionally, other studies suggest that excessive labor can reduce worker productivity, which is detrimental to the healthy development of enterprises (Shepard and Clifton 2000).

From a societal perspective, numerous studies argue that overtime work hinders workers' investment in human capital (Liu 2022). Furthermore, excessive labor can lead to the displacement of jobs, resulting in unemployment and potentially triggering severe social issues (Liu 2022). It also has serious negative implications for the sustainable development of the labor market (Liu and Meng 2018; Luo and Tong 2016).

The Positive Impact of Overtime Work

Although the majority of research criticizes excessively long working hours, the positive impacts of overtime on employees and enterprises are undeniable. Many studies have noted that overtime can help increase employees' income (Zheng 2020; Wu and Wang 2004; Lou 2009). It can also reduce costs for enterprises and enhance their flexibility in responding to fluctuations in order demand (Huo 2019; Lou 2009). A few studies have challenged the conclusions regarding the negative impacts of overtime on employees and enterprises (Liu 2022). For instance, some researchers argue that there is no significant negative correlation between overtime work and well-being, and that if such a relationship exists, it is relatively weak; moreover, reducing working hours does not necessarily lead to the improvement of workers' well-being (Ng and Feldman 2008; Okazaki et al. 2018). Additionally, some research has found that working between 40 and 50 hours per week does not negatively affect work efficiency compared to working over 50 hours; in fact, such hours may even enhance productivity (Okazaki et al. 2018).

Overall, while research on the negative impacts of overtime remains overwhelmingly dominant, there is a growing recognition of its potential positive effects.

2.3.3 Job Demands and its Measurement

Justification of Job Demands Definitions

Job demands are typically examined in studies related to the Job Demand-Control-Support (JD-CS) model and the Job Demand-Resources (JD-R) model. The definition provided by Karasek (1979) is widely cited in the relevant literature. They define job demands in quantitative terms, including factors that mainly are workload and time pressure (Karasek 1985; Van Der Doef and Maes 1999). Additionally, role conflicts, along with physical and emotional demands, are commonly analyzed components of job demands (Karasek et al. 1998; Häusser et al. 2010).

In a summary by Karasek (1979), he categorized job demands into three types of stressors. The first is psychological stressors, which include workload, unexpected tasks, and role conflict. The second is physical stressors. The last category is safety stressors, which include unemployment and other occupational issues.

Based on the context of this thesis, this thesis focuses solely on subjective psychological job demands, excluding physical demands and control resources. Firstly, the participants in this thesis are front-line workers from different factories within the same group, whose actual job content is largely similar. Their access to job resources is relatively fixed, and their level of job

control is similarly low across the board. Secondly, individuals' perceptions of the same objective job content can vary significantly. Therefore, this research specifically considers perceived psychological job demands.

The Impact of Job Demands

Current research on the impact of job demands focuses on the impact on employee health and work. Regarding employee health, as early as the 1960s, some empirical studies found that job stress related to job demands was related to the incidence of myocardial infarction, coronary heart disease, etc. (Shi et al. 2010). The job demand-control model proposed by Robert Karasek et al. in the late 1970s became a hot topic in the field of job stress research (Shi et al. 2010). JD-R theory holds that all job characteristics can be divided into job demands and job resources (Demerouti et al. 2011). Job demands stimulate health depletion processes, and job resources stimulate health motivation processes (Chen et al. 2022). A series of studies on JD-R have shown that high job demands consume employees' physical and mental resources, resulting in a decrease in their work motivation and an increase in work burnout, thereby affecting employees' physical and mental health (Wang et al. 2016). Regarding the impact on work, the main focus is on the impact of job demands on turnover intentions (Wang et al. 2016). Wang et al. (2016) found in their study on the impact of job demands on turnover intentions of front-line workers in the manufacturing industry that job demands have a positive impact on turnover intentions among front-line manufacturing workers.

Currently, cross-disciplinary research on job demands remains lacking in Chinese academia. On the one hand, research on the impact of job demands on family life is limited. On the other hand, manufacturing, a labor-intensive industry, has unique work patterns (such as shift work and mechanized tasks) that may exacerbate demand-resource imbalances, yet relevant research is extremely limited. Future research needs to incorporate localized contexts, deeply analyze the differential impacts of job characteristics across different industries on employee health and occupational behavior and provide targeted intervention strategies for organizational management practices.

The Measurement

In this thesis, job demands are measured with the items from the job demand subscale of the job content questionnaire (JCQ) (Karasek 1998). The JCQ is the most frequently used instrument for measuring job demands (Häusser et al. 2010). It includes components such as decision latitude, psychological demands, social support, physical demands, and job insecurity, with psychological and physical demands specifically used to assess job demands (Karasek et al. 1998). The following reasons support its suitability for my study:

1. The developers stated that the scales allow for the testing of hypotheses related to worker motivation and satisfaction (Karasek et al. 1998) which is close to the variables of this thesis (well-being, work-family conflict and turnover intentions related to satisfaction).
2. The scale is used widely around the world and has been translated into numerous languages, including several Chinese translations. It is also commonly utilized in China (Karasek et al. 1998; Ruan 2024; Wang et al. 2017; Li et al. 2007).
3. The items are clear and concise, with only five related to job demands. The brevity of the items has been highlighted by various scholars as a crucial factor in the effectiveness of an instrument (Karasek et al. 1998). The developers also noted that this short length is a key reason for its popularity.

There are different versions of the JCQ. This thesis employs the version that has been previously validated for use in China, specifically the version translated by Sha et al. (2003).

There are 49 items in the full JCQ scale and Job demand items are five which are (Wang et al. 2017; Li et al. 2007): My job requires working fast. My job requires working very hard. I am not asked to do an excessive amount of work. I have enough time to get the job done. I am free from conflicting demands that others make. 5-point scale is used from strongly disagree to strongly agree.

2.4 Employee Outcomes

2.4.1 Well-being and its Measurement

The Definition of Well-being

Well-being is a widely used concept in both daily life and academic research; however, there is no universally accepted definition. As Lyubomirsky and Sonja(2001) stated, "Everyone knows what it means; no one can give a precise definition."

Many scholars have proposed various definitions of well-being, and Diener's work on this topic has received substantial attention (Wright and Cropanzano 2000). He argued that well-being and happiness carry related meanings, and in many cases the terms can be used interchangeably. However, the academic community tends to favor the term "well-being" because it is regarded as more rigorous, whereas "happiness" is viewed as more colloquial.

In his review, Diener summarized definitions of well-being and categorized them into three distinct groups. The first category defines well-being as an observer's judgment rather than a subjective assessment. This perspective includes external criteria such as virtue or holiness, implying that well-being consists in the possession of such attributes. The second category

refers to subjective well-being, which posits that well-being is a self-evaluation of one's life. This notion is close to life satisfaction and depends on the respondent's personal standards of a good life. Subjective well-being is a commonly employed term in academic discourse. The third category defines well-being as the predominance of positive affect over negative affect (Diener 2009).

The second category, subjective well-being, represents the most widely accepted definition. Diener himself frequently employed this concept in his research (Diener 1984; 2000; 2009). Many other researchers also regard well-being as a subjective construct and use the term "subjective well-being" in their studies (Felce and Perry 1995; Danna and Griffin 1999; Wright and Cropanzano 2000).

In addition to subjective well-being, the terms "psychological well-being" and "employee well-being" are also commonly used. Wright and Cropanzano (2000) identified three characteristics of psychological well-being: first, it is a subjective judgment; second, it involves emotional states; and third, it represents a global evaluation. Cartwright and Pappas (2008) defined psychological well-being as a broad concept that includes emotional and mental conditions, as well as the level of satisfaction derived from work and life.

Another term that requires attention is employee well-being. Employee well-being is typically used in work-related research, and many scholars have attempted to define it. Tims et al. (2013) describe it as a combination of higher engagement, job satisfaction, and lower burnout. Some researchers define it as a state of successful functioning across the life course, integrating physical, cognitive, and socio-emotional capacities (Pagán-Castaño 2020). Warr (1987) characterized it as the overall quality of an employee's work experience and functioning (Castano 2000).

Given the variety of definitions outlined above, it can be difficult to distinguish clearly between the different well-being-related terms. Some researchers have sought to integrate these concepts. From the 2010s onward, many scholars have recognized that well-being (most often referring to employee well-being) can be divided into two types: hedonic well-being and eudaimonic well-being. Hedonic well-being, often called subjective well-being, refers to a subjective experience of happiness derived from external sources. In contrast, eudaimonic well-being, also known as psychological well-being, arises from personal achievement or growth and is internally generated (Zheng et al. 2015; Kundi et al. 2021).

Scholars have not reached a consensus on the definitions of the various well-being constructs. Subjective well-being, psychological well-being, and life satisfaction are sometimes used interchangeably (Page and Vella-Brodrick 2009). By contrast, Zheng et al. (2015) argue that

employee well-being should be differentiated from general life well-being. In their study, employee well-being is conceptualized as the integration of life well-being, workplace well-being, and psychological well-being.

The Definition for This thesis

Since a key aim of this thesis is to explore the impact of working hours and job demands on well-being, work-family conflict and turnover intentions of front-line workers in manufacturing organizations in China, several important elements can be identified from this objective. Firstly, the focus is work-related, suggesting that well-being may be influenced by working hours and job demands. Secondly, the definition of well-being should be appropriate for the Chinese context. Thirdly, the definition should treat well-being as a whole.

Considering these criteria, this study adopts the framework proposed by Zheng et al. (2015) for the examination of employee well-being. Their approach integrates subjective well-being and psychological well-being and classifies well-being into three subcomponents: life well-being, workplace well-being, and psychological well-being. The reasons for this choice are as follows: first, it includes workplace well-being, which is relevant to the work conditions of the participants. Second, the study by Zheng et al. (2015) was conducted in both China and the United States, enabling validation of the definition and measurement within the Chinese context. Third, all subcomponents of this conceptualization are likely to be influenced by the focal factors, namely working hours and job demands.

The Measurement

There are numerous measures for assessing well-being. For this thesis, we plan to utilize the framework proposed by Zheng et al., (2015) which includes a specific scale developed in their research. This scale consists of a total of 18 items. The items are as follows:

Q1.I feel satisfied with my life.

Q2.I am close to my dream in most aspects of my life.

Q3. Most of the time, I do feel real happiness.

Q4.I am in a good life situation.

Q5. My life is very fun.

Q6.I would hardly change my current way of life in the afterlife.

Q7.I am satisfied with my work responsibilities.

Q8. In general, I feel fairly satisfied with my present job.

Q9. I find real enjoyment in my work.

Q10.I can always find ways to enrich my work.

Q11.Work is a meaningful experience for me.

Q12.I feel basically satisfied with my work achievements in my current job.

Q13.I feel I have grown as a person.

Q14.I handle daily affairs well.

Q15.I generally feel good about myself, and I'm confident.

Q16.People think I am willing to give and to share my time with others.

Q17.I am good at making flexible timetables for my work.

Q18.I love having deep conversations with family and friends so that we can better understand each other.

The participants use a Likert 7-point scale (1=strongly disagree, 7=strongly agree) to respond to each item.

For the following reasons, this scale is fit for my study. First, it is verified in China and the US. It fit for China context. The reliability and validity have been testified. Second, the questions are short and easy to understand. It is fit for the study participants who are more physical work oriented instead of literature oriented. Third, comparing to other scales, this one is more related to the participants real life.

2.4.2 Work-family Conflict and its Measurement

The Definition

Work-family conflict has become an increasingly important research topic in the fields of organizational behavior and human resource management. This issue poses significant challenges for both individuals and organizations (Ernst Kossek and Ozeki 1998). In terms of defining work-family conflict, scholars generally refer to the definition provided by Greenhaus (1985), which states that it is "a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respects" (Greenhaus and Beutell, 1985, p. 77).

It is widely accepted that conflict between work and family can be divided into two research directions: one in which work demands interfere with family obligations (work-to-family conflict, or WFC), and the other in which family demands interfere with work obligations (family-to-work conflict, or FWC; Frone et al. 1992; Greenhaus and Beutell 1985). In this context, work-family conflict specifically refers to the impact of work on family life. However, the definition of work-family conflict varies across different literature. In the study by Carlson et al. (2000), WFC is understood as work-family conflict. Consequently, WFC includes two components: work interference with family (WIF) and family interference with work (FIW)

(e.g., Duxbury et al. 1992; Frone et al., 1992; Gutek et al. 1991). In practical research, the majority of scholars tend to focus on WFC rather than FWC. This is primarily because individuals often experience WFC more profoundly than FWC. Statistical findings indicate that the number of studies examining WFC is three times greater than that of those investigating FWC (Gong and Zhang 2006).

The objective of this thesis is to explore the impact of work on workers' family lives; thus, it is more appropriate to use work-family conflict in its single directional definition. In this paper, work-family conflict specifically denotes work-to-family conflict, which represents the work-related impact on family life.

Existing Studies

There is a substantial body of research investigating the factors influencing work-family conflict and its negative effects. Work-family conflict affects both employees and employers. For employees, the negative impacts include decreased work-life satisfaction, adverse effects on physical and mental health, and increased work-related stress (Li 2003; Frone et al. 1992; Higgins et al. 1992; O'Driscoll et al. 1992; Parasuraman et al. 1989). For employers, the consequences include employee dissatisfaction and increased turnover rates (Carlson and Perrewé 1999), as well as significant negative impacts on organizational performance, psychological contracts, and organizational commitment (Edwards and Rothbard 2000; Aryee et al. 2005; Taylor et al. 2009). Work-family conflict has even been observed to influence organizational strategic planning (Goodstein 1994; Jennings and McDougald 2007), thus receiving considerable attention.

Rationale for Studying Work-family Conflict

Firstly, numerous studies acknowledge that work hours have a direct impact on work-family conflict (Jin et al. 2014; Marco et al. 2011). Many scales measuring work-family conflict also include items directly related to work hours (Carlson et al., 2000). Although there is abundant research on this topic both domestically and internationally, there has been little scholarly investigation specifically targeting front-line workers in China. this research can fill this gap. Secondly, based on conversations with representatives from government and relevant regulatory agencies, it is apparent that their interest in monitoring employees' work hours stems from a desire to improve the quality of life of employees. Reducing work hours can provide employees with more time to enjoy family life, signifying social progress.

The Measurement for Work-family Conflict

The time-based and strain-based work-family conflict developed by Carlson et al. (2000) is planned to use in this thesis. The items are as follows:

Time-based work interference with family:

1. My work keeps me from my family activities more than I would like.
2. The time I must devote to my job keeps me from participating equally in household responsibilities and activities.
3. I have to miss family activities due to the amount of time I must spend on work responsibilities.

Strain-based work interference with family:

7. When I get home from work, I am often too frazzled to participate in family activities/responsibilities.
8. I am often so emotionally drained when I get home from work that it prevents me from contributing to my family.
9. Due to all the pressures at work, sometimes when I come home, I am too stressed to do the things I enjoy.

A seven-point response scale is used ranged from "strongly disagree" to "strongly disagree".

2.4.3 Turnover Intentions and its Measurement

Turnover Intentions and Turnover Behavior

Scholars have proposed various definitions of turnover intentions. Research on this concept originated earlier in Western academia. One of the earliest definitions was provided by Porter (1974), who described turnover intentions as the degree to which an employee desires to leave their current position and seek alternative employment opportunities externally. Porter and Steers (1973) defined turnover intentions as the "withdrawal behavior following an employee's dissatisfaction with their job." Mobley (1978) posited that turnover intentions stem from job dissatisfaction, suggesting that job dissatisfaction leads to thoughts of quitting, and persistent and strong thoughts of quitting ultimately result in turnover behavior. Supporting this, some research demonstrated that the perception of alternative job opportunities enhances the prediction and understanding of withdrawal intentions. Similar research found that the perceived likelihood of finding a comparable job moderates the relationship between job attitudes and turnover. These empirical findings, together with the conceptual frameworks proposed by Mobley and others, underscore the importance of incorporating perceived alternatives into research on individual turnover (Mobley 1978).

Chinese scholars have also contributed to defining turnover intentions. Sun et al. (2013) described it as an avoidance behavior triggered by job dissatisfaction - a view consistent with

Mobley's (1978) definition. Ma (2017) characterized turnover intentions as the likelihood that an employee changes jobs within a certain period. Xiao and Zhao (2017) further elaborated those turnover intentions refer to an employee's contemplation of leaving their current job and organization due to dissatisfaction, encompassing the entire process from dissatisfaction to the decision to quit. Synthesizing these definitions, this thesis defines turnover intentions as "an employee's desire to leave their current organization arising from dissatisfaction with their job."

Previous research has consistently shown that age and tenure are negatively correlated with turnover (e.g., Porter and Steers 1973; Porter et al. 1974). Studies have been designed to test the proposition that the effect of job satisfaction on turnover is indirect, mediated by thoughts of quitting, the search for and evaluation of alternatives, and the formation of turnover intentions—with the intention to quit being the most immediate precursor to actual turnover behavior (Mobley 1978).

Existing Studies

Existing research on turnover intentions has predominantly focused on its influencing factors, with a substantial body of literature dedicated to this area. These factors can be primarily categorized into three dimensions: individual factors, organizational factors, and environmental factors.

Individual factors refer to turnover intentions driven by individual subjective elements, including health factors, personality traits, and individual expectations (He and Peng 2023; Xin et al 2022; Zhang 2024). Organizational factors denote elements originating from organizational contexts that induce turnover intentions, such as employees' salary levels, organizational support, and colleague turnover (Li 2023; Yang 2023; Li and Zhang 2021). Environmental factors encompass those stemming from the social environment in which individuals are situated, including macroeconomic factors, the urbanization process, and sociocultural factors (Lu 2023).

The Measurement of Turnover Intentions

The scale developed by Mobley (1978) is well-recognized in academia. Since there are only three questions are easy to understand. It is well suitable for this research. Turnover intentions was measured on a 5-point, verbally anchored scale ranging from never (1) to constantly (5). Probability of finding an acceptable alternative was measured on a 5-point verbally anchored scale ranging from very unlikely (1) to certain (5). Intention to search and intention to quit were measured on a 5-point verbally anchored scale from very unlikely (1) to certain (5).

2.4.4 Fatigue and its Measurement

The Definitions of Fatigue

The definitions of fatigue vary depending on different perspectives, and there are various classifications of fatigue. Some classify it as acute and chronic fatigue (Piper 1989), while others distinguish between pathological and psychological fatigue (Aaronson et al. 1999). The most popular classification is physiological and psychological fatigue, or physical and mental fatigue (e.g., Milligan et al. 1996; Tian et al. 2024). Physiological fatigue is defined as functional organ failure (Berger et al. 1991) and is related to the central nervous system, peripheral nervous system, and muscles. Psychological fatigue is characterized as a state of weariness associated with reduced motivation or moods linked to stress, depression, and anxiety (Lee et al. 1991; Stone et al. 1997). Some researchers have attempted to integrate the various types of fatigue. The North American Nursing Diagnosis Association (NANDA) defines fatigue as a strong and persistent feeling of tiredness perceived by the individual, along with a sense of powerlessness during mental and physical activities, which does not alleviate with rest (Carpenito 2006). Aaronson (1999) summarized previous definitions and proposed an integrated definition: "The awareness of a decreased capacity for physical and/or mental activity due to an imbalance in the availability, utilization, and/or restoration of resources needed to perform activities." In the context of this thesis, the fatigue experienced by front-line workers due to working hours can be both physical and mental. Aaronson's definition will be utilized for this research.

The Measurement of Fatigue

There are numerous measures of fatigue in both China and Western countries. For example, the MFI-20 (Multidimensional Fatigue Inventory–20) was developed in 1995 and is primarily used for pathological assessment. It comprises five subscales: general fatigue, physical fatigue, mental fatigue, reduced activity, and reduced motivation. Each subscale includes four items on a five-point Likert scale (Lin et al. 2009). The FS-14 (Fatigue Scale–14) was developed by Chalder et al. in 1993. It consists of 14 items that measure both physical and mental fatigue and is used for clinical assessments of general fatigue (Chalder et al. 1993). The FSAS (Fatigue Self-Assessment Scale) was developed by Wang and Xue in 2009 in China. It was based on key Western scales but adapted to fit Chinese cultural contexts. Since its development, it has been widely used in China. The scale consists of 23 items that evaluate fatigue type, degree (including physical fatigue, mental fatigue, and fatigue consequences), characteristics (including fatigue responses to sleep/rest, situational fatigue, and fatigue time patterns), as well as the effectiveness of fatigue interventions (Wang and Xue 2009). It is primarily used in

medical clinical applications. The PFS (Piper Fatigue Scale) was developed as a research instrument to measure the temporal (time patterns), severity (degree of distress and interference), and sensory (associated physical, emotional, and mental sensations) dimensions of fatigue (Piper et al. 1989). It includes 41 items and is widely used in clinical settings and in populations with chronic illnesses. There are also many other fatigue measurements exist but will not be detailed here.

The measurement of fatigue should be tailored to the specific situation in which fatigue is studied (Aaronson et al. 1999). For this thesis, several considerations are important: First, the research subjects are front-line workers in factories. Given their educational levels, the survey questions need to be simple, short, easy to understand, and relevant to their real lives. Questions like "To what degree has fatigue interfered with your ability to cook?" do not fit this thesis. Second, the fatigue data is collected alongside other variables (work satisfaction and work engagement). To maintain participant patience, the items in the measurement should not be too numerous. For this thesis, the MAF (Multidimensional Assessment of Fatigue) (Tack 1991, p117) has been chosen. This scale is a simplified version of the PFS and consists of only three items. It also takes time factors into account by asking participants to rate the degree of fatigue, the distress experienced in the past week, and the severity of that fatigue. All questions are framed from a global subjective perspective, which fits the requirements of this thesis. Firstly, the questions are simple and easy to understand; they are general and are not cause confusion, unlike some items in the MFI-20, FS-14, and FSAS, which include questions not related to the work or life of front-line workers. Secondly, with only three items, the questionnaire will not be too lengthy or time-consuming. Thirdly, it employs global subjective rating, which is widely used and accepted in academia. Compared to summation ratings, global ratings are more cost-effective, possess greater face validity, and require less time (Nakata et al. 2013). In comparison to checklists, global ratings are better for differentiation (Nakata et al. 2013). Youngblut and Casper (1993) also presented compelling arguments for the validity of global measures of phenomena such as symptom intensity or distress.

For reliability, Cronbach's alpha was reported at 0.93 when this measure was tested on a group of 133 individuals with rheumatoid arthritis (Belza et al. 1993). The original version of the MAF utilized a visual analog scale, which Belza. Later, Belza converted it to 10-point numeric rating scale (Aaronson et al. 1999). This thesis adopts the 10-point numeric rating scale.

2.5 The Impacts of Working hours and Job Demands

2.5.1 The Impact of Working Hours on Well-being

Currently, there is a substantial body of research both domestically and internationally examining the impact of working hours on well-being. Existing studies can be broadly categorized into the following three types.

The first category focuses solely on the impact of working hours on well-being. Predominant research suggests that long working hours negatively affect well-being by impacting health, safety, and life. For instance, long working hours lead to increased fatigue and stress (Beckers et al. 2007), which in turn can cause a range of negative health outcomes, such as a higher incidence of general illness, hypertension, diabetes, heart disease, and sleep disorders thereby impairing well-being (Song 2017). Furthermore, long working hours increase the risk of work-related injuries (Dembe 2005). Regarding the negative relationship between overtime and health, on one hand, chronic overtime may lead to the accumulation of insufficient recovery, disrupting physiological processes and resulting in health issues (Geurts and Sonnentag 2006). On the other hand, unhealthy behavioral habits induced by overtime (such as poor diet, lack of exercise, and smoking) are contributing factors to these health problems (Van Der Hulst 2003). (Cui et al. 2020) Some studies, however, argue that the relationship between working hours and well-being is not straightforward, proposing an inverted U-shaped curve between working hours and occupational well-being—well-being decreases when working hours exceed an optimal point (Lu 2020). Conversely, other research has found that time pressure (the subjective experience of not having enough time to do desired or necessary work) might, to some extent, enhance individual well-being, indicating a "time pressure-well-being paradox"(Zhang and Ding 2025)

The second category incorporates considerations of working time quality. This category can be further divided into three sub-types. The first sub-type suggests that the impact of working hours on well-being varies with job content. Less demanding work that generates positive emotions has a smaller negative impact on well-being, whereas strenuous work that induces negative emotions has a greater impact. For example, a study on teachers' working hours and well-being found that job content significantly influences this relationship: teaching hours positively affect occupational well-being, while lesson preparation hours exert a negative influence (Zhang and Ding 2025). The second sub-type examines how the extent of overtime affects well-being differently. When overtime is moderate, its psychological context shapes the impact on well-being. Some Western studies focus on moderate overtime (relatively short

durations) and suggest its link to health and well-being is not simple or direct but depends on the psychosocial conditions of the overtime work (Beckers 2007). In contrast, research from Japan and South Korea often emphasizes the severe health impacts of excessively long working hours (over 60 hours per week), frequently associated with phenomena like "karoshi" (death from overwork) and "karojisatsu" (suicide from overwork) (Nishiyama and Johnson 1998). The third sub-type considers the role of overtime voluntariness. Involuntary overtime has a more significant negative impact on well-being compared to voluntary overtime. Hulst and Geurts (2001), in a study of 535 full-time employees from the Dutch postal service, investigated the combined effects of external pressure to work overtime and financial compensation on burnout. Their results indicated that involuntary overtime adversely affects health and increases burnout, but only when compensation is low (Van Der Hulst and Geurts 2001). Beckers (2008) categorized overtime control into fully voluntary, partly voluntary, and fully involuntary, exploring its effects on fatigue and job satisfaction. They found that voluntary overtime workers typically have higher incomes and better job conditions, reporting higher job satisfaction even without extra pay, whereas involuntary overtime leads to higher fatigue and lower job satisfaction. Thus, they concluded that control over overtime is crucial for employee well-being, and voluntary, moderate overtime may be acceptable Beckers (2008).

It is evident that conclusions regarding the relationship between working hours and occupational well-being are inconsistent across existing studies.

Although numerous studies address working hours and well-being, research specifically targeting front-line manufacturing employees remains scarce. Most studies are either macro-level, focusing on society as a whole, or target other specific professional groups. Studies dedicated to front-line manufacturing workers are still relatively uncommon.

2.5.2 The impact of Job Demands on Well-being

Most existing studies on job demands and well-being, both domestically and internationally, are primarily based on the Job Demand-Control (JDC) Model—specifically the well-being-oriented JDC Model. This model has been widely recognized and occupies a pivotal position in research on the relationship between job characteristics and individual work-related well-being (Häusser et al. 2010) The well-being-oriented JDC Model (Van Der Doef and Maes 1999 pp. 87-114) posits that the combined psychosocial effects of the psychological demands of a job and an individual's scope of autonomy and ability to cope with these demands determine the level of their work-related well-being (Huang and Xu 2014).

Most existing research findings indicate a negative correlation between job demands and work-related well-being. For example, Mansell and Brough (2005) found in a survey of employees and doctors in New Zealand's public sector that job demands had a negative impact on their cognitive well-being. Guo et al. (2025) similarly identified a negative correlation between job demands and well-being in a quantitative study on university counselors. Radic et al. (2020) reached consistent conclusions in a study on seafarers. However, some studies have reported contradictory results. For instance, De Jonge et al. (2010 pp. 125-133) conducted a longitudinal study on 267 healthcare professionals in the Netherlands and found that job demands had no significant impact on nurses' cognitive well-being.

Based on the existing literature on job demands and well-being, significant variations in the impact of job demands on well-being may exist across different countries and industries. To date, no domestic studies have been identified that specifically explore the relationship between job demands and well-being among front-line workers in the manufacturing industry.

2.5.3 The Impact of Working hours on Work-family Conflict

With the advancement of urbanization and industrialization in China, along with the relaxation of the one-child policy, the issue of work-family conflict has become increasingly prominent in the course of the country's social development. Research on work-family conflict in China has also been growing (Xue et al. 2021).

Studies on work-family conflict started relatively early in Western countries, leading to the development of several well-established theories, including role conflict theory, boundary theory, spillover and compensation theory, and gender role expectation theory (Xue et al. 2021). Greenhaus and Beutell (1985) proposed that working hours have a significant positive impact on work-family conflict. However, a cross-cultural study by Spector et al. (2004) found that while working hours significantly positively correlate with work-family conflict in European and American countries, no significant correlation was observed in China and Latin American countries. Nonetheless, most researchers agree that longer working hours lead to stronger experiences of work-family conflict. Among Chinese scholars, Wei Ling and Chen Changrong, using samples of doctors and nurses respectively, found that working hours positively influence work-family conflict (Jin et al. 2014). Xin et al. (2022), in a study on the impact of monthly overtime hours on work-family conflict among married nurses, concluded that monthly overtime hours significantly affect work-family conflict (Xin et al. 2022). Similarly, Wu (2020)

found in a study on healthcare workers that overtime work has a positive impact on work-family conflict.

A comprehensive review of the existing literature reveals that research on the impact of working hours on work-family conflict remains scarce in Chinese academia (Wu 2020). A search using keywords such as "overtime, " "working hours, " and "work-family conflict" on CNKI yielded only one relevant article. Studies related to this topic are generally limited and are mostly concentrated in practice-oriented industries such as healthcare and education. In contrast, there is comparatively little research focusing on the manufacturing sector, where academic engagement is less pronounced.

2.5.4 The Impact of Job Demands on Work-family Conflict

Regarding the impact of job demands on work-family conflict, although there are relatively few studies both domestically and internationally, the findings are largely consistent, indicating that job demands are a significant predictor of work-family conflict (Major et al. 2002). The positive effect of job demands on work-family conflict has been demonstrated in numerous studies (Voydanoff 2004, 2005; Steinmetz et al. 2008). Some Chinese scholars have also explored this relationship. For instance, Zhao et al. (2013) found a significant positive correlation between job demands and work-family conflict. Lin et al. (2008) demonstrated that job demands significantly positively predict work-family conflict. Jin (2012), in a study of employees in large state-owned enterprises, found that job demands significantly and positively predict work-family conflict. Similarly, Jiang (2017), in a study involving employees from various industries in Guangdong, confirmed that job demands significantly and positively predict work-family conflict.

Similar to the research on the impact of working hours on work-family conflict, there is currently no domestic study focusing on the effect of job demands on work-family conflict among front-line employees in the manufacturing industry.

2.5.5 The Impact of Working Hours on Turnover Intentions

Existing literature has paid relatively little attention to the relationship between working hours and turnover intentions. Current research primarily indicates a positive correlation between working hours and turnover intentions (Zhan et al. 2016; Jiang et al. 2018; Cheng and Shu, 2017). Wang and Tang (2018) found that long working hours influence turnover intention among medical staff, with descriptive statistics revealing that overtime work leads to increased

turnover intentions (Zhao 2017). Similarly, Wang and Ma (2018) observed a positive correlation between weekly overtime hours and turnover intentions among healthcare workers in hospitals in Henan Province (Wang and Ma 2018). Additionally, Zhang (2011), in a survey study of 829 full-time workers, found that when there is a discrepancy between expected and actual working hours, employees' job satisfaction decreases and their turnover intentions increase (Zhang 2011).

However, long working hours do not necessarily lead to an increase in turnover intentions. Wang and Tang (2018) further found that working hours influence turnover intentions through job satisfaction, while income plays a moderating role in the relationship between working hours and job satisfaction (Zhao 2017).

2.5.6 The Impact of Job Demands on Turnover Intentions

Currently, there is a paucity of studies on the relationship between job demands and turnover intentions both domestically and internationally.

Zhang (2005) argued that excessive work stress discourages teachers from taking on the role of homeroom teachers, with such stress manifesting in three aspects: academic pressure from students, pressure from school administration, and pressure from family life. High workload increases the turnover intentions of school homeroom teachers (Kuai and Zeng 2016). Zhao et al. (2023) found in a study on civil servants that occupational stress is positively correlated with their turnover intentions. Pan (2016) revealed in research on R&D employees that job demands can directly and positively influence R&D employees' turnover intentions; simultaneously, they can indirectly affect turnover intentions through emotional exhaustion. The indirect path is that hindrance job demands positively predict emotional exhaustion, which in turn positively predicts turnover intentions (Pan 2016).

In summary, there are relatively few domestic studies exploring the impacts of working hours and job demands on turnover intentions. To date, no studies have been identified that specifically focus on front-line workers in the manufacturing industry.

2.5.7 The Impact of Working Hours on Fatigue

Numerous studies have demonstrated that long working hours can lead to fatigue (Aaronson et al. 1999; Nagashima et al. 2007; Iwasaki et al. 1998). For example, Park et al. (2001) conducted a survey in the R&D department of a manufacturing company and found that the subjective levels of the group with weekly working hours of 74.3 and 65.7 were significantly higher than

those of the group with weekly working hours of 55.5. Nagashima et al. (2007) conducted a survey in a chemical factory in Japan and found that both mental and physical symptoms of fatigue increased significantly with longer working hours. They suggested that monthly working hours should be less than 260 hours. However, some studies have found no significant effect of long working hours on fatigue (Nagashima et al. 2007; Sasaki et al. 1999). For instance, Lee et al. (2007) conducted a study in an electronics manufacturing company and found that long working hours might lower sympathetic nervous activity, thereby reducing fatigue. Additionally, Beckers et al. (2004) conducted a survey of the Dutch full-time workforce and found no significant interaction between overtime work and fatigue. Considering the discrepancies in current studies and the lack of research focusing on front-line workers in the manufacturing industry, it is meaningful to include fatigue as a factor in this thesis.

2.5.8 The Impact of Job Demands on Fatigue

In the context of manufacturing work, although many high job demands have been replaced by machines, a portion of such tasks still remains. High job demands can induce fatigue, which impairs workers' ability to complete tasks and reduces cognitive performance, potentially leading to serious accidents (Pan 2015). After physical work, individuals often experience transient muscle weakness and an increase in fatigue, a condition referred to as physiological fatigue (Hawley and Reilly 1997). Fatigue not only hurts task performance but also increases occupational risks. Studies have shown that factors such as age, gender, physical condition, working hours, work experience, personal endurance, lifestyle habits, and exercise routines constitute multiple influences on fatigue (Konz 1998). Most researchers agree that high-intensity exercise leads to substantial energy expenditure, which in turn causes dual fatigue in both the central and peripheral nervous systems (Pan 2015; Xue and Xu 2026). Current research conclusions are largely consistent, indicating a positive correlation between job demands and the degree of fatigue. However, there has been relatively less attention paid to this issue among front-line manufacturing workers in existing studies.

2.6 Research Gap

Current research on the impact of working hours and job demands on well-being, work-family conflict and turnover intentions has following problems.

1, Lack of research on front-line manufacturing workers. This group account for a large percentage of labor in China. While there is limited research on their well-being, work-family conflict and Turnover intentions.

2, In China, there is limited research with qualitative research method to study the well-being, work-family conflict and turnover intentions. If specific to front-line manufacturing workers, there are even less. This led to that authors study them based on "so called objective perspective". Lack of the real voice of the participant.

3, Current research is more focus on the negative side of working hours job demands and less on positive side of them.

Chapter 3: Methodology

3.1 Introduction of the Chapter

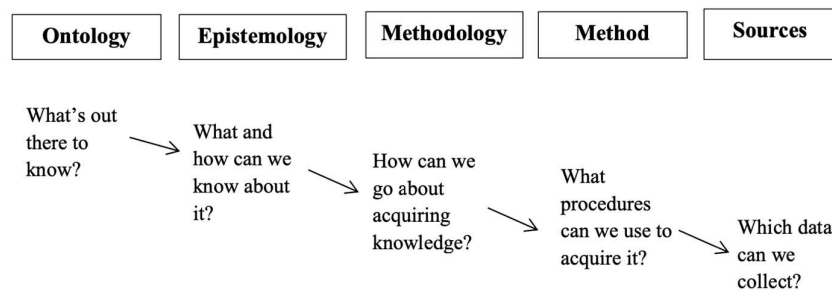
In Chapter 2, the key terms were introduced and relevant existing literature was reviewed. In this chapter, the research methodology is presented with a detailed discussion and rationale for the philosophical stance, research design, research subjects, and methods for both quantitative and qualitative study.

The structure of the chapter is set out as follows. The philosophical stance of the study is introduced and justified first. The research design is then outlined. Following that, the methods used for the study are introduced, including data collection and data analysis. Finally, ethical considerations are presented.

3.2 Research Philosophy

This section introduces the philosophical stance of the study. A philosophical stance is the basic beliefs and assumptions that researchers make when they view things (Blaikie 2019:236). Explaining it helps readers to understand what is being studied by following a particular philosophical tradition, as well as helping them to accept or reject the content and results of the study.

There is no consensus on the classification on research philosophy. However, most scholars agree that ontology, epistemology and axiology are the three key areas that research philosophy usually concerns. The figure (Figure 1) developed by Hay (2002) clearly shows the relationship between the levels of research philosophy for knowledge creation (Lin 2014).



Source: Hay (2002: 64)

Figure 1 : Knowledge Development Progress

Ontological and Epistemological Considerations

The research paradigm adopted for this thesis is dialectical pluralism. The ontology of dialectical pluralism adopts a pluralistic stance (acknowledging multiple realities such as subjective, objective, intersubjective, disciplinary, paradigmatic, etc.) and relies on the dialectic method (as well as dialogue and hermeneutics) to learn from differences (Johnson 2012).

Ontology is about the nature of reality (Saunders et al. 2009). For social and business studies, it concerns whether the social phenomena exist external to people or involve people (Bell et al. 2022). For a long time, the discourse on ontology has revolved around subjectivism and objectivism (Bell et al. 2022). There are viewpoints that incorporate constructivism between these two opposing stances (Saunders et al. 2009). These viewpoints often place different stances on ontology in opposition, asserting a tension among them (Johnson 2012; Jason and Glenwick 2016 p 234). The emergence of pluralism effectively addresses this issue. Pluralism holds that reality is pluralistic and constantly changing, with various valid expressions about reality. The pluralist stance asserts that the different conceptualizations of reality should be clarified and accepted (Johnson 2017).

Epistemology refers to how knowledge is gained or what kind of knowledge is valid and legitimate (Saunders et al. 2009; Bell et al. 2022). There are two most popular epistemologies which are positivism and interpretivism. Positivism, grounded in an objectivist ontology, posits that reality is objective and external. It advocates that social research should use the same method as natural science (Bell et al. 2022). The rival stance of positivism is interpretivism. It based on a constructivist ontology and argued that the differences between people and objects should be respected. It asserts that people create meanings, and these meanings should be studied (Bell et al.2022).

Dialectical pluralism engages in dialogue with two or more epistemologies, acknowledging the fallibility of knowledge. It underscores the importance of respecting the heterogeneity and homogeneity of multiple perspectives and seeks effective solutions in theory and practice. It holds that different researchers and stakeholders should emphasize different epistemological standards based on the specific nature of the research. The epistemological aspect of dialectical pluralism highlights the diversity and complexity of knowledge, encouraging researchers to consider multiple epistemological viewpoints when constructing and assessing knowledge (Johnson 2017). Collaboration with researchers from different backgrounds is also encouraged to better address real-world issues (Johnson 2017).

The Stance of the Study

This thesis is aimed to identify the impacts of working hours and job demands of front-line manufacturing workers to their well-being, work-family conflict and turnover intentions, as well as the mechanisms behind the impacts. Based on the research aim, the reasons for adopting the research paradigm of dialectical pluralism are as follows:

Firstly, dialectical pluralism integrates the strengths of different research paradigms. It does not adhere rigidly to the ontological and epistemological constraints of traditional paradigms but instead focuses more on the dissemination and utilization of research results (Johnson 2012). Greene and Caracelli (1989) argue that diverse philosophies can benefit from a dialectical perspective by engaging with multiple worldviews. For this thesis, on one hand, it can adopt positivist stance to investigate the objective effect of working hours and job demands on well-being, work-family conflict, and turnover intentions of front-line manufacturing workers. On the other hand, it can employ an interpretivist stance to delve into how the thoughts of both the research subjects and researchers themselves as subjective individuals contribute to the occurrence of these impacts. Dialectical pluralism can effectively reconcile the conflicting tensions between different research paradigms and integrate the strengths of both approaches. Secondly, dialectical pluralism fits well with mixed method research. As Johnson (2012) has suggested, both wide definition (mixing or combining philosophies, values, disciplines) and narrow definition (mixing methods) of mixed methods can be fit with dialectical pluralism very well. This thesis has two main research objectives. The first is to study the impacts of working hours and job demands of front-line manufacturing workers on their well-being, work-family conflict and turnover intentions. This part is suitable for quantitative research. The second is to explore the underlying mechanisms behind these impacts, which is best suited for qualitative research. The integration of these two research methods is consistent with the scope of narrow mixed research methods.

Thirdly, the researcher acknowledges pluralism. The author of this thesis believes that subjectivism and objectivism are different perspectives for interpreting reality. If people are considered as part of objective reality, then both people and their consciousness are objective existence. From this perspective, social research can be conducted using an objectivist stance and methods. On the other hand, if people are separated from objective reality and viewed from a subjective perspective, social research can be carried out using a constructivist stance and methods. Just as the founder of Apple, Steven Jobs, had views on different religions, stating

that "different religions are different doors to the same room" (Diao 2011). Therefore, based on the researchers' subjective beliefs, choosing pluralism is appropriate.

3.3 Research Methodology

This thesis adopts mixed methods research approach. Mixed methods research refers to research that uses multiple research methods or incorporates different research strategies: "Mixed methods research is formally defined here as the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study" (Johnson and Onwuegbuzie 2004 p17). Its primary difference from quantitative or qualitative research alone lies in the combined application of one or more qualitative and quantitative methods in a single research project. The rationale for adopting this approach is as follows:

First, this thesis addresses two core research questions. The first question aims to identify the relationships between working hours, job demands, and well-being, work-family conflict and turnover intentions of front-line manufacturing workers. To address this question, the study hypothesizes that relationships exist among these variables, which are verified through data collection and analysis. Quantitative research is an appropriate choice for this purpose. Quantitative research employs a deductive strategy, where hypotheses are formulated first and then validated with empirical data (Jason and Glenwick 2016), which aligns well with the analytical logic required to answer this question. The second question seeks to verify, interpret, and supplement the identified relationships after establishing their existence in the first phase. Answering this question requires in-depth interactions with workers to explore their authentic perceptions, where research depth takes precedence over breadth. Therefore, relying solely on quantitative research would be inadequate, while qualitative research can effectively address this need. Qualitative research focuses on in-depth engagement with research participants and generates new theoretical insights through inductive reasoning. Quantitative methods alone cannot fully explain causal relationships. They need to be combined with qualitative methods, as a single research approach is insufficient to capture the complexity and richness of the research problem (Jason and Glenwick 2016).

Second, mixed methods research offers several distinct advantages. Jennifer et al.(1989) summarized the motivations for using mixed methods research into five dimensions: triangulation (e.g., integrating and validating findings on the same phenomenon derived from different research methods), complementarity (e.g., using results from one method to

supplement or clarify those from another), development (e.g., using conclusions from one research method to inform the implementation of other methods), initiation (e.g., identifying paradoxes and contradictions that prompt the reconstruction of research questions), and expansion (e.g., broadening the scope and extent of the investigation through diverse methods)(Zang 2016).

Thirdly, it aligns with the researcher's value orientation. The researcher argues against empty debates on the merits of specific research paradigms in theory. Instead, research should be oriented toward real-world practices rather than merely testing or constructing theories. Research methods should be selected based on research questions rather than predetermined paradigms (You 2010). Furthermore, it addresses methodological gaps in existing literature. In the context of Chinese academia, most studies related to working hours, well-being, and work-family conflict adopt a single quantitative approach (Xue et al. 2021; Cui et al. 2020; Jin et al. 2014; Xin et al. 2022), with few employing qualitative methods. Currently, there is little research that combines both quantitative and qualitative methods in this field. This thesis's adoption of mixed methods research can help fill this methodological gap.

Based on the above analysis, this thesis employs mixed methods research, which includes three primary designs: concurrent design, sequential design, and transformative design. Given the study's characteristic of first verifying the correlations between working hours, job demands, and turnover intentions, and then exploring the underlying mechanisms of these relationships, sequential design is the most suitable choice. Sequential design is a two-phase mixed methods approach, where the order of phases is determined by the requirements of the actual research questions (You 2010). This thesis will adopt a quantitative-then-qualitative sequential design.

3.4 Research Site and Participants

3.4.1 Research Site's Profile

This thesis was conducted in a paper packaging company in China. This company was headquartered in Australia. It is the biggest food paper packaging supplier all over the world. It has 11 factories all over the world and three of them are in China. All three Chinese factories were located in Jiangmen City of South China. It provides big fast-food brands and supermarkets with paper packaging solutions. Its products include but not limited to delivery bags, hamburger wraps, food bags, etc. About 60% of the products sell to out of China while other 40% sell domestically.

The company started the Chinese business from 1995. It is also the first food paper packaging business in China. In the beginning, it started with one factory in Jiangmen city. A couple of years later, it built another factory and acquired a similar factory in the same city. China factories are the most profitable factories in all its 11 factories. It makes 4 billion bags per year and the annual sales is 130 million US dollars.

Now the company is facing serious competition from the local companies. Most of the competitors were started by the left employees from the company. With their flexibility and cost advantage, they grow very fast and the size of some are bigger than the company now. It leads to that its skilled operators in the company have more choices.

For the following reasons, it has been chosen as the research site for this thesis.

Firstly, the researcher worked in this company and served as a manager for a couple of years. The company can provide the convenience to conduct the studies in it.

Secondly, it is a very representative foreign-funded company. It belongs to a light industrial. In South China, there are a large number of similar companies. Only in Guangdong province, there are more than 70000 such companies and employee over 12 million people (Huaon.com 2024).

Thirdly, it is a labor-intensive company and employed lots of front-line workers. It has total 700 employees in China and 560 of them served as front-line workers in production department. The front-line workers include machine operators, packers, material handlers, quality assurance personnel, maintenance technicians, and forklift drivers.

3.4.2 Characteristics of Potential Research Participants

The characteristics of front-line workers in the research site are as follows. 91% of them are from the local province and 73% of them are from local city (Guangdong province, Jiangmen City). For the people from local, most of them live at home. For the people from other cities, most of them rent apartments near the company. Some of them bought apartment in the town nearby.

Their normal working hours are 8 hours per day. Normally, after normal working hours, they can be arranged to work overtime. The upper limit of daily working hours are 11 and weekly working hours are 60 hours (it used to be 66 hours. I changed to 60 hours in 2024). Which means the upper limit of daily over time for normal working days is 3 hours and for weekend is 11 hours. But they cannot work like this every day since there are constraint for 60-hour per week and at least one day rest per week.

For their working time, they work in two shifts or three shifts, normally two shifts. For two shifts, 11 hours per shift. Day shift is from 7:30am to 7:30pm. Night shift is from 7:30pm to 7:30 am. One hour for two meals in a shift. Half an hour each. For 3 shifts, day shift is from 7:30am to 3:30pm. Middle shift is from 3:30pm to 11:30pm, night shift is from 11:30pm to 7:30am. Half an hour for one meal in a shift. 90% of the time were implementing two shifts. Meals were provided by the company free of charge. While the company did not provide accommodation.

Most of the time, they worked in the production workshop. Each production workshop was 3000 to 5000 square meters. The workshops are crowded with paper bag making machines and other supporting machine. They were noisy working areas (Noise levels from 80dB to 90dB). People needed to wear ear plugs during work. There was no air conditioning in the shop floor. But there were fans. The temperature in the workshop is around 33 degrees Celsius in summer. Food was not allowed to take into the working area.

For income, the lower limit of base salary of the company for front-line workers is 2500RMB. (Whereas the statutory minimum wage of the city is 1, 800 RMB). Their overtime work is paid based on the base salary according to the labor law. (1.5 times of base salary for normal working days, two times of base salary for weekends and three times of base salary for public holidays). Overtime pay is a key part of their income. Every month, the overtime pays and base salary account for about 80% of total. The Key Performance Indicator (KPI) bonuses is also a key part of their income which ranging from a lower threshold of 200 RMB to an upper threshold of 4, 000 RMB, depending on their performance on quality, output, execution etc...

The key positions of front-line workers are operators and packers. Operators are relatively more skill based and packers are less skill based. Most operators are male. They responsible for running bag machines, uploading material, adjusting machines. Most of the time, one operator run one bag machine. In special case, one operator needed to run two machines (extra allowance was paid). During normal machine operation, the operator can sit by the machine, check quality of the products, or go out for a walk. If the machines have problems, the operators need to adjust the machine. Most packers are women. They responsible for collecting bags made by the bag machines, checking the quality and packing the bags in the cartons. If the machine is running, there need to work all the time. If they want to go to drink or toilet, they need to ask the operators to replace. Or they can go during material uploading. Operator and packers are both account for 90% of total population and the remain 10% are quality checkers, material handlers, team leaders, etc.

Regarding financial commitments, the primary expenditures reported by participants are associated with significant long-term liabilities and family responsibilities. The key spending categories are housing mortgages, automobile loans, and child-rearing expenses. These financial obligations represent considerable recurring economic pressures for the participants. (Jiangmen is a Tier-4 city in China with a population of 10 million. Its GDP is 421 billion RMB. The annual per capita disposable income of urban residents in 2024 was 50,023 RMB (Source: 2024 Jiangmen Statistical Bulletin of National Economic and Social Development)).

The research subjects of this thesis are the front-line employees of manufacturing companies. All the participants are from the packaging companies mentioned above. There are two types of participants in this thesis, one type participated in the questionnaire survey, and the other participated in the semi-structured interview.

3.5 Method for Quantitative Study

3.5.1 Hypotheses and Conceptual Framework

3.5.1.1 The Impact of Working Hours

Working Hours and Well-being

Government regulations and social responsibility audit institutions consistently monitor employee working hours. It is widely recognized that long working hours negatively impact employees, including detrimental effects on their well-being. Long working hours may lead to various physical and mental health issues such as depression, psychological stress, excessive fatigue, and burnout (Xue et al. 2021).

The relationship between working hours and well-being can be explained by the Conservation of Resources (COR) theory (Xue et al. 2021; Zhou et al. 2021). According to Hobfoll (1989), individual well-being is closely associated with resource availability. People inherently strive to accumulate resources while avoiding resource depletion. Extended working hours result in the loss of both health-related and psychological resources. Furthermore, longer working hours inevitably reduce rest time, which itself constitutes a valuable resource. Consequently, excessive working hours lead to comprehensive resource depletion, ultimately impairing employee well-being (Xue et al. 2021).

In China, the controversial "996" work schedule (working from 9 AM to 9 PM, six days per week) has faced significant criticism due to its negative impacts on employees' physical and mental health. This phenomenon has even spawned the saying "Work 996, Sick ICU" (working at 996, once sick, you will be sent to ICU ward) (Zheng 2020), highlighting the severe health

consequences of such demanding schedules. In 2015, manufacturing companies like Foxconn faced public scrutiny after reports of excessive overtime led to psychological distress among employees, resulting in cases of *karoshi* (death from overwork) and suicide (Chi 2015).

Based on this theoretical and empirical foundation, the following hypothesis is proposed:

H1: Working hours have a negative impact on the well-being of front-line manufacturing workers.

Working Hours and Work-Family Conflict

Total time available to individuals is limited: the longer the hours spent on work, the shorter the time available for family commitments. This aligns with the exclusivity characteristic of the Conservation of Resources (COR) Theory (Hobfoll 1989). Role Boundary Theory offers a similar explanation. Boundaries exist between the different roles that individuals assume in varying contexts. Nippert-Eng first proposed the concept of work-family boundaries, categorizing individuals' social roles into two domains: work and family, each associated with distinct rights, obligations, norms, and behavioral patterns (Diener 1985). Long working hours may cause the work-family boundary to move toward the work area, thereby causing negative impacts on family life.

According to the studies on Work-Home Resources Model, individuals' resources are allocated between the work and family domains. Long working hours consume more resources in the work domain, thereby reducing the resources available for family needs and ultimately triggering work-family conflict (Xue et al. 2021). For instance, parents who work long hours will have less time to accompany and educate their children, as well as fewer opportunities to care for elderly family members.

Based on the above discussion, this study proposes the following hypothesis:

H2: Working hours have a positive impact on work-family conflict of front-line manufacturing workers.

Working Hours and Turnover Intentions

Long working hours may lead to employees' physical and mental health issues, work-family conflict, and other problems. All these issues can be regarded as risks that bring losses to employees. According to COR theory, long resource loss may cause individuals to enter a loss spiral, thus inclining them to avoid risks and opt for risk-averse behaviors (Hobfoll 2018). For instance, employees who are aware of the health risks associated with long working hours may develop a tendency to avoid jobs requiring long hours. As for those currently employed in positions with long working hours, such risks may trigger turnover intentions.

Based on the above discussion, this study proposes the following hypothesis:

H3: Working hours have a positive impact on turnover intentions of front-line manufacturing workers.

3.5.1.2 The Impact of Job Demands

Job Demands and Well-being

The impact of job demands on employee well-being can similarly be explained through the lens of COR theory. Higher job demands impose greater negative effects on employees by depleting their physical and mental health resources as well as energy reserves - all considered valuable personal resources. Consequently, elevated job demands are likely to negatively impact employee well-being (Hobfoll 2018).

This relationship has been empirically validated across various occupational contexts. For instance, Guo et al. (2025) found a negative relationship between job demands and subjective well-being in their study of university counselors. Similarly, Chen et al. (2022) replicated these findings in their survey of hospital nurses. However, comparable research focusing specifically on front-line manufacturing workers has not been conducted yet.

Based on this theoretical framework and empirical evidence, we propose the following hypothesis:

H4: Job demands have a negative impact on the well-being of front-line manufacturing workers.

Job Demands and Work-Family Conflict

According to JD-R, in addition to exerting negative effects on physical and mental health, job demands also deplete employees' willpower (Bakker et al. 2021). According to the ego depletion theory (Muraven et al. 1998), willpower, like muscular strength, can become depleted over time. When individuals engage in tasks requiring self-control, their willpower gets consumed, resulting in suboptimal performance or even inability to complete other tasks.

Jobs with high job demands tend to deplete people's willpower significantly, leaving little mental resource for handling household chores after work, which consequently leads to work-family conflict. For instance, many employees are unwilling to do housework or interact with their children after work, and instead prefer to slump down and scroll through their phones. This is because work has exhausted their willpower, reducing them to engaging only in low-energy activities outside of work hours.

Based on the above discussion, this paper proposes the following hypothesis:

H5: Job demands have a positive impact on work-family conflict of front-line manufacturing workers.

Job Demands and Turnover Intentions

Through the health impairment path of JD-R Model, job demands deplete employees' physical and psychological resources, thereby affecting their fatigue and well-being (Bakker et al. 2021). In response, individuals may adopt avoidance strategies, which in turn give rise to turnover intentions.

A similar conclusion can be drawn from the Risk Aversion Theory (Zhao 2017). High workload, fast-paced workflows, and poor working conditions can bring about a host of physical health and emotional problems for employees. To avoid such issues, employees may develop the intentions to resign. For instance, when employees are aware that high-intensity, monotonous repetitive work poses a risk of muscle strain, they may harbor the idea of leaving their current positions.

Based on the above discussion, this paper proposes the following hypothesis:

H6: Job demands have a positive impact on turnover intentions of front-line manufacturing workers.

3.5.1.3 The Mediating Role of Fatigue

Both long working hours and high job demands contribute to increased employee fatigue, a well-documented phenomenon in both management and occupational health literature (Xu et al. 2011). Fatigue is reflected through multiple detrimental effects, including delayed reaction times, impaired concentration, diminished task performance, and elevated safety risks (Pollock et al. 1998). Empirical evidence from Xu et al.'s (2011) study of railway shift workers demonstrates that 10-hour shifts significantly increase fatigue symptoms (e.g., heaviness in the head, general exhaustion, and cognitive impairment) compared to 6-hour or 8-hour shifts.

Chronic fatigue accumulation leads to serious health consequences (Pollock et al. 1998), which fundamentally undermine subjective well-being. From a work-family perspective, fatigue-depleted employees often lack the energy to engage in domestic activities after demanding shifts. The JD-R model explains this phenomenon: excessive job demands deplete employees' limited resources, thereby exacerbating work-family conflict (Bakker and Demerouti 2017).

Furthermore, fatigue-induced burnout aligns with both COR theory and risk aversion theory. Employees naturally avoid activities that threaten their remaining resources, leading to increased turnover intentions. The research of Van Der Beek et al. (1995) confirms that prolonged fatigue significantly predicts both absenteeism and voluntary turnover. In the digital era, heightened awareness of occupational hazards (e.g., "karoshi" [death from overwork] and

metabolic syndrome from overwork) through widespread media coverage has reinforced employees' risk perceptions regarding demanding work conditions (Ma and Dai 2022).

Based on this theoretical and empirical foundation, we propose fatigue as a critical mediator in the relationships between working conditions and key outcomes:

H7a: Fatigue mediates the impact of working hours on the well-being of front-line manufacturing workers.

H7b: Fatigue mediates the impact of working hours on work-family conflict of front-line manufacturing workers.

H7c: Fatigue mediates the impact of working hours on turnover intentions of front-line manufacturing workers.

H7d: Fatigue mediates the impact of job demands on the well-being of front-line manufacturing workers.

H7e: Fatigue mediates the impact of job demands on work-family conflict of front-line manufacturing workers.

H7f: Fatigue mediates the impact of job demands on turnover intentions of front-line manufacturing workers.

3.5.1.4 Conceptual Framework

Based on the analysis above, the conceptual framework is developed as the Figure 2.

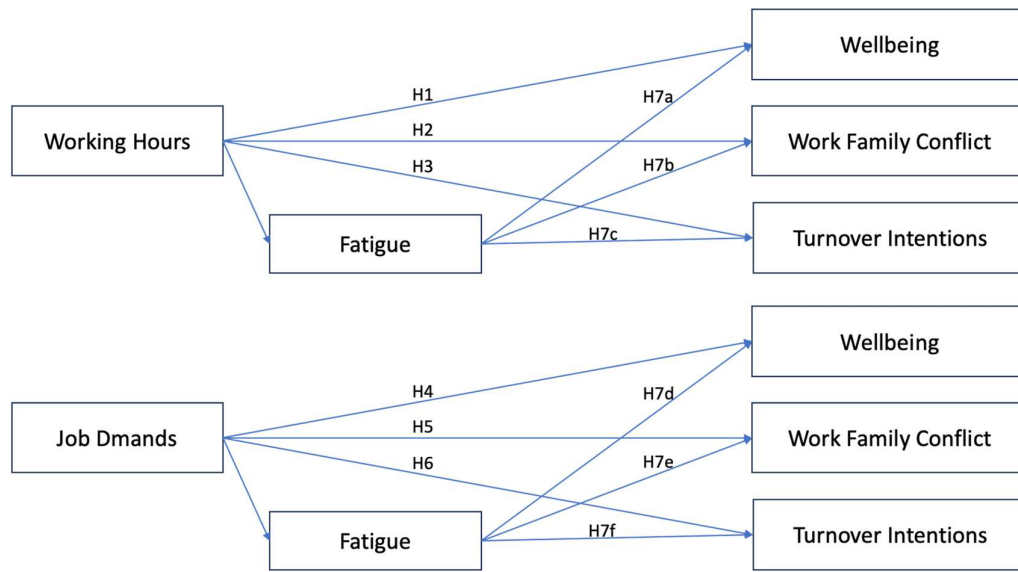


Figure 2 : The conceptual framework

3.5.2 Sampling and Data Collection

Justification of Survey

Survey with questionnaires is used to collect quantitative data for this research. A survey is frequently used to collect data for quantitative research. The numerical data are analyzed to verify the hypotheses with statistical methods (Creswell et al. 2003; Parylo 2012).

Questionnaires, as noted by Scheuren (2004), are mainly utilized for surveys. This is an effective tool for gathering data across multiple cases (Bell et al. 2022; Lu et al. 2024). There are multiple advantages to employing a questionnaire survey. Firstly, it is quick and low-cost. Participants can easily select options in the questionnaires quickly. No complicated tools and procedures are needed. Secondly, the participants can be anonymous, which can reduce participants' concerns and protect their privacy. Third, the questions in the questionnaires are usually standardized. The results can be quantified and made easy for analysis (Lu et al. 2024).

Questionnaire Survey

Given that the issues explored in this study involve employees' job demands, well-being, work-family conflict, turnover intentions, and fatigue, all of which are inherently subjective variables, the questionnaire survey serves as an important data source for this research. A questionnaire-based approach was adopted during the study process.

To ensure high reliability and validity of the sample data, the scales employed in this study were all established scales derived from well-known international journal articles. Back-translation was conducted with reference to corresponding scales in top-tier Chinese journals. After translation, experts specializing in English were invited to review and revise the scales.

Meanwhile, the researcher also communicated with employees working in enterprises and incorporated their suggestions to ensure the questions were phrased in plain language that could be easily understood. This approach not only aligned the concepts and measurements with international standards but also ensured that the translated scales were as contextually appropriate as possible for the respondents, maximizing the clarity and accuracy of the language expressions and thus fully guaranteeing the quality of the scales. Subsequently, a pilot test was conducted on the questionnaire data to further refine the content and dimensions of the relevant variables.

The data investigation and collection process of this study was divided into three phases: the small-sample pilot test phase (November 2024 to December 2025), the formal test phase (December 2024 to May 2025), and the questionnaire data analysis phase (May 2025 to August 2025). The entire investigation was independently completed by the researcher. The distribution time of the two questionnaire surveys was uniformly arranged at the end of day shifts as far as possible, to avoid the impact of long working hours and night shifts on the accuracy of the questionnaire responses.

Participants were recruited from the production departments of the three factories. An introduction to the study, an invitation, and the link to the questionnaire were sent to WeChat groups that include many front-line workers. (Only WeChat groups for casual communication were shared; for example, cycling interest groups and group-buying groups. No work-related groups will be included to avoid any work-related pressure. The author's identity is not disclosed to avoid any pressure on the potential participants). Potential participants can click the link to complete the questionnaire. Before filling out the questionnaire, the participant information sheet and consent form were presented prior to the questions. After reviewing the participant information sheet and form, participants could continue to answer the questions. The process lasted 5 to 10 minutes. They may withdraw from participation at any time by closing the link. The link was closed once the expected number of participants was reached. To ensure the authenticity, accuracy, and rigor of the research results, the identical questionnaire was distributed twice via the same channels during different periods: once during the production peak season and once during the production low season. This was designed to examine whether the outcomes exhibited by the research subjects remained consistent under varying working hour arrangements. A total of 275 questionnaires were collected during the low season, of which 234 were valid; during the peak season, 292 questionnaires were collected, with 270 deemed valid.

During the peak season, the working hours of the surveyed employees were generally 60 hours or more per week (accounting for 88% of respondents), resulting in negligible variations in working hours. In contrast, the low season survey revealed significant differences in the working hours of participants, making it easier to identify the impact of varying working hours on other variables. Therefore, this study used the low season data as the primary dataset for analysis and derived the core research findings. The peak season data was then subjected to the same analytical procedures to verify the results.

3.5.3 Data Analysis

This study conducted two rounds of questionnaire surveys. As previously mentioned, the primary analysis was performed using the low season dataset, while the peak season dataset was used for validation.

Invalid responses were removed through the following steps:

Outlier Removal: The total scores generated by the questionnaire system were standardized using SPSS to obtain Z-scores. Responses with absolute Z-scores greater than 2 were excluded.

Inconsistent Response Filtering: Responses selecting "I do not receive overtime pay" were removed, as all front-line workers in the study were entitled to overtime compensation. This filtering helped eliminate potential responses from managerial staff.

Work Hour Threshold: Responses reporting working hours below 40 per week were excluded, as 40 hours represents the standard full-time workload. Responses below this threshold likely indicated extended personal leave.

Post-cleansing yielded 234 valid low-season samples and 270 valid peak-season samples. Reliability and validity tests were subsequently conducted on each dataset. Reliability was assessed using Cronbach's α coefficient and composite reliability, while validity was examined through confirmatory factor analysis to evaluate structural validity. Results indicated that Cronbach's α coefficients for all scales exceeded 0.7 and composite reliability exceeded 0.8 in both low and peak season surveys, demonstrating robust internal consistency across different cycles. All fit indices from confirmatory factor analysis ($\chi^2/df=2.312 < 3$, GFI=0.883 > 0.8, NFI=0.892 > 0.8, CFI=0.921 > 0.9, RMSEA=0.072 < 0.08) all met ideal standards, confirming stable construct validity. Both survey datasets demonstrated high reliability and validity. Specific demographic characteristics of the questionnaire respondents are presented in Table 1.

As Table 1 demonstrates, the distribution of demographic characteristics including gender, age, marital status, educational attainment, and years of service remains highly consistent between the peak and low season samples. Specifically, women constitute approximately 52% in both samples, participants aged 31–50 account for over 70% in each, married participants represent 88.1% in both, those with junior secondary or senior secondary/technical college exceed 90%, and staff with over 10 years' service exceed 57% in each. This distribution aligns with the actual composition of front-line production workers across the three factories. The consistency in sample characteristics between the two surveys provides a robust foundation for subsequent analysis, eliminating interference from demographic variations in the validation results.

Table 1 Demographic Characteristics

Category		Low season (n=234)	Low season proportion (%)	Peak season (n=270)	Peak season proportion (%)
Gender	Male	111	47.5	129	47.8
	Female	123	52.5	141	52.2
Age	20-30years old	19	8.2	22	8.1
	31-40years old	87	37.2	101	37.4
	41-50years old	84	35.9	95	35.2
	50years old and above	44	18.8	52	19.3
Marital Status	Married	206	88.1	238	88.1
	Unmarried	28	11.9	32	11.9
Education	Junior Secondary	128	54.7	147	54.4
	Senior Secondary or Technical College	88	37.6	100	37
	College or above	18	7.7	23	8.5
Years of work experience	Under 5 years	48	20.5	57	21.1
	6-10 years	50	21.4	59	21.9
	Over 10 years	136	58.1	154	57

To clearly present the distribution characteristics of core variables, this study employs descriptive statistics for each key variable. Statistical indicators include maximum, minimum, mean, variance, with specific results presented in Table 2 below. Overall, the mean values for peak season well-being, job demands, work-family conflict, and turnover intentions were slightly higher than in the low season, while the mean fatigue level remained largely unchanged. This reflects the minor impact of high job demands during peak seasons on certain outcome variables.

This study employs data from the low season as its primary source. The selection is primarily due to the distinct variance characteristics of each variable. During peak season surveys, the average weekly working hours for participating employees predominantly exceeded 56 hours, as illustrated in Figure 3. This resulted in minimal variation, making it difficult to distinguish the impact of different working hour levels on other variables and leading to insufficient statistical power. However, during the low season, the working hours of surveyed participants varied considerably, including a range from standard working hours to moderate overtime. This greater variability facilitates clearer identification of the differential effects of different working hour variables on outcome variables such as fatigue and well-being. Consequently, the low season data was primarily selected as the main data source for this study. This approach is then combined with peak season data to conduct experimental designs, thereby validating the aforementioned inferences.

Table 2 Descriptive Statistics for Questionnaire Data Across Peak and Low Seasons

	Variable	N	Min	Max	Average	SD
Low season	Well-being	234	2.500	6.890	4.888	0.852
	Job demands	234	2.000	5.000	3.314	0.504
	Work-family conflict	234	1.000	6.330	3.841	1.109
	Turnover intentions	234	1.000	10.000	5.516	1.962
	Fatigue	234	1.000	5.000	2.465	0.859
Peak season	Well-being	270	2.220	7.000	5.015	0.865
	Job demands	270	1.600	5.000	3.351	0.517
	Work-family conflict	270	1.000	7.000	3.906	1.243
	Turnover intentions	270	1.000	10.000	5.707	2.179
	Fatigue	270	1.000	5.000	2.470	0.855

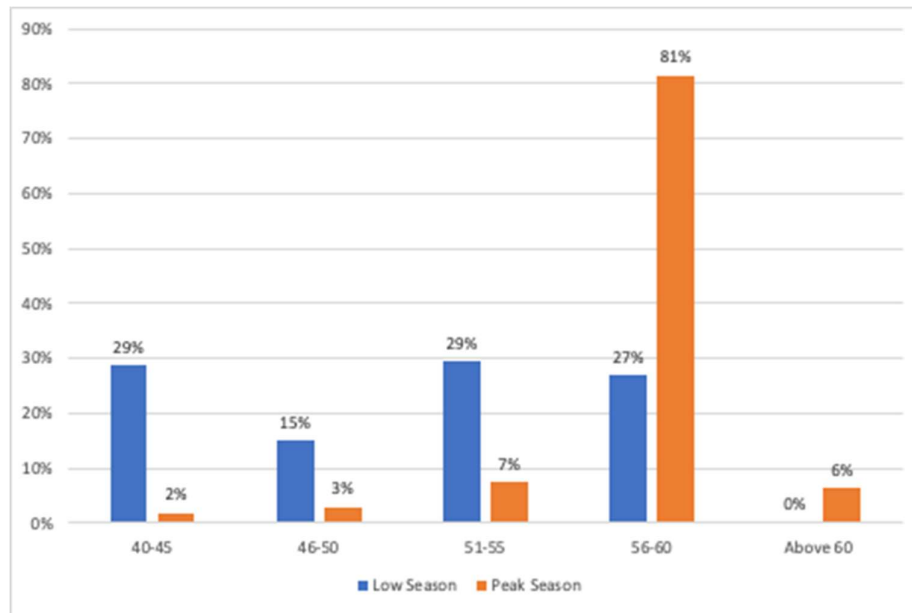


Figure 3: Comparison of Working Hours Distribution Between Low and Peak Seasons (%)

3.5.4 Pilot Study

A pilot study with a preliminary questionnaire survey was conducted on a small scale in November 2024, involving 50 randomly selected front-line workers from this organization. 45 completed questionnaires were retrieved. Reliability testing revealed the following Cronbach's α coefficients for the employed scales: job demands scale (0.815), well-being scale (0.853), work-family conflict scale (0.824), fatigue scale (0.831), and turnover intentions scale (0.794). All coefficients exceeded 0.500, indicating satisfactory internal consistency for the scales. Exploratory factor analysis revealed factor loadings ranging from 0.612 to 0.845, exceeding 0.600 and meeting the structural validity criteria for this questionnaire. Based on pre-test feedback, two ambiguously worded items were removed, and three items underwent corresponding revisions before finalizing the formal survey questionnaire.

The formal questionnaire comprises seven sections:

Section One: Basic Information (8 items) covers demographic and occupational characteristics including gender, age, marital status, residence, children, household registration, years of service, educational attainment, monthly income, and job type.

Section Two: working hours (4 items) addresses working time statistics, willingness to work overtime outside scheduled hours, motivations for overtime, and related remuneration.

Section Three: job demands (5 items), assessing work pace, effort required, and workload intensity.

Section Four: well-being (18 items), exploring well-being in life and work alongside future outlooks.

Section Five: work-family conflict (6 items), measuring the impact of work on family life.

Section Six: fatigue levels (3 items), examining fatigue experiences and their causes.

Section Seven: turnover intentions (3 items), exploring the likelihood of intending to leave or having already left.

Each dimension has corresponding scoring criteria, enabling accurate measurement of an individual's actual circumstances.

3.6 Method for Qualitative Study

3.6.1 Data Collection strategy

Semi-structured interview is used to collect qualitative data for this study. Semi-structured interview allows the researchers to be open-minded and not pre-assumed conclusions. Then concepts and theories can be emerged out of the data (Bell et al. 2022, p11).

In this study, 30 semi-structured interviews were conducted to obtain the interpretation of the respondents in the form of their thoughts. These data help to explain the impact on working hours and job demands on the employee outcomes from the perspective that knowledge is contextual and constructed. The reality is subjectively interpreted (Ali 2018 p83).

For the interviews, the researcher randomly contacted workers during their break times and ask if they are willing to participate in the study. Once they agree, prior to the interview, a consent form and a participant information sheet outlining the project are provided. Interviewees were informed that they can terminate the interview at any time and withdraw their interview data within one month.

30 representative front-line factory workers were selected for in-depth interviews, with specific details presented in Table 3. All the participants were recruited from the company mentioned above. The interviews were conducted over a six-month period and each interview ranged from 15 minutes to 50 minutes. All of the interviews were conducted face to face. All the interviews were conducted in quiet rooms in their factories. Approval from factory management was obtained before the interviews. Prior to the interview, the participants were encouraged to be open and honest, reminded of confidentiality, and informed that there were no standard answers. The purpose and nature of the study were also introduced to the participants.

Each interview contained 10 prepared questions and some follow-up and probing questions. The follow-up and probing questions were asked when the participants had not explained their

answers clearly. Normally they were "why", "what", "how" questions. For example: "Why do you think like that?" "What do you think about it?" "How do you see it?" etc.

Face-to-face interviews were conducted in designated break areas within the company, selected for their suitability as conversation spaces. This proximity fostered a sense of closeness, enabling more candid discussions on sensitive topics such as "family debt" and "conflicts with spouses over overtime", thereby reducing participants' reserve. The entire interview process was recorded via audio. Throughout the interviews, the interviewer maintained a neutral and empathetic stance, posing follow-up questions based on the prepared outline. For instance, when a respondent stated they were "willing to work overtime", the interviewer probed further: "Would you still choose to work overtime if your parents or children fell ill and you needed to care for them, or if you felt unable to adequately fulfil your parental responsibilities?" This approach delved beyond observable behavior to the underlying contexts. When addressing "work dissatisfaction", the interviewers explored both temporal and intensity aspects through precise probing to pinpoint core variables in each case. Post-interview, recordings were transcribed within 24 hours, strictly adhering to qualitative research protocols, yielding approximately 3,000 words per transcript. This process generated nearly 90,000 words of qualitative data.

3.6.2 Data Analysis

This study adopted thematic analysis to analyze the interview data. Thematic analysis is a widely used qualitative data analysis method that is easy to understand and theoretically flexible. It can also be applied to different epistemological and ontological positions (Braun and Clarke 2006). Thematic analysis is suitable for this study for the following reasons:

Firstly, thematic analysis should be regarded as a foundational method of qualitative analysis. It is the first qualitative analysis method that researchers should learn, because it provides core skills that facilitate the implementation of many other forms of qualitative analysis (Braun and Clarke 2006). As a beginner in qualitative research analysis, the author finds thematic analysis more suitable than other alternative methods.

Secondly, it can be used to identify patterns in participants' thoughts, feelings, behaviors, and experiences (Clarke 2017). This study aimed to identify patterns in how participants perceive the impacts of working hours and job demands on well-being, work-family conflict, and turnover intentions, which aligns perfectly with the function of thematic analysis.

Analysis Details

Qualitative data analysis employed thematic analysis following the six-step procedure proposed by Braun and Clarke (2006): familiarization with data, initial coding, theme identification, theme validation, theme definition, and report generation. An inductive coding approach was adopted, and by integrating perspectives from multiple information sources within each case, information bias was minimized to the greatest extent and data quality was enhanced. Subsequently, axial coding was conducted to synthesize the first-level codes into new sub-themes, so as to identify patterns, correlations and connections within the cases. Then, combining the research theme, the author grouped the sub-themes under the overarching research theme. For issues that could not be categorized under the existing research theme but were commonly mentioned by the interviewees, the author summarized them into new standalone themes.

To enhance credibility, the author shared the preliminary findings with three interviewees to verify the accuracy and resonance of the interpretations. Meanwhile, an insider-outsider approach was employed to triangulate the study's data and perspectives. As an insider, the author has 19 years of working experience in enterprises similar to those in China's

Table 3 Interviewee Information

No.	Age	Gender	Position	Citizenship	No. of kids	Length of service(year s)	Education
1	48	M	Operator	Local	2	22	Technical school
2	43	F	Leader	Local	1	26	Junior middle school
3	49	F	Packer	Local	1	9	Junior middle school
4	47	F	Packer	Local	1	9	Junior middle school
5	40	F	Packer	Not local	2	15	Junior middle school
6	45	F	Packer	Local	1	10	Junior middle school
7	40	M	Operator	Not local	2	1.5	Technical school
8	42	M	Operator	Local	1	20	Junior middle school
9	40	F	Packer	Local	2	16.5	Junior middle school
10	42	M	Operator	Local	2	20	Technical school
11	47	F	Operator	Local	2	25	Junior middle school
12	40	M	Operator	Local	1	7	Technical school
13	25	M	Trainee	Not local	0	0.5	Junior college
14	38	M	Operator	Local	2	18	Technical school
15	38	F	Packer	Not local	1	0.5	Junior middle school
16	50	F	Packer	Local	2	17	Junior middle school
17	40	F	Packer	Local	1	0.5	Junior middle school
18	36	M	Operator	Local	2	8	Technical school
19	48	M	Operator	Not local	2	7	Junior middle school
20	43	F	Packer	Local	1	12	Junior middle school
21	49	F	Operator	Local	1	11	Junior middle school
22	46	F	Operator	Local	1	10	Junior middle school
23	28	M	Operator	Local	1	0.5	Technical school
24	40	M	Operator	Local	2	0.5	Junior middle school
25	42	F	QC	Local	1	8	Junior middle school
26	33	M	Operator	Local	1	13	Junior middle school
27	40	F	Packer	Local	1	22	Junior middle school
28	39	M	Operator	Not Local	2	17	Junior middle school
29	49	F	Packer	Not Local	1	8	Junior middle school
30	42	M	Operator	Local	1	8	Junior middle school

manufacturing industry. In addition, the author shared the preliminary findings with two corporate managers from different industries to validate the logic and rationality of the results. This approach effectively reduced biases and achieved a combination of industry-specific insights and neutral perspectives.

Despite the differences among interviewees in terms of family background, financial status, job type and other aspects, all participants demonstrated a high degree of consistency in their motivations for working overtime, which enhanced the transferability of the research findings.

3.7 Other Data Collection Methods

For the purpose of triangulation, with the assistance of the company's management, this thesis obtained the company's 2024 employee turnover data. The researcher also held discussions with the company's human resources staff to acquire first-hand information regarding employee resignations. Through the analysis of turnover data, the causes of resignations were classified and statistically analyzed. The statistical results can be used to further verify the findings derived from both quantitative and qualitative research.

3.8 Ethical Considerations

The pilot study and main study of this thesis have strictly followed the GDPR (General Data Protection Regulation) guidelines of the University of Stirling. Prior to the fieldwork, an ethical application was submitted to GUEP (General University Ethics Panel), and ethical approval was granted.

For the data collection, both the survey questionnaire and interview questions clearly stated the purpose and related risks. No vulnerable groups were involved in the study (e.g., children, disabled individuals, minorities). No sensitive topics or discussions were involved in the study (e.g., illegal immigrants, political issues).

All participants were contacted informally. Confidentiality and anonymity were clearly communicated to the participants so that they would not feel threatened or unsafe during their participation. A participant information sheet—which includes an introduction to the study, rationale for confidentiality, anonymity, obligation to participate, audio-recorded media (interview only), dissemination, and contact information (See Appendix B, C)—and a consent form (See Appendix D, E) were prepared.

For the questionnaire survey, the electronic copies of the participant information sheets and consent forms were shown to participants, and their confirmation was obtained before they filled out the questionnaires. For the interview, the hard copies of the participant information sheets and consent forms were shown to the participants, and their agreement was obtained before the interview.

The key ethical considerations are illustrated as follows: a) No harm: Any harm to the people involved in the study was avoided. People's dignity was always maintained. There was no discrimination against any person in terms of their religion, culture, ethnicity, or gender. b) Confidentiality and anonymity: During the questionnaire survey and interview, no names, birthdays, or contact details were collected. All identifiable data were replaced with fictitious names or numbers. No real names were shown during any processes. c) Personal privacy protection: Only personal data that was necessary was processed and was pseudonymized to comply with GDPR. It was stored on the relevant University secure server. Audio recordings were destroyed once the analysis was complete or once transcribed. Interview transcripts and notes (with pseudonyms and identifiable information removed or altered) were stored on the university secure servers. The anonymized data was shared within the research team but was always stored on the respective university secure servers. For the participants who were interested in the research results, I shared the research results in the WeChat group, and they could also contact me through the email address provided in the participant information sheet. No email addresses were collected for this research. d) Responsibility of participants: There were no obligations for the participants to take part. They were allowed to withdraw at any time without providing any reason. Their agreements were obtained before the questionnaire survey and interview. The researcher also provided opportunities for the participants to ask questions. The data collection was not carried out without the participants' approval and permission. e) Integrity and plagiarism avoidance: All study results were reported honestly. All sources of others' work and ideas were acknowledged. The falsification of results and other kinds of academic misconduct were fully avoided according to the University of Stirling's ethical conduct guidelines.

Chapter 4: Findings

4.1 Introduction to the Chapter

This chapter presents the research findings through three primary data sources. First, it analyzes actual employee turnover data from the case company, briefly presenting and examining its records from the past year. This section primarily serves as a triangulation for the quantitative and qualitative results. Second, it reports the quantitative findings derived from questionnaire surveys. The data were analyzed using descriptive statistics and hypothesis testing methodologies. Third, it details the qualitative findings obtained through interviews, employing thematic analysis to interpret the collected responses. Finally, combining the findings of qualitative and quantitative research, this paper expounds in what ways qualitative evidence confirms, explains, complements and challenges the statistical results, and reveals the limitations of quantitative measurement tools, thus showing how the design of mixed research methods can produce insights beyond the single method.

4.2 Turnover Data Analysis of the Company

Table 1 Turnover Data of Case Company in 2024

Category	Quantity	Percentage
Family	12	20%
Change job	10	17%
Night shift	9	15%
Health	8	13%
Low income	8	13%
Environment	6	10%
Job demands	4	7%
Other	3	5%
Grand Total	60	100%

There were 60 workers who resigned in 2024 out of a total of 570 workers in the company. The turnover rate is 10.5%.

20% (12) of them resigned due to family reasons. Eight of them resigned to look after children. Three of them resigned to look after elders. One resigned due to immigration. From those who resigned to look after family members, it can be assumed that this was partially caused by work-family conflict. According to the detailed records, the one who resigned for immigration

did so because she could get much higher pay at the immigration destination. It can be assumed that the root cause was low income.

17% (10) of them resigned due to changing jobs. The detailed reasons are incomplete, although the HR personnel said that most of them changed jobs due to night shifts and low income.

15% (9) of them resigned due to night shifts. Night shifts are a special work arrangement that can be treated as a job demand. People don't want to take night shifts due to health issues. Frequent shift changes cause fatigue. The company's shift pattern involves changing shifts once per week. Compared to other companies, the shift change frequency is high. According to the HR personnel, there used to be surveys to see if workers would prefer fewer shift changes. However, the results showed they did not. Most long-tenure workers have already gotten used to the pattern and are reluctant to change.

13% (8) resigned due to low income. Six of them resigned during the low season. Two of them clearly mentioned that low income was caused by insufficient overtime pay. Generally, the workers' salaries at the company are low. The average salary is 6,200 RMB, compared to China's 2024 average salary of 124,110 RMB(National Bureau of Statistics 2024)(国家统计局, 城镇非私营单位就业人员平均工资). 40% of their income is base salary, 40% is overtime pay, and 20% is bonus. Overtime pays account for a relatively large percentage of their total income. This can partially explain why they are keen to work overtime.

7% (4) resigned due to high job demands. Three of them mentioned that the job demands were too high. They cited excessive workload and prolonged standing time. Three of them were packers. Compared to operators, packers have higher job demands. They need to pack bags from the machine into cartons at the machine's speed, check quality, and palletize the cartons. According to the HR personnel, when some candidates saw the workload, they chose not to join.

4.3 Findings of Quantitative Study

In this chapter, analytical tools such as Excel, SPSS 27 and the PROCESS v3.2 plugin are utilized to analyze the data collected in this thesis.

4.3.1 Overtime and Overtime Willingness

Prior to the scale questions in the questionnaire, this thesis incorporated a set of questions pertaining to front-line manufacturing workers' overtime hours and overtime willingness, which were designed to investigate workers' overtime hours, overtime willingness, overtime

motivations, and the impact of overtime work on their income. There was a total of four such questions, specified as follows: 1. What are your average working hours per week in recent weeks? 2. To what extent are you willing to work overtime when needed? 3. What motivates you to work overtime? (Multiple selections allowed) 4. Does working overtime result in higher pay for you? For subsequent data analysis, the survey data collected during the low season were selected, and the key findings are presented as follows:

1, What are your average working hours per week in recent weeks(hours).

Table 2 :Weekly Working Hours

Working hours	Quantity	Percent
40-45	67	28.6%
46-50	35	15.0%
51-55	69	29.5%
55-60	63	26.9%

Question 1 revealed that even in low season, workers' weekly working hours far exceeded the statutory limits, with 71.4% of workers reporting weekly working hours of over 45 hours. This finding aligns with the general working context of China's manufacturing industry, indicating that overtime work has become a normalized state for front-line manufacturing workers. Subject to the regulatory cap of 60 hours on maximum weekly working hours, the workers' maximum actual weekly working hours were limited to 60 hours.

2, To what extent are you willing to work overtime when needed?

Table 3 :Willingness of Overtime Work

Willingness	Quantity	Percent
Not at all willing	0	0.0%
Slightly willing	9	3.8%
Moderately willing	47	20.1%
Very willing	135	57.7%
Extremely willing	43	18.4%

Question 2 indicated that workers showed an extremely high level of acceptance and willingness on overtime, with no significant resistance which is a distinctive characteristic that

differentiates front-line manufacturing workers from general employees. Overtime willingness followed a distribution featured by "no resistance and a predominance of high willingness": 0% of respondents selected "Not at all willing" to work overtime, which implies that all surveyed workers were receptive to overtime work to varying degrees. High overtime willingness constituted the mainstream attitude among the group, with the combined proportion of workers who chose "Very willing" and "Extremely willing" reaching 76.1% (57.7% + 18.4%). Among these, the proportion of those selecting "Very willing" exceeded half, forming the core group with regard to positive overtime willingness. Only 23.9% of workers held moderate to low overtime willingness (3.8% "Slightly willing" + 20.1% "Moderately willing"), and no workers demonstrated negative aversion to overtime work. This resulted in an overall highly positive tendency in overtime willingness among the surveyed group.

3, What motivates you to work overtime? (Select all that apply)

Table 4 : Motivation of Overtime Work

Motivations	Quantity	Percent
Higher pay	215	91.9%
To meet job demands and deadlines	78	33.3%
Sense of duty or responsibility	52	22.2%
Personal satisfaction in completing tasks	52	22.2%
Pressure from management or coworkers	17	7.3%

Question 3 was a multiple-choice question, and its findings indicated that the overtime motivations of front-line manufacturing workers were highly concentrated: economic factors constituted the core motivator for their overtime behavior, while factors such as duty or responsibility and task demands served only as secondary ones. Higher pay was the most dominant motivation for working overtime, with a selection rate of as high as 91.9% which far exceeding all other motivations, and this was the primary reason for the surveyed workers to choose overtime. Work task-related motivations acted as secondary supplements: To meet job demands and deadlines was the second prominent motivation at 33.3%; A sense of duty or responsibility and personal satisfaction in completing tasks shared the same selection rate of 22.2%, suggesting that the workers possess certain work engagement while pursuing income gains. The proportion of passive overtime was extremely low, with only 7.3% of respondents selecting pressure from management or coworkers. This demonstrates that the overtime

behavior of the surveyed workers is primarily an active choice, rather than a passive acceptance under external pressure.

4, Does working overtime result in higher pay for you?

Table 5 Impact of Overtime Work to Pay

Impact on Pay	Quantity	Percent
Yes, significantly	174	74.4%
Yes, but only slightly	59	25.2%
No, it has no effect on my pay	1	0.4%

Question 4 indicated that the findings on the income effect of overtime provided a clear explanation for workers' high overtime willingness and income-driven overtime motivations and also confirmed the strong correlation between overtime work and pay increment among front-line manufacturing workers. Specifically, the positive income impact of overtime work extended to nearly all surveyed workers: 99.6% of them stated that overtime work led to higher pay (74.4% a significant increase in pay + 25.2% a slight increase in pay), while only 0.4% of them reported that overtime work had no impact on their income. The pursuit of higher income serves as the practical foundation for workers' overtime behavior and also acts as the core incentive for workers to voluntarily accept overtime and bear long working hours.

To summarize the above findings, the key conclusions are as follows: 1. Long working hours have become a normal working state for the surveyed front-line manufacturing workers. 2. Front-line manufacturing workers show an extremely high level of initiative in their willingness to work overtime, with no group holding subjective resistance to overtime work; over 70% of workers have a high willingness to work overtime, which is a typical characteristic distinguishing this group from general enterprise employees. 3. Economic incentives constitute the absolute core factor driving front-line workers to work overtime, while professional responsibility and task completion demands only serve as secondary supplements, and the phenomenon of passive overtime work is extremely rare. 4. Overtime work can significantly increase the income of front-line manufacturing workers: nearly all workers can achieve income growth through overtime work, and over 70% of them have realized a significant increase in their income.

4.3.2 Reliability and Validity Tests

From the results of reliability test, the reliability of the variables for job demand, well-being, work-family conflict, fatigue and turnover intentions, are 0.668, 0.942, 0.909, 0.908 and 0.881, which are all higher than the standard value of 0.5. This reflects that the measurement of variables in this paper has good reliability. For discrimination validity, this paper makes an exploratory factor analysis of five variables involved in this paper: job demands, well-being, work-family conflict, fatigue and turnover intentions. The results are shown in Table 6. Results The fitting standard (KMO test is greater than 0.6, Bartlett's test is less than 0.05) was reached, which reflected that the five variables involved in this paper had good discrimination validity.

Table 6 :Reliability and Validity Tests Results

Variables	KMO test	Bartlett's test	Chi-square	Df.
Job Demands	0.660	0.00	269.699	10
Well-being	0.935	0.00	3079.519	171
Work-Family Conflict	0.862	0.00	980.003	15
Fatigue	0.741	0.00	476.991	3
Turnover Intentions	0.737	0.00	386.806	3

4.3.3 Descriptive Statistical Analysis

Working hours were significantly negatively related to well-being ($r = -0.20$, $p < 0.01$); working hours were significantly positively related to turnover intentions ($r = 0.12$, $p < 0.05$); working hours were significantly positively related to fatigue ($r = 0.15$, $p < 0.05$); job demands were significantly positively related to work-family conflict ($r = 0.35$, $p < 0.01$); job demands were significantly positively related to turnover intentions ($r = 0.26$, $p < 0.01$); job demands were significantly positively related to fatigue ($r = 0.31$, $p < 0.01$), well-being was significantly negatively related to work-family conflict ($r = -0.21$, $p < 0.01$); well-being was significantly negatively related to turnover intentions ($r = -0.26$, $p < 0.01$); well-being was significantly negatively related to fatigue ($r = -0.35$, $p < 0.01$); work-family conflict was significantly positively related to turnover intentions ($r = 0.36$, $p < 0.01$); work-family conflict was significantly positively related to fatigue ($r = 0.39$, $p < 0.01$); fatigue was significantly positively related to turnover intentions ($r = 0.25$, $p < 0.05$). These findings provide preliminary support for subsequent hypothesis testing.

Table 7 :Means, Standard Deviations, and Intercorrelations Among Variables (Low Season)

Variable	Mean	Std. Dev.	1.Gender	2.Age	3.Working Hours	4.Job Demands	5.Well-being	6.Work- Family Conflict	7.Turnover intentions
1.Gender	1.53	0.5							
2.Age	4.75	1.61	0.49**						
3.Working Hours	3.55	1.17	-0.01	0.02					
4.Job Demands	3.31	0.50	0.05	0.28**	0.04				
5.Well-being	4.85	0.82	0.27**	0.31**	-0.20**	-0.02			
6.Work- Family Conflict	3.90	1.08	-0.13*	-0.04	0.08	0.35**	-0.21**		
7.Turnover intentions	5.56	1.64	-0.14*	-0.07	0.12*	0.21**	-0.26**	.36**	
8.Fatigue	2.45	0.79	-0.20**	-0.03	0.15*	0.31**	-0.35**	.39**	.25**

N=234, ** Significant level is 0.01, * Significant level is 0.05

Harman's single-factor test was used to assess common method bias. The results of the unrotated principal component factor analysis revealed seven factors with eigenvalues greater than 1. The first factor accounted for 17.57% of the total variance, which is below the critical threshold of 40%. These findings indicate that common method bias does not pose a serious concern in this study.

4.3.4 Hypothesis Testing

As shown in Table 3, after controlling for gender and age:

In Model 2 (M2), working hours showed a significant negative impact on well-being ($\beta = -0.140$, $p < 0.01$), supporting Hypothesis H1.

In Model 7 (M7), working hours did not show a significant positive impact on work-family conflict ($\beta = 0.070$, $p > 0.1$), failing to support Hypothesis H2.

In Model 12 (M12), working hours did not show a significant positive impact on turnover intentions ($\beta = 0.166$, $p > 0.05$), fail to support Hypothesis H3.

In Model 4 (M4), job demands did not show a significant negative impact on well-being ($\beta = -0.165$, $p > 0.1$), failing to support Hypothesis H4.

In Model 9 (M9), job demands showed a significant positive impact on work-family conflict ($\beta = 0.827$, $p < 0.01$), supporting Hypothesis H5.

In Model 14 (M14), job demands showed a significant positive impact on work-family conflict ($\beta = 0.785$, $p < 0.01$), supporting Hypothesis H6.

After introducing the mediator variable (fatigue):

In Model 3 (M3), the negative impact of working hours on well-being decreased from $\beta = -0.140$ ($p < 0.01$) to $\beta = -0.108$ ($p < 0.01$), with the bootstrap 95% confidence interval for the indirect effect being $[-0.0632, -0.0039]$ (excluding zero, as shown in Table 4), indicating a significant mediating effect of fatigue and supporting Hypothesis H7a.

In Model 13 (M13), the positive effect of working hours on turnover intentions decreased from $\beta = 0.166$ ($p < 0.05$) to $\beta = 0.122$ ($p > 0.1$), with the bootstrap 95% confidence interval being $[-0.0041, -0.1033]$ (excluding zero, as shown in Table 5), indicating a significant mediating effect of fatigue and supporting Hypothesis H7c.

In Model 10 (M10), the positive effect of job demands on work-family conflict decreased from $\beta = 0.827$ ($p < 0.01$) to $\beta = 0.623$ ($p < 0.01$), with the bootstrap 95% confidence interval being $[0.0864, 0.3555]$ (excluding zero, as shown in Table 6), indicating a significant mediating effect of fatigue and supporting Hypothesis H7e.

In Model 15 (M15), the effect of job demands on turnover intentions decreased from $\beta = 0.785$ ($p < 0.01$) to $\beta = 0.599$ ($p < 0.01$), with the bootstrap 95% confidence interval being $[0.0389, 0.3686]$ (excluding zero, as shown in Table 7), indicating a significant mediating effect of fatigue and supporting Hypothesis H7f.

Table 8 :Impacts of Working Hours/Job Demands on Well-being/Work-Family Conflict/Turnover Intentions

Category	Predictor	Well-being					Work-Family Conflict					Turnover Intentions					Fatigue		
		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18
—	(Constant)	3.904***	4.396***	5.180***	4.398***	4.841***	4.284***	4.037***	2.763***	1.810***	1.300***	6.270***	5.682***	4.570***	3.921***	3.459***	2.831***	2.463***	1.280***
	Control Variables	Gender	0.242**	0.233**	0.114	0.223*	0.112	-0.315*	-0.311**	-0.117	-0.219	-0.091	-0.498*	-0.435*	-0.266	-0.354	-0.238	-	-
Independent Variables	Age	0.122***	0.126***	0.140***	0.140***	0.137***	0.021	0.019	0.003	-0.066	-0.063	0.007	-0.010	-0.030	-0.088	-0.085	0.490	0.043	-0.008
	Working Hours	-	-	-	-	-	-	0.070	0.019	-	-	-	0.166*	0.122	-	-	-	-	-
	Job Demands	-	0.140***	0.108***	-	-0.165	0.012	-	-	0.827***	0.623***	-	-	-	0.785***	0.599**	-	-	0.512***
Mediator	Fatigue	-	-	-	-	-	-	-	0.517***	-	0.399***	-	-	0.451***	-	0.361***	-	-	-
Model Fit	R ²	0.114	0.154	0.318***	0.124	0.346***	0.018	0.024	0.141	0.151	0.223	0.020	0.034	0.079	0.073	0.099	0.046	0.068	0.142
Model Fit	ΔR ²	0.114	0.039	0.086	0.009	0.093	0.018	0.006	0.132	0.133	0.072	0.020	0.014	0.044	0.053	0.026	0.046	0.022	0.096
Model Fit	F	14.92***	13.94***	18.07***	10.80***	15.85***	2.12	1.87	10.54***	13.60***	16.40***	2.33*	2.71**	4.88***	6.00***	6.28***	5.53***	5.56***	12.70***

Note: N = 234. Regression coefficients (β) are reported. Gender and age are controlled in all models.

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 9 :Mediating Effect Analysis of Fatigue on the Impact of Working Hours on Well-being

Mediating Effect	Coefficient		95% Confidence Interval	
	Effect	Se	LLCI	ULCI
Mediating Effect of Fatigue (Indirect effect)	-.0316	.0154	-.0644	-.0053
Impact of working hours on Well-being (Direct effect)	-.1080	.0409	-.1886	-.0273
Total Effect	-.1396	.0426	-.2235	-.0556

Table 10 : Mediating Effect Analysis of Fatigue on the Impact of Working Hours on Turnover Intentions

Mediating Effect	Coefficient		95% Confidence Interval	
	Effect	Se	Effect	Se
Mediating Effect of Fatigue (Indirect effect)	.0448	.0256	.0044	.1025
Impact of working hours on Turnover Intentions (Direct effect)	.1215	.0889	-.0537	-.2968
Total Effect	.1663	.0898	-.0106	.3432

Table 11 : Mediating Effect Analysis of Fatigue on the Impact of Job Demands on Work-Family Conflict

Mediating Effect	Coefficient		95% Confidence Interval	
	Se	Effect	Se	Effect
Mediating Effect of Fatigue (Indirect effect)	.2044	.0668	.08882	.3510
Impact of job demands on Work-Family Conflict (Direct effect)	.6226	.1395	.3477	.8976
Total Effect	.8270	.1380	.5551	1.0989

Table 12 : Mediating Effect Analysis of Fatigue on the Impact of Job Demands on Turnover Intentions

Mediating Effect	Coefficient		95% Confidence Interval	
	Se	Effect	Se	Effect
Mediating Effect of Fatigue (Indirect effect)	.1852	.0824	.0373	.3672
Impact of job demands on Turnover Intentions (Direct effect)	.5994	.2259	.1543	1.0445
Total Effect	.7846	.2168	.3575	1.2117

The testing results are summarized as Table 13.

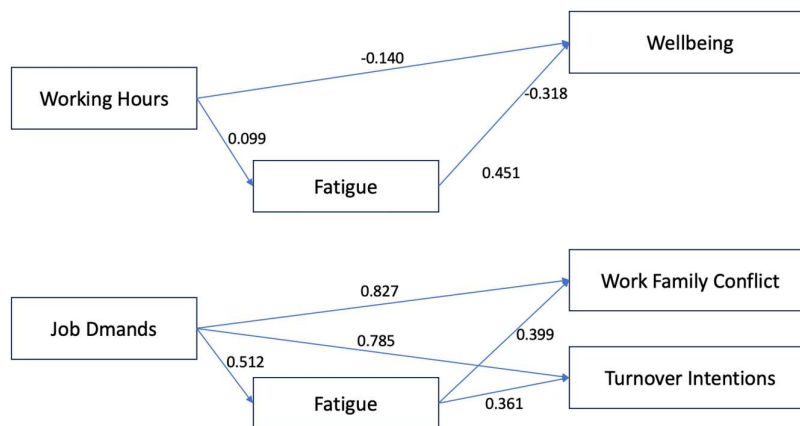


Figure 4 : Theoretical Model (Only show significant impacts)

Table 13 : Summary of Hypothesis Testing

Hypothesis	Significant or not
H1, working hours have a negative impact on well-being of front-line manufacturing workers.	Significant
H2, working hours have a positive impact on work-family conflict of front-line manufacturing workers.	Not significant
H3, working hours have a positive impact on turnover intentions of front-line manufacturing workers.	Not significant
H4, job demands have a negative impact on well-being of front-line manufacturing workers.	Not significant
H5, job demands have a positive impact on work-family conflict of front-line manufacturing workers.	Significant
H6, job demands have a positive impact on turnover intentions of front-line manufacturing workers.	Significant
H7a: Fatigue mediates the impact of working hours on well-being of front-line manufacturing workers.	Significant
H7b: Fatigue mediates the impact of working hours on work-family conflict of front-line manufacturing workers.	N/A
H7c: Fatigue mediates the impact of working hours on turnover intentions of front-line manufacturing workers.	Significant
H7d: Fatigue mediates the impact of job demands on well-being of front-line manufacturing workers.	N/A
H7e: Fatigue mediates the impact of job demands on work-family conflict of front-line manufacturing workers.	Significant
H7f: Fatigue mediates the impact of job demands on turnover intentions of front-line manufacturing workers.	Significant

The statistically significant theoretical model, as validated through hypothesis testing, is presented in Figure 2.

4.3.5 Result Validation

The validation was conducted using peak-season data. There were 270 valid questionnaires in peak season, including 125 males (45.5%) and 145 females (54.5%). By age, there were 30 people aged 20-30, accounting for 11.1%, 98 people aged 31-40, accounting for 36.3%, 92 people aged 41-50, accounting for 34.1%, and 50 people over 50, accounting for 18.5%. Marriage status shows that 232 people are married, accounting for 85.9%, and 38 people are unmarried, accounting for 14.1%; Education level shows that there are 138 junior high school students, accounting for 51.1%, 112 senior high school students or technical secondary school students, 41.5%, 19 junior college students, accounting for 7%, and 1 undergraduate or above, accounting for 0.37%. Descriptive statistical results are shown in Table 14. Hypothetical test results are shown in Table 15.

Table 14 : Means, Standard Deviations, and Intercorrelations Among Variables (Peak Season)

Variable	Mean	Std. Dev.	1.Gender	2.Age	3.Working Hours	4.Job Demands	5.Well-being	6.Work-Family Conflict	7.Turnover intentions
1.Gender	1.54	0.5							
2.Age	4.60	1.79	.49**						
3.Working Hours	4.87	0.639	-.032	0.05					
4.Job Demands	3.36	0.50	-.048	.026	.013				
5.Well-being	4.97	0.85	.18**	.25**	-.096	-.112			
6.Work-Family Conflict	3.95	1.22	-.084	-.053	.050	.38**	-.31**		
7.Turnover intentions	5.90	1.97	-.041	-.017	.12*	.27**	-.29**	.42**	
8.Fatigue	2.51	0.86	-.014	.032	.074	.27**	-.32**	.47**	.42**

N=270, **Significant level is 0.01, * Significant level is 0.05

Table 15 : Impacts of Working Hours/Job Demands on Well-being/Work-Family Conflict/Turnover Intentions (Peak Season)

Category	Predictor	Well-being					Work-Family Conflict					Turnover Intentions					Fatigue		
		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18
Control Variables	(Constant)	4.274***	4.828***	5.464***	4.934***	5.241***	4.297***	3.853***	2.497***	1.188**	0.624	6.142***	4.284***	2.396**	2.549***	1.713**	0.977***	1.269***	0.977**
	Gender	0.123	0.121	0.100	0.107	0.097	-0.187	-0.186**	-0.140	-0.112	-0.094	-0.173	-0.168	-0.105	-0.087	-0.059	-0.032	-0.335**	-0.032**
	Age	0.111***	0.109***	0.118***	0.115***	0.120***	0.011	0.010	-0.029	-0.029	-0.039	0.005	-0.012	-0.015	-0.016	-0.031	0.018	-0.005	-0.018
Independent Variables	Working Hours		-0.111	-0.079				0.089	0.021				0.374**	0.279				-	
	Job Demands				-0.195*	-0.053				0.917***	0.658***				1.060***	0.676***		0.516***	0.449***
Mediator	Fatigue			-		-			0.679***		0.578***		0.945***		0.856***				
Model Fit	R ²	0.068	0.075	0.318***	0.082	0.174	0.007	0.009	0.235	0.150	0.303	0.002	0.016	0.183	0.075	0.202	0.072	0.008	0.072
Model Fit	ΔR ²	0.068	0.007	0.102	0.013	0.093	0.007	0.002	0.225	0.143	0.153	0.002	0.015	0.166	0.073	0.128	0.070	0.006	0.070
Model Fit	F	9.81***	7.23***	14.24***	7.88***	13.99***	0.97	0.84	20.30***	15.68***	28.79***	0.23	1.47	14.81***	7.14***	16.79***	6.86**	0.70	6.86***

Note: N = 270. Regression coefficients (β) are reported. Gender and age are controlled in all models.

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Validation Summary

The survey results indicate that during peak season, most workers (88%) worked 60 hours or more per week. Comparing the hypothesis testing result between low season data and peak season data, only the testing result of H1 and H3 are different. That is because vast majority of employees (88%) worked 60 hours or more per week in peak season. All the other results are the same as shown in Table 16.

4.3.6 Summary of Quantitative Study

This study proposed hypotheses regarding the impacts of working hours and job demands of front-line manufacturing workers on their well-being, work-family conflict, and turnover intentions, as well as the mediating role of fatigue during these impacts. Through questionnaire surveys, we empirically examined the impacts of working hours and job demands on the well-being, work-family conflict, and turnover intentions.

The findings indicate that:

1. Working hours have a negative impact on the well-being of front-line manufacturing workers.
2. Job demands have a significant positive impact on work-family conflict among front-line manufacturing workers.
3. Job demands have a significant positive impact on turnover intentions among front-line manufacturing workers.
4. Fatigue mediates the relationship between: Working hours and well-being; Working hours and work-family conflict; Working hours and turnover intentions; Job demands and well-being; Job demands and work-family conflict; Job demands and turnover intentions.

The findings have included the impact of working hours and job demands on employee outcomes. While how these impacts occur cannot be explained here. The next section on the findings of qualitative studies can help to answer the question.

Table 16 : Hypothesis Testing Result Comparison

Hypothesis	Significant or not (low season)	Significant or not (peak season)	Different or not
H1, working hours have a negative impact on well-being of front-line manufacturing workers.	Significant	Not significant	Yes
H2, working hours have a positive impact on work-family conflict of front-line manufacturing workers.	Not significant	Not significant	No
H3, working hours have a positive impact on turnover intentions of front-line manufacturing workers.	Not Significant	Significant	Yes
H4, job demands have a negative impact on well-being of front-line manufacturing workers.	Not significant	Not significant	No
H5, job demands have a positive impact on work-family conflict of front-line manufacturing workers.	Significant	Significant	No
H6, job demands have a positive impact on turnover intentions of front-line manufacturing workers.	Significant	Significant	No
H7a: Fatigue mediates the impact of working hours on well-being of front-line manufacturing workers.	Significant	Significant	No
H7b: Fatigue mediates the impact of working hours on work-family conflict of front-line manufacturing workers.	N/A	N/A	No
H7c: Fatigue mediates the impact of working hours on turnover intentions of front-line manufacturing workers.	Significant	Significant	No
H7d: Fatigue mediates the impact of job demands on well-being of front-line manufacturing workers.	N/A	N/A	No
H7e: Fatigue mediates the impact of job demands on work-family conflict of front-line manufacturing workers.	Significant	Significant	No
H7f: Fatigue mediates the impact of job demands on turnover intentions of front-line manufacturing workers.	Significant	Significant	No

4.4 Findings of Qualitative Study

The findings of qualitative study demonstrate how working hours and job demands of front-line manufacturing workers impact their well-being, work-family conflict and turnover intentions. Through thematic analysis, the key factors caused these impacts were identified. The themes and representative data were shown in Table 19 (APPENDIX H).

Table 17 Summary of Impact Factors

	Negative Impact Factors	Mitigating Factors	Positive Impact Factors
1. Working Hours and Well-being	• Discretionary time affected by working hours • Fatigue caused by long working hours have negative impact on well-being	• Perceived Sufficient Discretionary Time • High autonomy over working hours	• Increased income caused by long working hours • Cultural factors • Social needs
2. Working Hours and Work-family Conflict	• Time Conflict with family activities • Fatigue caused by long working hours	• Cultural factors • Habituation of long working hours • High autonomy over working hours • Family Support • Individual Circumstances	• Less Housework
3. Working Hours and Turnover Intentions	• Long working hours • Work-family conflict	• Cultural factors • Employer welfare • Economic pressure	• Income affected by working hours
4. Job Demands and Well-being	• High workload • Demanding arrangements	• Perceived proper workload • More income caused by high job demands • Cultural factors	
5. Job Demands and Work-family Conflict	• High workload • Demanding arrangements	• Perceived proper workload • Family support	
6. Job Demands and Turnover Intentions	• High workload	• Perceived proper Workload • Cultural factors	

4.4.1 Working Hours and Well-being

Negative Impact factors

This study found that discretionary time and fatigue affected by working hours are two key factors that negatively affect well-being.

The first factor is discretionary time affected by working hours. Long working hours lead to less discretionary time. Insufficient discretionary time has a negative impact on individual's well-being. It also results in workers lacking time for leisure and pursuing their personal interests. One operator interviewee explained:

"I lack time. If I have time, I can spend time with my family at home, go out to play more on weekends, go shopping or have tea with friends, chat, (...) The impact (on well-being) is certain. If the working hours are short, you could spend more time with your family and so on. But it's impossible. You can't only work eight hours every day (and with good money), can you? You see, if there is such a good job, I'm sure many people want to do it. Anyway, I don't have that condition, so I can't help it, can you?" (O30 Operator)

Another female operator similarly expressed:

"Working hours are too long, so I don't have time to do beauty treatments. Ideally, I would like to have two days off per week and be able to clock out at 4 pm sometimes. But if it were like this, my salary (overtime pay) would be gone. Ideals are just ideals, and reality is different. There may be many people who are richer, so they just think about clocking out at 4 pm. They might not care about how much overtime they can get. If the family is not rich, those people don't think that way." (O25 Operator)

Long working hours occupy workers' discretionary time. The insufficient discretionary time leads to decreased well-being, which is consistent with the findings of study by Wang (2020). However, if working hours are reduced, corresponding income also decreases. Both interviewees mentioned that after their complaint about insufficient discretionary time.

Conversely, fewer working hours lead to more discretionary time. As the company recently reduced the maximum weekly working hours from 66 hours to 60 hours in response to customers' requirements. The maximum weekly working hours for company employees were reduced by 6 hours. When discussing the impact of this change on well-being, three interviewees (P5, P7, P14) mentioned that the reduction in working hours increased their discretionary time, which helps them enjoy family life.

"Working 60 hours a week is ok. 66 hours is unbearable. I like working six days a week. I like having dinner with my family on Sundays. (...) I want to take care of my children and send them to school on Sundays. I hope to work fewer hours on weekends." (P5 Packer)

"It's good to work 60 hours a week as now. I can take care of my children when I go home and have dinner with my family one or two days a week." (P14 Operator)

The reduction in working hours allows workers more time to accompany their families. The companionship with family they mentioned includes having meals together and taking children to and from school. The increase in discretionary time gives them more opportunities to enjoy the sense of well-being from family.

The second factor that exacerbates the well-being is fatigue caused by long working hours. Regarding the change of reduced working hours by six hours per week, two workers mentioned it was a positive change. One packer explained:

"(Working) 60 hours (per week) is good. (Working) 66 hours (per week) is much more tiring. We have to work on different shifts (change from night shift to day shift and change back). You can relax by having an extra six hours (off during shift change)." (P8 Packer)

Another packer expressed the same view:

"It's good to work 60 hours per week. I can go back early two days a week, so I'm not so tired." (P9 Packer)

Another operator mentioned that in specific situations, like challenging jobs and special weather, long working hours lead to fatigue.

"When the new machine first arrived, it needed constant adjustments. That day, I just wanted to leave by 4 pm. When it's this hot, all I can think about is getting off. Honestly, the high temperature is the main issue." (O25 Operator)

Among the 30 interviewees, three mentioned that long working hours cause fatigue. P8 and P9 are both packers. In this company, packing work is relatively the most physically demanding job, requiring continuously repetitively taking bags off the machine, packing them into cartons, and moving the cartons onto pallets. O25 is a machine operator, who mentioned that fatigue only occurs under specific circumstances, namely when the workload is heavy. All these interviewees are female. Compared to males, females generally have less physical strength advantage.

When discussing issues related to the impact of working hours on well-being, a few interviewees mentioned that long working hours cause fatigue. The reasons for fatigue are related to working hours, workload, and individual physical condition.

In Summary, the negative impact on well-being caused working hours are insufficient discretionary time and fatigue. The well-being is negatively impacted when the interviewees feel their discretionary is insufficient. Working hours reduction help them to increase their discretionary time so as improve their well-being. Some of the show dissatisfaction on working hours reduction due to income reduction. The well-being is also negatively impacted when the interviewees feel fatigue.

Mitigating Factors

Although working hours negatively impact individuals' well-being by discretionary time and cause fatigue, certain factors can mitigate these negative impacts. Two identified factors are the perceived sufficient discretionary time and high autonomy over working hours.

The first factor is the perceived sufficient discretionary time. Although working hours may be similar for different individuals, their perceptions vary. Some interviewees indicated that working hours do not affect their well-being, as they perceive their discretionary time as sufficient. Seven interviewees (O24, O22, P20, P29, P5, P5, O19) expressed similar views.

"(...). I have few things to do after work anyway. It's almost enough for me to have one day off a week. When we work in two shifts, I have almost two days off if I rest on Sunday (...) Anyway, I don't play mahjong, sometimes I go fishing, and one day off a week is enough. I don't need any entertainment when I go home from work, (...)." (O24 Operator)

"If I can choose working hours, then I definitely like to choose 66 hours per week. You don't have to work overtime for two days (on the weekend) now, but sometimes you don't know what to do after work. One day off per week is enough. When I go home, I have nothing to do. I don't farm at home. I don't have any special hobbies, and sometimes I chat with my relatives and friends during the weekend. I don't play mahjong." (O22 Operator)

This aligns with existing studies which found that discretionary time is positively correlated with life satisfaction and positive emotions (Jung et al. 2017; Wang 2023). It can enhance well-being (Xu and Wu 2016).

Why do some employees feel they have insufficient discretionary time while others feel it is sufficient, despite similar working hours? This question can be explained by individual differences among employees. Employees' personal needs, family situations, etc., all influence their perception of discretionary time. For example, two interviewees mentioned about mahjong. Playing mahjong is a very time-consuming hobby; not playing it frees up a significant amount of discretionary time. As mentioned by O22 and O24, they do not play mahjong, so their free time is sufficient. If a family has young children or elderly relatives to care for,

discretionary time may decrease. For instance, O18, O19, O20, and O25 all mentioned the impact of having young children.

The second factor is autonomy over working hours. Although employees' working hours are relatively long, if they can take leave at any time and freely choose whether to work overtime, the impact on their well-being may be limited, even if the final working hours are long. One operator stated that he can freely choose to work overtime or not, so the long working hours does not affect him.

"No impact (on well-being). If you really don't want to work overtime, you're not forced to work overtime. Nobody stops you if you want to sign out earlier?" (O28 Operator)

Another interviewee stated that because he can freely choose to work overtime or not, working hours do not impact his well-being. However, restricting working hours would impact his income, which would negatively impact his life.

"Low income makes some thoughts impossible to realize. As I said, the income has decreased, invisibly all aspects of your life are impacted, right? The most important thing is that I can choose to work 66 hours per week. If you can choose not to work overtime, you just choose, but many people want to work more overtime, right?" (O26 Operator)

High autonomy over working hours can mitigate the impact of working hours on well-being. This is consistent with existing research findings. When workers can freely choose their type of work and work schedule based on their needs, it increases their sense of control and authority of choice over their time, creating a perception of time being "in their own hands." A sense of control is positively correlated with well-being (Wang 2023). Furthermore, this also relies on organizational support; current research has found that organizational support is positively correlated with employee well-being (Song 2017).

In summary, perceived sufficient discretionary time and high autonomy over working hours can mitigate the impact of working hours on well-being. Perceived sufficient discretionary time is related to individual's differences like personal needs, family situations, etc. While high autonomy over working hours means that individual can choose working overtime or not and take leave at their will.

Positive Impact Factors

Working hours can also positively impact an individual's well-being. This was an additional finding explored from the interview and analysis process. The findings primarily include three factors: income changes from overtime work, cultural factors, and social needs.

The first factor is income increases from overtime work. Different working hours lead to different income. Based on Chinese labor law, overtime pay is calculated as a multiple of the

standard hourly wage (The Labor Law of People's Republic of China 2018). Therefore, longer working hours result in higher income. Front-line manufacturing workers generally belong to a low-income group facing significant economic pressure (Yang 2023). Several interviewees indicated they prefer working more overtime, as this allows them to earn higher income, consequently increasing their well-being.

"(Working overtime) I think it's pretty good — the best part is when I get my paycheck and can go out to have fun with my child. Everyone hopes for a higher salary so they can travel, go on trips, and spend time together as a family." (P29 Packer)

"I feel the well-being is good. (...), and it will be better if there's more overtime available, the pay is better, that means higher income." (O24 Operator)

Conversely, if reduced overtime leads to decreased income. Their well-being can be negatively affected. Eight interviewees mentioned their well-being was impacted due to income concerns.

"It's hard to say (What is the best working hours). After all, my working hours have been reduced, so my income has decreased — isn't that tough? When payday comes and I see the pay slip, I wonder why the salary is so much lower. Then I realize I wasn't working as long as before, so it's different. Anyway, I'd prefer working more overtime. It's really hard to explain." (O24 Operator)

"I'm not satisfied (with the well-being). I'm not satisfied with the money." (O8 Operator)

Income is positively correlated with individual well-being, a conclusion verified by research both in the West (Beutell et al. 1999; Judge et al. 2010) and in China (Xue et al. 2021). Further research by Zhao (2017) found that income can moderate the impact of working hours on job satisfaction. This also suggests that increased income can mitigate the negative impact of long working hours on individual well-being. Research from Zhao (2017) also found that higher overtime pays helps reduce the negative impact of overtime on work and family well-being.

The second factor positively impact well-being is cultural factors. During the interviews, some respondents chose to work more overtime not due to family economic pressure but based on cultural factors. These factors include family orientation, the pursuit of housing, and savings expectations.

Family orientation is mainly reflected in caring for children. One operator explained:

"I would like to take as more overtime as possible. My son is not good at study. If he cannot enter a good university, the tuition fee will be very expensive, ten or twenty thousand RMB per year. If like that, the expenditure will be very large." (O1 Operator)

Qian et al. (2007) consider family orientation a major component of Chinese socio-culture (Liu 2013). A family-centric cultural concept exists in China, and family responsibility is an

important obligation in the minds of Chinese people (Zheng 1996). This explains how income from working hours can help them fulfill this obligation, thereby positively influencing well-being.

Chinese people have a persistent pursuit of homeownership. Several interviewees mentioned that long working hours are aimed at solving housing problems. Three interviewees mentioned the idea of wanting to solve housing issues for their children.

"The house has been built, but there is no money to decorate it. I should earn some money to decorate it. When the child is getting older, he can't afford to buy a house. I need to consider him." (P5 Packer)

"I hope to work 66 hours a week, save more money, work more hours, and save some money for my son to buy a house in the future." (L2 Leader)

"My financial pressure is average. I have no debt, so I work overtime to save money, just to buy a house for my children in the future." (P4 Packer).

This point reflects not only the family-oriented concept of Chinese people but also their concept regarding the pursuit of housing ownership. Liu (2013), studying housing consumption behavior in China, found that socio-cultural factors underlie Chinese housing consumption behavior, including face consciousness, group consciousness, crisis consciousness, and family responsibility.

Furthermore, Chinese people have long history of saving habit (Guo 2019). Many interviewees stated they hope for more overtime to save more money, which they see it as the meaning of their work.

"At my age, I hope to work more hours, so don't waste time and make more money when I am young." (P6 Packer)

"You need to work overtime and earn more money while you are young." (P9 Packer)

These interviews were conducted at different times, and the interviewees had no communication with each other, yet their responses show significant similarity. This indicates the deep-rooted nature of these concepts among these individuals. Hofstede's (1993) study on cultural differences between China and the US found that Chinese people exhibit tendencies towards risk avoidance and long-term orientation. This can explain why Chinese people have a strong willingness of saving (Liu 2013).

Interaction with colleagues during work can, to some extent, satisfy individuals' social needs, thereby positively impacting their well-being. One operator stated:

"Working overtime for long hours — it really doesn't bother me. Even when I get home early, I have nothing to do. (...) I actually enjoy it. Sometimes I even feel happier at the factory than at home." (O25 Operator)

A packer also mentioned that harmonious colleague relationships at work can benefit well-being.

"When I came to work, everyone got along very well. I was very happy when I came to work. I don't argue with others. I was quite satisfied with this. Sometimes when you have difficulties at home, your colleagues will help you." (P27 Packer)

For some individuals, their social needs cannot be met outside of work. Interaction with colleagues at work instead becomes a channel through which their social needs are fulfilled. Bloom et al. (2015), in research on work-from-home, found that one reason individuals are reluctant to work from home is the lack of satisfaction of social needs. Social needs are also a component within well-being measurement scales. This can explain the positive role of social needs on well-being.

In summary, more income, culture and social needs caused by long working hours can brought positive impact on well-being. More income can reduce individual's economic pressure, directly impact their well-being. Cultural factors like family concept, pursuing for housing and saving concept supports the willingness of people to work overtime. Interacting with colleagues at work can satisfy people's social needs at work.

4.4.2 Working Hours and Work-Family Conflict

The Negative Impact (Hurts Work-Family Conflict)

The negative impact of working hours on work-family conflict is mainly reflected in time conflict and fatigue. Time conflict refers to the time conflict between long working hours and family activities. While fatigue refers to the physical and mental exhaustion caused by long working hours. However, most interviewees perceived that working hour had limited influence on work-family conflict. In the interviews, four participants mentioned that working hours had an impact on work-family conflict, whereas 21 participants stated that there was no such impact. The first is time conflict. Long working hours lead to a conflict between work schedules and family activities, which is primarily reflected in affect employees' resources to take care of family members. One operator explained:

"The main impact (of long working hours) is to the study of child. No one watches the child; my mother has little education and cannot watches his study. The child will be in the first grade

immediately, and my wife said that when the time comes, we need to take turns to watch him. He will work at night shift; I will work at morning shift; and he will work at night shift I'll work at day shift. (...). "(O18 Operator)

Another packer expressed frustration when talking about the impact on his family:

"Yes, (...), just like my son works outside and comes back on Sunday. But I have to work overtime on Sunday. Sometimes I would like to ask the company to adjust it so that I can take Sunday off, sometimes I can't. When my son comes back once every two weeks, sometimes I wants to cook some soup for him, but I can't..." (P27 Packer)

Time conflict is mainly reflected in the contradiction between long working hours and the responsibility of caring for family members—specifically, time conflict (especially parent-child education conflict). Workers can choose not to work overtime, but this affects their income. This kind of conflict is more prominent in families with children. All respondents who reported experiencing such conflicts were from families with children.

Existing studies on the impact of working hours on work-family conflict have reported similar findings. Specifically, studies on the work-home resources (W-HR) model have revealed that individual resources are primarily allocated to two domains: work and family. When resources and demands in one domain increase or decrease, those in the other domain will correspondingly decrease or increase (Ten Brummelhuis and Bakker 2012). The phenomenon of long working hours corresponds to shorter family time—namely, an increase in resources invested in work leads to a corresponding reduction in resources allocated to the family, thereby resulting in work-family conflict (Stephen and Sommer 1996).

The second is fatigue. Fatigue caused by long working hours may impair people's capacity to fulfill their responsibilities in family activities. One packer stated:

"Working 60 hours a week is ok. 66 hours is unbearable. it is too tiring. I like working six days a week. I like having dinner with my family on Sundays. (...) I want to take care of my children and send them to school on Sundays. I hope to work fewer hours on weekends." (P5 Packer)

Similarly, this situation is more pronounced in families with children. Taking care of children requires parents to invest not only a significant amount of time but also substantial energy.

Mitigating Factors

Although these respondents acknowledged that working hours had a certain impact on their families, they also emphasized that the impact was not significant. Moreover, most respondents believed that long working hours did not affect work-family conflict at all. The mitigating factors they mentioned mainly include five aspects: cultural factors, habituation to long

working hours, high autonomy over working hours, family support, and individual circumstances.

The first aspect is cultural factors. Cultural factors mainly include attitudes toward family and reasonable expectations. When asked about the impact of work on family, most respondents mentioned the care of children. China has a long-standing cultural tradition of "hoping sons become loongs, hoping daughters become phoenixes" (i.e., aspiring for their children to achieve great success). For many families, daily life revolves around their children. For these workers, ensuring the family's financial stability is the top priority, followed by taking care of and accompanying their children. They hold reasonable expectations for both work and life: simply put, their expectation for work is to earn more money. As two respondents put it similarly, they believed that work had no negative impact on family because the purpose of working is to make money:

"(Long working hours) There is no negative impact on family. How can it have an impact? When you come out to make money, you don't come out to play. When you come out to play, you say it has a negative impact." (O28 Operator)

"No (impact on family from long working hours). If you work overtime a little more, your salary will be a little more, and your family will have no burden. Anyway, wherever you go to work, it's like this, isn't it?" (P29 Packer)

Their expectation for family is to have a certain amount of time to accompany their children. Another operator stated that long working hours had no impact on his ability to take care of his children:

"Anyway, I get off work after 7: 00, and I arrive home at latest 8: 00. The children haven't gone to bed at that time. I still have time to play with them. I think there is no impact (from long working hours). Anyway, I can interact with the child and play. I can play with them from 8:30 to 9:30. There's still one hour left. Anyway, I think there is no impact. "(O24 Operator)

Attitudes toward family and reasonable expectations are shaped by the cultural context (Michalos 1985). Front-line workers in China's manufacturing industry have experienced the transformation of China from an agricultural society to an industrial society. The agricultural society has not only driven a strong emphasis on family and children but also cultivated their spirit of hard work and reasonable expectations for life. Therefore, even though they are now in an industrial society, traditional cultural values remain deeply rooted in their minds (Zhao 2017).

The second aspect is habituation to long working hours. Long working hours are prevalent in China's manufacturing industry today. Even among respondents who have worked in different

companies, they all have experienced long work hours, which has led them to become accustomed to such schedules. And their families have also adapted to this work pattern. One operator said:

"The impact (of long working hours on family) is not great. You have one day off every week, and you have one and a half or two days here when you change shifts. The working hours is long, I am used to it and my family are used to it. I don't think such working hours have any effect." (O21 Operator)

A total of five respondents expressed similar views, and they all firmly stated that long working hours had no impact on their families.

The third aspect is high autonomy over working hours. When employees have family matters to attend to, they can take leave at any time, and they can also choose not to work overtime. Although working hours are long, employees have the autonomy to make their own decisions. "It doesn't matter (work-family conflict). You can ask for leave if you have something in your family. Anyway, you can take annual leave." (P20 Packer)

Three respondents expressed similar opinions: they can take time off or refuse to work overtime whenever necessary. The right to choose is in their own hands, which is why they believe long working hours have no impact on their families.

The fourth aspect is family support. 15 respondents mentioned the impact of family support on their work and family life. Family support is mainly reflected in family members' understanding of long working hours and their assistance with family care. One packer said:

"My husband doesn't mind me working overtime. Sometimes when I work the night shift, he comes home a bit earlier to cook. It doesn't really cause any issues." (P29 Packer)

Another operator also stated that her child's understanding made her feel that long working hours had no impact on the family:

"It (long working hours) doesn't really affect me much because I adjust things on my own. If I really can't make it, I'll discuss it with my child or arrange to spend time with them when I'm off work. Isn't that enough? As long as we communicate, it's fine. That's how it is with my son—if I promise him something but can't make it for some reason, I'll explain and say, "Let's go on Sunday when Mom is off, or something like that. I just adapt. Really, it's no issue." (O25 Operator)

Among the four mitigating factors, family support was the most frequently mentioned reason. One possible explanation is that individuals whose families do not support long working hours cannot sustain employment in such positions for a long time. As many respondents mentioned, individual circumstances also play a role.

The fifth aspect is individual circumstances. O19 is a migrant operator who leaves his family in his hometown. His wife takes care of the family at home, while he works in the company and sends money back home. For him, his main task is to earn money for his family. Since his family members are not around, he does not have too many trivial household affairs to handle. Therefore, he believes that long working hours have no impact on him.

"If you're a local and your whole family is here, there are always matters, big and small, that need to be handled at home. Sometimes something comes up and you have to go back. But since I work away from home by myself, it doesn't really matter to me." (O19 Operator)

When family members do not require extensive care. For example, parents and children are able to take care of themselves, the impact of long working hours on the family can be mitigated.

"There's nothing else going on at my home. There's an elderly person living with us, but they are self-sufficient, so there's nothing else to worry about. The elderly person is still relatively young and doesn't require our care." (O22 Operator)

"Of course, when the child is young, it's natural to choose not to work such long hours. But once the child grows older, in middle school, and isn't living at home anymore, it doesn't really matter." (P29 Operator)

Individual circumstances are mainly reflected in the low demand for family care, such as no need to take care of sick parents or minor children.

Positive Impact (Reduce Work-Family Conflict)

Although long working hours are generally considered to have a negative impact on family life, a few respondents mentioned the positive effects of long work hours, which is a common phenomenon in many manufacturing enterprises. One such positive effect is that workers are provided with free meals during overtime work. As long as workers work overtime, they can have free meals in the company, which means they do not need to go home to cook, equivalent to reducing household chores. Two respondents mentioned this factor:

"There isn't much housework to do anyway, and when I'm home alone, (if I work) I don't need to cook. (The factory provides meals)" (P15 Packer)

"People talk with me at work, and I have to cook when I'm not at work. I can eat in the company when I go to work. Now when I go home, unlike before, many people can play together. Now everyone goes out to work, and only the elderly is at home." (P6 Packer)

The company where the respondents work provides free meals for workers who work overtime, which is part of the company's welfare benefits. Some other companies offer different benefits to overtime employees, such as free shuttle services home or travel expense subsidies.

4.4.3 Working Hours and Turnover Intentions

Negative impact (Increases Turnover Intentions)

Long working hours increase workers' turnover intentions. Multiple respondents indicated that they had considered resigning due to the long working hours, yet they hesitated to take action out of concern for income issues or the inability to find better job opportunities. For example, one packer mentioned:

"I have thought about it, but when I consider the salary difference, I don't dwell on it too much."
(P30 Packer)

Another packer shared a similar sentiment:

"I also think about it. It would be great if I could become my own boss, or if I could find a better opportunity, I would leave. I do have this thought." (P20 Packer)

For some respondents, if the current working hours are reasonable or they have already become accustomed to the existing schedule, working hours does not affect their turnover intentions.

"Well, anyway, I've been working here for a long time and got used to it. I don't think about these things too much anymore and have no desire to hop from job to job. I just want to keep working here. After all, I worked at my first job for more than 16 years." (O24 Operator)

The finding can be explained by COR theory. According to this theory, overtime work seriously depletes employees' health resources and social resources, reduces their work enjoyment, and thus leads to turnover intentions (Zhao 2017). Numerous similar studies have confirmed this conclusion. For instance, Wang and Ma (2018) found in their research on a sample of nurses in hospitals in Henan Province that long working hours would increase nurses' turnover intentions. Zhao (2017) also revealed in a study on migrant worker groups that excessive overtime work exerts a significant impact on the turnover intentions of migrant workers.

Mitigating Factors

However, most respondents indicated that they would not have turnover intentions due to long working hours, with 8 participants expressing similar views. Their responses can be primarily categorized into three types of factors: cultural factors, employer benefits, and economic pressure. These factors can be understood as mitigating the adverse impacts of long working hours on turnover intentions.

Cultural factors mainly include individuals' concepts and concerns about potential discriminations. Respondent O24 stated:

"Well, how should I put it? After working here for so long, I've gotten used to it and don't really overthink things anymore. I don't feel like moving around anymore—I just want to keep working here. After all, my first job lasted over 16 years." (O24 Operator)

From his facial expressions during the response, he revealed a sense of pride in having worked for the same company for a long time. In the concept of some individuals, frequent job changing is regarded as a sign of low loyalty, a view expressed by two respondents. This aligns with the value of loyalty emphasized in traditional Chinese culture. Additionally, concerns about potential discrimination, particularly age discrimination, are among the factors that deter them from considering resignation. Three respondents mentioned their reluctance to leave due to age-related concerns:

"At my age, if I leave this factory or company, no one else will hire me. Other factories won't take me either. " (O19 Operator)

"Given my age, there aren't many good opportunities left for me. ..." (P27 Operator)

These respondents had relatively long tenures. It was not that they had actually encountered age discrimination, but rather their internal lack of confidence made them worry about struggling to find new jobs due to their age. This is consistent with the cultural trait of modesty and reserve in Chinese society (Hofstede 2001).

Employer Benefits is another mitigating factor. Two respondents mentioned that despite long working hours, they were unwilling to leave due to the company's favorable benefits:

"I've had three jobs in total. Right after starting, I worked at Yatus. Then, after having my child, I moved to Jinglian below and worked there for a year. But they didn't provide social security — they made you wait in a queue, saying you could only enroll when someone left. I thought, how long am I supposed to wait? So, I left. " (O25 Operator)

The company's provision of good benefits and humanized management are key considerations that make workers reluctant to resign.

Economic Pressure also mitigates the turnover intentions. If workers are under economic pressures like house debts, car loans or any other cashflow needs, they are very careful on thinking about quitting and changing. One operator respondent stated:

"I've never even thought about that kind of possibility (quitting), and I still don't dare to now. After all, the pressure is real — if I leave, finding a new job could take one or two months. How would I make money during that time? With two little kids needing to be fed as soon as they open their mouths, there's just no other way." (O18 Operator)

Concerns about income uncertainty resulting from job changes can weaken employees' turnover intentions. Meanwhile, the positive impact of long working hours on income can also exert a positive influence on reducing turnover intentions.

Positive Impact (Decrease Turnover Intentions)

The high income brought by long working hours have had a positive impact on workers' families. Conversely, if overtime hours are reduced, employees' income decreases accordingly, which may instead trigger employees' turnover intentions.

"When they announced that the weekly working hours couldn't exceed 60 hours, my first thought was: Should I look for another job? I really did consider it. Because indirectly, it meant a cut in my income. I'm working to make a living — to improve my life, right? So that's what I thought at the time. But in the end, I stuck with it and have been here for years now." (O26 Operator)

Most respondents mentioned the positive impact of working hours on income. As shown in the quantitative survey results, 78.53% of participants selected "strongly willing" or "extremely willing" in response to the question about their willingness to work overtime, and 90.96% of employees chose "higher income" as the reason for working overtime.

4.4.4 Job Demands and Well-being

Negative Impact

The impact of job demands on well-being can be primarily summarized into two aspects: high work workload have a negative impact on well-being, while appropriate work workload have no such impact. Here, the job demands are subjective perception to individuals.

High job workload negatively affects workers' well-being. Similar statement said by multiple respondents. Job demands in the workplace may vary according to work arrangements and workers' individual circumstances. For example, the production speed of certain machines is extremely fast, requiring packers to work at a rapid pace with minimal rest time.

"Working on that machine is exhausting. No one wants to work at the station for packing whole chicken bags nowadays. The job is tough, and it wears people out quickly. Honestly, no one is willing to take that position. (...) When the machine runs at twin-line, someone can lend a hand if you fall behind. But now, I barely even have time to drink water. Working alone is way too tiring—I have to handle all the box moving by myself, (...) It's really draining for one person. With twin-line, you could sneak in a water break when things slow down, but working single line with one person leaves no room for that. And you're stuck at the same machine for six straight hours. For other stations, if you need to get a drink, you can ask a colleague to cover for you if they're not busy. But this one is just brutal. It's the no.28 machine." (P29 Packer)

"Sometimes work is so tiring that I want to vent when I get home, but no one really listens. Those days are the worst. I was assigned to the whole chicken bag packing station at line 28 a

while back. It was absolutely grueling. I'd get home and not want to do anything at all. I told everyone around me, 'Don't ask me to do anything—I'm worn out.' I hadn't felt that exhausted in ages. That machine is just terrible. You have to stand with your legs spread apart, which is really uncomfortable. It was truly exhausting." (P27 Packer)

Even for the same job position, handling different types of orders can also lead to varying workload.

"Changeover is pretty demanding. I'm rushing around nonstop, and my clothes are soaked with sweat the whole time. The factory installed noise prevention and reduction equipment, but it traps the heat inside with poor air circulation, making it stifling hot—not unbearably hot, but still uncomfortable. I feel more fatigued when changeover. Ideally, we have long-running orders with machines operating smoothly." (O19 Operator)

If employees perceive the workload as appropriate, these demands have no negative impact on their well-being.

"I don't think the job demands are too high. It gets a bit intense when changeover, but everything else is manageable." (O18 Operator)

"When I feel tired sometimes, I can take a break—I can clock off at 4 p.m. and rest a bit. That's just part of the job. If I have a particularly tiring day at work, I'll get home at 4 p.m. and relax. I'm still young, so I'm willing to work more hours to earn extra money for my kid's milk powder." (O23 Operator)

The interview findings revealed that even with the same workload, some workers may perceive them as excessively high while others consider them appropriate. This corroborates the aforementioned point that the perception of work demands is subjective to individuals, which is closely related to workers' personal conditions. For instance, workers with better physical fitness can tolerate work demands that are generally regarded as high. This aligns with the conclusion drawn by Zhao (2017) that employees' physical endurance determines how work demands influence their work attitudes.

The impact of job demands on well-being can also be explained by COR theory (Hobfoll et al. 2018). High job demands deplete employees' resources, manifesting as increased fatigue and decreased physical function, which in turn negatively affects their sense of well-being.

Mitigating Factors

Subjectively perceived appropriate job demands, high income derived from high job demands, and certain culture-related factors can mitigate the negative impacts of high job demands.

As previously noted, the level of job demands is a subjective perception of people. If they hold a positive subjective perception of job demands, such demands do not have a negative impact on their well-being. An operator of a relatively difficult machine stated:

"Like now, I don't really feel any impact — it's totally manageable. The current work hours aren't very exhausting." (O28 Operator)

Although other operators of this machine consider it overly tiring, this operator perceives its job demands as appropriate. Five respondents expressed similar views, indicating that job demands are closely associated with individual perceptions.

Additionally, the high income derived from high job demands can mitigate the negative impacts of such demands. A packer commented:

"How could working not be tiring? We're all here for the money. If the pay is good, the tiredness feels worth it — you know what I mean?" (P15 Packer)

From her perspective, high job demands bring high income, and the adverse impacts of high job demands can be offset by the positive impact of high income.

Furthermore, certain cultural factors — such as family values and life expectations — can also mitigate the negative impacts of high job demands on well-being.

"I'm happy when I get home, seeing my wife and child there, how could I not be? (Job demands) don't really have an impact." (O28 Operator)

A look of happiness filled his face as he responded. A positive family environment can have a therapeutic effect on the adverse impacts of high job demands. Another operator expressed a similar sentiment:

"I'm happy. Even when I'm alone, I've never felt unhappy because I have parents who love me deeply, and my son also loves and cares for me dearly. Whenever I'm not feeling well, my son is always there, calling "Mom, " bringing me water, making tea, taking care of everything. And my parents have never favored sons over daughters." (O25 Operator)

Beyond family factors, their proper expectations for life also play a mitigating role in well-being.

"It's alright. For now, the elderly at home is in good health, and things are manageable. I feel content — I'm someone who's easily satisfied." (P17 Packer)

Responses from multiple respondents indicate that they have low expectation for life. For them, the health of their families and harmonious family relationships are sufficient for satisfaction. A total of seven respondents stated that they have high well-being due to their low expectation for life.

4.4.5 Job Demands and Work-Family Conflict

The impact of job demands on work-family conflict can be summarized into two aspects: high workload have a negative impact on work-family conflict, and family support negatively moderates the impact of job demands on work-family conflict.

Negative Impact (Increases Work-family Conflict)

The negative impact of high job demands on work-family conflict is mainly reflected in the fact that high job demands lead to increased fatigue and abnormal physical functions, thereby impairing family life.

"Sometimes I feel extremely exhausted. For example, after operating the "earthquake machine", I don't feel like doing anything at all when I get home. (...) No, anyway, when I get off work and go home, it's already dark, and there's nothing I can do. I just go to bed as soon as I get back. I can only take care of household matters on rest days." (P20 Packer)

"Occasionally, there is some impact. Sometimes I feel stuffy and hot, and I don't even have an appetite for a late-night snack when I get home. It's mainly due to the stuffy and hot weather lately or the frequent order switching. If we have to changeover often, the work gets more tiring." (O23 Operator)

A number of existing studies have reached the same conclusion (Wang 2020; Ma and Luan 2021; Ma 2022) that there is a positive correlation between job demands and work-family conflict. This aligns with the relative studies of resource depletion theory and the role conflict theory. Individuals possess a limited pool of psychological and physical resources to fulfill their role obligations. When individuals take on multiple roles, the pressures from different roles accelerate resource depletion. When resources allocated to family roles are occupied by work-related demands, family resources are depleted, which further exacerbates work-family conflict (Ma and Luan 2021).

Mitigating Factors

Family support can mitigate the impact of job demands on work-family conflict. Mutual cooperation and understanding among family members can largely mitigate the negative influence of job demands on work-family conflict. When workers feel too fatigued to do housework due to high job demands, family members' willingness to take on more household responsibilities can make people feel that work does not have a negative impact on family life; it may even enhance cooperation and understanding among family members. Communication between family members can also ease the negative effects caused by high job demands.

"There are times when I feel too tired to do housework, but I never feel like not talking to my family. I actually love chatting with my family when I get home. As soon as I see my parents,

I can't stop talking to them. I've never had the feeling of not wanting to communicate with them. It's possible that I may feel reluctant to do housework sometimes, though. I think every woman might feel this way occasionally. Maybe it's also because I've been spoiled by my parents since I was little—they always help me with everything at home." (O25 Operator)

"No, what kind of conflict could there be? My family just tells me to stay safe at work. We only need to focus on my health and safety at work, and there are no other requirements. Usually, my wife and I take turns doing housework—it's not all on me. Sometimes she does this chore and I do that one; we split the tasks. When I'm at work, I'll let my kid play with toys nearby first." (O23 Operator)

The mitigating effect of family support on the impacts of job demands on work-family conflict is consistent with the conclusions of many existing studies. E.g., (Zhou 2023; Singh and Amita 2010). There is a consensus that family support plays an important mitigating role on work-family conflict.

4.4.6 Job Demands and Turnover Intentions

Negative Impact (Increases Turnover Intentions)

From the feedback of respondents, the impact of job demands on turnover intentions is that high workload leads to high turnover intentions, while appropriate workload has no impact on turnover intentions.

Some respondents reported that the high workload and poor working environment of their current positions had made them think about resigning.

"I have definitely considered to get a job with low workload, but right now, this is the kind of work I'm capable of doing. I certainly can't handle jobs that are both comfortable and well-paid. My educational background just isn't up to par, so I've let it go. " (P30 Packer)

"Yes, everyone hopes for more overtime opportunities and a better working condition. As you may know, the workshop is extremely hot right now, and everyone agrees that the environment is far too hot and poor. New employees, whether they are new hires or experienced workers, don't stay long—they leave after a few days or even half a day. We who have been here for a while have grown accustomed to it, but we still think the environment needs to be improved. It doesn't necessarily have to be air-conditioned, but the temperature inside should at least be lowered. It's so hot that it's unbearable, and employees often suffer from fever and colds, which affects their work performance. " (O21 Operator)

"One possible reason for resignation is the workload—the packing job is quite demanding. I think another factor is the sweltering heat in summer. Hot weather makes people irritable; to be honest, when it's too hot, you just don't feel like working at all. If the workshop had good ventilation, it wouldn't be so hot, and many more people would be willing to come to work. Do you know why employees at electronics factories stay for so long? It's because their workshops are cool and comfortable. I've worked in an electronics factory before—they keep the air conditioners on all the time." (O18 Operator)

On the other hand, some respondents stated that the current job demands were appropriate, and they had no intention of resigning because of the job demands.

"I've never thought about resigning—not even for a moment. If I had wanted to change jobs, I would have done it after working here for over ten years. When I decide to take a job, I usually stick with it for several years, but even then, I never felt the urge to leave. Right now, I have no such thoughts at all. I've been working here for a long time, and my work keeps me fulfilled. There's no reason not to go to work happily every day. (...) No, never thought about it. The work is definitely easy sometimes, but that still doesn't make me want to leave, and besides, the job isn't even tiring for me now." (O28 Operator)

"I don't have any intentions of resigning. Even if the work were too tiring, I wouldn't want to look for an easier job." (O22 Operator)

The impact of job demands on turnover intentions is consistent with existing research findings. Numerous studies have confirmed that high job demands, and heavy workloads affect employees' turnover intentions through the mediating role of job satisfaction (Zeng 2016 p124). This conclusion can also be explained by COR theory and the role conflict theory. High job demands deplete employees' resources, requiring them to spend more time and energy recovering after work. This recovery time and energy, in turn, take up resources that could have been allocated to family activities, leading to conflicts between work and family roles, which ultimately increases turnover intentions (Hobfoll et al. 2018). Pan (2016) also used the emotional exhaustion theory to explain the impact of job demands on turnover intentions. His study found that hindrance job demands not only directly and positively affect R&D employees' turnover intention, but also indirectly influence turnover intentions through emotional exhaustion which the indirect pathway is that mitigate job demands positively affect emotional exhaustion, and emotional exhaustion further positively affects turnover intentions.

Mitigating Factors

Perceived appropriate workload (job demands) can also mitigate turnover intentions induced by high job demands. Other than that, certain cultural factors also help to mitigate the impacts. An operator stated:

"No, never considered it (quitting). Of course, there are easier jobs out there, but I don't dwell on it. And I don't feel fatigue at work anyway." (O28 Operator)

However, a plausible explanation is that currently employed workers have already adapted to the existing workload. While those who failed to adapt have resigned. As P17 mentioned, four people joined the company with her, but she is the only one who remains, while all others left due to the excessive workload. Her response is as follows:

"If the factory doesn't offer overtime, there's no way to earn enough. I don't mind working harder as long as the pay is better — I'm not afraid of tiredness. Those of us working as packers here can endure hardship. Among the four of us who signed up together at this factory, I'm the only one who stayed. Those who stay are all willing to tough it out; those who can't handle it don't last. It'd be better if there were more overtime opportunities — the more, the better. Whether you want to work extra hours should be up to you. I'd be willing to work overtime every day, even on weekends". (P17 Packer)

Additionally, cultural factors, such as cultural values and reasonable expectations, can mitigate the impact of job demands on turnover intentions.

"I don't have that thought (resignation) for now. If I were afraid of fatigue, I would've resigned a long time ago". (O23 Operator)

The virtue of endurance through hardship is deeply inculcated in Chinese individuals from childhood. As a widely recognized cultural trait of Chinese society, "endurance through hardship" traces its origins to the survival rationality of small-scale peasant economy (Huang 2000) and the Confucian tradition of self-cultivation for engagement in society (Yu 1987). In contemporary times, it is internalized as the spiritual core of enterprises' "striver culture." This trait is highly consistent with "long-term orientation" in Hofstede's cultural dimensions, willingness to endure current hardships for long-term goals (Hofstede 2001).

Meanwhile, reasonable expectations can alleviate the adverse impacts of high job demands. As one respondent stated:

"Sure, it's tiring. But who isn't tired? Wherever you go, work is exhausting. If I weren't working here and went somewhere else, I'd still be tired. That's just how it is." (O22 Operator)

Some respondents believe that work is inherently hard, and different jobs entail different forms of hardship. Hardship is their expectation of work.

A total of seven respondents' responses touched on the mitigating role of culture-related factors in the impact of job demands on turnover intentions.

4.4.7 Factors Influencing Fatigue

Both working hours and job demands can cause employee fatigue (Xu et al. 2011; Ma and Dai 2022; Iwasaki et al. 1998; Pan 2015; Xue and Xu 2026). As indicated by the previous quantitative data analysis, fatigue plays multiple mediating roles in the impact of work hours and job demands on employees. Therefore, during the interviews, fatigue related questions are also included. Through thematic analysis of interviewees' feedback, the factors contributing to employee fatigue were identified, which mainly include high job demands, long working hours, work environment, interpersonal relationships, and personal health.

The Impact of Job Demands on Fatigue

The impact of job demands on fatigue is mainly reflected in two aspects: workload and work arrangements. High workload leads to a high level of fatigue. Operators and packers account for the largest proportion of positions in the factory, and respondents from both positions mentioned the impact of high workload on fatigue. For operators, workload is particularly high during order changeovers, which often triggers higher levels of fatigue. Multiple operator respondents expressed similar views:

"Sometimes I feel exhausted. If there are no long orders, we have to handle short ones. More often than not, changeover is tiring. Short orders require changeover once every one or two days, or even once per shift, which wears me out. If there is a heavier workload with long orders that can last for several days, then I don't feel tired." (O22 Operator)

"If I run long orders, I don't feel tired. If there are changeovers and running two machines, I feel tired." (O8 Operator).

For packers, products with fast production speeds, heavy weights, and machines with frequent malfunctions often result in higher workloads.

"Work is a bit tiring, the machine is too fast, sometimes the operator doesn't help. There are many problems. They will blame us packers if any quality problems." (P4 Packer)

"There is no pressure when the machine is smooth, and there is great pressure when the machine is not smooth. Pick defects all the time. But you will be fine after a sleep." (P5 Packer)

"The bags are big (paper bag production), the boxes are heavy, and my shoulders hurt when I go home. Sometimes my feet are numb, weighing more than 30 kilograms a box. I don't want to move when I get home. Especially in hot weather, my clothes are always wet(sweat) ". (P6 Packer)

Work arrangements are mainly reflected in night shifts and special work arrangements.

"Day shift is not so tiring, night shift is tiring, sometimes my back hurts and my eyes are uncomfortable after night shift, and I feel dizzy. I just sleep after eating." (P5 Packer)

"It's very tiring to change four machines at night (it delays rest time). It's 5 am or 6 am when I sleep. I hope I can only change three machines." (P15 Packer)

"I've been working for so many years, but I've never felt this exhausted before. It's mainly my hands that feel tired. Standing is fine—I'm used to it. But my hands are numb from moving them constantly every day. It's gotten better now that I'm used to it and know how to use my strength properly. Labeling is manageable; even if the machine runs a bit faster, it's okay. But when there are constant problems, I sometimes feel like crying. Whether the work is tiring depends on the machine and its speed—some run dozens of units, other hundreds. It's still bearable." (P17 Packer)

"It depends on the situation. I feel quite tired when there are frequent problems or order changeover across multiple machines. Currently, two of us are in charge of three machines, so it gets really tiring when two machines need order changeover or have a lot of issues." (P30 Packer)

The Impact of Working Hours on Fatigue

The working hours discussed here refer to individuals perceived working hours. The same objective working hours may be perceived as too long by some workers and appropriate by others, and such differences in perception depend on employees' individual differences. Long working hours will increase employees' fatigue levels.

"Working 60 hours a week is ok. 66 hours is unbearable. I like working six days a week. I like having dinner with my family on Sundays. I usually hope to work more hours and earn more money. I want to take care of my children and send them to school on Sundays. I hope to work fewer hours on weekends." (P5 Packer)

Appropriate working hours, on the other hand, have no impact on employees' fatigue levels.

"It is good to work 60 hours a week now. You can go back early two days a week, and you are not so tired. Working 60 hours a week is just right. More or less are not good. Make more money while you are young. Or what to do when you get old." (P9 Packer)

The Impact of Work Environment on Fatigue

The work environment is also an important factor affecting fatigue. Since part of the interviews were conducted in the hot month of July, most workers interviewed mentioned that the extreme heat easily caused fatigue. Some also pointed out problems such as poor air circulation in the workshop and inconvenient facilities.

"You get used to the work eventually, but it's just too hot. It's better on rainy days, but summers are sweltering—there should be some improvements. Like installing air conditioners? But we work in the food industry. If we sweat a lot on our hands, the products will be deemed unqualified. If we are covered in sweat and touch the bags with sweaty hands, they will be full of bacteria." (P29 Packer)

"I do feel tired sometimes, especially when working night shifts. I felt exhausted when the weather was stuffy and hot a while ago, mainly because of the poor air circulation in the workplace. Working in such an environment makes me feel worn out." (O28 Operator)

There are four respondents mentioned that the hot weather does seriously impact the fatigue and feelings. Some of them entered the interview room, their uniforms were fully wet due to sweat. Environment can be an obvious factor that needs improvement.

Other Factors (Interpersonal Relationship and Personal Health)

Interpersonal relationships are another factor contributing to fatigue, including superior-subordinate relationships and colleague relationships. Positive superior-subordinate and colleague relationships reduce the likelihood of fatigue, while tense relationships are more likely to trigger fatigue.

"I feel tired, have many opinions, have bad managers, have a bad attitude and a bad tone. Many people complain and hope to be humane." (P3 Packer)

"In fact, as long as you are happy at work, you are not tired, and colleagues get along well. If you don't get along well, you will feel tired. The operators often run away during machine cleaning. I cannot clean inside of the machine. It's our fault for not cleaning it. Machines are too busy when labeling and the operators don't help us." (P4 Packer).

Personal physical conditions are also a factor influencing fatigue. Two respondents mentioned the impact of age and health status on fatigue, respectively.

"It is easier to get tired when you are 40 years old. Physical fitness has dropped. (O8 Operator)"

"I have high blood pressure. When I come home from night shift, I will have a headache. Taking medicine will make me feel better. I have applied not operating machines. I can operate machines again if need me in the future." (O11 Operator)

Existing studies have also found that employees' work willingness is related to their individual physical conditions (Zhao 2017).

4.4.8 Factors Influencing Well-being

The front-line manufacturing workers' expectations, family, income, and interpersonal relationships are the primary factors affecting their sense of well-being.

Expectations

Employees' level of expectations influences their perception of well-being. Some respondents reported feeling highly content because they hold modest demands for life.

"I satisfied with my life. I don't ask much about life. Food and clothing, that's enough." (P4 Packer)

"I can score eight points (out of ten) for my life, which is very high. I don't have high demands on life. It is better to be optimistic." (P7 Packer)

"Not bad. I am content and have no negative energy. Have a good mindset and take the elderly out to eat without overtime on weekends." (P11 Operator)

This phenomenon aligns with the research of expectation gap theory by Oliver (1980). The theory posits that people's sense of well-being does not stem directly from objective outcomes, but from a comparison between outcomes and prior expectations. When outcomes exceed expectations, people feel satisfied and pleased, leading to increased well-being. Conversely, unmet expectations result in disappointment and dissatisfaction, thereby reducing well-being. When discussing well-being, multiple respondents attributed their high level of well-being to their modest demands for life.

Family

When talking about well-being, the factor most frequently mentioned by the interviewees was family. A total of eight respondents stated that well-being was associated with family life, with the majority attributing their sense of well-being to positive interactions with family members.

"Coming home to a happy family makes me feel good. Seeing my wife and kids there—what is there to be unhappy about? How could anything else affect me?" (O28 Operator)

"I feel happy. Even when I'm alone, I never feel unhappy because I have parents who love me, and my son loves and cares for me deeply. Whenever I don't feel well, my son is always by my side, calling me 'Mom' and fetching me water and tea. My parents never favored boys over girls." (O25 Operator)

On the contrary, negative interactions with family members lead to lower well-being.

"Not so good. I seldom talk to my husband in life, and I will do whatever he wants. The older children don't listen to me very much, maybe the company is not enough." (P5 Packer)

The impact of family on well-being aligns with the research of social support theory which holds that social support from family, including emotional support, instrumental support,

informational support, and appraisal support, is a key factor in enhancing individual well-being and buffering life stress. As a support system, family provides a sense of belonging and security (making members feel beloved and accepted, thereby creating emotional well-being); practical assistance (e.g., financial support, childcare) to alleviate daily stress; and stress buffering (helping individuals cope better with external setbacks and reducing the impact of negative emotions) (Cohen and Wills 1985).

Income

Five respondents mentioned that income impacts their well-being. Respondents whose income accounted for a high proportion of household expenses or who faced heavy family financial burdens were more likely to mention income as an influencing factor.

"Regarding income, I don't have specific figures to share. For me personally, I feel happy as long as my income covers my living expenses with some savings left over. I don't have high demands. Stable monthly income that meets expenses and allows for a small amount of savings would be ideal. (...) I don't have lofty pursuits; having too many desires makes people age faster and feel more tired, with greater psychological pressure. Last year during the low season, there was no overtime work available, and I was living beyond my means." (O19 Operator)

"I'm not satisfied. I'm not satisfied with the money. Because I have many friends." (O8 Operator)

Numerous existing studies have confirmed the impact of income on well-being (Peng et al. 2024; Xiao 2024; Shen 2024; Wang 2023). And this relationship is more pronounced among low-income groups (Peng et al. 2024). As front-line workers in the manufacturing industry belong to the low-income group (Yang 2023; Li 2012), this conclusion can explain why income has a significant impact on their well-being.

This mechanism can be interpreted using Maslow's Hierarchy of Needs. The American psychologist Abraham H. Maslow (1987) proposed this theory in his book "Motivation and Personality", categorizing human needs into five hierarchical levels: Physiological Needs, Safety Needs, Social Needs, Esteem Needs, and Self-Actualization Needs. The theory emphasizes that subjective human needs determine motivation. People living in different social environments have a dominant need at different stages of life. Generally, after satisfying lower-level needs, people aspire to meet higher-level needs. Lower-level needs do not disappear with the emergence of higher-level needs but remain subordinate. Higher-level needs can also enhance personal well-being, and the pursuit of greater well-being in turn promotes personal development (Kowk 2014).

Income serves as a fundamental indicator for evaluating the self-esteem and social status of employed individuals. When people's dominant needs are at the lower-level material stage,

increases in absolute income can significantly improve their subjective well-being. However, with the rapid economic development in China, basic survival needs have been met, and people's needs have shifted from basic subsistence to higher-level spiritual needs. After satisfying lower-level material needs, people are motivated to pursue higher-level spiritual needs to gain more well-being. Since money has a diminished impact on spiritual needs, the influence of absolute income on subjective well-being gradually decreases. At this stage, these higher-level needs can be fulfilled through the improvement of relative income levels, thereby enhancing the subjective well-being of people (Shen 2024).

Three respondents mentioned the impact of interpersonal relationships on well-being, all of whom reported positive effects brought by healthy interpersonal connections.

"We work in a small team, so we always discuss things together. Besides, more overtime work means higher wages, which leads to better income." (O24 Operator)

"I'm very satisfied with my life. The colleagues get along well and children are obedient". (P15 Packer)

"Because I have many friends. Life is ok. I have many friends." (O8 Operator).

The impact of interpersonal relationships on well-being is aligned with the many existing literature related to well-being. Karapinar (2020) hold that social activities can expand people's vision and improve well-being. Demerouti and Bakker (2001) also found that social relationship is a resource. Individuals have the motivation to satisfy their social needs as a type of resources accumulation (Hobfoll et al. 2018).

4.4.9 Summary of Qualitative Study

This qualitative study explored the mechanisms behind the impacts of working hours, job demands on key employee outcomes (well-being, work-family conflict, turnover intentions) by collecting data from semi-structured interview and thematic analysis of the interview data.

For the impact of working hours on well-being, insufficient discretionary time and fatigue caused by long working hours are the factors negatively impact the workers' well-being. However, perceived sufficient discretionary time and high autonomy over working hours can mitigate the negative impacts. Working hours also have some positive impact on well-being. The positive impact factors increased income caused by long working hours, social needs satisfied at work and certain cultural factors (e.g., family responsibilities).

For the impact of working hours on work-family conflict, time conflict with family activities and fatigue caused by long working hours negatively impacts workers' work-family conflict.

However, certain cultural factors (e.g., attitude towards family), habituation of long working hours, high autonomy over working hours, family support and certain individual circumstances can mitigate the negative impact. In some special situations, long working hours also have some positive impacts. For example, eating in the company during overtime work can reduce their housework.

For the impact of working hours on turnover intentions, long working hours itself and work-family conflict caused by long working hours negatively impact workers' turnover intentions. However, certain cultural factors, employer welfare and economic pressure can mitigate the negative impacts. Income affected by working hours can reduce the turnover intentions.

For the impact of job demands on well-being, High workload and demanding arrangements negatively impact workers' well-being. While the negative impacts can be mitigated by perceived proper workload and more income caused by high job demands and certain cultural factors (culture-based expectations).

For the impact of job demands on work-family conflict, same to the impact on well-being, the negative impacts are also caused by high workload and demanding arrangements. Perceived proper job demands and family support can mitigate the impacts.

For the impact of job demands on turnover intentions, the overall high job demands cause high turnover intentions. While perceived proper job demands and certain cultural factors can mitigate the impacts.

Other than the exploration of working hours and job demands on employee outcomes. The study also explored the factors that impact workers fatigue and well-being. For the impacts on fatigue, the key factors are workload and demanding work arrangement (e.g., night shifts). Long working hours, work environment and some other factors (e.g., interpersonal relationship) can also lead to fatigue. For the impacts on well-being, employees' expectations, family, income, and interpersonal relationships are the primary factors causing the impacts.

4.5 Finding Synthesis of Mixed Methods

This section synthesizes the findings from quantitative study and qualitative study. The triangulated with the real turnover data from the case company if applicable. This thesis follows the logic below. Firstly, quantitative study with questionnaire survey is conducted to initially identify the relationship between working hours, job demands and well-being, work-family conflict and turnover intentions. Then, qualitative study with interview is conducted to explore the mechanism behind the relationship found by quantitative survey. The actual turnover data

from the case company is used as a side support to confirm the findings from quantitative study and qualitative study. The interview findings from the qualitative study do not only explain the relationship identified from the quantitative study but also complement and challenge some of the findings.

4.5.1 Qualitative Findings Explain Quantitative Findings

One reason why use mixed methods is that qualitative study can explore the mechanisms behind the relationships identified by quantitative study. The mechanisms can be used to explain the findings from quantitative findings. Different from quantitative findings, qualitative findings are not always black and white. It explains the impacts from three aspects: negative impact factors, mitigating factors and positive impact factors. The negative impact factors can be used to explain significant impacts. Mitigating factors and positive factors can be used to explain non-significant impacts. A summary of examples is as Table 18 Finding Synthesis of Mixed-Methods:

Table 18 Finding Synthesis of Mixed-Methods

Quantitative Finding	Qualitative Explanation	Remark
Working Hours have a significant negative impact on well-being ($\beta = -0.140$, $p < 0.01$)	Interviewees linked long working hours to reduced discretionary time and increased fatigue. E.g., O30: "I lack time. If I have time, I can spend time with my family...The impact is certain." P8: "(Working) 60 hours is good. 66 hours is much more tiring."	
Working Hours have a non-significant impact on Work-family Conflict ($\beta = 0.070$, $p > 0.1$)	Five mitigating factors (cultural attitudes, habituation, autonomy, family support, individual circumstances) mitigate the negative impact of long working hours on family life.	
Working Hours have a non-significant impact on Turnover intentions ($\beta = 0.166$, ns at $p < 0.05$)	Economic pressure, employer benefits, and age-discrimination concerns mitigate turnover intentions. Income from overtime is a positive factor that offsets the negative impacts.	Reducing working hours may inadvertently increase turnover by cutting income — a finding with direct policy implications.
Job Demands have a non-significant impact on Well-being ($\beta = -0.165$, $p > 0.1$)	Perceived proper workload, more income caused by high job demands and certain cultural factors mitigate the negative impact.	Qualitative findings show week support the quantitative findings. 22 out of 30 interviewees reported negative impacts.

Job Demands have a significant positive impact on Work-Family Conflict ($\beta = 0.827, p < 0.01$)	High workload and demanding arrangements were reported to deplete energy needed for family roles. P20: "After operating the machine, I don't feel like doing anything at all when I get home."	
Job Demands have a significant positive impact on Turnover Intentions ($\beta = 0.785, p < 0.01$)	High workload leads to turnover intentions. P30: "I have definitely considered getting a job with low workload."	Company turnover data supports the finding: 7% resigned due to job demands; an additional 15% cited night shifts.

4.5.2 Qualitative Findings Complement Quantitative Findings

Another reason for using mixed methods is that qualitative study can explore more from emic view since the findings from quantitative study may not reflect local constituencies' understandings. And also, the findings from quantitative are abstract and general (Johnson and Onwuegbuzie 2004). In this thesis, lots of information from the interview not only explains the quantitative findings but also complements them. The quantitative findings are more about yes and no, while the interview is much more than that. For example, the quantitative findings say that long working hours have significant negative impact on well-being. During the interview, there were eight interviewees who said that long working hours reduced their discretionary time and caused fatigue. This can be used to explain the survey results. However, there are also employees who said that the impact is limited; and some give both advantages and disadvantages. They give lots of reasons like they have autonomy over working hours, income increased by overtime. Similar to other relationships identified by quantitative study. These were categorized into mitigating factors and positive impact factors. These findings can well complement the findings from quantitative study.

4.5.3 Qualitative Findings challenges Quantitative Findings

Quantitative study may have confirmation bias because of the focus on theory or hypothesis testing (Johnson and Onwuegbuzie 2004). Some quantitative findings are challenged by qualitative study. The most obvious one is the impact of job demands on well-being. The quantitative findings show that job demands have non-significant impact on well-being. However, most interviewees from the qualitative study reported that their well-being is impacted by job demands, specifically, high workload and demanding work arrangement. The actual turnover data from the case company also supports the interview results. 7% of turnover workers directly reported job demands and 15% reported night shift which belongs to

demanding work arrangement and treated as a part of job demands. On the contrary, the quantitative findings show that working hours have significant impact on well-being. Although there are eight interviewees give reasons that why there are impacts. However, there are more interviewees trying to explain why their well-being is not impacted. That is because the well-being in quantitative study is measured by questionnaire. It is about an abstract feeling about work and life. When the interviewees hear about well-being, what comes to their mind is income, family, interpersonal relationships, etc. There are discrepancies between broad theoretical measurement and people's perception. Thus, qualitative study not only adheres to the conceptual framework of quantitative study but also extends it. In sections 4.4.7 and 4.4.8, the factors impacting fatigue and well-being are summarized.

Chapter 5: Discussions

5.1 Introduction to the Chapter

This chapter discusses the synthesized findings. Apart from a summary of results, it also demonstrates the unique contribution of a sequential mixed-methods research design. The thesis employs a quantitative-to-qualitative sequence for a reason: the quantitative phase (N=234) aims to identify statistical relationships, whether working conditions affect which employees' outcomes; while the qualitative phase (N=30) aims to explain how and why these relationships occur, revealing what quantitative models cannot capture.

The value of this sequential design is reflected in the unique insights generated at the interface between the two methods. Qualitative evidence not only triangulates the quantitative results but also complement and expands the quantitative findings. methodological triangulation strengthens the credibility of the conclusions. It exposes the limitations of quantitative measurements that single-method studies might overlook. Each of these integrative relationships will be examined in the discussion below.

The discussion revolves around six hypothetical relationships (Sections 5.2.1–5.2.6). In each case, quantitative results and qualitative results are briefly stated, then show how the sequential mixed-methods design works especially how the qualitative evidence supports or challenges the quantitative result. This chapter also concludes with its theoretical implications, practical implications (including references from case company practices), limitations, and future research directions.

5.2 Discussions of the Findings

5.2.1 Working Hours and Well-being

Quantitative research findings indicate that working hours of front-line manufacturing workers have a significant negative impact on their well-being. The qualitative evidence was broadly consistent. There are eight interviewees clearly stating that long working hours have negative impact on their well-being.

Qualitative evidence can support and explain the quantitative findings to a certain extent. Qualitative findings also reveal that long working hours reduce front-line workers' discretionary time and increase their fatigue levels, thereby leading to a negative impact on their well-being. It reflects one of the functions of mixed methods – triangulation (Jennifer al.1989). However, there are also many interviewees who tried to explain why the impacts of long working hours was limited and come out the mitigating factors (Perceived sufficient

discretionary time, high autonomy over working hours) and positive factors (Increased income caused by long working hours, cultural factors, social needs satisfaction). And eight interviewees confirming the negative impact do not show strong support. The others mentioned the positive impact, especially income caused by long working hours. Which means the mitigating factors and positive factors play an important role in the interviewees' consideration. They can offset and even exceed the negative impacts. It reflects the functions of mixed methods- complementarity and expansion (Jennifer al.1989).

Most existing studies agree that long working hours have negative impacts on people's well-being. For instance, Xue et al. (2021) found in their quantitative study on MBA students in universities that overtime work has a significant negative impact on employees' well-being. Zhang and Ding (2025) reached the same conclusion in their quantitative research targeting teachers.

This finding can be explained by COR theory and the effort recovery theory (Xue et al. 2021). COR Theory posits that individuals tend to preserve their existing resources and prevent resource depletion, and individual well-being is also correlated with the amount of available resources (Hobfoll 1989). In contrast, the effort-recovery theory argues that resources depleted through work activities need to be replenished and restored during periods of rest (Meijman and Mulder 1998). Long working hours consume employees' physical and psychological resources, which is reflected as reduced well-being. Discretionary time, however, can be used to replenish and recover the resources previously depleted at work. Therefore, long working hours lead to insufficient discretionary time, which in turn results in lower levels of well-being. Qualitative research further identified factors that can mitigate the negative impact of working hours on well-being. The factors are perceived sufficiency of discretionary time and high autonomy over working hours. Several existing studies support these findings. Tang (2022) found that perceived discretionary time is positively correlated with well-being. Similarly, Cui et al. (2020) and Wang (2023) both confirmed the moderating role of high time autonomy on well-being.

5.2.2 Working Hours and Work-Family Conflict

Quantitative research findings indicate that the impacts of working hours of front-line manufacturing workers on their work-family conflict is not significant ($\beta = 0.070$, $p > 0.1$). In qualitative research, there are 25 interviewees reported that working hours do not affect their work-family conflict, there are also a few (five) stated there are some impacts.

The qualitative evidence can well explain the quantitative findings. Most interviewees reported that long working hours did not affect their work-family conflict due to various reasons, which are summarized as mitigating factors in this thesis. The main mitigating factors include cultural factors (attitudes toward family and life, reasonable expectations), habituation to long working hours, high autonomy over working hours, family support, and individual circumstances. These findings address a topic rarely covered in existing research, and the identified mitigating factors can provide practical references for reducing the impact of working hours on work-family conflict. These reflect the triangulation function of mixed methods (Jennifer al.1989). However, there are still five interviewees who stated that the impact of long working hours to the family do exist, mainly reflected in time conflict and the impact of fatigue. These factors were summarized as negative impact factors. This is a finding that single qualitative research does not make it. The regression process aggregates all cases into a single estimate which covers the variations. Here reflects the complementarity function of mixed methods (Jennifer al.1989).

This finding is inconsistent with the conclusions of most existing literature, which generally suggest that long working hours lead to more severe work-family conflict (Li 2003). For example, Jin et al. (2014) found a significant positive correlation between working hours and work-family conflict in a social survey covering five regions of China. Xin et al. (2022) reached the same conclusion in their study on hospital nurses, demonstrating that nurses' overtime hours were positively correlated with work-family conflict. The difference may be caused by the different research subjects. Currently, there are few studies exploring the impacts of working hours on work-family conflict specifically targeting front-line manufacturing workers. Two explanations account for this non-significant impact: first, there are mitigating factors that offset the negative impact of working hours; second, the workers currently employed by the company are selected for their fitness with the company's working conditions.

COR theory holds that resources can be transferred between work and family (Hobfoll 1989). Family support can reduce resource consumption in families by front-line manufacturing workers. Their total resources consumption is limited even though they spend more at work. This explains why family support can mitigate the negative impact from long working hours. Front-line manufacturing workers can obtain higher income from long working hours. Higher income is another type of resources (Hobfoll 1989). It can help to satisfy their expectations on family. It helps to explain why cultural factors and habituation to long working hours can be mitigating factors.

An analysis of the company's turnover data shows that 20% of workers resigned due to family reasons. While this may seem contradictory to the study's conclusions, it is actually because

caring for family members, especially children, is a rigid demand. Individuals with such demands must avoid jobs that conflict with family care responsibilities. For example, if an individual must send and pick up their children from school every morning and evening, they cannot take a job that conflicts with this schedule, regardless of the total working hours. Some companies offer flexible temporary positions with piece-rate pay, allowing employees to leave work to send and pick up their children for schooling and return afterward. These employees still work more than 11 hours a day, but they cannot take formal positions as regular roles do not offer the required flexibility.

5.2.3 Working Hours and Turnover Intentions

Quantitative research findings show that the impact of working hours on turnover intentions of front-line manufacturing workers is not significant ($\beta = 0.166$, ns at $p < 0.05$). Qualitative research conclusions are generally consistent with this quantitative finding: only one respondent clearly reported considering resignation due to working hours related issues, and this was not at the current company.

The qualitative findings provided good explanations for the quantitative findings. The explanations for why working hours do not impact turnover intentions are summarized as mitigating factors, including culture (concepts, potential discrimination, etc.), employer benefits, and economic pressure. In addition to these factors, some respondents mentioned that longer working hours lead to higher income, so they have no intention of resigning; on the contrary, shorter working hours may increase turnover intentions. These well reflected the triangulation and complementarity function of mixed methods (Jennifer al.1989).

This result is inconsistent with existing research, which mostly concludes that long working hours increase employees' turnover intentions. For example, Zhao (2020) found in a study on migrant workers that excessive overtime increased their turnover intentions. Wang and Ma (2018) also found a positive correlation between weekly overtime hours and turnover intentions among medical staff. The discrepancy can be attributed to two factors. First, existing studies do not specifically target front-line manufacturing workers. Second, the identified mitigating factors can offset the negative impacts of long working hours on workers.

According to COR theory and JD-R theory, long working hours lead to high resource consumption and health impairment path which may cause turnover intentions (Hockey 1993; Hobfoll 1989). While on one hand, long working hours can bring more income which is another

type of resource. On the other hand, employer benefit is also another type of resources to front-line manufacturing workers.

An analysis of the company's turnover data shows that 13% (eight employees) cited low income as the reason for resignation. Of these, six resigned during the low season, and two explicitly stated that the lack of overtime work was the cause. It can thus be inferred that the workers prefer to work more overtime to increase their income rather than resigning due to a dislike of overtime. This can be explained by the mitigating factors identified in the study.

5.2.4 Job Demands and Well-being

Quantitative research findings indicate that the impact of job demands on the well-being of front-line manufacturing workers is not significant ($\beta = -0.165$, $p > 0.1$). In contrast, qualitative research reveals that a large number of respondents reported negative impacts of high job demands on their well-being (22 out of 30),

Qualitative evidence challenges the quantitative findings. The inconsistency may be due to differences in the understanding of well-being. Quantitative research used established scales, where well-being scores are composed of multiple factors. In interviews, however, respondents' understanding of well-being was more dependent on their immediate feelings and perceptions, which varied from person to person. One of the weaknesses of single quantitative research is that the researcher's theories that are used may not reflect local constituencies' understandings (Johnson and Onwuegbuzie 2004). During both well-being scale development and survey, the processes are difficult to fully show the understanding of all people, and it also varies as per research subjects. While the strength of qualitative research can supplement the weaknesses. Interview can provide emic view from the understanding and description of interviewees (Johnson and Onwuegbuzie 2004). Here it is not that the quantitative findings are wrong. Based on a macro perspective, the questionnaire measured the well-being which defined in academia, and it was widely accepted. However, the understanding of well-being varies between different research subjects. Even in the group of frontline manufacturing workers, the understanding of well-being varies from person to person. Currently, there is no scale developed for frontline manufacturing workers. This can be a topic for future research. According to qualitative research, the impact of job demands on well-being mainly comes from heavy workloads and demanding work arrangements. Qualitative research also identified mitigating factors that can alleviate the impact of job demands on well-being, including perceived appropriate job demands, more income caused by high job demands, and cultural factors (family, expectations).

The qualitative findings are inconsistent with the conclusions of most existing studies. Existing research suggests that high job demands have a negative impact on workers' well-being. For example, Guo et al. (2025) found that high job demands reduced the well-being of school counselors. Radic et al. (2020) reached a similar conclusion in their study on cruise ship employees.

This phenomenon can be explained by JD-R Model. Job demands are negative factors that deplete individuals' resources. High job demands accelerate the consumption of workers' physical and psychological resources, leading to fatigue or burnout. If this resource depletion accumulates without recovery, it leads to well-being deterioration (Wang et al. 2016). The mitigating factors identified in qualitative research can be regarded as resources that help workers replenish depleted resources, thereby mitigating the depletion caused by job demands.

5.2.5 Job Demands and Work-Family Conflict

Quantitative research findings indicate that job demands have a significant impact on the work-family conflict of front-line manufacturing workers ($\beta = 0.827$, $p < 0.01$). In qualitative research, there are five interviewees reported that job demands affected their work-family conflict. Since there were only 10 interviewees directly answered the question. All others interview information regarding the impact of job demands on work-family conflict is ambiguous.

If only judges from that how many interviewees were impacted and how many were not. It is difficult to understand the qualitative evidence supports the quantitative findings or not. There is a strength of qualitative research is that qualitative researchers can study dynamic processes (Johnson and Onwuegbuzie 2004). Some interviewees clearly stated that the negative impacts are mainly reflected in the impact of heavy workload and demanding work arrangements. These were summarized as negative impact factors in the findings section. When other interviewees describe the relationship. They treat it as dynamic. The impacts vary based on the mitigating factors like Perceived proper workload, family support, environment, etc. The definition of job demands in this thesis is defined based on a subjective perception. It can be easily judged that when the interviewees felt negative when they perceive that the job demands are high. During the interview, the researcher can easily get the negative impact of high job demands on their family. Here qualitative research plays roles of triangulation and complementarity (Jennifer et al.1989).

Most existing studies also conclude that job demands are positively correlated with employees' work-family conflict and are important predictors of work-family conflict (Major et al. 2002). The significant predictive effect of job demands on work-family conflict has also been verified by many scholars (Voydanoff 2004, 2005; Lu et al. 2009). Steinmetz et al. (2008) found a significant positive correlation between job demands and work-family conflict, the higher the job demands, the greater the work-family conflict. Wang (2020) also found a significant positive correlation between job demands and work-family conflict in a study on employees. Ma and Luan (2021) found that nurses' workload was positively correlated with work-family conflict in their study on female ICU nurses.

Perceived appropriate job demands and family support are factors that can mitigate the impact of job demands on work-family conflict. The mitigating effect of family support is also supported by existing research: for example, Zhou (2023) found that family support played a mediating role between work fatigue and work-family conflict in a study on middle school teachers.

The impact of job demands on work-family conflict can be explained by JD-R Model and COR Theory. According to the COR Theory proposed by Hobfoll (1989), individuals possess a limited pool of physical and psychological resources and have an innate tendency to protect existing resources and acquire new ones. The JD-R Model proposed by Bakker et al. (2004) further points out that high job demands (e.g., heavy workload, frequent order changeovers) are typical resource-depleting factors that continuously consume employees' physical and mental resources. When employees invest excessive resources in the work domain to meet high demands, the resources available for families are correspondingly insufficient, making it difficult to fulfill responsibilities such as caring for family members and participating in family interactions, which ultimately triggers work-family conflict. Resource-supplementing factors such as family support can effectively slow down the rate of resource depletion and reduce the negative impact of job demands on work-family conflict.

5.2.6 Job Demands and Turnover Intentions

Quantitative research findings indicate that job demands have a significant positive impact on the turnover intentions of front-line manufacturing workers ($\beta = 0.785$, $p < 0.01$). In qualitative research, four interviewees reported that job demands affected their turnover intentions. There is total 12 interviewees directly responded. While others give ambiguous answers.

Similar to the impact of job demands on work-family conflict. Many interviewees tried to give reasons why they would not resign, especially the cultural factors like hardship endurance and

reasonable expectations. It is not that they don't want to resign, it is more like they have limited choice. It can be clearly seen that the impacts of job demands do exist. Here qualitative research also plays roles of triangulation and complementarity (Jennifer et al.1989).

Most existing studies conclude that job demands are positively correlated with employees' turnover intentions. Kuai and Zeng (2017) found that teachers' turnover intentions were positively correlated with their workload in a study on teachers. Similar conclusions have been drawn in other studies (Zhao 2023; Pan 2016).

The impact of job demands on turnover intentions can be explained by COR theory. According to qualitative research conclusions, fatigue plays a mediating role between job demands and turnover intentions. Fatigue impairs individuals' self-efficacy, which is classified as a personal resource (Hobfoll 1989). Individuals may generate turnover intentions to preserve this resource. Perceived appropriate job demands and cultural factors (concepts, expectations) can mitigate workers' turnover intentions caused by job demands. This is another key finding of qualitative research.

The analysis of the company's turnover data shows that 7% (four workers) resigned due to high job demands, which is consistent with the conclusions of both quantitative and qualitative research. Additionally, 15% (nine workers) cited night shifts as the reason for resignation. Night shifts are a special type of work arrangement and also a component of job demands. This indicates that job demands are a key factor affecting worker's turnover.

5.3 Theoretical Implications

First and foremost, this thesis enriches the empirical application of JD-R model and COR model in explaining the impacts of working hours and job demands specifically workload and time pressure on well-being, work-family conflict, and turnover intentions among front-line manufacturing workers. Specifically, it supplements the mediating role played by fatigue in these relationships, which has been understudied in prior research applying JD-R and COR models to front-line manufacturing workers. By verifying that fatigue serves as a mediator linking long working hours and high job demands to negative employee outcomes, this study deepens the theoretical understanding of how job demands lead to negative outcomes mechanism in JD-R model and expands the connotation of "resource depletion" in COR model, thereby enhancing the applicability of these two theoretical frameworks in the manufacturing context.

Second, this thesis addresses the empirical gap in academic research on the impacts of working hours and job demands specifically workload and time pressure on well-being, work-family conflict, and turnover intentions among front-line manufacturing workers in China. Despite the large scale of China's manufacturing industry, academic research on this sector lags behind that in western countries, with limited attention paid to front-line manufacturing workers, especially research focusing on their working hours and job demands. Most existing studies in this field have focused on the education and healthcare sectors, likely due to insufficient academic engagement with the manufacturing industry. Given the large population of front-line manufacturing workers, this group should not be overlooked in academic research. By taking front-line manufacturing workers as the research subject, this thesis empirically reveals the unique impacts of working hours and job demands specifically workload and time pressure on this specific group, providing a more comprehensive and context-specific theoretical perspective on their work and life situations, and thus supplementing the literature on working hours and job demands in China contexts.

Third, this thesis introduces the concept of mitigating factors into the research conclusions. Unlike traditional studies that only report "positive", "negative", or "not significant" impacts, this thesis identifies mitigating factors that serve two purposes. On the one hand, they explain why the same level of working hours or job demands may lead to different outcomes. For example, under the same working hour arrangements, high autonomy over working hours as a mitigating factor can reduce the negative impact of long working hours on well-being. On the other hand, these mitigating factors can support the development of measures to address the negative impacts of long working hours and high job demands. For example, improving autonomy over working hours can be an action to improve the well-being of front-line manufacturing workers.

Fourth, this thesis constructs a theoretical model illustrating the impacts of working hours and job demands on front-line manufacturing workers' well-being, work-family conflict, and turnover intentions, with fatigue incorporated as a mediating factor. This theoretical model empirically verifies three key theoretical relationships: the significant negative impact of long working hours on front-line manufacturing workers' well-being; the significant positive impact of high job demands on work-family conflict and turnover intentions; and the universal mediating role of fatigue in all these relationships. By clarifying these complex theoretical mechanisms, the model provides a systematic and testable theoretical framework for future research on working hours, job demands, and employee outcomes among front-line

manufacturing workers, laying a foundation for further theoretical exploration in the manufacturing context.

Fifth, this thesis makes a methodological-theoretical contribution by demonstrating that a sequential mixed-methods design provides with more complete theoretical account of complex relationships during work and life factors than single quantitative or qualitative methods alone. Through quantitative hypothesis testing, the JD-R and COR models explored the resource-depletion paths from working hours and job demands to fatigue then to well-being, work-family conflict, and turnover intentions. However, the qualitative phase revealed that these paths are affected by mitigating factors (cultural factors, family support, habituation, expectations etc.) and positive factors (income benefits, social need satisfaction, fulfilment of family responsibilities) that the standard survey instruments could not explore. These qualitative study derived constructs, particularly the mitigating factors and positive impact factors, are not only elaborations of the quantitative model; they are also theoretically independent mechanisms. Future theoretical development of these models, particularly in the context of low-income frontline workers, should incorporate these constructs as potential moderators, mediators, or additional resource dimensions. Mitigating factors, for instance, could be formalized within the COR framework as "counter-depletion resources" that slow or reverse the loss spiral, while the positive impact factors suggest the need for a "resource gain path" parallel to the health impairment path of the JD-R model. This theoretical extension, grounded in empirical qualitative evidence, represents a contribution that neither a single quantitative study nor a single qualitative study could have made.

5.4 Practical Implications

This thesis provides important insights and actionable implications for practice. At present, all sectors of society are making various efforts to improve front-line manufacturing workers' working conditions. For instance, regulating employees' working hours has become a primary measure. However, whether these measures are optimal remains questionable, and this thesis offers an answer to this question. In addition, this thesis proposes relevant measures for effectively improving the working conditions of front-line manufacturing workers, truly from the perspective of workers themselves.

First, a one-size-fits-all approach to reducing working hours is not a reasonable measure for front-line manufacturing workers. The issue of workers' working hours should be examined from multiple perspectives rather than simply reducing working hours. According to the

quantitative research findings, reducing working hours can indeed enhance well-being. Nevertheless, qualitative analysis results indicate that shorter working hours drastically cut the income, thereby exerting negative impacts on their lives. Questionnaire survey results show that 96% of participants are willing to work overtime, with 80% expressing strong or extremely strong willingness and 16% reporting moderate willingness. Among them, 91% of employees work overtime to increase their income, and 99% of employees believe that overtime work has boosted their earnings—75% of whom state that overtime has significantly increased their income. The data demonstrate two key points: on the one hand, overtime work effectively increases workers' income; on the other hand, workers have a strong willingness to work overtime. Therefore, advocating measures that go against workers' will in the name of their well-being is not a rational practice.

Governments and enterprises should flexibly regulate working hours based on workers' specific circumstances and job demands. When arranging working hours, enterprises should comprehensively consider factors such as workers' physical conditions, family situations, personal preferences, workload, work shifts, and work environment. Taking the research subjects of this thesis as an example: if workers undertake high demand work in a hot environment, enterprises should arrange shorter working hours; conversely, if employees perform light work in air-conditioned rooms, longer working hours can be appropriately scheduled provided that workers' personal willingness is respected. Governments should also avoid imposing rigid, one-size-fits-all restrictions on working hours. Given that most manufacturing enterprises operate on thin profit margins, it is unrealistic to simply require enterprises to shorten working hours while increasing wages. Overly rigid requirements may instead lead to deteriorating business performance and reduced employee income, resulting in a lose-lose situation. Furthermore, if workers face financial pressures, even if they cannot obtain satisfactory income from one company, they will seek additional income through part-time jobs or other means. During the interviews, some interviewees mentioned that they would set up street stalls after work to earn extra income to supplement their household expenses.

Second, channels for workers to obtain higher income should be provided. For example, optimizing the bonus system. Such as implementing piece-rate bonuses within legal boundaries. A sound bonus system can stimulate front-line manufacturing workers' work enthusiasm and improve input-output efficiency, enabling enterprises to achieve higher profits. By sharing a portion of profits with workers as bonuses, enterprises can help workers increase their income, which in turn contributes to improving their well-being and reducing work-family conflict.

Third, the level of autonomy over working hours should be enhanced. According to the conclusions of this thesis, perceived sufficient discretionary time and high autonomy over working hours can mitigate the negative impact of working hours on well-being and work-family conflict. Fatigue plays a mediating role in the impact of working hours on well-being (Cui et al. 2020). Specifically, the higher the level of self-determination regarding overtime motivation, the smaller the loss of work-related well-being caused by overtime; when the level of self-determination reaches a certain threshold, overtime work can even enhance work-related well-being. Workers should be granted greater authority to choose their working hours based on factors such as their perceived sufficient discretionary time and fatigue levels. This authority includes two dimensions: 1. Autonomy over working hour duration: Workers should be allowed to propose adjustments to their working hours to a certain extent based on their fatigue levels, family needs, and income requirements. 2. Autonomy during working hours: For fixed positions with high repetitiveness, substitute staff should be assigned to allow workers' time for personal breaks and flexibility.

Fourth, attention should be paid to front-line manufacturing workers' job demands. The research subjects of this thesis are front-line manufacturing workers, a group facing relatively high job demands. As indicated by the conclusions of this thesis, job demands have significant impacts on front-line manufacturing workers' work-family conflict and turnover intentions. Particularly for positions with high job demands, feasible measures should be adopted to reduce such demands. Specific measures include reducing workers' workload, optimizing demanding work arrangements, driving a positive work atmosphere, and improving the work environment. Examples of actionable strategies to reduce workload include adopting automation and semi-automation technologies to alleviate physical workload and applying industrial engineering methodologies to design more rational work processes. Methods for optimizing demanding work arrangements include reasonably combining high-demand and low-demand tasks (e.g., alternating between packaging work and warehouse management) and improving scheduling practices, such as minimizing night shifts and considering workers' specific circumstances when arranging special shifts (e.g., avoiding scheduling workers with school-age children to work on weekends as much as possible). Promoting a positive work atmosphere is a low-cost measure that can effectively enhance well-being and reduce turnover intentions. Relevant strategies include training managers to respect front-line workers, communicate politely, avoid issuing blunt orders, and build positive superior-subordinate relationships as well as encouraging mutual respect and assistance among employees, enabling them to experience positive interpersonal relationships at work.

Improving the work environment can involve measures such as maintaining a reasonable temperature in the workplace to reduce employee fatigue. Additionally, governments should introduce more standards and regulations to regulate job demands, similar to GB/T 12330-2023, which specifies weight limits for manual handling. Examples of such regulations could include standards for the speed of repetitive work and the sustainable duration of high workloads.

5.5 Reference Practices of the Research Subject Company

As the author serves as a manager of the research subject company, certain specific practices of this company hold referential value.

Management of Working Hours

Give autonomy in taking leave and overtime to workers. The company is subject to a non-negotiable client-mandated limit of 60 working hours per week. Instead of rigidly enforcing hour restrictions, the company prioritizes flexibility in scheduling. Provided that the weekly working hours do not exceed the 60-hour cap, workers are free to choose whether to work overtime or take leave at their own discretion. Management personnel do not inquire about the reasons for leaving applications or rejecting such requests. To ensure equipment utilization rates, the company deploys a designated number of flexible substitute staff to cover the duties of workers on leave.

Autonomy during working hours is maximized. For non-fixed-position roles (e.g., machine operators), workers are permitted to leave the workshop at any time for breaks such as smoking, drinking water, using mobile phones, or even taking short naps. For fixed-position roles with machine-paced workflows (e.g., packers who must align their work with production line speeds), the company encourages machine operators to take over packers' duties when packers need rest. In addition, an extra substitute operator is assigned to a certain number of production machines to take over tasks when regular operators are unavailable to provide coverage. Packers are also allowed to engage in free activities during equipment downtime for material replenishment. The company ensures production output by implementing a well-designed performance bonus system.

5.5.1 Improvement of Job Demands

Reduce workload through automation and semi-automation. The company adopts automation and semi-automation solutions to alleviate workers' physical workload and reduce fatigue levels. For example, while fully automated packaging solutions are commercially available, the company has refrained from adopting them due to high investment costs and potential

negative impacts on employment. Instead, it implements partial process automation to reduce the workload of packers. Specific measures include the following.

Deploying automatic carton sealers, which require minimal investment but eliminate the manual case-sealing tasks for packers.

Installing automatic stackers, which reduce the need for packers to manually lift 10-kilogram cartons from the production line to pallets 3 meters away by 400 times per day.

These measures have significantly reduced the physical workload of packers. Additionally, AI-enabled cameras are utilized to assist machine operators in quality inspection, thereby reducing their cognitive workload and attention consumption.

Optimize work design through industrial engineering (IE). IE methodologies are applied to optimize work processes, reducing both physical and mental exertion of workers. This is achieved through rational design of work movements, workflow routes, and time allocation. Specific practices for example: positioning machine operation buttons within easy reach of operators; optimizing the placement of tools and materials to minimize unnecessary movement by workers; predefining collaborative workflows for large equipment requiring multi-person operation, to avoid repetitive motions.

Schedule working hours humanely and reasonably. Minimizing night shifts: The company makes every effort to reduce night shift arrangements. When night shifts are deemed necessary, it considers workers' opinions and provides reasonable shift allowances.

Simplify work by reducing task switching: Frequent switching between different tasks is minimized. For instance, production records are digitized, allowing machines to automatically track output volumes and eliminating the need for operators to simultaneously handle machine operation and manual record-keeping. Similar production orders are consolidated as much as possible to reduce changeover times. For frequently processed orders, appropriate inventory levels are maintained when such practices do not increase overall costs.

Improve the work environment. High temperatures are a key factor that cause fatigue in summer. To address this issue, the company installed solar panels on the workshop roof, which not only reduced electricity costs but also lowered the daytime temperature inside the workshop from 33°C to 30°C. In addition, ventilation fans and evaporative coolers were installed to create a cooler working environment, thereby reducing employee fatigue. In winter, waste heat generated by air compression equipment is redirected into the workshop to raise indoor temperatures and ensure worker comfort.

Promote a positive company culture. The company conducts regular training sessions for management personnel, encouraging them to adopt a positive, people-oriented approach to

employee management and avoid conflicts between managers and staff. Meanwhile, company-wide cultural advocacy activities are organized periodically to promote a culture of mutual respect and consideration, encouraging workers to assist one another. These low-cost initiatives not only mitigate the negative impacts of high job demands but also satisfy employees' social needs, generating positive outcomes. This also explains why some respondents reported feeling happier at work than at home.

5.6 Limitations and Future Research Directions

Despite the rigorous design and implementation of this thesis, it still has several limitations, which can be summarized into three main aspects as follows.

First, there are inadequacies in the measurement of well-being. This thesis reviewed mainstream well-being measurement methods and strived to select the most appropriate universal standardized scales for the research subjects. However, these scales were not originally designed specifically for front-line manufacturing workers. As a result, the universal standardized scales may fail to fully capture the unique dimensions of well-being experienced by this group under their specific living and working environments. Moreover, individuals within the same group may hold divergent understandings of well-being. This limitation has led to one of the findings of this thesis: inconsistencies between quantitative and qualitative research conclusions regarding certain well-being-related outcomes. For instance, the scales did not incorporate items related to the economic issues of the research subjects, yet economic concerns were repeatedly mentioned by respondents during interviews. Even though the researcher explained the definition of well-being to respondents before the interviews, the participants still unconsciously relied on their personalized, implicit cognitive frameworks of well-being when answering questions. Therefore, developing and validating a specialized well-being scale tailored to front-line manufacturing workers within the cultural context of China's manufacturing industry constitutes an urgent and crucial task for future research.

Second, the study is subject to questionnaire burden and fatigue effects. The questionnaire included a total of 49 items, among which 39 were scale-based questions and 10 were demographic questions. Although the researcher fully considered the characteristics of front-line manufacturing workers during the design phase and deliberately selected scales with concise expressions and relatively few items, feedback from some respondents during follow-up interviews indicated that the questionnaire, particularly the core well-being scale consisting of 18 items, was too long. This may have caused respondents to have perfunctory answering

tendencies in the latter part of the questionnaire due to mental fatigue. Although the reliability and validity of the questionnaire data were within acceptable ranges in subsequent analyses, further optimization could yield higher-quality results. In future research, efforts can be made to further streamline the scales, and pre-studies can be conducted to screen out core items with the highest discriminative power, thereby developing a shortened version of the scales.

Third, the study has limitations in the external validity of its sample. All samples in this thesis were drawn from a single large manufacturing group. While this group is representative to a certain extent in China's manufacturing sector, with its management practices and front-line workers' conditions sharing many similarities with the industry as a whole, it must be acknowledged that different enterprises vary in organizational culture, management models, regional characteristics, and employee composition. Therefore, the generalizability of this thesis's key findings, especially conclusions closely associated with specific organizational contexts (e.g., the effectiveness of certain management interventions), should be interpreted with caution. These findings are more likely to reveal the underlying mechanisms and possibilities under specific circumstances rather than universal laws applicable to all contexts. Based on this, future research can adopt a multiple-case comparison method, selecting manufacturing enterprises with different ownership types, scales, and geographical locations for replication studies. This approach will help verify the transferability of the findings of this thesis and further clarify which factors are constrained by specific contexts and which possess broader generalizability.

5.7 Conclusions

Reducing working hours is often used by governments and organizations as a key measure to improve the working conditions of front-line manufacturing workers. However, this measure has faced considerable opposition from workers. Is reducing working hours an effective measure to improve workers' lives? Are there other, more effective measures? What are the underlying mechanisms behind their effectiveness? These are the questions this thesis aims to address.

This thesis uses a mixed-methods approach to explore the impact of working hours and job demands specifically workload and time pressure on front-line manufacturing workers' well-being, work-family conflict, and turnover intentions. Quantitative analysis revealed that working hours have a significant positive impact on the well-being of front-line manufacturing workers; however, they have no significant impact on work-family conflict and turnover

intentions. Job demands have a significant positive impact on work-family conflict and turnover intentions, but no significant impact on well-being. Fatigue plays a mediating role in all these significant impacts. Qualitative research explains the impacts of working hours and job demands on well-being, work-family conflict and turnover intentions from three aspects: negative impact factors, mitigating factors, and positive impact factors. The significant impact of working hours on well-being comes from insufficient discretionary time and fatigue. However, high autonomy over working hours can act as a mitigating factor to mitigate the negative impact. Long working hours can also bring positive effects such as increased income and fulfillment of social needs. The non-significant impact of working hours on work-family conflict is due to certain cultural factors (e.g., attitude towards family, expectations), high autonomy over working hours, and family support. The non-significant impact of working hours on turnover intention is due to the mitigating effects of certain cultural factors (concept, concerns about potential discrimination), company benefits, and economic pressure. The impact of job demands on well-being is due to high workload and demanding work arrangements. This differs from the conclusions of quantitative research, mainly due to the different understandings of well-being in different situations. However, certain cultural factors (e.g., family concept, expectations) and the higher income resulting from high job demands can mitigate the related negative impacts. The significant impact of job demands on work-family conflict also comes from high workload and demanding work arrangements. Family support can act as a mitigating factor to mitigate these negative impacts. The impact of job demands on turnover intentions is primarily due to high workload. However, some cultural factors (e.g., concept, expectations) can mitigate the impact of job demands on turnover intentions. Furthermore, the factors influencing fatigue and well-being are explored.

This thesis indicates that improving the lives of front-line manufacturing workers cannot be achieved solely through restricting working hours; rather, working hours should be arranged based on the actual circumstances of each worker. Improving job demands should be given more emphasis.

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APPENDICES

APPENDIX A: Participant Invitation Letter for Survey

Dear Mr./Ms.:

I am a doctoral student in the DMan (Doctor of Management) program at the University of Stirling. I am conducting a study as part of my DMan degree. The aim of this study is to understand the effects of working hours reduction, wages and job demand to fatigue, well-being work-family conflict and turnover intention of front-line workers in the manufacturing industry. I would like to invite you to participate in this survey.

The survey will take approximately 5-10 minutes to complete. All responses will be kept confidential and used solely for research purposes. Personal information will not be shared or identified in any published results.

You can access the survey through the survey link.

Your participation may facilitate the improvement of working hours related decisions.

Very appreciate your greatest support.

Participant Information Sheet

1. Research Project Title

The Effects of Working Hours Reduction, Wages and Job Demand to Fatigue, Well-being
Work-family conflict and Turnover Intentions

2. Background, Aims of Project

I am a doctoral student in the DMan (Doctor of Management) program at the University of Stirling's Management School. I am conducting this research as part of my DMan degree. The aim of this study is to understand the effects of working hours reduction and wages on the fatigue, work satisfaction, and work engagement of front-line workers in the manufacturing industry. I would like to invite you to participate in this study. I sincerely appreciate your cooperation and support!

3. Why have I been invited to take part?

The subject of this study is front-line workers in the manufacturing industry. You meet the criteria for participation, and therefore, we would like to invite you to take part.

4. Do I have to take part?

No. You do not have to take part. If you do decide to take part, you can withdraw your information within one month without needing to explain and without penalty by advising the researcher of this decision. To withdraw your data email biwl@stir.ac.uk with [___ this number] that identifies your data. You will need to confirm this information sheet and complete the following electronic consent form prior to your participation.

5. What will happen if I take part?

You will need to complete the questionnaire.

The questionnaire should take 5-10 minutes and can be completed online.

6. Are there any potential risks in taking part?

There are no foreseeable risks in taking part.

7. Are there any benefits in taking part?

There will be no direct benefit to you from taking part in this research.

8. Legal basis for processing personal data

As part of the project, I will be recording personal data relating to you. This will be processed in accordance with the General Data Protection Regulation (GDPR). Under GDPR the legal basis for processing your personal data will be public interest/the official authority of the University.

9. What happens to the data I provide?

Please note that this study does not record any personally identifiable information such as names, contact details, date of birth.

The research data will be kept anonymous and stored in the server of University of Stirling.

The researcher and the supervisor will have access to the research data.

Your personal data will be transferred to a country outside China, the following safeguards are in place to ensure your personal data is protected in accordance with the General Data Protection Regulation (GDPR).

All personal data and research data storage will be cleared up in accordance with the General Data Protection Regulation (GDPR). To ensure full compliance, all research data will be securely destroyed after the conclusion of the research project, using appropriate methods to guarantee that the data is irretrievable and inaccessible.

10. Recorded media

No recorded media needed for this survey.

11. Will the research be published?

The University of Stirling is committed to making the outputs of research publicly accessible and supports this commitment through our online open access repository STORRE. Unless publisher requirements prevent us, this research will be publicly disseminated through our open access repository.

12. Who has reviewed this research project?

The ethical approaches of this project have been approved via The University of Stirling - General University Ethics Panel.

13. Your Rights

You have the right to request to see a copy of the information I hold about you and to request corrections or deletions of the information that is no longer required.

You have the right to withdraw from this project at any time without giving reasons and without consequences to you. You also have the right to object to us processing relevant personal data, however, please note that once the data are being analysed and/or results published it may not be possible to remove your data from the study. (You can withdraw your information within one month without needing to explain and without penalty by advising the researcher of this decision. See point 4 for withdrawing method)

14. Who do I contact if I have concerns about this study or I wish to complain?

If you would like to discuss the study, please contact the researcher Bing Wang (biw1@stir.ac.uk) or the researcher's supervisor Mrs Sona Gachayeva (sona.gachayeva@stir.ac.uk). If you want to complaint about the research, you can contact Professor Kevin Grant (kevin.grant@stir.ac.uk), the Dean of Stirling Management School. You have the right to lodge a complaint against the University regarding data protection issues with the Information Commissioner's Office (<https://ico.org.uk/concerns/>).

The University's Data Protection Officer is Joanna Morrow, Deputy Secretary. If you have any questions relating to data protection these can be addressed to data.protection@stir.ac.uk in the first instance.

You can save a copy of this information sheet to keep.

Thank you for your participation.

Participant Information Sheet

1. Research Project Title

The Effects of Working Hours Reduction, Wages and Job Demand to Fatigue, Well-being, Work-family conflict and Turnover Intentions

2. Background, Aims of Project

I am a doctoral student in the DMan (Doctor of Management) program at the University of Stirling's Management School. I am conducting this research as part of my DMan degree. The aim of this study is to understand the effects of working hours reduction and wages on the fatigue, work satisfaction, and work engagement of front-line workers in the manufacturing industry. I would like to invite you to participate in this study. I sincerely appreciate your cooperation and support!

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No. You do not have to take part. If you do decide to take part, you can withdraw your information within one month without needing to explain and without penalty by advising the researcher of this decision. To withdraw your data email biw1@stir.ac.uk with [___ this number] that identifies your data. You will be given this information sheet to keep and be asked to sign a consent form prior to your participation.

5. What will happen if I take part?

You will need to complete an interview.

The interview should take approximately 1 hour and will be conducted in the meeting room of your factory. There will have not follow up visits.

6. Are there any potential risks in taking part?

There are no foreseeable risks in taking part.

7. Are there any benefits in taking part?

There will be no direct benefit to you from taking part in this research.

8. Legal basis for processing personal data

As part of the project, I will be recording personal data relating to you. This will be processed in accordance with the General Data Protection Regulation (GDPR). Under GDPR the legal basis for processing your personal data will be public interest/the official authority of the University.

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The research data will be kept anonymous and stored in the server of University of Stirling.

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Your personal data will be transferred to a country outside China, the following safeguards are in place to ensure your personal data is protected in accordance with the General Data Protection Regulation (GDPR).

All personal data and research data storage will be cleared up in accordance with the General Data Protection Regulation (GDPR). To ensure full compliance, all research data will be securely destroyed after the conclusion of the research project, using appropriate methods to guarantee that the data is irretrievable and inaccessible.

10. Recorded media

If you are joining the interview, the voice of interview will be recorded if you permit. The Audio recordings will be destroyed once analysis is complete. Interview transcripts and notes (with pseudonyms and identifiable information removed or altered) will be stored in

the university secure servers. The anonymised data will be shared within the research team but always stored on the respective university secure servers. The data storage will be cleared up in accordance with the General Data Protection Regulation (GDPR). All data will be securely destroyed after the conclusion of the research project, using appropriate methods to guarantee that the data is irretrievable and inaccessible.

11. Will the research be published?

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13. Your Rights

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You have the right to withdraw from this project at any time without giving reasons and without consequences to you. You also have the right to object to us processing relevant personal data, however, please note that once the data are being analysed and/or results published it may not be possible to remove your data from the study. (You can withdraw your information within one month without needing to explain and without penalty by advising the researcher of this decision. See point 4 for withdrawing method)

14. Who do I contact if I have concerns about this study or I wish to complain?

If you would like to discuss the study, please contact the researcher Bing Wang (biw1@stir.ac.uk) or the researcher's supervisor Mrs Sona Gachayeva (sona.gachayeva@stir.ac.uk). If you want to complain about the research, you can contact Professor Kevin Grant (kevin.grant@stir.ac.uk), the Dean of Stirling Management School. You have the right to lodge a complaint against the University regarding data protection issues with the Information Commissioner's Office (<https://ico.org.uk/concerns/>).

The University's Data Protection Officer is Joanna Morrow, Deputy Secretary. If you have any questions relating to data protection these can be addressed to data.protection@stir.ac.uk in the first instance.

You will be given a copy of this information sheet to keep.

Thank you for your participation.

APPENDIX D: Consent Form for Survey

Research Project Title:

The Effects of Working Hours Reduction, Wages and Job Demand to Fatigue, Well-being,
Work-family conflict and Turnover Intentions

GUEP Approval Number: 19799

Please tick box	
I confirm that I have read and understood the information sheet explaining the research project and I have had the opportunity to ask questions about the project.	
I understand that my participation is voluntary and that I am free to withdraw at any time during the study and withdraw my data within one month without giving a reason, and without any penalty. I understand that beyond one month it may not be possible to remove my data from the study.	
I have been given a unique identifying number and know whom to contact should I wish to withdraw my data.	
I understand that my responses will be kept anonymous, and I give permission for members of the research team to have access to my anonymised responses.	
I agree for research data collected in the study to be made available to researchers, including those working outside China to be used in other research studies. I understand that any data that leave the research group will be fully anonymised so that I cannot be identified.	
I understand that audio recordings will be destroyed once analysis is complete or once transcribed. Interview transcripts and notes will be stored in the university secure servers. The anonymised data will be shared within the research team but always stored on the respective university secure servers. All data storage will be kept for 2 years then clean up securely.	
I agree to take part in this study	

APPENDIX E: Consent Form for Interview

Ethics Approval Number 19799

Participant number _____

Research Project Title:

The Effects of Working Hours Reduction, and Job Demand to Fatigue, Well-being, Work-family conflict and Turnover Intention

Please initial box	
I confirm that I have read and understood the information sheet (August 2024 V1) explaining the above research project and I have had the opportunity to ask questions about the project	
I understand that my participation is voluntary and that I am free to withdraw at any time during the study and withdraw my data within one month without giving a reason, and without any penalty. I understand that beyond one month it may not be possible to remove my data from the study.	
I understand that my responses will be kept anonymous and I give permission for members of the research team to have access to my anonymised responses.	
I consent to being audio recorded	
I understand how audio will be used in research outputs. I am aware that I will not be named in any research outputs, but I could be identified by people I know through the stories I tell.	
I understand that my personal data and relative research data storage will be cleared up in accordance with the General Data Protection Regulation (GDPR).	
I agree to take part in this study	

Name of Participant

Signature:

Date: [Click here to enter a date](#)

Name of Researcher

Signature:

Date: [Click here to enter a date](#)

APPENDIX F: Questionnaire for Survey

General information:

Gender: ☐ Male ☐ Female

Age: ☐ 20-25 ☐ 26-30 ☐ 31-35 ☐ 36-40 ☐ 41-45 ☐ 46-50 ☐ above 50

Marital status: ☐ Married ☐ Single

Region: ☐ Guangdong ☐ Outside of Guangdong

Residential situation: ☐ Single ☐ Living with family members

Do you have any children who are not working? ☐ None ☐ One ☐ Two ☐ Three or more

Years worked in the company: ☐ less than 2 years ☐ 2-5 years ☐ 6-10 years ☐ 11-15 years ☐

16-20 years ☐ more than 20 years

Education: ☐ Junior high school ☐ High school or junior college ☐ College ☐ Bachelor's degree
and above

Total Monthly Salary: ☐ Below 3000 ☐ 3000-5000 ☐ 5001-7000 ☐ 7001-10000 ☐ Above 10000

Work type: ☐ General work (such as packaging, material handler) ☐ Technical work (such as
machine operation, maintenance) ☐ Other

Main questions:**1. Work overtime (4 items)**

What are your average working hours per week in recent weeks?	☐ 40-45 ☐ 46-50 ☐ 51-55 ☐ 55-60 ☐ 60 or more.
To what extent are you willing to work overtime when needed?	☐ Not at all willing ☐ Slightly willing ☐ Moderately willing ☐ Very willing ☐ Extremely willing
What motivates you to work overtime? (Select all that apply)	☐ Higher pay ☐ To meet job demands and deadlines ☐ Sense of duty or responsibility ☐ Personal satisfaction in completing tasks ☐ Pressure from management or coworkers ☐ Other (please specify)
Does working overtime result in higher pay for you?	☐ Yes, significantly ☐ Yes, but only slightly ☐ No, it has no effect on my pay ☐ No, I am not paid for overtime

2. Job demand (5 items)

My job requires working fast.	☐ Strongly disagree ☐ Disagree ☐ agree ☐ Strongly agree
My job requires working very hard.	☐ Strongly disagree ☐ Disagree ☐ agree ☐ Strongly agree
I am not asked to do an excessive amount of work.	☐ Strongly disagree ☐ Disagree ☐ agree ☐ Strongly agree
I have enough time to get the job done.	☐ Strongly disagree ☐ Disagree ☐ agree ☐ Strongly agree
I am free from conflicting demands that others make.	☐ Strongly disagree ☐ Disagree ☐ agree ☐ Strongly agree

3. Employee Well-being (18 items)

Q1.I feel satisfied with my life.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q2.I am close to my dream in most aspects of my life.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree

Q3. Most of the time, I do feel real happiness.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q4.I am in a good life situation.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q5. My life is very fun.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q6.I would hardly change my current way of life in the afterlife.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q7.I am satisfied with my work responsibilities.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q8. In general, I feel fairly satisfied with my present job.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q9. I find real enjoyment in my work.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q10.I can always find ways to enrich my work.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q11.Work is a meaningful experience for me.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q12.I feel basically satisfied with my work achievements in my current job.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q13.I feel I have grown as a person.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q14.I handle daily affairs well.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q15.I generally feel good about myself, and I'm confident.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q16.People think I am willing to give and to share my time with others.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Q17.I am good at making flexible timetables for my work.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree

Q18.I love having deep conversations with family and friends so that we can better understand each other.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
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4. Work-Family Conflict (6 items)

My work keeps me from my family activities more than I would like.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
The time I must devote to my job keeps me from participating equally in household responsibilities and activities.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
I have to miss family activities due to the amount of time I must spend on work responsibilities.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
When I get home from work, I am often too frazzled to participate in family activities/responsibilities	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
I am often so emotionally drained when I get home from work that it prevents me from contributing to my family.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree
Due to all the pressures at work, sometimes when I come home, I am too stressed to do the things I enjoy.	Strongly disagree ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 Strongly agree

5. Fatigue (3 items)

These questions are about fatigue. For each of the following questions, place tick the number indicating how you have been feeling during the past week.

To what degree have you experienced fatigue?	No fatigue ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 8 ☐ 9 ☐ 10 a great deal of fatigue
How severe is the fatigue which you have been experiencing?	Mild ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 8 ☐ 9 ☐ 10 Severe

To what degree has fatigue caused you distress?	No distress ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 8 ☐ 9 ☐ 10 a great deal of distress
---	---

6. Turnover Intention (3 items)

I would think a lot about leaving the organization	Never ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Constantly
I would actively search for an alternative to the organization	Very Unlikely ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Certain
As soon as it becomes possible, I would leave the organization	Very Unlikely ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 Certain

APPENDIX G: Interview Guide

Research Project Title:

The Effects of Working Hours Reduction, and Job Demand to Fatigue, Well-being, Work-family conflict and Turnover Intention

Interview Questions:

How do you think about your current working hours?

How do you think about your current wage?

How do you think about your current job demand?

How do you think about fatigue after work recently?

How do you think about your work?

How is you satisfied with your work?

How do you think about your work-family conflict?

How do you think about the intention to leave the company?

APPENDIX H: Table 19 : Themes and Representative Data

Table 19 : Themes and Representative Data

Themes	Sub-themes	First-order codes	Descriptions	Quote
1. Working hours and Well-being	Negative Impact Factors	Discretionary time affected by working hours	Discretionary time affected by working hours has negative impact on well-being	<i>I lack time. If I have time, I can spend time with my family at home, go out to play more on weekends, go shopping or have tea with friends, chat, or spend some time with my family. If I got off work at four or five o'clock in the afternoon, I would be at home during that time. The impact (to well-being) is certain. If the working hours are short, you could spend more time with your family and so on. But it's impossible. You can't only work eight hours every day (and with good money), can you? You see, if there is such a good job, I'm sure many people want to do it. Anyway, I don't have that condition, so I can't help it, can I? (O30 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>Working hours are too long, so I don't have time to do beauty. Ideally, I would like to have two days off per week and can sign out at 4pm sometime. But if like this, my salary (overtime pay) will be gone. Ideals all return to ideals, and reality is different from this. There may be many people who may be richer, so they just think about signing out at 4 pm. They can don't care how much overtime can have. If the family is not rich, those people don't think so. They just want to go to work. Everyone has different ideas. When I feel tired, I want to sign out earlier. When I was not tired, I wanted to go to work. Some time, even I go back home, I have nothing to do. (O25 Operator)</i> <i>I like working 60 hours a week, and I can get off work early every day and stay with my family (P7 Operator).</i> <i>It's good to work 60 hours a week as now. I can take care of my children when I go home and have dinner with my family one or two days a week. (O14 Operator)</i> <i>Working 60 hours a week is ok. 66 hours is unbearable. I like working six days a week. I like having dinner with my family on Sundays. I usually hope to work more hours and earn more money. I want to take care of my children and send them to school on Sundays. I hope to work less hours on weekends. (P5 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
		Fatigue caused by long working Hours	Fatigue caused by long working hours has negative impact on well-being	<i>60 hours is good. 66 hours is a lot tiring. We have to work shifts (change from night shift to day shift and change back). You can relax by taking an extra six hours. (P8 Packer)</i> <i>It's good to work 60 hours per week. I can go back early two days a week, so I'm not so tired (P9 Packer)</i> <i>When the new machine first arrived, it needed constant adjustments. That day, I just wanted to leave by 4 pm. When it's this hot, all I can think about is getting off. Honestly, the heat is the main issue. (O25 Operator)</i>
	Mitigating Factors	Perceived Sufficient Discretionary Time	Perceived sufficient discretionary time mitigates the negative impact of long working hours on well-being	<i>If I work longer, I earn more. I have few things to do after work anyway. It's almost enough for me to have one day off a week.</i> <i>When we work in two shifts, I have almost two days off if I rest on Sunday (...) Anyway, I don't play mahjong, sometimes I go fishing, and one day off a week is enough. I don't need any entertainment when I go home from work, but it's generally rare. Sometimes I interact with children. After all, I am old and have two children. After all, there is some pressure. (O24 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>If I have to choose working hours, then I definitely like to choose 66 hours per week. You don't have to work overtime for two days (in the weekend) now, but sometimes you don't know what to do after work. One day off per week is enough. When I go home, I have nothing to do. I don't plow at home. I don't have any special hobbies, and sometimes I chat with my relatives and friends during the weekend. I don't play mahjong. (O22 Operator)</i> <i>Anyway, there is nothing to do at home (after work), no land to factory now, and boring at home, so I would like to work overtime when I have a time. 55 hours is not good, reducing wages will reduce a lot. 55 hours per week is too little. 60 hours per week is good. But some people may like 66 hours (per week). (P20 Packer)</i> <i>Overtime has no effect on my well-being. I can have one day off on Saturday or Sunday. Anything you want to do was done at that time. (P29) (...) You don't work, and you have no money. Everyone wants to think that I don't have to work and enjoy myself at home. How it can be that good, isn't it? (P29 Packer)</i> <i>Rest one day per week is enough. If I rest two days in the weekend, I have nothing to do and will think about work.... Most of the time, I don't want to play. Playing is just cooking some meals and snacks at home, and time passes quickly. (P5 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>I have no activities during the holiday. Where can I play with so many holidays? There's no place to play, and there's nothing to do after work, so I might as well come to work instead of brushing my Tik Tok on my mobile phone.... (P6 Packer).</i> <i>For me personally, since I'm here alone and have nothing else to do besides work, I don't mind working more overtime. After work, there's nothing much to do anyway. If you're working 60 hours a week, by the time you finish, there's really nothing left to do. (O19 Operator)</i>
		High autonomy over working hours	High autonomy over working hours mitigates the negative impact of long working hours on well-being	<i>No impact (working hours to well-being). If you really don't want to work overtime, you're not forced to work overtime. No body stop you if you want to sign out earlier. (O28 Operator)</i> <i>Low income makes some thought impossible to realize. As I said, the income has decreased, invisibly all aspects of your life are impacted, right? The most important thing is that I can choose work 66 hours per week. If you can choose not to work overtime, you just choose, but many people want to work more overtime, right? (O26 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
	Positive Impact Factor	Increased income caused by long working hours	Increased income caused by long working hours has positive impact on well-being	<i>(More overtime) I think it's pretty good — the best part is when I get my paycheck and can go out to have fun with my child.</i> <i>Everyone hopes for a higher salary so they can travel, go on trips, and spend time together as a family. (P29 Packer)</i> <i>I feel the well-being is good. When me and my colleagues work together and coordinate, and it will be better is there's more overtime available, the pay is better — that means higher income. (O24)</i> <i>"Speaking for myself, as long as I can cover my living expenses and have a little left over, I'm happy. My expectations aren't high — I just want a stable income that's enough each month, with some small savings. That would make things better. (O19 Operator)</i> <i>I don't ask for much. If you have too many desires, you age faster and feel more stressed. Last year during the low season, there was no overtime available, and I couldn't make ends meet. (O19 Operator)"</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
		Reduced income by less working hours	Reduced income caused by less working hours negatively impact well-being	<i>It's hard to say (What is the best working hours). After all, my working hours have been reduced, so my income has decreased — isn't that tough? When payday comes and I see the payslip, I wonder why the salary is so much lower. Then I realize I wasn't working as much as before, so it's different. Anyway, I'd prefer working more overtime. It's really hard to explain. (O24 Operator)</i> <i>I'm not satisfied (with the well-being). I'm not satisfied with the money. (O8 Operator)</i> <i>"Of course, more overtime is better. Without enough overtime, your income drops, and if the pay is too low, you won't want to stay. We need more shifts — it makes life more fulfilling too. As for impact? Basically, it doesn't exist. I'd say 90% of us want more overtime, and maybe 10% prefer less. You can tell just by listening — when there's little overtime, you always hear packagers complaining: "There's no overtime, that's bad!" They complaint it all the time.</i> <i>It's pretty much universal — 99%, I'd say. Who doesn't feel this way? If the money isn't enough, why else would people keep complaining that they can't find enough workers? (O28 Operator)"</i>

I've learned the hard value of money over the years. More than a decade ago, my dad and mom were hospitalized one after the other — one at Foshan Hospital of Traditional Chinese Medicine, the other at Jiangmen Central Hospital. My dad was hit by a motorcycle, and his bone was exposed. My mom suffered a stimulant-induced aneurysm rupture. We had to borrow everywhere — over 100,000 RMB in total.

I didn't know Ren had just bought a house back then, but she still lent me several thousand. I'll remember that for the rest of my life. 100,000 RMB over ten years ago was a huge amount.

Since then, my mom's health has never fully recovered. She's hospitalized multiple times every year — five or six times just last year. This year, on the 13th of the first lunar month, she was admitted again, and in March she underwent major surgery. Another 100,000 RMB gone.

My brother and I didn't have that kind of money. We've taken loans everywhere possible — every channel is exhausted. So yes, money is extremely, extremely important to me. Health matters, but money matters more. Just to schedule surgery at the hospital, you need at least 3,000 RMB upfront. That's why I say I'll work as much overtime as I can.

My whole family depends on it, so I have to hustle. (P27 Packer)
That's why if the factory offers overtime, I take every shift. When

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>there wasn't enough work here recently, I went out to work as a server, did part-time at logistics parks — whatever I could find. I went everywhere. (P27 Packer)</i>
				<i>No impact. Shorter working hours mean less pay, and with the high cost of living these days, there's just no way around it. There is pressure — I'm raising my son entirely on my own. (O25 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>"Personally, I don't see problems with it (long working hours). If the hours are too short, I actually prefer working more overtime — maybe I'm just used to it. As you know, the base salary isn't high, so we rely on overtime pay to make a living. Overtime earnings are basically our main source of income.</i> <i>It's important to understand that the basic wage is low. I personally like having more overtime, and I don't mind working longer hours. My opinion doesn't represent everyone else's — some have children or other responsibilities, so I can't speak for them. I'm just stating my own preference: I need more overtime. The more, the better — that's how I like it.</i> <i>My view might differ from others'. Many have kids to take care of, but my stance is simple: I want more overtime. I've gotten accustomed to it. I just want a higher income. (O21 Operator)"</i> <i>I'm willing to work overtime because I have a mortgage to pay — that's why I don't mind putting in extra hours. There's a bit of pressure with the mortgage now. I bought the apartment a few years ago. (P20 Packer)</i> <i>Because of the house and the child, our fixed expenses are quite high. There's no easy way around this. When a child is hungry, it needs to eat — if you don't feed it, it'll keep crying. (O19 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
		Cultural factors	Culture(family responsibility, housing, saving) requirement increases well-being	<i>I would like to take as more overtime as possible. My son is not good at studying. If he cannot enter a good university, the tuition fee will be very expensive, ten or twenty thousand RMB per year. If like that, the expenditure will be very large. (O1 Operator)</i> <i>The house has been built, but there is no money to decorate it. I should earn some money to decorate it. When the child is getting older, he can't afford to buy a house. I need to consider him. (P5 Packer)</i> <i>Come out to work, just for the money. Why do I come out if the money is just a little. (P7 Operator)</i> <i>I still hope to work longer. I just want to earn more money when I come out to work. My wife doesn't go to work, so she has to take care of the children. She only does temporary jobs occasionally. I am the only one to make money in my family (P10 Operator)</i> <i>60 hours per week is a bit less. 99% people will feel not enough. I have two children, one is a sophomore, the other is in a senior high school, and there are two old parents at home, one of whom has had a stroke. Fortunately, the mortgage has been paid off, otherwise the income is not enough. (O11 Operator)</i> <i>I have to work overtime. I have two children and a mortgage. I bought the house at a high price, but now it's all reduced. 80% of the people here bought it. (O14 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>Absolutely, working more overtime is a must — I came out to work to earn money and support my family, right? Definitely. (O26 Operator)</i> <i>Of course — for example, if my family were rich, I'd probably want to finish at 4 PM every day and have weekends off without overtime. But since my family situation isn't easy, I prefer working more shifts to earn extra money, right? I have my goals: I want to buy a car and an apartment, isn't that natural? (O26)</i> <i>How should I put it? If you have goals in life, there's bound to be pressure, right? I want to buy a home — I need to save for the down payment. Of course, I have to earn more. Buying a car, covering the down payment, paying the mortgage — it all comes with pressure. (O26 Operator)</i> <i>Although the financial pressure isn't overwhelming, it's still better to earn more than less when working away from home. Since I've come this far, of course I want to make as much as I can. (O19 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>My husband works in renovation and can support us. He's often away for work and doesn't need to worry about household matters. If we can't earn more under these circumstances, what's the point? Our income is just average.</i> <i>We're young now — better work hard while we can. Later, we might not even have the chance. After a few more years, we'll stop working and just relax at home. How great would that be? The car and mortgage are already paid off. (P15 Packer)</i> <i>I hope to work 66 hours a week, save more money, work more hours, and save some money for my son to buy a house in the future (L2 Leader).</i> <i>My financial pressure is average. I have no debt, so I work overtime to save money, just to buy a house for my children in the future (P4 Packer).</i> <i>At my age, I hope to work more hours, so don't waste time and make more money when I am young. (P6 Packer)</i> <i>You need to work overtime and earn more money while you are young (P9 Packer)</i> <i>I want to work more hours. I have bought a car with a loan. It will be easier to get married if I earn more money to buy a house (T13 Trainee).</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>It is not I can work as long as I want, right? If I can work 11 hours as before, I will definitely earn more money. But it is not allowed now. To me, the more overtime, the better. Making money just like this. (P6 Packer)</i> <i>It is good to work 60 hours a week now. You can go back early two days a week, and you are not so tired. Working 60 hours a week is just right. More or less are not good. Make more money while you are young. Or what to do when you get old. (P9 Packer)</i> <i>When I came to work, everyone got along very well. I was very happy when I came to work. I don't argue with others. I was quite satisfied with this. Sometimes when you have difficulties at home, your colleagues will help you. (P27 Packer)</i> <i>Working overtime for long hours — it really doesn't bother me. Even when I get home early, I have nothing to do. My parents already know that I go to sleep early. I actually enjoy it. Sometimes I even feel happier at the factory than at home. (O25 Operator)</i> <i>I'm very satisfied with my life. The colleagues get along well and children are obedient. (P15 Packer)</i>
		Social needs satisfied during work	Social needs satisfied during work positively impact well-being	

Themes	Sub-themes	First-order codes	Descriptions	Quote
2. Working hours and Work-Family Conflict	Negative Impact Factor	Time Conflict with family activities	Time Conflict with family activities increases work-family conflict	<i>Yes, (...), just like my son works outside and comes back on Sunday. But I have to work overtime on Sunday. Sometimes I would like to ask the company to adjust it so that I can take Sunday off, sometimes I can't. When my son comes back once every two weeks, sometimes I wants to cook some soup for him, but I can't... (P27 Packer)</i> <i>There is a little impact. My husband said that my work is " two-dot and one-line". We are in the factory except sleeping at home. That's what he thinks, and he sometimes complains. Children won't complain. He went to college and didn't come back until he was on vacation. He came back once a month and rarely came back. Anyway, my husband would complain more. (P20 Packer)</i> <i>The negative effect on children is less companionship. You can leave earlier when you work overtime, but it will affect your income. Sometimes children have activities at school and can't attend. We think that income is more important. (O19 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>The main impact (of long working hours) is to the study of child. No one watches the child; my mother has little education and cannot watches their study. The child will be in the first grade immediately, and my wife said that when the time comes, we need to take turns to watch him. He will work at night shift; I will work at morning shift; and he will work at night shift I'll work at day shift. They say that if a child wants to learn, he doesn't have to be watched. If he doesn't want to learn, it's no use urging him. It's that simple. (O18 Operator)</i> <i>(Long working hours) have some impact on the child. I want to cook for him but have no time. If you have more time, you will spend more time with your family like this. (P29 Packer)</i>
		Fatigue caused by long working hours	Fatigue caused by long working hours increase work-family conflict	<i>Working 60 hours a week is ok. 66 hours is unbearable. it is too tiring. I like working six days a week. I like having dinner with my family on Sundays. I usually hope to work more hours and earn more money. I want to take care of my children and send them to school on Sundays. I hope to work less hours on weekends. (P5 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
	Mitigating Factors	Cultural factors	Culture (Attitude toward family, life, proper expectations) mitigate the impact of working hours on work-family conflict	<i>(Long working hours) There is no impact. Personally, when I get home from work, I can still take care of the kids. How can't you have time? I can take you (the family) to play during the weekend vacation. What do you still want? You have to go to school from Monday to Friday, right? You're going to school at working days. You don't get any negative effects, do you? (O28 Operator)</i> <i>Anyway, I get off work after 7: 00, and I arrive home at latest 8: 00. The children haven't gone to bed at that time. I still have time to play with them. I think there is no impact (from long working hours). Anyway, I can interact with the child and play. I can play with them from 8:30 to 9:30. There's still one hour left. Anyway, I think there is no impact. (O24 Operator)</i> <i>(Even) working hours are long. Like us, you can't work longer than 11 hours a day. How to say, if my son didn't go to work in Cisco Electric Company in Hecheng, he would work from 7: 30 every day until 8: 30 in the evening, extra time are not treated as overtime. Collective piecework workers work from Monday to Saturday, and only have Sundays off. What I find most unacceptable is that he has a holiday on May Day or Qingming Festival, and he has to go to work on Sunday the week before to make up for that day's holiday. This is a sabbatical. In this way, our company is still very good. (P27 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>(Long working hours) There is no negative impact on family. How can it have an impact? When you come out to make money, you don't come out to play. When you come out to play, you say it has a negative impact. (O28 Operator)</i> <i>No (impact on family from long working hours). If you work overtime a little more, your salary will be a little more, and your family will have no burden. Anyway, wherever you go to work, it's like this, isn't it? (P29 Packer)</i> <i>Actually, each stage of life comes with its own way of thinking. When the children were young, I naturally had to focus on them. But as they grew up, other financial issues emerged. My husband used to work as an employee, but now he's almost semi-retired with very little income. Personally, I prefer working more overtime. I'm very hardworking and not lazy. I rarely do cleaning or have other tasks. (O21 Operator)</i> <i>The impact (long working hours to family) is not great. You have one day off every week, and you have one and a half or two days here when you change shifts. The working hours is long, I am used to it and my family are used to it. I don't think such working hours have any effect. (O21 Operator)</i> <i>No impact (long working hours to family). I have already get used to spend 12 hours at work. (O30 Operator)</i>
		Habituation of long working hours	Habituation of long working hours mitigates the impact of long working hours on work-family conflict	

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>No impact (long working hours to family) when you get used to it. (P16 Packer)</i>
				<i>It doesn't matter (long working hours to family), we are all used to working for such a long time (L2 Leader)</i>
				<i>No impact (long working hours to family). Working in factory just like this. We all get used to it (P9 Packer)</i>
		High autonomy over working hours	High autonomy over working hours mitigates the negative impact of long working hours on work-family conflict	<i>No (impact from long working hours to family), if you feel very tired, just take a rest and take annual leave. (O21 Operator)</i>
				<i>It doesn't matter (work-family conflict). You can ask for leave if you have something in your family. Anyway, you can take annual leave. (P20 Packer)</i>
				<i>(...)If there is anything at home, you will be approved for leave, and you will not be denied anything. This is very humanized. (P27 Packer)</i>
		Family Support	Family support mitigates the impact of long working hours on work-family conflict	<i>The child is in the second year of middle school. My son has been brought up by myself, I'm his mother and father. My parents help me take care of him and help me pick him up (O25 Operator).</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>No impact (to family from long working hours), and there is still time to rest. I have one day off on the weekend, and once I get home on the weekend, my wife and I start going out to have fun. On weekdays, when I get off work and return home—usually after the morning shift—my wife prepares supper and waits for me. She worries that I might be hungry when I get home. The company serves dinner at 5:00, but I don't get off until 8:00 and only arrive home then. She's concerned that I might be hungry, so she makes supper for me. (O23 Operator)</i> <i>No (impact on family from long working hours). In the past, my mother-in-law helped take care of the children. My family and I had no major worries. Now that the children have started working, I don't have many concerns. (O21 Operator)</i> <i>My husband doesn't mind me working overtime. Sometimes when I work the night shift, he comes home a bit earlier to cook. It doesn't really cause any issues. (P29 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>It(long working hours) doesn't really affect me much because I adjust things on my own. If I really can't make it, I'll discuss it with my child or arrange to spend time with them when I'm off work. Isn't that enough? As long as we communicate, it's fine. That's how it is with my son—if I promise him something but can't make it for some reason, I'll explain and say, "Let's go on Sunday when Mom is off," or something like that. I just adapt. Really, it's no issue. (O25 Operator)</i> <i>No (impact on family from long working hours), generally I work these two shifts. My wife works 8-hour days and doesn't need to work overtime or night shifts. She usually takes care of everything at home after work. (O24 Operator)</i> <i>When I'm at work, his grandmother usually takes care of him (the child). On weekends when we're off, we take him out to have fun. (O23 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>No (impact on family from long working hours). We coordinate very well. If I really feel tired, I tell him, "I'm very tired today," and he will proactively take care of some housework and look after us. The three of us eat together as a family — we don't eat with my in-laws. Sometimes he cooks, sometimes I do. We cooperate really well when it comes to meals. If he's tired, I do a bit more; if I'm tired, I just say so, and he has no problem taking over. We rarely argue — we work together very smoothly. We're at that stage in life now; our son is already in his twenties, and we've developed a tacit understanding. Arguments are very rare. (O21 Operator)</i> <i>It doesn't matter (to work long hours). The child has grown up and plays with her classmates during the holidays. We don't need to accompany her. Children don't want us to work overtime during the Spring Festival. We were needed when he was a child, but now he is older. (p3 Packer)</i> <i>No conflict (work and family). My wife is working in Leo. I pick up the children (from school) when I work at night shift, and my wife's family pick them up when I work at day shift (P12 Packer). Overtime has no effect on the family. The parents help to take care of the children. (P14 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>Work has no effect on my family. I can go back every month and it just take a few hours. My sister is helping me with my children. She also has one, only three years difference on age. (P15 Packer)</i> <i>My family understands me very well. Children are also very supportive. When I worked overtime during the Chinese New Year, I left my two children at home, and they didn't have any complaints. (O11 Operator)</i> <i>Overtime has no effect on the family. My wife has no job, and she takes care of children at home. They are all very supportive of me. Sometimes she gets support from my father-in-law. (O7 Operator)</i> <i>They understand that I need to work long. My parents are old. It is OK if they are healthy. (P8 Operator)</i>
		Individual Circumstances	Individual circumstances mitigate the impact of long working hours on work-family conflict	<i>If you're a local and your whole family is here, there are always matters, big and small, that need to be handled at home. Sometimes something comes up and you have to go back. But since I work away from home by myself, it doesn't really matter to me. (O19 Operator)</i> <i>There's nothing else going on at my home. There's an elderly person living with us, but they are self-sufficient, so there's nothing else to worry about. The elderly person is still relatively young and doesn't require our care. (O22 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>Of course, when the child is young, it's natural to choose not to work such long hours. But once the child grows older — in middle school, and isn't living at home anymore, it doesn't really matter. (P29 Packer)</i> <i>No impact (from work to family). Family life hasn't been affected. The child is at school and not home, so there's no effect. When they were younger, it was different — I used to prefer shorter hours back then because I had to take care of them. But now it doesn't matter to me. Even if work runs a bit longer, it's fine. I don't have much to do when I get home anyway. (O22 Operator)</i>
	Positive Impact	Less housework	Less housework caused by long working hours reduces work-family conflict	<i>There isn't much housework to do anyway, and when I'm home alone, (if I work) I don't need to cook. (The factory provides meals) (P15 Packer)</i> <i>People talk with me at work, and I have to cook when I'm not at work. I can eat in the company when I go to work. Now when I go home, unlike before, many people can play together. Now everyone goes out to work, and only the elderly is at home. (P6 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
3. Working hours and Turnover Intentions	Negative Impact Factor	Long Working hours	Long working hours increase turnover intentions	<i>I've thought about it(quit due to long working hours), but when I consider the difference in wages, I don't dwell on it too much. (O30 Operator)</i>
				<i>I've also thought about it — it would be nice to try being my own boss someday. If a better opportunity comes along, I'll leave. That's what I have in mind. (P20 Packer)</i>
	Mitigating Factors	Work-family conflict	Work-family conflict increases the impact of long working hours on turnover intentions	<i>I'm getting older and don't want to keep switching jobs anymore. I've been here (in the town) since I was young — even went to school here — and constantly moving around isn't ideal. I've grown used to the people here and don't want to leave. Otherwise, I wouldn't have stayed at Y company (her previous employer) for over a decade. It was only after having a child that I switched to working here because the commute from there to Gulao (where Y company is) was too far. (O25 Operator)</i>
		Cultural factors	Culture (concept, potential discrimination...) mitigate the impact of long working hours on turnover intentions	<i>Well, how should I put it? After working here for so long, I've gotten used to it and don't really overthink things anymore. I don't feel like moving around anymore—I just want to keep working here. After all, my first job lasted over 16 years. (O24 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>Now that I'm used to working here, I don't really want to change. Even if I went to another factory someday, I probably wouldn't adapt easily — I may not be able to get used to and cannot stay long. (O29 Operator)</i> <i>At my age, if I leave this factory or company, no one else will hire me. Other factories won't take me either. (O19 Operator)</i> <i>Given my age, there aren't many good opportunities left for me. I've been working here for over twenty years — if I went somewhere else, I'd have to start all over again. When I first entered the workforce, I worked at XX company for four years, and it was really exhausting. We switched shifts every month, with only one day off during the transition. During peak seasons, the day shift ran from 8 AM to 10 PM, and the night shift from 8 PM to 9 AM. The hours were extremely long. (P27 Packer)</i> <i>I'm getting older and don't want to keep switching jobs anymore. I've been here (in the town) since I was young — even went to school here — and constantly moving around isn't ideal. I've grown used to the people here and don't want to leave. Otherwise, I wouldn't have stayed at Y company (her previous employer) for over a decade. It was only after having a child that I switched to working here because the commute from there to Gulao (where Y company is) was too far. (O25 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
		Employer welfare	Good employer welfare mitigates the impact of long working hours on turnover intentions	<i>I've had three jobs in total. Right after starting, I worked at Yatus. Then, after having my child, I moved to Jinglian below and worked there for a year. But they didn't provide social security — they made you wait in a queue, saying you could only enroll when someone left. I thought, "How long am I supposed to wait?" So I left. (O25 Operator)</i> <i>I don't have any other plans now — I just want to work here until retirement. I'll keep going as long as I can. I think this factory are very good, and sometimes the leaders and others here really good. (O19 Operator)</i>
		Economy pressure	High economy pressure mitigates the impact of long working hours on turnover intentions	<i>I've never even thought about that kind of possibility (Quitting), and I still don't dare to now. After all, the pressure is real — if I leave, finding a new job could take one or two months. How would I make money during that time? With two little kids needing to be fed as soon as they open their mouths, there's just no other way. (O18 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
4. Job Demands and Well-being	Negative Impact	High workload	High workload has negative impact on well-being	<i>That machine is way too exhausting. Nowadays, hardly anyone wants to work on it — the one handling the whole chicken bags. It's not easy to operate, and the person picking them up gets extremely tired. Like you said, nobody wants to be assigned to that machine.</i> <i>Back when we were working on the double line, we got a 30-yuan subsidy for meeting the target. But now, with these aluminum foil bags and whole chicken bags on a single line, it's much more tiring. Even when we meet the target, many of us are asking: Can we still get those 30 yuan?</i> <i>On the double line, if someone fell behind, others could help out. But now, we don't even have time to drink water. One person has to do all the picking and even move the boxes alone. You have to keep up to meet the target — otherwise, you don't get the 30 yuan. Back when you were on the line, did those who met the goal get the 30? Now, we don't. Can we suggest maybe adding it back? It's really too much for one person. On the double line, you could manage and still have time to grab water. Now, one person handles everything alone, and the machine only changes shift every 6 hours. If you want water, you have to wait till someone else is free — but hardly anyone is. It's exhausting. This is at BF28. (P29 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>Of course it's tiring — but what job isn't? Sometimes it's really exhausting, especially with certain machines or difficult orders. But even when it's tough, we still have to get it done. (P27 Packer)</i> <i>Sometimes I come home from work absolutely exhausted and just want to vent, but there's no one around to listen. That's when it really gets to me. A while back, I was working at Station 28 handling whole chicken bags — it was seriously tough. I'd get home and not want to do anything. I'd tell everyone: "Don't ask me to do anything else. I'm worn out." It's been a long, long time since I felt that drained. That machine is brutal — you have to stand with your legs spread awkwardly, and it's really uncomfortable. It's honestly exhausting. (P27 Packer)</i> <i>The usual work pressure is pretty high. You're always worried about making mistakes or getting complaints. That's why, whenever I have a day off on weekends, I go fishing or do something like that to unwind.</i> <i>The machine we operate requires frequent changeovers — practically every shift has to switch to a new order. When it gets busy, it can be really exhausting. (O26 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>When you talk about being too tired — honestly, if they work extremely long hours nonstop, like picking bags all day without a break, without even someone covering for them to get a drink of water, that really is a problem. A roll of paper lasts four or five hours, sometimes even five or six. A nice operator might cover for you, but some won't. If they do, and if the person running the machine next to you can handle two lines alone for a bit, then they might help you out so you can drink. But if not, you might go the whole afternoon without water — and that's a real issue. (O25 Operator)</i> <i>It's not like everyone is always complaining, but working night shifts, lots of people secretly bring water in. I'm not saying it's right, but if you're stuck for hours without a chance to drink, especially when it's so hot, it's easy to get heatstroke. That's just not acceptable, right? I think this is something worth bringing up — it's a real concern. (O25 Operator)</i> <i>Sometimes I do get tired, especially during hot weather — the high-speed machines here can be quite exhausting. But the most draining one is the "earthquake machine." In my experience, it operates much faster. After all these years working here, I can say the earthquake machine (machine named due to large shaking) is the most tiring. (P20 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>The frequent order changes are quite demanding — constantly busy, and I've never had a moment of dryness (from sweat). It's hot on both sides here. While they've installed noise reduction and soundproofing equipment, the lack of air circulation makes it stuffy inside, though not extremely hot.</i> <i>The order switchovers are especially tiring. When the machine runs smoothly and there's a long order to process, that's the best scenario. (O19 Operator)</i> <i>Sometimes I do feel tired. When there are no long orders, we get short ones instead. Frequent order changes can be more exhausting — it's not like switching just once every day or two; sometimes we have to change orders every shift, and that's when it gets draining.</i> <i>But if there's more work now, like longer orders that last several days, then it's not as bad. (O22 Operator)</i> <i>If there are changeovers (During machine operation), I feel tired.</i> <i>If there are long orders and not changeover, I don't feel tired. (P1 Packer)</i> <i>Now the work is more tiring than before. In the past, two packers serve one machine, but now one packer serve one (P3 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>Work is a bit tiring, the machine is too fast, sometimes the operator doesn't help. There are many problems. They will blame us packers if any quality problems (P4 Packer)</i> <i>There is no pressure when the machine is smooth, and there is great pressure when the machine is not smooth. Pick defects all the time. But you will be fine after a sleep. (P5 Packer)</i> <i>The bags are big (paper bag production), the boxes are heavy, and my shoulders hurt when I go home. Sometimes my feet are numb, weighing more than 30 kilograms a box. I don't want to move when I get home. Especially in hot weather, my clothes are always wet(sweat). (P6 Packer)</i> <i>I feel tired after work, the paper rolls are too heavy (P7 Operator)</i> <i>If I run long orders, I don't feel tired. If there are changeovers and running two machines, I feel tired (O8 Operator)</i> <i>Tired depends on the machine. The big bag machine is tired, and I want to get off work early. Small bags are easy, and I want to work longer. (P9 Packer)</i> <i>If you adjust the machines all day, you will be very tired. Even if you are free for an hour or two, you will have time to have a rest and not feel tired. (O14 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
		Demanding work arrangement	Demanding work arrangement has negative impact on well-being	<i>It depends. Sometimes there are lots of issues, or when multiple machines need order changes — it can be pretty exhausting. For example, right now two of us are handling three machines. If two machines need order switches at the same time or there are frequent problems, it gets really tiring. (P30 Packer)</i> <i>It's very tiring to change 4 machines at night (replace other people during rest time. it delays the rest time of replacers). It's 5 am or 6 am when I sleep. I hope I can only change 3 machines. (P15 Packer)</i> <i>After all these years working, I've never been this exhausted before. It's mainly my hands that ache — standing is fine, I'm used to that. But my hands... they go numb. Moving them constantly every day, my fingers used to feel numb. I've gotten somewhat used to it now and learned how to use force more efficiently.</i> <i>If the bags are good., even if the machine runs faster, it's manageable. But when problems pile up, sometimes it really makes you want to cry.</i> <i>How tiring it is depending on the machine and its speed — some run at a few dozen units, others at a few hundred. It's still acceptable. (P17 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>Day shift is not so tiring, night shift is tiring, sometimes my back hurts and my eyes are uncomfortable after night shift, and I feel dizzy. I just sleep after eating. (P5 Packer)</i> <i>Some time it's really exhausting — especially during night shifts — you can definitely feel it. A while back, when the weather was hot and stuffy, the fatigue hit harder. The main reason is the poor air circulation in the workspace. Working in that environment makes you feel completely drained. (O28 Operator)</i>
	Mitigating Factors	Perceived proper job demands	Perceived Proper Job Demands mitigate the impact of job demands on well-being	<i>Like now, I don't really feel any impact — it's totally manageable. The current work hours aren't very exhausting. (O28 Operator)</i> <i>No (Fatigue). Anyway, in our team, we all help each other out — whoever is busy gets support from the others. It doesn't feel too exhausting, probably because we've been working together for years and are all familiar with each other. Sometimes you help me when I'm busy, and I help you when you're swamped. That's just how it is with us. (O24 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>It's okay. Although it can be a bit tough sometimes, especially when operating two machines, it's still manageable.</i> <i>Feeling tired is inevitable. If you're running two machines, you might run into issues or have to handle changeovers on both. But that usually only lasts a day or two — occasionally, it does get exhausting. It's not like that every day, but yes, sometimes you do feel worn out. (O21 Operator)</i> <i>I think work is generally fine. Sometimes switching orders can be tiring, and with the weather being so hot now, it's easy to get heatstroke. (O19 Operator)</i> <i>I don't think the workload is particularly high. It increases during order changes, but the rest of the time it's manageable. (O18 Operator)</i>
		More income caused by high job demands	More income caused by high job demands mitigate impact on well-being	<i>How could working not be tiring? We're all here for the money. If the pay is good, the tiredness feels worth it — you know what I mean? (P15 Packer)</i>
		Cultural factors	Cultural factors (Family, expectation) mitigate the impact of high job demands on well-being	<i>I'm happy when I get home — seeing my wife and child there, how could I not be? (Job demands) don't really have an impact. (O28 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>I'm happy. Even when I'm alone, I've never felt unhappy because I have parents who love me deeply, and my son also loves and cares for me dearly. Whenever I'm not feeling well, my son is always there — calling "Mom," bringing me water, making tea, taking care of everything. And my parents have never favored sons over daughters. (O25 Operator)</i> <i>I really enjoy working here. Sometimes when I return home later, my husband is understanding, and I feel that I'm doing quite well — I'm very happy. Though I may not be the happiest person, I think I'm content, and that's enough for me. So far, everything feels pretty good. (O21 Operator)</i> <i>My child has already started working, so basically, I don't need to cover tuition or living expenses anymore. (O21 Operator)</i> <i>It's alright. For now, the elderly at home is in good health, and things are manageable. I feel content — I'm someone who's easily satisfied. (P17 Packer)</i> <i>I feel happy, I have everything, wife, children, house, car, very satisfied. Many people don't have so many. (O12 Operator)</i> <i>Not so good. I seldom talk to my husband in life, and I will do whatever he wants. The older child doesn't listen to me very much, maybe the companion (to the older child) is not enough. (P5 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>I give my well-being 8 points and deduct 2 points because I have to go to work, my son is not married, and I am worried that my child will not give money in the future. (P6 Packer)</i> <i>I am quite satisfied with my life. I can play with children when I go home. There's nothing bad. (O14 Operator)</i>
5. Job Demands and Work-Family Conflict	Negative impact factors	High workload	High workload increases work-family conflict	<i>Occasionally, yes — sometimes it feels stuffy and hot, and I even lose my appetite for supper when I get home. It's mainly because of the humid weather or frequent order changes. When there are lots of order changeovers, it does get more tiring. (O23 Operator)</i> <i>Sometimes I feel extremely exhausted — for example, after working on the earthquake machine. On those days, when I get home, I don't feel like doing anything at all. By the time I get off work and return home, it's already dark. There isn't much I can do anyway — I just go straight to sleep. Any other tasks have to wait for my days off. (P20 Packer)</i> <i>Occasionally, yes — when I'm too exhausted, I don't feel like doing anything after getting home. (P30 Packer)</i> <i>This (Work-family conflict) happens occasionally, but not often. Sometimes when I get home, I just don't feel like doing anything. (P30 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
		Demanding work arrangement	Demanding work arrangement increases work-family conflict	<i>Every child wants his parents to accompany him at night, doesn't he? But I can't stay with him when I work the night shift. (P29 Packer)</i>
	Mitigating factors	Perceived proper job demands	Perceived proper job demands mitigates work-family conflict	<i>Operating two machines is a bit more tiring, but it doesn't affect my communication with my family or make me not willing to do housework. (O22 Operator)</i>
		Family Support	Family support mitigates the impact of high job demands on work-family conflict	<i>There might be times when I'm too tired to do housework, (...) I always love chatting with them(family) when I get home.</i> <i>Whenever I see my parents or others, I talk nonstop. I've never held back in that way.</i> <i>As for skipping housework — yeah, that might happen sometimes. And I think every woman feels that way occasionally. Maybe it's also because I grew up with my parents doting on me — they used to do everything for me, so I might still carry a bit of that habit at home. (O25 Operator)</i> <i>No impact (job demands to work-family conflict). Basically, there's no effect. Right now, my wife is still looking for a job, so someone is taking care of things at home. I'm the only one working for the moment. Our child is about to start kindergarten soon, and afterward, my wife will also go to work. Anyway, things at home will still be managed. (O26 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>No, what conflict could there be? My family just reminds me to pay attention to safety. We only need to focus on working healthily and safely — no other requirement.</i> <i>Usually, my wife and I take turns doing housework. It's not all on me alone — sometimes she handles certain tasks while I do others. We switch off. When we are doing housework, we'll give our child some toys to play with nearby. (O23 Operator)</i> <i>No impact. The child doesn't need much supervision — he can manage himself. The main focus now is earning money. He'll need funds for university. (P17 Packer)</i>
6. Job Demands and Turnover intentions	Negative Impact Factors	High Job Demands	High job demands increase turnover intentions	<i>I have definitely considered to get a job with low workload, but right now, this is the kind of work I'm capable of doing. I certainly can't handle jobs that are both comfortable and well-paid. My educational background just isn't up to par, so I've let it go." (P30 Packer)</i> <i>I used to think about leave in the past. When I was first learning to operate the machines and struggled to get the things done, especially when the machines were not smooth, I'd get frustrated and even considered quitting. But not anymore. (O21 Operator)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>The reason for leaving might be related to the workload. The job of a packaging worker is quite physically demanding, and I believe the summer heat makes it even tougher. Hot weather can make people easily irritable — let's be honest, when it's extremely hot, you just don't feel like working.</i> <i>If the workshop had better ventilation and wasn't so hot, more people would be willing to stay. Take electronic factories, for example — one reason employees stick around for so long is that the workshops are cool and air-conditioned. I've worked in an electronic factory before, and they had air conditioning. (O18 Operator)</i> <i>If the factory doesn't offer overtime, there's no way to earn enough. I don't mind working harder as long as the pay is better — I'm not afraid of tiredness. Those of us working as packers here can endure hardship. Among the four of us who signed up together at this factory, I'm the only one stay. Those who stay are all willing to tough it out; those who can't handle it don't last.</i> <i>It'd be better if there were more overtime opportunities — the more, the better. Whether you want to work extra hours should be up to you. I'd be willing to work overtime every day, even on weekends. (P17 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
	Mitigating Factors	Perceived proper job demands	Perceived proper job demands mitigate the turnover intentions	<i>No, never considered it(quitting). Of course, there are easier jobs out there, but I don't dwell on it. And I don't feel fatigue at work anyway. (O28 Operator)</i>
		Cultural factors	Culture (concept, expectation) mitigate the impact of high job demands on turnover intentions	<i>I haven't considered that looking for an easier job for fatigue reasons. (O22 Operator)</i> <i>I don't have that thought for now. If I were afraid of fatigue, I would've resigned a long time ago. (O23 Operator)</i> <i>I don't feel tired. If I feel tired, I can get to bed earlier after work. I don't think of resignation. I'm afraid I don't like the new factories even more. Then I'll be in trouble. (O25 Operator)</i> <i>There are easier jobs out there, but you have to consider what others have invested (in education) and what they've gained in return. I focus on what I've put in and what I've gotten back. I don't envy others — I stay grounded in my own position. You have to be aware of your own capabilities and recognize where others stand. (P27 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>That's just how life is — it can't always be easy. There are bound to be tired moments and relaxed ones; that's what makes it real.</i> <i>I'm not from a wealthy family, and I'm not rich either. Our expectations have always been simple, and the gap between us and others isn't huge.</i> <i>In the end, no one can achieve perfection. Everyone has their flaws one way or another. Life requires tolerance. If you lack that, you might end up arguing as soon as you get home from work. But in my case, conflicts rarely happen — it mainly depends on mutual understanding within the family. If you understand me and I understand you, and your family supports you, there's basically no room for quarrels or clashes. (O23 Operator)</i> <i>Sure, it's tiring — but who isn't tired? Wherever you go, work is exhausting. If I weren't working here and went somewhere else, I'd still be tired. That's just how it is. (O22 Operator)</i> <i>I can accept it for now. Is there any job that isn't tiring? How could working not be exhausting? It's not like it's supposed to be comfortable, right? (P20 Packer)</i>

Themes	Sub-themes	First-order codes	Descriptions	Quote
				<i>I'll probably keep doing this long-term. If there comes a day when I can't handle it anymore, I'll figure things out then. I'm worried about my hands — they get too tired.</i> <i>I don't want to jump from factory to factory. Wherever I work, I tend to stay for seven or eight years. At my previous company, business died down after the mask mandate ended. I was only making a little over 2,000 a month, so I left. (P17 Packer)</i>

