

RESEARCH ARTICLE

# A Study of Working and Rest Hours of Employees

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## Abstract

One of the key objectives and measures, outlined under section 2.3.9 of the labor and social protection sector of Vision-2050, the long-term development policy of Mongolia, is to support working parents in maintaining a balance between work and family life (optimizing and diversifying work hours of parents, supporting part-time employment and remote work). The concept of Decent Working Hours is directly related to the Decent Work framework (government, 2019).

A survey was conducted on 6 indicators of employee work-life balance among 288 employees of a business organization, and the findings were analyzed using SPSS25 software.

Working hours of work and rest periods, working hour regime, work characteristics, break and rest periods, colleagues and individuals are the indicators that can influence workforce planning, and more specifically, if the employees are provided with an opportunity to have adequate rest after completing work, it ultimately affects stable employment.

Therefore, upon considering these indicators, it has been confirmed that working hours, working hour regime, work characteristics, and break and rest periods have a positive correlations with the employee's work and rest time. On the other hand, indicators such as colleagues and individuals demonstrated negative correlations with employees' work rest-period, and it requires further attention.

**Keywords:** Nature Of Work, Colleagues And Work Team, Individuals, Break Time, Productivity, Performance, Stress.

## 1. Introduction

To achieve the organization's vision and mission, it is important to optimally organize the working time and rest time of the employee in accordance with the characteristics of the organization, while ensuring their legal rights within the framework of the labor law. This approach not only helps the organization to benefit from employees' labor outcomes, but also allows the employees to work satisfactorily and productively, while protecting their mental health, and safeguarding the well-being and stable employment of its employees. As a complex independent system, human being is prone to illness and stress if the appropriate balance of work and rest is not maintained. However, as there is a lack of research on this topic in Mongolia, we aimed at further investigating it.

For an organization to be successful, it must efficiently manage various resources, and out of those, human resources stand out as the only resource capable of managing other resources and developing itself. Therefore, placing special emphasis on human resources serves as a key drive in achieving the organization's vision and mission. Optimally organizing employees' working and rest hours in accordance with the characteristics of the organization, while ensuring compliance with labor laws and protecting employees' legal rights, not only enables the organization to reap the benefits of employees' dedicated labor but also ensures their job satisfaction, productivity, mental well-being, and overall well-being.

Work and rest hours have a variety of effects on the

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physical and mental health of employees, as well as on their family and personal well-being (Inah Kim, 2023). Recognizing that individuals have unique biological and psychological needs, researchers in the fields of health (Abdelrahman et al.), sociology (Tudor- Locke et al.), and psychology (Song, 2021) have emphasized the importance of organizing work and time in a flexible manner.

Work is a process that evolves sustainably when employees' biological needs such as rest, sleep, nutrition, and reproduction are met without compromising the natural characteristics of humans, while also properly ensuring the mental health and overall well-being of employees. Organizational managers are responsible for effectively organizing this process using the methods and principles of management science based on jurisprudence. In performing this role, they are limited by national labor laws adopted based on the International Labor Organization conventions on working time as well as the internal labor regulations of their respective organization.

**Table 1.** Concept of work and rest time

	Period	TheorotECIAL era	Representatives	Concept
1	XVI century	Mercantilism and Labor Shortage	Jean Bodin, Bernard de Mandeville	Workers work to earn a living, but they need to take breaks while working.
2	1723-1790	Adam Smith's Era	Adam Smith	People are inherently lazy when it comes to work, however, by offering reasonable wages, they can be motivated to work productively for a specific period.
3	1818-1883	Marxist Theory Era (Explaining the Paradox of Exploitation)	Karl Marx	Addressed the issues of excessive working hours, working without holidays, and the working hours of men, women, and minors.
4	Late 1800s	Neoclassical Era	Stanley W. Jevons, Carl Menger and Léon Walras	The working hours of workers should be adjusted according to their occupation and geographical location.
5	The early 1900s	Scientific Management	F.Taylor, H.Gantt, L.Gilbreth, F.Gilbreth	Explained that in order to increase labor productivity, it is necessary to motivate workers, provide opportunities for short breaks, and constantly update the time spent on completing specific tasks.

Source: (François Contensou, Radu Vranceanu, 2000)

**Karl Marx** raised concerns about excessively long working hours, **the lack of rest periods**, and the working hours of **men, women, and minors**. He introduced the **“exploitation paradox,”** explaining how employers **forced workers to work for excessively long hours (up to 12 hours a day)**, thereby exploiting their labor. K.Marx's ideas show that he was critical of workers' work and leisure time. To summarize his views on work and rest time, he sharply criticized the fact that, under the influence of the development of industrialization during the

Rest and break periods serve multiple roles, as it impact employees' well-being, health, government policies, labor laws, work productivity, wages, and management strategies, while allowing employees to temporarily reduce physical and mental strain, re-energize, pause, use the restroom, eat meals, and sleep or rest.

## 2. Theoritical Overview

The history of thought on work and rest hours dates back to the mercantilist era off the 16<sup>th</sup> century, which witnessed a shortage of labor.

During the era of mercantilism, there was a shortage of labor. (François Contensou Radu Vranceanu, 2000) Consequently, business owners of the time began paying attention to how to effectively manage employees' working hours. According to Adam Smith's theory, people tend to be naturally lazy when it comes to work. He argued that to make workers productive for a certain period, they must be provided with reasonable wages.(François Contensou Radu Vranceanu, 2000)

capitalist era, workers were working too hard and for long hours in poor working conditions, expressing the issues using terms such as **“labor exploitation”** and **“impoverishment”**, and advocated for more reasonable working and rest hours.

The founders of scientific management, F. Taylor, Lillian Gilbert, and H. Gantt, explained that in order to increase labor productivity, it is necessary to provide workers with incentives, provide opportunities for rest breaks, and constantly adjust the time required for specific tasks.

## 2.1 The International Labour Organization (ILO)

International Labor Organization (ILO): Established in 1919, the ILO played an important role in setting international labor standards, including guidelines on working hours and rest periods, and adopted the first Convention on Working Hours in 1919.

As societies have developed, much attention has been paid to work-life balance, flexible working hour arrangements, and remote working. Many studies have identified the effects of working hours on the physical and mental health, and subjective well-being of employees, and governments and business organizations of countries are making decisions based on the impact of appropriate work and rest periods on improving the well-being of employees.

Workers spend almost half of their lives at work (Tudor-Locke, 2011). Since employee work and rest time are important issues for employers to consider, affecting employee satisfaction and health, employers need to provide employees with sufficient breaks and rest periods to avoid risks to their health and safety (ILO, 2022). Humans are living systems, so they need time to rest. In addition to meeting their primary needs such as sleep and food during rest time, other needs must be met. Working and resting at inappropriate times will cause distortions in the human system. Physical pain, health-related illnesses, and psychological problems can also occur. Health researchers and sociologists have been extensively studying this issue. (Song, 2021) The organization of working hours affects not only work performance but also the lives of employees outside the workplace. The ILO concluded that it is necessary to organize

working hours in accordance with modern needs based on the lessons learned from the past to ensure that working hours are safe, employee- friendly, and appropriate (International Labour Conference, 2018).

Working is an activity driven by the need to meet personal necessities. While engaging in work, people must also prioritize their health, well-being, and the prevention of potential negative consequences. On the other hand, employers can retain high-performing and satisfied employees and promote employee well-being by effectively managing rest periods.

In the field of labor, the International Labor Organization adopted Convention No.1 on Hours of Work (Industry) and Convention No.

30 on Hours of Work (Commerce) in 1919. These conventions serve as the main source for regulating the working hours and rest periods of employees. Based on these conventions, each country has adopted labor laws and standards that regulate labor-related matters. Based on labor laws, organizations define working hours and rest periods of employees in detail through internal labor regulations. These legal norms serve as a legal protection for ensuring the proper balance between working and rest hours.

## 3. Research methodology

The study to assess the appropriateness of working and rest hours was conducted using the “Managing the Risk of Work-Related Fatigue”, a guide published by Safe Work Australia, an agency of the Australian government, and the Labor Law of Mongolia, as the main sources.

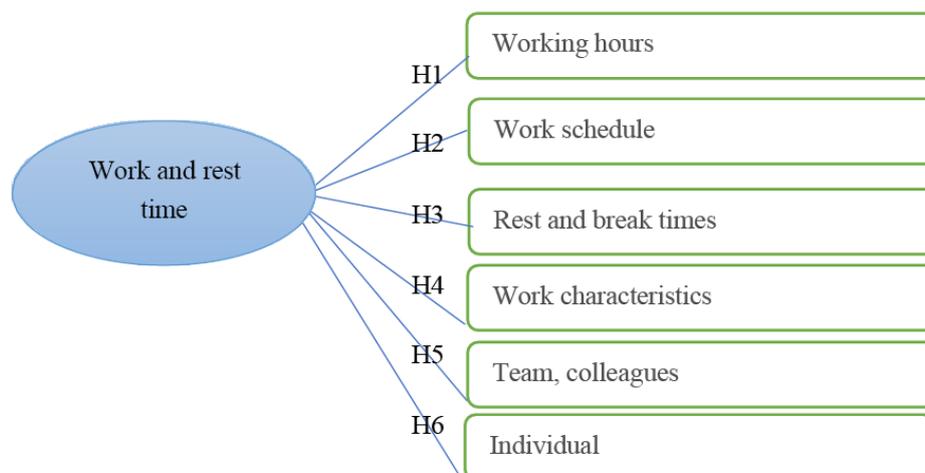


Figure 1. Research hypothesis

H1: Working hours are positively correlated to work and rest times. H2: Working schedules are positively correlated to work and rest times. H3: Rest and break times are positively correlated to work and rest times. H4: Work characteristics are positively correlated to work and rest times. H5: Teamwork and colleagues are positively correlated to work and rest times. H6: Individuality is positively correlated to work and rest times.

Before assessing the appropriateness of work and rest period, the Human Resource Manager of the organization can review the screening and checklist questions and respond with “yes” or “no”, and get a preview of the current picture of their organization’s current working and rest hour conditions. To assess the appropriateness of work and rest periods, the survey questionnaire was developed with 25 sub-indicators within the framework of the following 6 main indicators: (1) working hours, (2) work schedule, (3) rest and break periods, (4) work characteristics, (5) teams and colleagues, and (6) individual.

### 4. Study Results

Within the framework of 6 main indicators related to work and rest time: (1) working hours, (2) work schedule, (3) rest and break time, (4) work characteristics, (5) team and colleagues, and (6) individual, 25 sub-indicators were developed for the survey. A total of 288 full-time employees from business organizations were randomly selected to participate in the study. The data was collected using Google Forms and processed using IBM SPSS25 Statistics and Microsoft Excel.

The employees who participated in the study rated the daily and weekly working hours as having the greatest impact on work and rest time, which was very high (62.3 percent). Of these, 65.6 percent deemed that the daily working hours were very long, 59.4 percent revealed that the number of cases of working on weekends was very high, while 61.8 percent of the surveyed indicated that commuting time to and from work was very long.

The results of the study showed that the work schedule affects work and rest time and the following findings were demonstrated:

- 75 percent of respondents said that the regularity of work shifts (day and night shifts, etc.) had a moderate to significant impact on their well-being. This suggests that irregular shift patterns (rotating between day, night, and evening shifts) affect employees’ well-being.
- 77 percent reported that night shifts had a moderate to significant impact on them.

In addition to examining how work and rest hours affect them, the survey also asked employees about their coworkers and colleagues. 63.2 percent of the employees surveyed expressed that they felt their coworkers worked overtime, and 69.1 percent observed that their coworkers often appeared tired or overwhelmed by work.

The study also examined the impact of working and rest time on employees by examining their personal skills and work experience. This is because skilled and competent employees typically demonstrate high work performance and thus low work-related stress. On the contrary, employees with weak personal skills and limited work experience may not perform well due to various uncertainties. In this regard, there is a high probability of being exposed to psychological stress quickly. However, 65 percent of the employees surveyed had worked in their profession for 4 or more years, and 83 percent rated their work execution speed as high or very high, while 82 percent assessed their professional skills as high or very high.

The following results are obtained upon analyzing the six key indicators related to work and rest hours: (1) working hours, (2) work schedule, (3) rest and break times, (4) work characteristics, (5) team and colleagues, and (6) individual, by summarizing the sub-indicators:

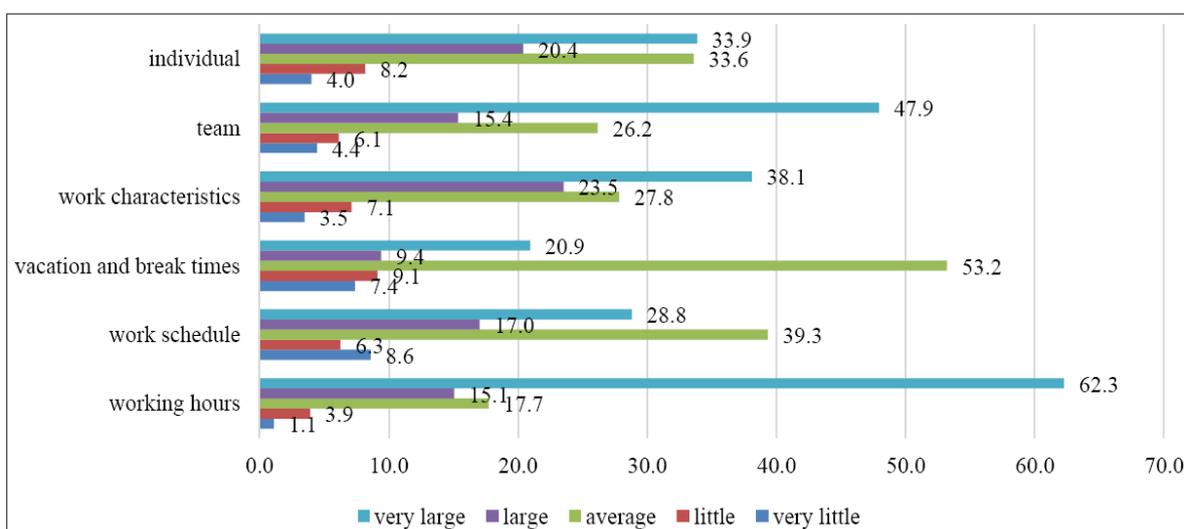


Figure 2. Evaluations given on work and rest time, by each key indicator. Source: Researcher’s analysis

The employees surveyed rated working hours as the most influential factor affecting work and rest time, with 62.3 percent rating them as very high. This includes the responses rating daily working hours as very high (65.6 percent), the number of occurrences of working on weekends as very high (59.4 percent), and commuting time to and from work as very high (61.8 percent).

To confirm the hypothesis, a factor analysis was conducted. In the factor analysis, the H5 team and H6 individual indicators were excluded because they were not factored. As a result:

**Table 2.** Factor analysis

**Rotated Component Matrix<sup>a</sup>**

	Component			
	1	2	3	4
Q_2.1.1		.823		
Q_2.1.2		.847		
Q_2.1.3		.828		
Q_2.1.4		.796		
Q_2.2.1				.649
Q_2.2.2				.824
Q_2.3.1			.918	
Q_2.3.2			.931	
Q_2.3.3			.903	
Q_2.3.4			.773	
Q_2.4.1	.735			
Q_2.4.2	.846			
Q_2.4.3	.863			
Q_2.4.4	.848			
Q_2.4.5	.714			

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations. **Source:** Researcher’s analysis

The KMO of the four indicators of employee work and rest hours, work schedule, rest and break time, and work characteristics was 0.847, indicating that the sample size was adequate or consistent.

**Table 3.** KMO and Bartlett’s Test reliability. Source: Researcher’s analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.847	
Bartlett’s Test of Sphericity	Approx. Chi-Square	3832.624
	df	105
	Sig.	.000

Also, Cronbach’s Alpha – .904 – indicates reliability.

**Table 4.** Cronbach’s Alpha. Source: Researcher’s analysis

Cronbach’s Alpha	Cronbach’s Alpha Based on Standardized Items	N of Items
.904	.907	15

The results of the analysis of the four indicators of work and rest time using Means, Std. Dev and ANOVA showed that  $P(\text{Sig}) > 0.05$ , so these selected indicators are considered to affect work and rest time.

**Table 5.** ANOVA analysis ANOVA<sup>a</sup>. Source: Researcher's analysis.

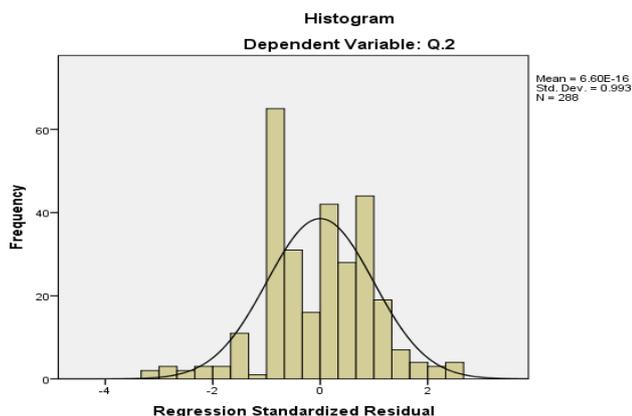
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	205.364	4	51.341	282.527	.000 <sup>b</sup>
	Residual	51.427	283	.182		
	Total	256.791	287			

a. Dependent Variable: Q.2

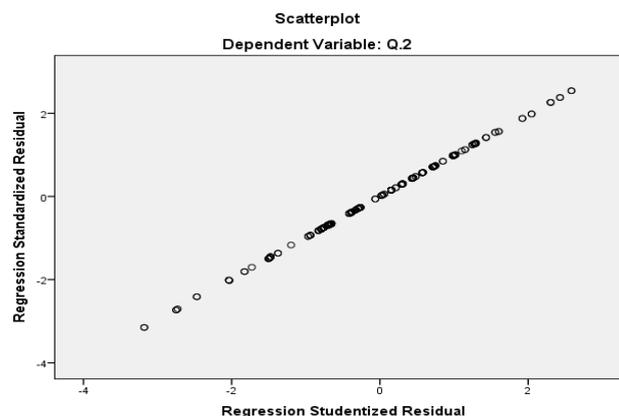
b. Predictors: (Constant), Q.2.4, Q.2.3, Q.2.1, Q.2.2

Based on the survey results of employees who participated in the study, a histogram was created as per the four indicators: working hours, work schedule, rest and break times, and work characteristics. The study results showed that the indicators were normal and correlated with a normal distribution.

A regression analysis was conducted to determine the results. Regression analysis of the research results showed that the variables are correlated and follow a normal distribution.



**Figure 3.** Histogram analysis. Source: Researcher's analysis



**Figure 4.** Regression. Source: Researcher's analysis

When analyzing the correlation between four main indicators related to work and rest time: working hours, work schedule, rest and break times, and work characteristics, all variables are correlated with each other.

**Table 6.** Correlations

		Working and rest time	Working hours	Work schedule	Vacation and break times	Work characteristics
Work and rest time	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	288				
Working hours	Pearson Correlation	.709**	1			
	Sig. (2-tailed)	.000				
	N	288	288			
Work schedule	Pearson Correlation	.563**	.543**	1		
	Sig. (2-tailed)	.000	.000			
	N	288	288	288		
Rest and break times	Pearson Correlation	.529**	.293**	.494**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	288	288	288	288	
Work characteristics	Pearson Correlation	.703**	.410**	.239**	.210**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	288	288	288	288	288

\*\* Correlation is significant at the 0.01 level (2-tailed).

Source: Researcher's analysis

The results of the correlation analysis show that working hours (0.709) and work characteristics (0.703) are positively correlated with work and rest periods, and working hours (0.563) and rest and break times (0.529) are positively correlated. From this, the following hypothesis is considered to be confirmed.

H1: “Working hours have a positive correlation with work and rest hours.”

H2: “Work schedule has a positive correlation with work and rest hours.”

H3: “Break and rest periods have a positive correlation with work and rest hours.”

H4: “Nature of work has a positive correlation with work and rest hours.”

From the above correlation analysis, it is believed that the four indicators of the employee’s work and rest periods, namely working hours, work time regime, rest and break times, and work characteristics, are positively correlated, and the hypothesis is considered to be validated.

## 5. Conclusion

The study on the work-rest balance was conducted, leading to the following conclusions:

1. The history of thought on working and rest time has been studied since the mercantilism era of the 16th century. French historian Marc Bloch and ESSEC Business School professors Francois Contensou and Radu Vranceanu explained the theoretical development of the of working and rest time, starting from the labor shortages during the mercantilist period (16th century) and covering the period up to the neoclassical theory. Afterwards, A. Smith, Karl Marx, the founder of scientific management F. Taylor, Lillian Gilbert, and H. Gantt made valuable contributions to the study of working and rest time.
2. The essence of work-rest balance is fundamentally linked to the concept of human “living” and it is believed that it is important to analyze and explain in detail, the nature and content of the work-rest balance through legal, social, sociological, psychological, health, and productivity theories in terms of providing a comprehensive framework for further studying its nature, content and role.
3. 88 percent of the employees surveyed reported that long periods of focused work **had a** moderate to very high impact on them, and 85 percent stated that working in a fixed posture for extended periods

had a moderate to very high impact. This finding highlights the necessity of scheduled breaks for employees engaged in continuous long-hour work.

4. The results of the 6 indicators considered in work and rest time were calculated and analyzed using the SPSS25 program. According to the results of the study, the indicators of the team, colleagues and the individual were excluded because they were not factored. According to the results of the correlation analysis, the working hours (0.709), the nature of work (0.703) the working hours (0.563), and the rest and break times (0.529) were positively correlated with each other, which confirms the hypothesis.

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