

# Workload and job satisfaction: Examining the moderating role of supportive work environment among industrial machine operators

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**Abstract:** Job satisfaction varies across employees depending on job characteristics and workplace conditions. This study aims to examine the effect of workload on employee job satisfaction, particularly among industrial workers employed as machine operators. In addition, this study investigates whether a supportive work environment moderates the relationship between workload and job satisfaction. A quantitative correlational design was employed, involving 222 wood machine operators from Factory X. Participants were selected using a convenience sampling technique. Data were collected through self-report questionnaires comprising three instruments: the Multidimensional Job Satisfaction Scale, the Quality of Work Life Scale (QWL), and the Team Workload Measure. Data were analyzed using Hayes' moderation analysis. The results indicate that workload has a significant positive effect on job satisfaction. However, the relationship between workload and job satisfaction is not moderated by a supportive work environment, suggesting that the effect of workload on job satisfaction remains consistent regardless of the level of perceived workplace support.

**Keywords:** Industrial machine operators, job satisfaction, pay, supportive work environment, work consistency work system, workload.

## 1 Introduction

Job satisfaction is commonly defined as a positive emotional state in which employees feel comfortable, secure, and fulfilled in their work. It is influenced by multiple factors, including workload, work environment, and organizational resources. Job satisfaction plays a crucial role in organizational outcomes, particularly employee retention, as individuals with higher satisfaction tend to remain longer within an organization (Naz et al., 2020). In addition, satisfied employees demonstrate stronger organizational commitment and a greater sense of belonging (Hutabarat et al., 2023). This condition is also associated with increased productivity and improved work performance (Idris et al., 2020). Therefore, understanding the determinants of job satisfaction is essential, especially in industrial settings where operational efficiency is highly dependent on human resources.

Industrial companies, particularly those engaged in production processes, rely heavily on machine operators who perform repetitive and target-based tasks. These employees typically work under specific conditions, such as workload fluctuations driven by production demands, relatively fixed compensation systems, limited career advancement opportunities, and high dependency on technical skills. Previous studies have highlighted the importance of maintaining job satisfaction

among industrial workers by ensuring adequate facilities, safe working conditions, and appropriate incentives (Sirajuddin et al., 2020). However, empirical findings remain inconsistent.

For instance, research conducted at PT. Krakatau Posco reported relatively high levels of job satisfaction among machine operators, supported by adequate facilities and a conducive work environment (Sirajuddin et al., 2020). In contrast, findings from PT. Kepsindo Indra Utama Padang indicate that high workload demands, overtime requirements, and insufficient compensation contribute to decreased job satisfaction and lower employee performance (Wahyuni & Irfani, 2019). These contrasting results suggest that the relationship between workload and job satisfaction is not yet conclusive and may depend on contextual factors.

This inconsistency is also relevant to machine operators at Company X, a wood-processing industry that employs 222 operators. The characteristics of their work include workload determined by production orders, fluctuating working hours, and compensation based on output. Such conditions create uncertainty in job stability and income, which may influence employees' perceptions of job satisfaction. Given these conditions, it becomes important to examine whether workload consistently affects job satisfaction within this specific industrial context.

Theoretically, workload is a critical factor influencing job satisfaction. While excessive workload is often associated with stress and decreased satisfaction, some studies suggest that manageable workload can have a positive effect by providing a sense of engagement and productivity (Tentama et al., 2019). However, prior research has reported mixed findings, with some studies indicating significant effects (Anasi, 2020; Hermingsih & Purwanti, 2020; Hutabarat et al., 2023; Lumunon & Sendow, 2019; Tentama et al., 2019; Wahyuni & Irfani, 2019) and others reporting non-significant relationships (Fuadiputra & Novianti, 2021; Saputra, 2021; Srimarut & Mekhum, 2020). These inconsistencies highlight the need to identify potential moderating variables that may clarify this relationship.

One important factor that may influence this relationship is the supportive work environment. A supportive work environment encompasses both physical aspects, such as adequate facilities and safe working conditions, and social aspects, including communication and interaction among employees (Dhamija et al., 2019). Such an environment can enhance employees' perceptions of comfort and support, which may help them manage workload more effectively and maintain job satisfaction (Kumar, 2021). In addition, positive interactions among coworkers can reduce perceived workload pressure and foster collaborative productivity (Srimarut & Mekhum, 2020).

Despite its potential role, the moderating effect of a supportive work environment on the relationship between workload and job satisfaction has not been consistently examined. This creates a gap in the literature, particularly in industrial settings with fluctuating workload characteristics such as those experienced by machine operators.

Based on these considerations, this study aims to examine the effect of workload on job satisfaction among machine operators at Company X. Furthermore, this study investigates whether a supportive work environment moderates the relationship between workload and job satisfaction. By addressing inconsistencies in previous findings, this research is expected to contribute to the development of a more comprehensive understanding of job satisfaction in industrial contexts, as well as provide practical insights for organizations in managing workload and work environments effectively.

## 2 Theoretical Perspective

### 2.1 Job Characteristics Model Theory

Hackman and Oldham's Job Characteristics Model (JCM) explains that specific job characteristics contribute to employees' psychological states, which in turn influence their perceptions of achievement and job satisfaction

(Hackman et al., 1978). The model identifies five core job characteristics:

1. Skill variety, referring to the extent to which a job requires diverse skills and abilities. Employees tend to perceive their work as more meaningful when they can utilize a range of competencies, such as operating specialized machinery in industrial settings.
2. Task identity, which reflects the degree to which a job involves completing a whole and identifiable piece of work. This includes how tasks are structured, the workload involved, and the supporting facilities available.
3. Task significance, defined as the extent to which a job has a substantial impact on others, both within and outside the organization.
4. Autonomy, referring to the degree of freedom, independence, and discretion employees have in scheduling and performing their tasks.
5. Feedback, which indicates the extent to which employees receive clear and direct information regarding their performance.

These characteristics influence three critical psychological states: experienced meaningfulness of work, experienced responsibility, and knowledge of results. These states are closely associated with job satisfaction, as employees develop positive attitudes toward their work when they perceive their roles as meaningful and well-structured. Jobs that are rich in these characteristics are more likely to foster higher levels of job satisfaction.

In this context, workload can be interpreted as part of job characteristics that shape employees' experiences. When employees understand their tasks, responsibilities, and available resources, they are more likely to perceive their work as meaningful. Therefore, organizations play an important role in designing jobs that provide clarity, appropriate workload distribution, and constructive feedback to enhance employee satisfaction.

Feedback, in particular, strengthens employees' sense of accomplishment and contributes to job satisfaction. However, the relationship between job characteristics, workload, and job satisfaction is complex and may be influenced by individual differences, organizational culture, and external conditions. Thus, the JCM provides a useful framework for understanding how job design interacts with workload in shaping employee satisfaction.

### 2.2 Job Satisfaction

Job satisfaction refers to a positive evaluative state that develops from employees' experiences in performing their work tasks and achieving desired outcomes. It reflects how employees feel about their work, including their sense of accomplishment and their ability to manage assigned workloads (Anand & Vohra, 2020; Tentama et al., 2019). Employees who experience higher levels of satisfaction are generally less likely to leave

their organization (Qader, 2021). In addition, job satisfaction is closely associated with perceptions of fair compensation, which may vary depending on different aspects of the job (Kwiatkowska & Gębczyńska, 2022).

The benefits of job satisfaction can be observed through positive outcomes such as higher engagement, employee growth, fair wages, recognition, and psychological well-being. A well-managed work environment that includes adequate facilities, balanced workload processes, and positive interpersonal relationships can significantly enhance job satisfaction (Aruldoss et al., 2021). This suggests that job satisfaction is more likely to emerge when employees perceive their workload as manageable and supported by favorable working conditions.

### 2.3 Workload

Workload can be conceptualized as the set of tasks and responsibilities assigned to employees, which must be completed within a given time frame and depend on individual capabilities and job demands (Ruiz-Frutos et al., 2022). Workload is inherently dynamic and varies according to task specifications and employee skills. If not managed properly, excessive workload can lead to work-related strain and hinder the development of job satisfaction.

Workload is generally categorized into two main types. The first is physical workload, which refers to the physical effort required to perform tasks, including strength, endurance, coordination, and mobility. The level of physical workload depends on the nature and difficulty of the job tasks (Anasi, 2020).

The second type is mental workload, which involves cognitive and psychological demands. This includes tasks requiring concentration, decision-making, and problem-solving, such as monitoring production outcomes or evaluating task performance. High mental workload is often associated with psychological stress and fatigue, which may influence employees' satisfaction depending on how well these demands are managed (Hutabarat et al., 2023).

### 2.4 Workload and Job Satisfaction

In general, workload tends to have a negative effect on job satisfaction when it exceeds employees' capacity and is not managed effectively (Anasi, 2020). Excessive workload can lead to physical exhaustion and psychological strain, ultimately reducing satisfaction levels. However, workload does not always produce negative outcomes.

According to Tentama et al. (2019), workload can have a positive effect on job satisfaction when it is accompanied by supportive conditions, such as fair compensation, clear responsibilities, and cooperative work relationships. Under such conditions, employees may perceive workload as a source of challenge and achieve-

ment rather than stress.

Supportive interactions, including recognition, feedback, and collaboration among colleagues and supervisors, can enhance motivation and foster a sense of accomplishment. Employees may remain satisfied even under high workload conditions if they experience consistent work processes and supportive organizational practices (Deschênes, 2021).

Organizations are therefore encouraged to manage workload effectively by providing adequate resources, improving work systems, and fostering positive communication. These efforts can help maintain job satisfaction even in demanding work environments (Lumunon & Sendow, 2019).

### 2.5 A Supportive Work Environment Moderates the Effect of Workload on Job Satisfaction

A supportive work environment refers to a workplace characterized by positive physical and social conditions that promote employee well-being. These include adequate facilities, safe working conditions, and effective communication and interaction among employees (Bosma et al., 2020). Such an environment is closely related to the concept of Quality of Work Life and plays an important role in supporting employees in managing their workload (Dhamija et al., 2019).

Supportive work environments can generally be categorized into two main forms: those emphasizing physical facilities and those emphasizing social interaction. The first focuses on providing adequate infrastructure and tools to support work processes, while the second emphasizes communication, teamwork, and solidarity among employees.

A facility-oriented environment enhances job satisfaction by ensuring that employees can perform their tasks comfortably and efficiently. Meanwhile, a communication-oriented environment fosters openness, trust, and collaboration, allowing employees to share ideas, express concerns, and provide feedback. Both forms contribute to a positive work experience.

Empirical evidence suggests that employees can maintain high motivation and satisfaction despite heavy workloads when supported by adequate facilities, fair compensation, and effective work systems (Anasi, 2020). Similarly, strong social support, including supervision, teamwork, and mutual assistance, can reduce perceived workload pressure and enhance job satisfaction (Agmasu, 2021).

Thus, a supportive work environment is expected to function as a moderating variable that influences how workload affects job satisfaction. Specifically, supportive conditions may strengthen positive effects or buffer negative effects of workload on employee satisfaction.

A supportive work environment also contributes to broader outcomes such as improved performance, skill

development, resilience, and collaboration. It facilitates employees in coping with workload demands by providing both instrumental and emotional support (Dhamija et al., 2019).

Furthermore, organizations that foster supportive environments encourage employee growth through collaboration and knowledge sharing. This creates opportunities for continuous learning and skill development, which further enhances job satisfaction (Naz et al., 2020).

## 2.6 Hypothesis

This study proposes the following hypotheses:

**H1:** Workload has a positive effect on job satisfaction.

**H2:** A supportive work environment moderates the relationship between workload and job satisfaction by strengthening the effect of workload on job satisfaction.

## 3 Method

### 3.1 Research Design

This study employed a quantitative correlational design to examine the relationship between variables and to identify the influence of independent variables on the dependent variable (Creswell & Creswell, 2018). A quantitative approach was selected as it allows for the analysis of numerical data to test hypotheses and determine statistical relationships among variables.

This research adopted a cross-sectional design, in which data were collected at a single point in time. Furthermore, the study incorporated a moderating variable to examine its role in influencing the relationship between the independent variable (workload) and the dependent variable (job satisfaction). The study also followed an ex-post facto approach, meaning that the variables were observed without any experimental manipulation or intervention.

### 3.2 Subjects

This study employed a convenience sampling technique, in which participants were selected based on their availability and accessibility within the research setting (Creswell & Creswell, 2018). The total number of participants was 222 machine operators working in the particle board wood production division at Company X. This number reflects the total population of employees within the division, including both permanent workers and temporary or specialized machine technicians.

Company X is an industrial organization engaged in processing raw wood into particle board as its primary product. The participants represent workers directly involved in the production process, making them relevant subjects for examining workload and job satisfaction.

Ethical considerations were taken into account by ensuring that all participants provided informed consent

Table 1: Characteristics of Subjects

Characteristics	N	(%)
Age		
18–35	52	23.42
36–45	66	29.73
≥ 46	104	46.85
Working Hours Required		
< 35 hours	111	50.00
≥ 35 hours	111	50.00
Occupation		
Machine Operator	174	78.38
Team/Machine Coordinator	48	21.62

prior to their participation. Participants were informed of their right to refuse or withdraw from the study at any time without consequences. The demographic characteristics of the participants are presented in Table 1.

### 3.3 Instrument

This study utilized a Likert-type scale to measure all research variables. Three standardized instruments were used and administered in the form of self-report questionnaires to the participants.

Job satisfaction was measured using the Job Satisfaction Scale developed by Özpehlivan and Acar (2016), which consists of 30 items with a Cronbach's alpha of 0.845, indicating good reliability. The scale measures multiple aspects, including satisfaction with working conditions, coworkers, promotion opportunities, and salary. Responses were recorded on a five-point scale ranging from (1) very inappropriate to (5) very appropriate.

A supportive work environment was measured using the Quality of Work Life Scale (QWL) adapted from Sirgy et al. (2008) and Razak et al. (2016). This instrument contains 13 items with a Cronbach's alpha of 0.939, indicating excellent reliability. The scale captures both physical and social aspects of the work environment, including workplace safety, facilities, social support, teamwork, compensation, and organizational culture.

Workload was measured using the Team Workload Measure, derived from the Team Workload Questionnaire (TWLQ) developed by Sellers et al. (2014). This instrument consists of 16 items with a Cronbach's alpha of 0.739, indicating acceptable reliability. The scale assesses multiple dimensions, including physical demands, mental demands, coordination, communication, and time pressure.

The original TWLQ response format ranged from 0 (lowest) to 10 (highest). In this study, the scale was adapted to a five-point Likert format (1 to 5) to improve ease of understanding and reduce respondent burden. This adjustment was made based on practical considerations in the field and recommendations from the produc-

tion management of Company X. The adaptation was also supported by the flexibility suggested by the original scale developer (Sellers et al., 2014), allowing the instrument to be applied in various contexts. Example items include “How much physical activity is required at work?” and “How much mental effort is required to perform your tasks?”

### 3.4 Procedure

The research procedure began with identifying the research site and target participants, followed by the preparation and adaptation of the measurement instruments. The instruments were translated and adjusted to ensure clarity and relevance to the research context.

Data collection was conducted by distributing questionnaires to participants who met the inclusion criteria and were willing to participate. Prior to completing the questionnaire, participants were provided with an informed consent form explaining the purpose of the study, confidentiality of responses, and their rights as participants.

Participation was voluntary, and respondents had the right to decline or withdraw at any stage. To increase participation rates, respondents were also allowed to share the questionnaire with colleagues who met the study criteria. After data collection was completed, data screening and preparation were conducted prior to analysis, including a power analysis to ensure adequate sample size.

### 3.5 Data Analysis

Data analysis was conducted in several stages. The initial stage involved testing statistical assumptions, followed by hypothesis testing. Assumption testing included normality and multicollinearity tests.

Normality was assessed using the Kolmogorov–Smirnov test with a significance level of 0.05 ( $p > 0.05$  indicating normal distribution). Multicollinearity was evaluated using the Variance Inflation Factor (VIF), with values below 5 indicating no multicollinearity issues (Hayes, 2022).

Hypothesis testing was conducted using Hayes’ PROCESS macro (Hayes, 2022) to examine both the direct effect of workload on job satisfaction and the moderating role of a supportive work environment. This analysis allows for testing whether the interaction between the independent variable (X) and the moderator (M) significantly predicts the dependent variable (Y).

## 4 Results

### 4.1 Classical Assumption Test Results

Prior to hypothesis testing, classical assumption tests were conducted to ensure that the data met the requirements for regression analysis. These tests included normality and multicollinearity assessments, each serving a

specific purpose in validating the statistical model. Overall, the results indicate that all assumptions were satisfactorily met, allowing the analysis to proceed to hypothesis testing. The results of each test are presented in the following subsections.

### 4.2 Normality Test Results

The normality test was conducted to examine whether the data distribution, particularly the residuals, followed a normal distribution. This is an important prerequisite for regression analysis. The results of the Kolmogorov–Smirnov test showed a significance value of 0.200 ( $p > 0.05$ ), indicating that the data were normally distributed. Therefore, the assumption of normality was fulfilled, and further analysis could be conducted.

### 4.3 Multicollinearity Test Results

The multicollinearity test was performed to assess whether there were high correlations among independent variables in the regression model. A good regression model should not exhibit multicollinearity.

The results showed a Variance Inflation Factor (VIF) value of 1.897 ( $VIF < 10$ ) and a tolerance value of 0.527 ( $> 0.10$ ). These values indicate that there is no multicollinearity among the variables. Therefore, the assumption of multicollinearity was satisfied.

### 4.4 Description of Research Variables

This study involved 222 machine operator employees at Company X. Descriptive statistical analysis was conducted to examine the mean, standard deviation, and correlations among variables. The results are presented in Table 2.

Based on Table 2, the mean score for workload (X) is 3.80 ( $SD = .43$ ), for supportive work environment (M) is 3.93 ( $SD=.51$ ), and for job satisfaction (Y) is 3.95 ( $SD=.42$ ).

Correlation analysis indicates that all variables are positively and significantly related. Workload is positively correlated with job satisfaction ( $r = .736$ ;  $p < .01$ ), and with supportive work environment ( $r=.688$ ;  $p < .01$ ). In addition, supportive work environment shows a strong positive correlation with job satisfaction ( $r=.847$ ;  $p < .01$ ). These results suggest that higher levels of workload and supportive work environment are associated with higher job satisfaction.

### 4.5 Hypothesis Testing

Hypothesis testing was conducted using Hayes’ PROCESS macro to examine both the direct effect of workload on job satisfaction and the moderating role of a supportive work environment. The results are presented in Table 3.

The results indicate that the first hypothesis (H1) is supported. Workload has a significant positive effect on job satisfaction ( $B = .736$ ;  $t = 16.118$ ;  $p < .05$ ). This finding suggests that higher workload is associated

Table 2: Statistical Test Results (N=222)

Variable	Mean	SD	1	2	3
1. Job Satisfaction	3.95	0.42	1.00	0.736**	0.847**
2. Workload	3.80	0.43		1.00	0.688**
3. Supportive Work Environment	3.93	0.51			1.00

Note: \*\*p < .01

Table 3: Hypothesis Test Results (N=222)

	Variable	B	t	p value	R <sup>2</sup>	F	Sig.
Model 1	Workload (X)	0.736	16.118	0.000	0.541	259.779	0.000
Model 2	Workload (X)	0.293	6.444	0.000	0.763	233.733	0.000
	Supportive Work Environment (M)	0.530	14.236	0.000			
	Interaction (X*M)	-0.044	-0.956	0.340			

Y: Job Satisfaction

with higher job satisfaction. This may reflect conditions where workload is perceived as manageable, meaningful, and supported by organizational factors, such as consistent work processes and adequate compensation (Tentama et al., 2019).

In contrast, the second hypothesis (H2) is not supported. The interaction effect between workload and supportive work environment is not significant ( $B = -.044$ ;  $t = -0.956$ ;  $p = .340$ ;  $p > .05$ ). This indicates that a supportive work environment does not moderate the relationship between workload and job satisfaction.

Although the moderating effect is not significant, the supportive work environment variable itself shows a significant direct effect on job satisfaction ( $B = .530$ ;  $t = 14.236$ ;  $p < .05$ ). This suggests that while a supportive work environment does not change the strength of the relationship between workload and job satisfaction, it independently contributes to higher levels of job satisfaction.

Graphical analysis further confirms that the slope of the relationship between workload and job satisfaction remains relatively consistent across different levels of supportive work environment. This indicates that the effect of workload on job satisfaction is stable regardless of the level of perceived workplace support.

## 5 Discussion

This study aims to examine the moderating role of a supportive work environment in the relationship between workload and job satisfaction. The first finding supports the first hypothesis, indicating that workload has a significant and positive effect on job satisfaction. This finding suggests that, in the context of machine operators at Company X, higher workload is associated with higher levels of job satisfaction.

This result can be explained using the perspective proposed by Tentama et al. (2019), which emphasizes that workload may contribute positively to job satisfaction when it is accompanied by consistent work processes and adequate rewards. In this study, machine operators experience workload as a continuous and structured work cycle. Rather than being perceived as a burden, workload represents ongoing task engagement, productivity, and opportunities to earn wages. This condition may foster a sense of accomplishment and reinforce satisfaction.

In line with this explanation, the findings are consistent with previous studies that report a positive relationship between workload and job satisfaction (Hermingsih & Purwanti, 2020; Lumunon & Sendow, 2019; Tentama et al., 2019). More specifically, this study supports the notion that workload can function as a motivating factor when it is perceived as meaningful and linked to tangible outcomes such as income and task completion. In the case of Company X, workload appears to reflect work continuity rather than pressure, which explains why employees remain satisfied despite relatively high work demands.

Importantly, the findings also suggest that the absence of workload (e.g., lack of orders) may lead to decreased satisfaction due to reduced productivity and income opportunities. This highlights that, in this context, workload is not merely a demand factor but also a resource that sustains employee motivation and satisfaction.

The second finding indicates that the supportive work environment does not moderate the relationship between workload and job satisfaction. This means that the strength of the relationship between workload and job satisfaction remains stable regardless of the level of perceived workplace support. However, it is important to note that the supportive work environment still has a significant direct effect on job satisfaction.

One possible explanation for the non-significant moderating effect is that employees in industrial settings may prioritize economic factors, particularly wages, over environmental conditions. As suggested by Kwiotkowska and Gębczyńska (2022), job satisfaction in industrial contexts is often strongly influenced by compensation. In the case of Company X, employees may perceive workload primarily as a means to secure income, making workload–reward dynamics more salient than environmental factors. Consequently, while a supportive work environment contributes to satisfaction, it does not alter how workload influences that satisfaction.

Another explanation relates to the dynamic and sometimes unstable nature of industrial work environments. As noted by Srimarut and Mekhum (2020), organizational changes and operational demands may lead to fluctuations in workplace conditions, resulting in inconsistent employee perceptions of the work environment. In contrast, compensation and workload tend to be more directly experienced and consistently valued by employees. This may reduce the relative importance of the work environment as a moderating factor.

Furthermore, in industrial settings, employees often have limited control over environmental conditions such as facilities, organizational policies, or team composition. These elements are typically determined by management. As a result, employees may adapt to existing conditions rather than rely on them to shape their work experiences. This may explain why a supportive work environment does not significantly interact with workload in influencing job satisfaction.

From a theoretical perspective, this study contributes to the literature by suggesting that a supportive work environment may function more as an independent predictor rather than a boundary condition (moderator) in the relationship between workload and job satisfaction. This finding provides an alternative explanation to previous assumptions that environmental support necessarily strengthens or weakens workload effects.

This study is not without limitations. One limitation concerns the adaptation of the workload measurement scale (Team Workload Measure from TWLQ; (Sellers et al., 2014)). Although the modification from a 0–10 scale to a 1–5 Likert scale was justified for practical reasons, it may have affected the sensitivity of the instrument.

Additionally, the study focused exclusively on machine operators within a single company, which limits the generalizability of the findings. Industrial employees encompass a wide range of roles with varying workload characteristics, and future research should include more diverse occupational groups to provide a broader understanding of job satisfaction in industrial contexts.

## 6 Conclusion and Implications

This study concludes that workload has a significant positive effect on job satisfaction among machine operators at Company X. In this context, workload is perceived not only as a demand but also as an opportunity for productivity, income generation, and task accomplishment, which collectively contribute to job satisfaction.

Furthermore, the results indicate that a supportive work environment does not moderate the relationship between workload and job satisfaction. This suggests that the influence of workload on job satisfaction remains consistent regardless of the level of workplace support. However, the supportive work environment still plays an important role as an independent factor that directly enhances job satisfaction.

From a practical perspective, organizations — particularly in industrial sectors—should not assume that reducing workload will automatically increase job satisfaction. Instead, it is important to ensure that workload is well-managed, meaningful, and supported by fair compensation systems. At the same time, organizations should continue to develop supportive work environments, as these contribute directly to employee well-being and satisfaction.

For future research, it is recommended to expand the scope of participants across different industrial roles and organizational contexts. In addition, future studies may explore other moderating variables, such as compensation systems, job security, or organizational commitment, to better understand the conditions under which workload influences job satisfaction.

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