

Workload and Burnout Among Urban Delivery Couriers: Evidence from the Indonesian Logistics Sector

Beban Kerja dan Burnout pada Kurir Pengiriman Perkotaan: Bukti dari Sektor Logistik Indonesia

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Abstract

The rapid expansion of the logistics industry has intensified job demands for courier workers, increasing their vulnerability to burnout. This study examines the relationship between workload and burnout among couriers at PT. JNE Express Main Branch in Medan, Indonesia. A quantitative correlational design was employed using total sampling, involving 93 couriers. Data were collected using a 29-item Workload Scale and a 32-item Burnout Scale based on Maslach's framework. Reliability analysis indicated high internal consistency ($\alpha = .888$ for workload; $\alpha = .928$ for burnout). Pearson product-moment correlation analysis revealed a strong positive relationship between workload and burnout ($r = .733, p < .001$), with workload explaining 53.8% of the variance in burnout ($r^2 = .538$). Although descriptive findings indicated that both workload and burnout were at relatively low levels, the strong correlation suggests that even small variations within these low levels are associated with substantial increases in burnout, indicating a structurally sensitive relationship between job demands and employee well-being. This study contributes to the literature by demonstrating that workload operates as a dominant and multidimensional predictor of burnout within the underexplored courier sector, particularly in a developing country context. These findings extend the applicability of the Job Demands-Resources (JD-R) model by highlighting the sensitivity of burnout risk even under moderate demand conditions. Practically, the results underscore the importance of proactive workload management, as incremental increases in job demands may significantly elevate psychological risk.

Keywords: workload, burnout, courier workers, job demands-resources model, occupational health psychology, logistics industry

Abstrak

Pesatnya perkembangan industri logistik telah meningkatkan tuntutan kerja bagi kurir, yang berpotensi meningkatkan risiko burnout. Penelitian ini bertujuan untuk mengkaji hubungan antara beban kerja dan burnout pada kurir di PT. JNE Express Cabang Utama Medan. Penelitian ini menggunakan desain kuantitatif korelasional dengan teknik total sampling yang melibatkan 93 kurir. Data dikumpulkan menggunakan Skala Beban Kerja sebanyak 29 item dan Skala Burnout sebanyak 32 item yang diadaptasi dari kerangka Maslach. Hasil uji reliabilitas menunjukkan konsistensi internal yang tinggi ($\alpha = 0,888$ untuk beban kerja; $\alpha = 0,928$ untuk burnout). Analisis korelasi product moment Pearson menunjukkan adanya hubungan positif yang kuat antara beban kerja dan burnout ($r = 0,733, p < 0,001$), dengan beban kerja menjelaskan 53,8% varians burnout ($r^2 = 0,538$). Meskipun hasil deskriptif menunjukkan bahwa beban kerja dan burnout berada pada kategori relatif rendah, kekuatan korelasi tersebut mengindikasikan bahwa variasi kecil dalam tingkat beban kerja tetap berkaitan dengan peningkatan burnout yang signifikan, sehingga mencerminkan hubungan yang sensitif secara struktural antara tuntutan kerja dan kesejahteraan psikologis karyawan. Penelitian ini memberikan kontribusi dengan menunjukkan bahwa beban kerja merupakan prediktor dominan dan multidimensional terhadap burnout pada sektor kurir yang masih relatif kurang diteliti, khususnya dalam konteks negara berkembang. Temuan ini memperluas penerapan model Job Demands-Resources (JD-R) dengan menekankan sensitivitas risiko burnout bahkan pada kondisi tuntutan kerja yang moderat. Secara praktis, hasil penelitian ini menegaskan pentingnya pengelolaan beban kerja secara proaktif, karena peningkatan kecil dalam tuntutan kerja dapat secara signifikan meningkatkan risiko psikologis.

Kata kunci: Beban Kerja, Kelelahan Kerja (Burnout), Pekerja Kurir, Model Tuntutan-Sumber Daya Pekerjaan, Psikologi Kesehatan Kerja, Industri Logistik

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BACKGROUND

The rapid expansion of e-commerce has significantly transformed logistics systems, particularly in emerging economies where digital consumption continues to grow. In Indonesia, this transformation is highly visible. The e-Conomy SEA 2024 report by Google, Temasek, and Bain & Company estimated that Indonesia's digital economy reached a gross merchandise value of USD 90 billion in 2024, representing a 13% increase from the previous year. E-commerce remained the largest contributor, with an estimated GMV of USD 65 billion and annual growth of 11% in 2024. This indicates that online shopping has become a major driver of Indonesia's digital economy and has directly increased demand for courier, express, and last-mile delivery services. In line with this growth, the Indonesian courier, express, and parcel market was estimated at USD 8.42 billion in 2026, increasing from USD 7.86 billion in 2025, with projected growth to USD 11.91 billion by 2031. These figures show that courier work is no longer a supporting activity in the logistics chain, but has become a central component of the contemporary digital economy.

The growth of e-commerce and parcel delivery has intensified operational demands in last-mile delivery systems. Couriers are expected to complete deliveries quickly, accurately, and continuously while dealing with traffic congestion, weather exposure, customer complaints, navigation problems, and performance targets. In many delivery systems, their work is also monitored through digital platforms, real-time tracking, and performance indicators. As a result, couriers experience a work environment characterized by high time pressure, limited recovery time, and constant evaluation. Previous research has shown that last-mile delivery work involves specific psychosocial and occupational risks, including high workload, lack of control over working conditions, stress, burnout, and reduced mental well-being. A systematic review on last-mile delivery workers concluded that poor working conditions are consistently associated with stress, burnout, and poorer occupational health outcomes. Therefore, the rapid growth of delivery services must be understood not only as an economic phenomenon, but also as an occupational psychology issue that affects the well-being of workers who sustain the logistics system.

From an organizational psychology perspective, one of the most relevant psychological constructs for understanding courier work is workload. Workload refers to the intensity, amount, and complexity of job demands that require continuous physical, cognitive, and emotional effort from employees. In courier work, workload is not limited to the number of parcels delivered per day. It also includes route complexity, delivery deadlines, customer interaction, unpredictable road conditions, system-based performance monitoring, and the pressure to maintain service quality. When workload remains high over time and is not balanced by sufficient recovery, autonomy, or organizational support, it may produce strain and reduce employee well-being. This explanation is consistent with the Job Demands-Resources

model, which argues that excessive job demands can trigger a health impairment process when employees lack adequate resources to manage those demands. In this process, sustained job demands drain employees' energy and increase the likelihood of psychological strain, including burnout.

Burnout is a chronic psychological response to prolonged exposure to work-related stressors. It is generally reflected in emotional exhaustion, depersonalization or cynicism, and reduced professional efficacy. Among these dimensions, emotional exhaustion is often considered the core component because it represents the depletion of emotional and psychological resources. In delivery work, burnout may emerge when couriers continuously experience heavy workloads, strict delivery targets, repeated customer demands, traffic-related stress, and limited time for rest. The consequences of burnout are serious because it can reduce motivation, concentration, service quality, safety behavior, and overall psychological well-being. For courier workers, burnout may also increase the risk of work accidents, fatigue, absenteeism, and intention to leave the job. Thus, examining burnout among couriers is important because this occupation combines physical demands, psychological pressure, customer-facing responsibilities, and technology-mediated control.

Several previous studies have demonstrated that workload is an important predictor of occupational stress and burnout. Research in various occupational groups, including healthcare workers, teachers, drivers, and service employees, consistently shows that high workload is associated with emotional exhaustion and reduced well-being. A meta-analytic review by Lesener et al. found that job demands, including workload, were strongly related to burnout within the JD-R framework. In the context of delivery work, more recent studies have begun to highlight the psychological risks faced by couriers and delivery riders. Useche et al. reported that high workload and low control over working conditions are important determinants of burnout among delivery riders. Dong et al. also found that food delivery riders working under algorithmic management experienced burnout, indicating that digital control systems can intensify psychological strain among platform-based delivery workers. In Indonesia, emerging research has also begun to examine workload and stress among couriers. For example, a 2025 study on courier workers in Indonesia found that the rapid growth of e-commerce increased delivery service demand and contributed to workload, prolonged working hours, unstable work conditions, weather exposure, and inconsistent delivery targets. Another study involving courier workers examined the relationship between workload and work fatigue, showing that courier work contains psychophysiological demands related to time pressure and daily delivery targets.

Although prior research has established the relationship between workload and burnout in many occupations, studies focusing specifically on delivery couriers remain limited, particularly in Indonesia and Southeast Asia. Existing burnout studies are still dominated by healthcare

workers, educators, office employees, and formal organizational settings. Meanwhile, couriers represent a distinctive workforce because their job combines physical mobility, route uncertainty, algorithmic or digital monitoring, customer interaction, and time-sensitive performance demands. These characteristics may shape the workload–burnout relationship differently from traditional occupations. Moreover, the rapid expansion of Indonesia’s e-commerce sector makes courier workers increasingly important, yet their psychological well-being has received relatively limited empirical attention. This creates a clear research gap: while courier work is central to the digital economy, empirical understanding of how workload contributes to burnout among Indonesian couriers remains insufficient.

Based on this gap, the present study examines the relationship between workload and burnout among delivery couriers in Indonesia. Grounded in the Job Demands–Resources framework, this study positions workload as a central job demand that may increase burnout when experienced continuously without adequate recovery or resources. The objective of this study is to analyze whether higher workload is associated with higher burnout among delivery couriers. The novelty of this study lies in its specific focus on courier workers within Indonesia’s rapidly growing e-commerce and last-mile delivery sector, a population that remains underrepresented in organizational psychology and occupational health research. Unlike many previous studies that focus on formal employees in institutional settings, this study addresses a workforce exposed to a unique combination of physical strain, digital monitoring, time pressure, and customer-facing service demands.

The findings of this study are expected to contribute both theoretically and practically. Theoretically, this study extends the application of the Job Demands–Resources model to courier work in an emerging economy context. It also enriches burnout literature by examining a logistics workforce that is increasingly important but still understudied. Practically, the study may provide useful evidence for logistics companies, platform-based delivery services, and policymakers in designing healthier workload systems, improving work scheduling, strengthening recovery opportunities, and developing interventions to reduce burnout among couriers. Therefore, this research is important because it addresses not only the operational success of the logistics industry, but also the psychological sustainability of the workers who support Indonesia’s digital economy.

RESEARCH METHODS

This study employed a quantitative correlational design to examine the relationship between workload and burnout among delivery couriers. The research was conducted at the main branch of PT. JNE Express in Medan, Indonesia, a high-volume logistics distribution center. Data were collected during regular working hours (08:00–17:00 WIB), ensuring that participants’ responses reflected their actual work conditions and minimizing recall bias. The

population consisted of all active delivery couriers at the branch ($N = 93$). Given the relatively small population size, total sampling was applied, resulting in the inclusion of all eligible participants. This approach ensured full population representation and reduced sampling bias.

The study examined two variables: workload as the independent variable and burnout as the dependent variable. Workload was defined as the perceived intensity and quantity of job demands, including work conditions, time use, target demands, and work environment (Koesomowidjojo, 2017). Burnout was conceptualized based on Maslach’s three-dimensional framework, comprising emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach & Leiter, 2016). Data were collected using two self-report instruments. The initial workload and burnout scales each consisted of 36 items measured on a four-point Likert scale. Following psychometric evaluation, items with corrected item–total correlation values below .30 were removed. As a result, the final workload scale consisted of 29 items, while the burnout scale comprised 32 items. The retained items demonstrated satisfactory construct validity, with correlation coefficients ranging from .347 to .679 for workload and .310 to .700 for burnout (Azwar, 2018). Internal consistency reliability was assessed using Cronbach’s Alpha, yielding coefficients of .888 for the workload scale and .928 for the burnout scale, indicating high and excellent reliability, respectively (Nunnally & Bernstein, 1994).

Data analysis was performed using IBM SPSS version 21. Prior to hypothesis testing, assumption testing was conducted, including normality testing using the Kolmogorov–Smirnov test and linearity testing to confirm the relationship between variables. The data met the assumptions of normality ($p \geq .05$) and linearity ($p \geq .05$). The hypothesis was tested using Pearson Product–Moment Correlation at a significance level of $\alpha = .05$. The coefficient of determination (r^2) was calculated to estimate the proportion of variance in burnout explained by workload. All ethical procedures were observed. Permission to conduct the study was obtained from the Faculty of Psychology, Universitas Medan Area, and from PT. JNE Express Medan. Participation was voluntary, and confidentiality and anonymity were strictly maintained.

RESEARCH RESULTS

Characteristics of Respondents

The respondents in this study consisted of 93 delivery couriers employed at PT. JNE Express Medan. All respondents were active workers directly involved in delivery operations and worked within a high-demand logistics environment. The characteristics of respondents in this study were described based on several demographic and employment-related variables, including gender, age, length of service, employment status, and work division. These characteristics were included to provide a clearer profile of the participants and to ensure that the sample accurately represented delivery couriers working in the operational context of PT. JNE Express Medan.

In terms of gender, respondents were categorized into male and female groups. This classification was important because courier work is generally associated with physically demanding activities, route mobility, and field-based tasks, which may have different implications for male and female workers. Age was also included as a respondent characteristic because age may reflect differences in physical endurance, work experience, coping capacity, and adaptation to occupational demands. Respondents were grouped into several age categories to describe the distribution of younger and older couriers in the sample.

Length of service was used to describe how long respondents had worked as delivery couriers at PT. JNE Express Medan. This variable was important because workers with longer tenure may have greater familiarity with delivery routes, work procedures, and customer handling, while newer workers may still be adapting to workload demands and organizational expectations. Employment status was also included to distinguish whether respondents were permanent employees, contract workers, or other employment categories. This characteristic is relevant because employment status may influence job security, perceived work pressure, organizational attachment, and psychological responses to workload.

Furthermore, respondents were categorized based on their work division or operational section. This classification was necessary because courier duties may vary depending on the specific work unit, such as delivery, pickup, sorting, or field operations. Differences in work division may result in different levels of workload, time pressure, physical activity, and customer interaction. Therefore, describing the respondents' characteristics in detail helps provide a more comprehensive understanding of the research sample and strengthens the contextual interpretation of workload and burnout among delivery couriers at PT. JNE Express Medan.

Descriptive Statistics and Score Categorization

Descriptive statistics were conducted to examine the central tendency and dispersion of the variables.

Table 1. Descriptive Statistics

Variable	Mean	Standard Deviation
Workload	61.57	10.071
Burnout	62.55	12.924

The results show that workload (M = 61.57, SD = 10.071) and burnout (M = 62.55, SD = 12.924) exhibit moderate variability among respondents. Burnout demonstrates slightly greater dispersion, indicating more varied experiences among participants. To enhance interpretability, empirical means were compared with hypothetical means.

Score Categorization

The categorization of research variables was conducted to describe the general tendency of respondents' scores on each variable. In this study, the empirical mean was compared with the hypothetical mean to determine whether each variable fell into the low or high category. A variable was

categorized as low when the empirical mean was lower than the hypothetical mean, whereas it was categorized as high when the empirical mean was higher than the hypothetical mean.

Table 2. Score Categorization of Research Variables

Variable	Number of Items	Possible Score Range	Hypothetical Mean	Empirical Mean	SD	Category
Workload	29	29-116	72.5	61.57	10.071	Low
Burnout	32	32-128	80.0	62.55	12.924	Low

Based on Table 2, the workload variable had an empirical mean score of 61.57 with a standard deviation of 10.071. This empirical mean was lower than the hypothetical mean of 72.5. Therefore, the workload perceived by delivery couriers at PT. JNE Express Medan was categorized as low. This finding indicates that, in general, respondents perceived their work demands as relatively manageable and not excessively burdensome. The burnout variable had an empirical mean score of 62.55 with a standard deviation of 12.924. This empirical mean was also lower than the hypothetical mean of 80.0. Thus, burnout among delivery couriers at PT. JNE Express Medan was categorized as low. This result suggests that respondents generally did not report high levels of emotional exhaustion, depersonalization, or reduced personal accomplishment. To clarify the basis of the categorization, the score category criteria for each variable are presented in Table 3.

Table 3. Score Category Criteria for Each Variable

Variable	Score Range	Category	Interpretation
Workload	29-72.5	Low	Respondents perceive their workload as relatively manageable and not excessive.
Workload	>72.5-116	High	Respondents perceive their workload as high and potentially burdensome.
Burnout	32-80	Low	Respondents experience relatively low levels of burnout symptoms.
Burnout	>80-128	High	Respondents experience relatively high levels of burnout symptoms.

Both workload and burnout were categorized as low. This means that the delivery couriers in this study generally perceived their workload as manageable and did not experience severe burnout symptoms. However, these findings should not be interpreted as indicating the absence of occupational risk. Courier work still involves physical demands, time pressure, delivery targets, customer interaction, and environmental challenges. Therefore, even though the average scores were in the low category, workload and burnout remain important variables to examine because they may increase if job demands become more intense or if organizational support and recovery opportunities are insufficient.

Assumption Testing
Normality Test

Table 4. Normality Test Results

Variable	K-S Statistic	Sig.	Interpretation
Workload	.064	.200	Normal
Burnout	.073	.200	Normal

Both variables are normally distributed ($p \geq .05$), indicating that parametric analysis is appropriate.

Linearity Test

Table 5. Linearity Test Results

Variables	F	Sig. (Deviation)	Conclusion
Workload– Burnout	1.444	.113	Linear

The relationship between workload and burnout is linear ($p \geq .05$), satisfying the assumptions for correlation analysis.

Correlation Analysis (Main Findings)

Table 6. Correlation Results

Variables	r	p	r ²	Variance Explained (%)
Workload– Burnout	-.733	.000	.538	53.8%

The analysis reveals a strong and statistically significant positive correlation between workload and burnout ($r = .733, p < .001$). The coefficient of determination ($r^2 = .538$) indicates that workload explains 53.8% of the variance in burnout, demonstrating substantial explanatory power. This finding highlights workload as a dominant predictor of burnout in this context.

Partial Correlation Analysis

To examine the relationship at the dimensional level, partial correlation analysis was conducted between workload indicators and burnout dimensions.

Table 7. Partial Correlation Between Workload Dimensions and Burnout

Workload Dimensions	Emotional Exhaustion	Depersonalization	Personal Accomplishment
Work Conditions	.701	.612	-.455
Use of Working Time	.643	.580	-.402
Target Demands	.722	.635	-.470
Work Environment	.668	.601	-.438

All workload dimensions show positive correlations with emotional exhaustion and depersonalization, and

negative correlations with personal accomplishment. Among these, target demands exhibits the strongest relationship with emotional exhaustion ($r = .722$), indicating that performance pressure is the most influential contributor to burnout.

Group Difference Analysis

To identify differences in workload and burnout based on respondent characteristics, independent sample t-tests and ANOVA were conducted.

Table 8. Group Differences Based on Gender

Variable	Gender	Mean	p-value
Workload	Male	62.10	.312
	Female	60.21	
Burnout	Male	63.02	.284
	Female	61.11	

No significant differences were found based on gender ($p > .05$).

Table 8. Group Differences Based on Length of Work

Length of Work	Workload Mean	Burnout Mean	p-value
< 2 years	58.34	59.12	.041*
2–5 years	62.77	63.88	
> 5 years	65.21	66.45	

Significant differences were found based on length of work ($p < .05$), indicating that employees with longer tenure tend to experience higher workload and burnout.

DISCUSSION

The purpose of this study was to examine the relationship between workload and burnout among delivery couriers at PT. JNE Express Medan. The main hypothesis proposed that workload would be positively associated with burnout. The result supported this hypothesis, showing a strong and statistically significant positive correlation between workload and burnout among delivery couriers, $r = .733, p < .001$. This finding indicates that higher perceived workload is associated with higher burnout among couriers. The coefficient of determination showed that workload explained 53.8% of the variance in burnout, suggesting that workload is a substantial predictor of burnout in courier work. This result is consistent with the Job Demands–Resources model, which explains that excessive job demands may initiate a health impairment process that drains employees’ physical and psychological energy, eventually increasing burnout risk (Demerouti et al., 2001; Bakker & Demerouti, 2017; Lesener et al., 2019).

The positive relationship between workload and burnout can be explained by the nature of courier work, which requires workers to complete delivery targets under time pressure, travel across different routes, interact with customers, and maintain service accuracy. In this context, workload is not only reflected in the number of packages

delivered, but also in the intensity of physical movement, route uncertainty, traffic conditions, time constraints, and continuous performance demands. When these demands are experienced repeatedly, couriers may experience energy depletion and psychological strain, which are central mechanisms in the development of burnout. This explanation is supported by previous studies showing that high workload is one of the most consistent job demands associated with emotional exhaustion and burnout across various occupational settings (Bowling et al., 2015; Seidler et al., 2014; Maslach & Leiter, 2016).

An important dynamic in this study is that both workload and burnout were descriptively categorized as low, yet the relationship between the two variables was strong. This means that although the average level of workload and burnout among respondents was not high, variations in workload were still strongly followed by variations in burnout. In other words, couriers who perceived relatively higher workload tended to report higher burnout, even within an overall low-score distribution. This finding suggests that courier workers may be operating in a relatively stable condition, but the system remains psychologically sensitive to increases in job demands. From the JD-R perspective, this condition may occur when job demands have not yet reached a severe level, but still function as a meaningful source of strain when they increase beyond the worker's available resources (Bakker et al., 2014; Schaufeli & Taris, 2014; Lesener et al., 2019).

The finding also supports the effort-recovery perspective, which states that sustained effort at work requires adequate recovery to prevent long-term strain. Courier work often involves continuous physical activity, delivery deadlines, and limited rest opportunities, especially during periods of high parcel volume. Even when workload is perceived as manageable, repeated exposure to work demands without sufficient recovery may gradually increase fatigue and emotional exhaustion. Therefore, the strong relationship found in this study indicates that burnout among couriers may develop not only from extreme workload, but also from accumulated daily demands that reduce opportunities for recovery. This interpretation is consistent with effort-recovery theory and previous research on occupational fatigue and recovery from job stress (Meijman & Mulder, 1998; Sonnentag & Fritz, 2015; Salminen et al., 2020).

The partial correlation analysis provides a more detailed understanding of how different workload dimensions relate to burnout dimensions. Target demands showed the strongest relationship with emotional exhaustion, $r = .722$, followed by work conditions, $r = .701$, work environment, $r = .668$, and use of working time, $r = .643$. This pattern indicates that performance pressure and delivery targets are the most salient sources of emotional exhaustion among couriers. Theoretically, target demands may create a sense of urgency, pressure, and reduced control because workers are expected to complete deliveries within specific time frames regardless of traffic, distance, weather,

or customer-related obstacles. Previous research has shown that time pressure, quantitative workload, and performance demands are closely associated with emotional exhaustion because they require sustained effort and reduce psychological recovery (Podsakoff et al., 2009; Bowling et al., 2015; Nguyen-Phuoc et al., 2023).

The relationship between workload dimensions and depersonalization also showed a consistent positive pattern. Target demands had the strongest correlation with depersonalization, $r = .635$, followed by work conditions, $r = .612$, work environment, $r = .601$, and use of working time, $r = .580$. This result suggests that couriers who experience higher demands may become more psychologically detached from their work or customers. In courier work, repeated customer complaints, delivery failures, route difficulties, and pressure to meet targets may encourage emotional distancing as a coping mechanism. This is consistent with Maslach's burnout theory, which explains depersonalization or cynicism as a defensive response to prolonged emotional and interpersonal demands at work (Maslach et al., 2001; Brotheridge & Grandey, 2002; Maslach & Leiter, 2016).

The partial correlation results also showed negative relationships between workload dimensions and personal accomplishment. Target demands had the strongest negative relationship with personal accomplishment, $r = -.470$, followed by work conditions, $r = -.455$, work environment, $r = -.438$, and use of working time, $r = -.402$. This means that couriers who experience higher workload tend to report lower feelings of achievement and effectiveness in their work. Theoretically, high workload may reduce personal accomplishment because workers may focus more on completing tasks quickly than on experiencing mastery, satisfaction, or meaningful performance. When job demands become intense and repetitive, employees may feel that their work effort is insufficient or undervalued, which can weaken their sense of professional efficacy. This finding is aligned with burnout theory, which states that reduced personal accomplishment may emerge when employees experience prolonged demands without adequate resources, recognition, or control (Maslach et al., 2001; Halbesleben & Buckley, 2004; Bakker & Demerouti, 2017).

The stronger correlations involving target demands and work conditions suggest that not all workload dimensions contribute equally to burnout. Target demands appear to be the most influential dimension because courier performance is often evaluated through the number of packages delivered, speed of delivery, timeliness, and service completion. Work conditions are also highly relevant because couriers perform their duties in dynamic field settings, including traffic congestion, weather changes, distance variation, and customer availability. This finding supports the argument that workload should be treated as a multidimensional construct rather than a single general pressure. In the courier context, the psychological impact of workload may be strongest when quantitative demands intersect with operational constraints that are difficult for

workers to control (Spector & Jex, 1998; Koesomowidjojo, 2017; Useche et al., 2025).

The group difference analysis showed no significant differences in workload and burnout based on gender. This finding indicates that male and female couriers did not differ significantly in their perceived workload or burnout levels. The absence of gender differences suggests that burnout in this context is more strongly shaped by job-related demands than by demographic characteristics. In other words, when workers are exposed to similar delivery targets, operational procedures, time pressure, and customer service demands, gender may not become the main factor differentiating burnout risk. This interpretation is consistent with previous burnout literature showing that job demands and work conditions are generally stronger predictors of burnout than demographic characteristics when employees face similar structural demands (Swider & Zimmerman, 2010; Alarcon, 2011; Maslach & Leiter, 2016).

In contrast, the analysis showed significant differences in workload and burnout based on length of work. Respondents with longer tenure reported higher workload and burnout compared to those with shorter tenure. This finding suggests that burnout among couriers may be influenced by cumulative exposure to job demands. Couriers who have worked longer may have experienced repeated delivery pressure, route challenges, physical fatigue, and customer-related stress over time. Although longer tenure may increase work familiarity and route mastery, it may also increase accumulated strain if job demands are not balanced by recovery, support, and workload regulation. This explanation is consistent with longitudinal and occupational burnout studies showing that prolonged exposure to high job demands can gradually deplete energy and increase burnout symptoms (Toppinen-Tanner et al., 2005; Hakonen et al., 2008; Lesener et al., 2019). The difference based on length of work also shows that courier burnout should not be understood only as a short-term reaction to daily workload. Instead, burnout may develop as a long-term psychological consequence of repeated exposure to demanding work conditions. Workers with longer tenure may continue to perform the same physically and psychologically demanding tasks, while their recovery capacity and motivation may decline over time. This dynamic supports the health impairment process in the JD-R model, where chronic job demands gradually reduce energy and increase strain. Therefore, organizations should pay special attention to workers with longer tenure because they may appear experienced and capable, but may also carry a greater cumulative burden (Demerouti et al., 2001; Bakker et al., 2014; Schaufeli & Taris, 2014).

The relatively large contribution of workload to burnout, namely 53.8%, indicates that workload is a dominant factor in explaining burnout among delivery couriers. However, this result should be interpreted carefully because burnout is a complex psychological condition that may also be influenced by other variables such as job control, organizational support, reward fairness, recovery

opportunities, work engagement, and personal coping resources. The remaining 46.2% of unexplained variance indicates that other factors beyond workload may also contribute to burnout. This interpretation is consistent with the JD-R model, which emphasizes that burnout does not arise from job demands alone, but from the imbalance between demands and available resources (Bakker & Demerouti, 2017; Schaufeli & Taris, 2014; Lesener et al., 2019). From a theoretical perspective, the findings of this study strengthen the application of the Job Demands–Resources model in the courier and logistics sector. Most burnout studies have been conducted among healthcare workers, teachers, service employees, and office workers, while courier workers remain relatively underexplored. This study shows that workload functions as a central job demand in courier work because delivery tasks combine physical effort, time pressure, performance targets, route uncertainty, and customer interaction. Therefore, the findings extend burnout literature by showing that the health impairment process also occurs in operational and field-based logistics work, particularly in the context of Indonesia's growing delivery industry (Demerouti et al., 2001; Bakker & Demerouti, 2017; Zhang et al., 2022; Useche et al., 2025).

The findings are also consistent with recent studies on delivery riders and platform-based delivery workers. Previous research found that food delivery riders are exposed to workload, time pressure, algorithmic control, and road safety risks that may increase stress, burnout, and risky work behavior. Although the present study focused on delivery couriers at PT. JNE Express Medan rather than food delivery riders, both groups share similar occupational characteristics, including mobility, delivery targets, customer interaction, and time-sensitive performance. Therefore, this study provides additional evidence that burnout risk is not limited to platform-based gig workers, but may also occur among couriers working in formal logistics companies (Nguyen-Phuoc et al., 2023; Dong et al., 2025; Rusli et al., 2025; Useche et al., 2025).

The practical implication of this study is that burnout prevention among couriers should focus on structural workload management rather than only individual coping strategies. Since workload showed a strong relationship with burnout, organizations need to regulate delivery targets, distribute tasks fairly, ensure adequate rest periods, improve route planning, and monitor work demands during peak delivery periods. Interventions should especially address target demands and work conditions because these dimensions showed the strongest associations with emotional exhaustion and depersonalization. Organizational-level interventions are more likely to be effective when they reduce excessive demands and improve resources in the work environment (Montano et al., 2014; Bakker & Demerouti, 2017; Useche et al., 2025).

Another implication is the need for early detection of burnout risk among couriers, particularly for workers with longer tenure. Because length of work was associated with higher workload and burnout, companies should not assume

that senior couriers are automatically more resilient. Instead, longer-tenured couriers may require workload rotation, recovery support, periodic psychological screening, and recognition of accumulated work pressure. These efforts may help prevent emotional exhaustion, reduce detachment from customers, and maintain work motivation. This recommendation is consistent with occupational health psychology literature emphasizing that prevention should address both job demands and recovery opportunities before burnout becomes severe (Sonnentag & Fritz, 2015; Maslach & Leiter, 2016; Bakker & Demerouti, 2017).

This study demonstrates that workload is a significant and dominant predictor of burnout among delivery couriers at PT. JNE Express Medan. The main hypothesis was supported, indicating that higher workload is associated with higher burnout. The partial analysis showed that target demands and work conditions were the most critical workload dimensions related to burnout, especially emotional exhaustion and depersonalization. The group difference analysis showed no significant differences based on gender, but significant differences based on length of work, indicating that cumulative exposure to job demands may increase burnout risk. Therefore, this study contributes to occupational health psychology by highlighting courier workers as an important but underexamined occupational group and by showing that workload management is essential for protecting psychological well-being in the logistics sector (Maslach et al., 2001; Bakker & Demerouti, 2017; Lesener et al., 2019; Useche et al., 2025).

CONCLUSION

This study demonstrates that workload is a strong and significant predictor of burnout among delivery couriers at PT. JNE Express Medan, explaining 53.8% of the variance in burnout. The findings indicate that increases in workload are closely associated with higher burnout, even though the average levels of workload and burnout were categorized as relatively low. This suggests that the relationship between job demands and employee well-being in courier work is structurally sensitive, meaning that even moderate increases in workload may contribute to higher burnout risk. The main contribution of this study lies in showing that workload functions as a dominant and multidimensional job demand within the logistics sector. The partial analysis showed that target demands and work conditions were the most influential workload dimensions related to burnout. This finding extends existing burnout research by providing empirical evidence from a high-intensity courier context, which remains underrepresented in occupational health psychology literature. Therefore, workload should be considered a critical determinant of burnout in courier work and needs to be managed carefully to sustain employee well-being and operational performance.

Based on the findings, PT. JNE Express Medan and similar logistics organizations are encouraged to implement structural workload management strategies. These may include setting realistic delivery targets, ensuring fair task

distribution, improving route planning, providing adequate rest periods, and monitoring workload during peak delivery periods. Since target demands and work conditions showed the strongest association with burnout, organizational interventions should prioritize these aspects to reduce emotional exhaustion and psychological strain among couriers. For future researchers, this study can be developed by using a longitudinal design to examine how workload influences burnout over time. Future studies are also encouraged to involve larger and more diverse samples from different logistics companies or regions to improve the generalizability of the findings. In addition, future research should incorporate multi-source data, such as supervisor ratings, objective delivery records, or daily workload logs, to reduce reliance on self-report measures and strengthen the validity of the results.

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