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Can Work-Life Balance Mediates the Effect of Workload on Performance? A Study of J&T Express Couriers in DC Sumber Cirebon

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Abstract
This study examines the mediating role of work-life balance (WLB) in the relationship between workload and employee performance among couriers at J&T Express Sumber Cirebon Distribution Center. Using a quantitative approach, we collected data from 62 couriers through validated Likert-scale questionnaires measuring workload (time pressure, mental effort, physical demands), WLB (schedule flexibility, family support), and performance (productivity, reliability). Results from multiple regression analysis reveal that workload negatively impacts performance (β = -0.980, $p < 0.001$) due to physical/mental fatigue, yet paradoxically enhances WLB ($\beta = 0.574$, $p < 0.001$) through workplace flexibility. WLB partially mediates this relationship (Sobel Z = 2.014), improving performance ($\beta = 0.284$, $p = 0.029$) and explaining 45.9% of variance. These findings extend Job Demands-Resources theory by demonstrating WLB's dual role as both an outcome of workload and a buffer against its performance costs in high-pressure logistics environments. The study offers practical recommendations including dynamic shift scheduling and temporary staffing during peak periods, while suggesting future research explore additional mediators across broader logistics contexts.

Keywords : Employee performance, logistics sector, workload, work-life balance.

1. Introduction

The rapid growth of e-commerce has significantly increased demand for logistics services, placing couriers under intense pressure to meet delivery targets (Atmaja & ratnawati, 2018). J&T Express, a major logistics player in Indonesia, relies heavily on couriers to maintain operational efficiency. However, data from J&T Express's Sumber Cirebon Distribution Center (DC) reveals a decline in performance: in 2023 and 2024, couriers achieved only 87.43% and 83.19% of delivery targets, respectively, falling short of the 90% benchmark. This underperformance is attributed to excessive workloads, including delivering 150–250 packages daily, extended working hours (10–12 hours/day), and disruptions like recipient unavailability (DC J&T Express Sumber Cirebon, 2025). Such conditions suggest that high workloads may impair both employee performance and work-life balance (WLB), warranting further investigation.

Workload, defined as the volume of tasks exceeding an employee's capacity (Idayanti, Dewa Agung Ayu, & Saroyini, 2020), can diminish performance by causing

physical and mental fatigue (Fransiska & Tupti, 2020). Conversely, optimal workloads may enhance productivity (Paramitadewi, 2017). Meanwhile, WLB—the equilibrium between professional and personal life (Greenhaus, Collins, & Shaw, 2003)—mediates this relationship. Studies show conflicting findings: while Nurwahyuni (2019) found no direct workload-performance link, others noted negative impacts (Putri & Primadineska, 2023) or mediation effects via WLB (Latama, Muhardi, & Aspiranti, 2022). In logistics, where inflexible targets and peak seasons (e.g., holidays) exacerbate workloads, understanding this dynamic is critical to mitigating performance declines.

This study examines how workload affects courier performance at J&T Express Sumber Cirebon DC, with WLB as a mediator. It addresses three gaps: (1) limited research on workload-WLB-performance relationships in logistics, (2) inconsistent prior findings, and (3) a lack of contextual studies in Indonesian express delivery services. By analyzing primary data from couriers, the study tests four hypotheses: (H1) workload negatively impacts performance; (H2) workload reduces WLB; (H3) WLB enhances performance; and (H4) WLB mediates the workload-performance relationship.

The research contributes to human resource management literature by validating workload and WLB theories in a high-pressure logistics context. Practically, it offers J&T Express actionable insights, such as workload redistribution, shift adjustments, or temporary staffing during peak periods, to improve both employee well-being and operational outcomes.

2. Research Method

This study employs a quantitative approach to examine the relationship between workload, work-life balance (WLB), and employee performance among couriers at J&T Express's Sumber Cirebon Distribution Center (DC). Primary data were collected via Likert-scale questionnaires (1–5 scale) distributed to 62 couriers (purposive sampling from a population of 73 employees), measuring three variables: (1) Workload (X), assessed through time pressure, mental effort, and physical demands (Ardhani et al., 2023); (2) WLB (M), evaluated using dimensions like rest time, schedule flexibility, and family support (Wong & Ko, 2009); and (3) Employee Performance (Y), gauged via quality, productivity, and reliability indicators (Maura, 2020). Prior to analysis, instrument validity and reliability were confirmed through Corrected Item-Total Correlation ($r > 0.3$) and Cronbach's Alpha ($\alpha > 0.7$) tests (Ghozali, 2018)

Data analysis was conducted using IBM SPSS 24, beginning with classical assumption tests: (1) normality (Kolmogorov-Smirnov, $p > 0.05$), (2) linearity (ANOVA Linearity test, $p < 0.05$), and (3) homoscedasticity (Spearman's correlation,

p > 0.05). Hypotheses were tested via multiple regression and Sobel mediation analysis (Baron & Kenny, 1986). Four regression models were specified: (1) X→Y (direct effect of workload on performance), (2) X→M (effect of workload on WLB), (3) M→Y (effect of WLB on performance), and (4) X+M→Y (combined effects). The Sobel test (Z-score > 1.96) further quantified WLB's mediating role between workload and performance.

The study's internal validity was reinforced by controlling for courier-specific factors (e.g., delivery volume peaks during holidays) and using standardized instruments. However, its external validity is limited to similar logistics contexts in Indonesia. Ethical considerations included anonymizing respondent data and obtaining informed consent. This methodology aligns with prior workforce studies (e.g., Latama et al., 2022; Nurwahyuni, 2019), while addressing gaps in mediation analysis for logistics sectors.

3. Results and Discussion

3.1 Respondent Characteristics

This study utilized primary data collected through questionnaires from 62 couriers at the J&T Express Sumber Cirebon Distribution Center. A saturated sampling technique with a purposive sampling approach was employed. Respondents were classified by age and length of employment to understand the general characteristics of the study population.

3.1.1 Respondent Characteristics by Age

Table 1. Respondent Characteristics by Age

Age	Count	Percentage
18 – 29 Years	29	46.7%
30 – 39 Years	28	45.2%
40 – 49 Years	5	8.1%
Total	62	100%

The majority of couriers (46.7%) were between 18–29 years old, followed closely by the 30–39 year old group (45.2%). This predominance of younger individuals suggests physical strength and high work enthusiasm, but also a vulnerability to fatigue, stress, and performance decline if workloads are not managed effectively. Couriers aged 30-39, who likely have family responsibilities, require flexible working hours to maintain work-life balance.

3.1.2 Respondent Characteristics by Length of Employment

Table 2. Respondent Characteristics by Length of Employment

Length of Employment	Count	Percentage
< 1 Year	14	22.3%
1 - 3 Years	44	71.2%
3 - 6 Years	4	6.5%

Total	62	100%

A significant majority of respondents (71.2%) had been employed for 1–3 years, while only a small proportion (6.5%) had worked for 3–6 years. This indicates a high number of relatively new employees and a low long-term retention rate, likely due to imbalanced work pressure.

3.2 Research Findings

3.2.1 Instrument Testing

3.2.1.1 Validity Test

The validity test ensures that the questionnaire accurately measures the intended constructs (Ghozali, 2018). With N=62 and a significance level of α=0.05, the rtable value is 0.250 (df = N−2=60). The criterion for validity is rcalculated>rtable.

Table 3. Validity Test Results

Variable	Statement	rcalculated	rtable	Remark
Workload (X)	X1.1	0.528	0.250	VALID
	X1.2	0.444	0.250	VALID
	X1.3	0.551	0.250	VALID
	X1.4	0.442	0.250	VALID
	X1.5	0.582	0.250	VALID
	X1.6	0.457	0.250	VALID
	X1.7	0.555	0.250	VALID
	X1.8	0.407	0.250	VALID
	X1.9	0.524	0.250	VALID
Work-Life Balance (Z)	Z1	0.452	0.250	VALID
	Z2	0.432	0.250	VALID
	Z3	0.541	0.250	VALID
	Z4	0.425	0.250	VALID
	Z5	0.518	0.250	VALID
	Z6	0.513	0.250	VALID
	Z7	0.425	0.250	VALID
	Z8	0.434	0.250	VALID
	Z9	0.669	0.250	VALID
Employee Performance (Y)	Y1	0.417	0.250	VALID
	Y2	0.495	0.250	VALID
	Y3	0.638	0.250	VALID
	Y4	0.442	0.250	VALID
	Y5	0.407	0.250	VALID
	Y6	0.560	0.250	VALID
	Y7	0.422	0.250	VALID
	Y8	0.391	0.250	VALID
	Y9	0.408	0.250	VALID
	Y10	0.550	0.250	VALID

All statement items shown in Table 3 for Workload (X), Work-Life Balance (Z), and Employee Performance (Y) variables show rcalculated values greater than rtable

(0.250). This indicates that all questionnaire items are valid and suitable for further analysis.

3.2.1.1 Reliability Test

The reliability test measures the consistency of the instrument (Ghozali, 2018). The criterion for reliability is a *Cronbach's Alpha* (α) value greater than 0.5.

Table 4. Reliability Test Results

Variable	Cronbach's Alpha	Remark
Workload (X)	0.619	RELIABLE
Work-Life Balance (Z)	0.601	RELIABLE
Employee Performance (Y)	0.615	RELIABLE

All variables show *Cronbach's Alpha* values greater than 0.5 in Table 4. Therefore, all research instruments are reliable and can be trusted for data collection.

3.2.2 Classical Assumption Tests

3.2.2.1 Normality Test

The Kolmogorov-Smirnov normality test assesses whether the residuals of the regression model are normally distributed (Ghozali, 2018). The criterion for normality is a significance value (Asymp. Sig. 2-tailed) > 0.05.

Table 5. Normality Test Results for Structure 1

	Unstandardized Residual
N	62
Mean	.0000000
Std. Deviation	2.20873918
Test Statistic	.070
Asymp. Sig. (2-tailed)	.200

Table 6. Normality Test Results for Structure 2

	Unstandardized Residual
N	62
Mean	.0000000
Std. Deviation	2.14979249
Test Statistic	.103
Asymp. Sig. (2-tailed)	.170

The normality test results, as shown in Table 5 and 6, for both structures show Asymp. Sig. (2-tailed) values of 0.200 and 0.170, respectively. Both values are greater than 0.05, indicating that the data is normally distributed.

3.2.2.2 Multicollinearity Test

The multicollinearity test detects highly linear relationships among independent variables. The criteria for the absence of multicollinearity are a *Tolerance* value > 0.100 and a VIF value < 10.00 (Ghozali, 2018).

Table 7. Multicollinearity Test Results for Structure 1

Coefficients[a]			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Workload (X)	1.000	1.000

a. Dependent Variable: Work-Life Balance (Z) Source: Data Processed with IBM SPSS 24

Table 8. Normality Test Results for Structure 2

Coefficients[a]			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Workload (X)	.737	1.356
	Work-Life Balance (Z)	.737	1.356

a. Dependent Variable: Employee Performance (Y) Source: Data Processed with IBM SPSS 24

As shown in Table 7 and 8, the Workload (X) variable has a Tolerance value of 1.000>0.100 and a VIF value of 1.000<10.00. For Structure 2, both Workload (X) and Work-Life Balance (Z) variables have Tolerance values of 0.737>0.100 and VIF values of 1.356<10.00. Thus, no multicollinearity is present in either regression model.

3.2.2.3 Heteroscedasticity Test

The Glejser approach to the heteroscedasticity test examines the equality of residual variances. The criterion for the absence of heteroscedasticity is a significance value (Sig.) > 0.05 (Ghozali, 2018).

Table 9. Heteroscedasticity Test Results

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.264	2.835		-.799	.428
	Workload (X)	.025	.088	.043	.290	.773
	Work-Life Balance (Z)	.087	.078	.165	1.111	.271

a. Dependent Variable: Abs_RES Source: Data Processed with IBM SPSS 24

As shown in Table 9 above, The significance value for the Workload variable is 0.773>0.05, and for Work-Life Balance, it is 0.271>0.05. Therefore, no heteroscedasticity is observed in the regression model.

3.2.3 Multiple Linear Regression Analysis

Multiple linear regression analysis was used to analyze the influence of independent variables on the dependent variable.

Table 10. Multiple Regression Analysis Results of Workload and Work-Life Balance on Employee Performance

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	61.722	4.588		13.454	.000
	Workload (X)	-.980	.142	-.771	-6.915	.000
	Work-Life Balance (Z)	.284	.127	.250	2.243	.029

a. Dependent Variable: Employee Performance (Y) Source: Data Processed with IBM SPSS 24

Based on Table 13, the regression model Y=61.722−0.980X+0.284ZY = 61.722 - 0.980X + 0.284ZY=61.722−0.980X+0.284Z suggests that when Workload (X) and Work-Life Balance (Z) are both zero, Employee Performance (Y) is 61.722. The negative coefficient of Workload (-0.980) indicates that every one-unit increase in Workload leads to a 0.980-unit decline in Employee Performance, reflecting a significant inverse relationship. Conversely, the positive coefficient of Work-Life Balance (0.284) demonstrates that a one-unit increase in Work-Life Balance corresponds to a 0.284-unit improvement in Employee Performance, highlighting a significant positive relationship between these variables.

3.2.4 Coefficient of Determination (R2) Test

The coefficient of determination (R2) measures the proportion of variance in the dependent variable explained by the independent variables.

Table 11. Coefficient of Determination Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.513[a]	.263	.251	2.227

a. Predictors: (Constant), Workload (X) Source: Data Processed with IBM SPSS 24

Table 11 shows the R2 value is 0.263 (26.3%). This indicates that 26.3% of the variance in Work-Life Balance (Z) can be explained by Workload (X). The remaining 73.7% is explained by other variables.

Table 12. Coefficient of Determination Results for Sub-Structure 2

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.678[a]	.459	.441	2.186

a. Predictors: (Constant), Work-Life Balance (Z), Workload (X) Source: Data Processed with IBM SPSS 24

Table 12 shows The R2 value is 0.459 (45.9%). This indicates that 45.9% of the variance in Employee Performance (Y) can be explained by Workload (X) and Work-Life Balance (Z) simultaneously. The remaining 54.1% is explained by other variables.

3.2.5 T-Test (Partial Test)

The partial T-test determines the individual influence of each independent variable on the dependent variable. The hypothesis is accepted if the significance value (Sig.) < 0.05 or tcalculated>ttable (1.671).

Table 13. T-Test Results for Workload (X) on Employee Performance (Y)

Coefficients[a]					
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	61.722	4.588		13.454	.000
	Workload (X)	-.980	.142	-.771	-6.915	.000
	Work-Life Balance (Z)	.284	.127	.250	2.243	.029

a. Dependent Variable: Employee Performance (Y) Source: Data Processed with IBM SPSS 24

Table 13 shows the t-calculated value is −6.915 (>|1.671|) and the significance (Sig.)/P-Value is 0.000<0.05. This confirms that Workload (X) has a negative and significant influence on Employee Performance (Y).

Table 14. T-Test Results for Work-Life Balance (Z) on Employee Performance (Y)

Coefficients[a]					
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	61.722	4.588		13.454	.000

	Workload (X)	-.980	.142	-.771	-6.915	.000
	Work-Life Balance (Z)	.284	.127	.250	2.243	.029

a. Dependent Variable: Employee Performance (Y) Source: Data Processed with IBM SPSS 24

Table 14 shows the t-calculated value is 2.243 (>1.671) and the significance (Sig.)/P-Value is 0.029<0.05. This indicates that Work-Life Balance (Z) has a positive and significant influence on Employee Performance (Y).

Table 15. T-Test Results for Workload (X) on Work-Life Balance (Z)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.782	4.207		3.752	.000
	Workload (X)	.574	.124	.513	4.625	.000

a. Dependent Variable: Work-Life Balance (Z) Source: Data Processed with IBM SPSS 24

Table 15 shows The t-calculated value is 4.625 (>1.671) and the significance (Sig.)/P-Value is 0.000<0.05. This indicates that Workload (X) has a positive and significant influence on Work-Life Balance (Z).

3.2.6 F-Test (Simultaneous Test)

The F-test (simultaneous) determines if all independent variables collectively have a significant influence on the dependent variable. The hypothesis is accepted if the F-test significance value < 0.05.

Table 16. F-Test Results

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	106.087	1	106.087	21.389	.000[b]
	Residual	297.590	60	4.960		
	Total	403.677	61			

a. Dependent Variable: Work-Life Balance (Z) b. Predictors: (Constant), Workload (X) Source: Data Processed with IBM SPSS 24

Based on the Table 16 above, the research results show an F-calculated value of 21.389 with a significance level of 0.000. With degrees of freedom (df1) = k-1 and (df2) = n-k, the F-calculated value is 21.389, while the F-table value is 3.15. Since the F-

calculated value (21.389) is greater than the F-table value (3.15), it can be concluded that the null hypothesis (H0) is rejected, and the alternative hypothesis (Ha) is accepted. This means that the variables Workload and Work-Life Balance jointly have a significant effect on Employee Performance.

3.2.7 Sobel Test Results

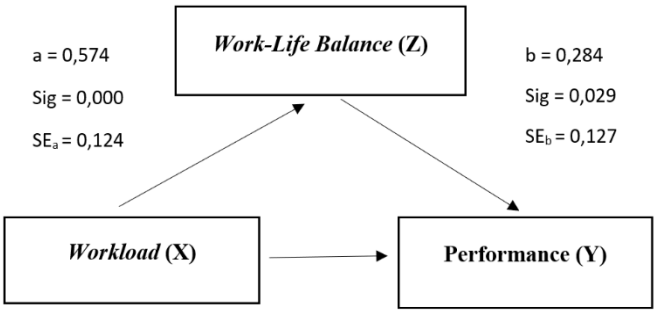

Figure 1. Sobel Test Model

Based on Figure 1, the value of a is 0.574 with a significance level of 0.000, and the standard error of a is 0.124. The value of b is 0.284 with a significance level of 0.029, and the standard error of b is 0.127. To determine the mediating effect as illustrated in the figure, the Sobel test can be calculated using the following formula:

$$Z = \frac{a \times b}{\sqrt{(b^2 \times SE_a^2) + (a^2 \times SE_b^2)}}$$

Where:

- a = 0.574

- b = 0.284

- SEa = 0.124 → Standard Error of a

- SEb = 0.127 → Standard Error of b

Calculating the numerator:

a × b = 0.574 × 0.284 = 0.163016

Calculating the denominator:

$$Sab = \sqrt{(b^2 \times SE_a^2) + (a^2 \times SE_b^2)}$$

$$Sab = \sqrt{(0{,}284^2 \times 0{,}124^2) + (0{,}574^2 \times 0{,}127^2)}$$

$$Sab = \sqrt{(0{,}080656 \times 0{,}015376) + (0{,}329476 \times 0{,}016129)}$$

$$Sab = \sqrt{0{,}001240 + 0{,}005312} \qquad Sab = \sqrt{0{,}006552}$$

$$Sab = 0{,}080927$$

Z-value calculation:

$$Z = \frac{a \times b}{\sqrt{(b^2 \times SE_a^2) + (a^2 \times SE_b^2)}} \qquad Z = \frac{0{,}163016}{0{,}080927} \approx 2{,}014$$

Two-tailed p-value:

$$p = 2 \times \left(1 - \Phi(Z)\right) \rightarrow \Phi(2{,}014) \approx 0{,}9780$$

$$p = 2 \times (1 - 0{,}9780) \rightarrow p = 2 \times 0{,}0220 \rightarrow p = 0{,}044$$

Based on the Sobel test results, the indirect effect (SEab) is 0.0809, with a Z-value of 2.014 and a significance level of 0.044. The mediation test indicates that the variable Work-Life Balance mediates the relationship between Workload and Employee Performance. This conclusion is drawn from the fact that the direct effect of Workload on Employee Performance (9.80) is greater than the indirect effect through the mediating variable (Z = 2.014).

According to Ghozali (2018), a mediating variable is considered significant if the Sobel test yields a Z-value greater than 1.96 with a p-value less than 0.05. In this case, the Z-value of 2.014 exceeds the threshold of 1.96, and the p-value of 0.044 is below 0.05 (5%), thus confirming that Work-Life Balance significantly mediates the relationship between Workload and Employee Performance.

3.3 Discussion

The results indicate that a high workload tends to reduce employee performance. When couriers are subjected to excessive work demands, it often leads to both physical and mental fatigue, which in turn hinders their ability to complete tasks efficiently. In practical terms, the couriers are responsible for delivering a large number of packages daily, often working beyond standard hours and facing the pressure of same-day delivery expectations. These conditions create significant physical exhaustion and psychological stress, thereby diminishing their task execution effectiveness. This finding aligns with previous studies, such as Apriana, Edris, & Sutono (2022), who asserted that workloads misaligned with employee capacities can negatively affect performance, and Fransiska & Tupti (2020), who emphasized the risks of fatigue and stress due to excessive workload. However, differing perspectives are offered by Ardhani & Sitio (2023), who found that when perceived as a challenge rather than a burden, workload can serve as a motivator for

enhancing employee capacity and performance. This contrast highlights the role of organizational context and employee readiness in shaping how workload affects performance.

In addition, the study shows that work-life balance significantly enhances employee performance. Many couriers reported that they had sufficient time to engage in personal activities such as spending time with family or resting after work. They also acknowledged that the work environment was supportive of maintaining this balance, particularly due to collaborative team dynamics and the empathetic attitude of supervisors. The presence of flexible scheduling, constructive communication, and a cooperative work climate all contributed to this balance. Nevertheless, despite these positive perceptions, some couriers noted that the available rest time remained insufficient due to the high volume of daily tasks. Field observations corroborated these insights: couriers who efficiently managed their work within operational hours appeared more composed, disciplined, and focused, while those with inadequate rest and higher work pressure displayed signs of fatigue and diminished enthusiasm. These findings are consistent with the work of Mwangi, Boinett, Tumwet, & Bowen (2017), who emphasized that employees who experience minimal conflict between work and personal life demonstrate greater focus and motivation. Moreover, Greenhaus et al. (2003) highlighted that work-life balance reduces stress while improving decision-making, efficiency, and overall job performance.

The ability of couriers at J&T Express to maintain a relatively high level of work-life balance, despite their heavy workload, suggests that work-life balance serves a critical role in enhancing performance under demanding conditions. Couriers who feel balanced in managing both professional and personal roles tend to show higher responsibility, punctuality, and consistent task completion. Furthermore, work-life balance functions as a psychological buffer that moderates the adverse effects of work pressure, enabling employees to maintain productivity even when workloads are high. Thus, work-life balance emerges as a vital component for sustaining optimal performance in high-demand work settings.

Interestingly, the study also revealed that workload had a significant and positive influence on work-life balance in this particular organizational context. Although the couriers worked under intense pressure, they still managed to maintain a healthy balance between work and personal life. This phenomenon can be explained by the strong workplace support, schedule flexibility, and mutual understanding among supervisors and coworkers. These factors provided couriers with the ability to find time for family, rest, and other non-work activities despite their job demands. Supporting literature from Putra Edy Wirawan (2022), Mea & Hyronimus (2020), and Safitri, Khairawati, Aiyub, & Likdanawati (2023) suggests that when individuals have

sufficient control over their time and receive social support, even high workloads can be balanced effectively. However, these findings differ from those of Omar, Mohd, & Ariffin (2015) and Latama et al. (2022), who argued that high workloads typically reduce work-life balance by triggering role conflict and fatigue. Therefore, the positive outcome in the current study underscores the influence of contextual factors—particularly adaptive work systems and strong peer solidarity—which allow heavy workloads to be perceived as manageable challenges rather than harmful stressors.

Moreover, the mediating role of work-life balance in the relationship between workload and employee performance was clearly observed. Despite experiencing high workloads, couriers were generally able to maintain high levels of performance. This indicates that the negative effects of workload were buffered by the presence of a strong work-life balance. The couriers felt supported by flexible work arrangements, understanding supervisors, and a collegial work culture that accommodated their personal needs. Such balance helped preserve their motivation, concentration, and commitment to their tasks. These findings suggest that work-life balance serves as a buffering mechanism that transforms workload from a debilitating stressor into a manageable challenge. This indirect pathway mitigates the otherwise negative influence of workload on performance.

The structural model analysis further confirmed this mediating role. While workload directly decreased performance, it also encouraged individuals to develop strategies for maintaining balance, which in turn improved their work outcomes. Thus, work-life balance serves as a crucial intermediary that breaks the negative cycle typically caused by excessive job demands. The importance of this mediating role is supported by Greenhaus et al. (2003), who argued that work-life balance contributes to improved life quality and job performance. Similarly, studies by Apriana et al. (2022) and Prasetyo (2022) emphasized that high workloads reduce performance unless mitigated by psychological factors such as work-life balance. On the other hand, these findings diverge from those of Ardhani et al. (2023), who viewed workload as a motivational factor when perceived positively. This discrepancy may stem from differences in the nature of work. In the physically and mentally demanding environment of a distribution center, workload becomes dysfunctional if not offset by personal life support mechanisms.

In conclusion, the findings from the J&T Express Distribution Center in Sumber, Cirebon, demonstrate that work-life balance plays a key role in mitigating the negative effects of workload on employee performance. Employees who maintain personal balance, despite working under intense pressure, tend to remain disciplined, responsible, and effective in completing their tasks. In such a high-pressure work

environment, work-life balance is not merely a personal luxury but an essential organizational strategy for sustaining long-term performance.

4. Conclusion

This study confirms that workload negatively impacts courier performance ($\beta=-0.980$, $p<0.001$) at J&T Express Sumber Cirebon, primarily due to physical/mental fatigue from excessive delivery targets and extended working hours. However, workload paradoxically enhances work-life balance (WLB) ($\beta=0.574$, $p<0.001$), mediated by workplace flexibility and peer support. WLB further improves performance ($\beta=0.284$, $p=0.029$) and partially mitigates workload's adverse effects (Sobel $Z=2.014$), explaining 45.9% of performance variance. These findings extend JD-R theory by demonstrating WLB's dual role as both an outcome of workload and a buffer against its performance costs in high-pressure logistics settings. Managerially, we recommend: (1) dynamic shift scheduling to limit overtime, (2) temporary staffing during peak seasons (e.g., holidays/flash sales), and (3) mental health support programs to sustain WLB. Theoretically, future research should test this model in broader logistics contexts (e.g., multi-branch or cross-industry studies) and incorporate additional mediators (e.g., job stress, organizational support) to refine the workload-performance-WLB nexus.

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