

Determinants of Employee Engagement: The Role of Work Stress, Toxic Leadership and Work–Life Balance

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Abstract

This study examines the effects of work stress and toxic leadership on employee engagement, with work–life balance serving as a mediating variable among Generation Z employees in the tourism sector, particularly in hotels and restaurants in Bali. The study employed a quantitative approach using Structural Equation Modeling (SEM) based on Partial Least Squares (PLS) with SmartPLS 4.0. Data were collected from 150 Generation Z employees aged 17–28 years who work as permanent staff in the hospitality sector in Bali. The findings indicate that work stress positively influences both work–life balance and employee engagement, suggesting that challenging stress can function as a motivating factor that enhances adaptive behavior and involvement at work. Toxic leadership, however, negatively and significantly affects employee engagement but does not significantly influence work–life balance. Furthermore, work–life balance positively impacts employee engagement and significantly mediates the relationship between work stress and engagement. However, it does not mediate the relationship between toxic leadership and engagement, indicating that the destructive nature of toxic leadership directly reduces employees' psychological attachment to their work. Theoretically, this study contributes to the Job Demands–Resources (JD-R) model and the Theory of Reasoned Action (TRA) by distinguishing between constructive job demands and destructive leadership behaviors in shaping engagement. Practically, the findings highlight the importance of adaptive stress management, leadership development, and work–life balance policies in sustaining Generation Z employee engagement in the hospitality industry.

Keywords: work stress, toxic leadership, work–life balance, employee engagement, Generation Z, tourism sector.

1. Introduction

The contemporary workplace is becoming increasingly dynamic and complex due to rapid technological advancements, shifting work patterns, and intensified global competition. Post-pandemic transformations have accelerated digitalization and flexible work arrangements, creating new challenges in human resource management. One of the most significantly affected cohorts is Generation Z (Gen Z), individuals born between 1997 and 2012, who are now entering and gradually dominating the labor market. As digital natives, Gen Z employees are highly adaptive to technological change, strongly value flexibility, and expect work environments aligned with their personal values and lifestyle. Empirical evidence confirms these changing expectations. The Deloitte (2025) Gen Z and Millennial Survey, which involved more than 23,000 respondents across 44 countries including 535 respondents from Indonesia, reports that financial independence is the primary career goal for 34% of Gen Z and 33% of millennials in Indonesia. However, only 8% of Gen Z prioritize employment with direct social impact. Furthermore, 72% of Indonesian Gen Z respondents expect managerial guidance and support, yet only 52% feel they receive adequate mentoring. More critically, 77% identify work as their primary source of anxiety, citing toxic work culture, excessive workload, and long working hours as key stressors (Deloitte, 2025). These findings indicate a pressing organizational challenge in maintaining employee engagement among young workers.

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In Bali, this phenomenon presents unique characteristics due to the region's strong dependence on the tourism and hospitality sector. Gen Z employees in Bali operate in an environment characterized by international interaction, cross-cultural communication, and digital exposure. The hospitality industry—particularly hotels and restaurants—serves as the backbone of the regional economy, exposing young workers to global service standards and intense competition. Data from the Bali Provincial Statistics Agency (Sakernas, August 2024) show that the number of employed individuals aged 15–29 reaches 616,061 people, with approximately 330,841 classified as Gen Z (15–24 years). The workforce is relatively balanced by gender, with 333,544 male and 352,517 female workers. These figures demonstrate that young employees constitute a substantial portion of Bali's labor force, particularly at early career stages where adaptation, leadership experience, and stress management become critical determinants of engagement.

Employee engagement refers to a positive psychological state characterized by vigor, dedication, and absorption in work (Aji & Wijaya, 2023). Engaged employees demonstrate enthusiasm, pride, loyalty, and persistence in overcoming challenges (Jayanti, 2021), contributing to improved performance and organizational sustainability (Rasool et al., 2021). However, recent research indicates that Gen Z employees are particularly vulnerable to work stress and mental health challenges, which may ultimately reduce their engagement (Putri et al., 2024). Work stress occurs when job demands exceed an individual's capacity to cope, resulting in psychological and physical strain. According to Leiter and Maslach (2016), stress does not always manifest immediately as burnout but may appear through emotional exhaustion, cynicism, and feelings of inefficacy, which can gradually diminish engagement levels. Empirical studies by Herman et al. (2022) and Urba et al. (2022) confirm that work stress negatively affects employee engagement. In contrast, other findings (Irmawati & Rudini, 2023; Supriatna et al., 2025; Fikri & Taufik, 2024) reveal a positive association, suggesting that moderate stress may stimulate adaptation and dedication. These inconsistent findings highlight a research gap regarding the complex dynamics between work stress and engagement.

Beyond stress, toxic leadership has emerged as another critical factor influencing employee engagement. Toxic leadership is characterized by authoritarian behavior, manipulation, lack of empathy, and disregard for employee well-being (Aisyah et al., 2021; Putri et al., 2024). Such leadership styles are particularly detrimental to Gen Z employees, who value fairness, inclusivity, and supportive supervision (Hughes, 2022). Studies by Tuckey et al. (2023) and El-Shafie et al. (2024) demonstrate that toxic leadership significantly reduces employee engagement and threatens organizational sustainability. In high-pressure service environments such as hospitality, unhealthy leadership practices may exacerbate stress and weaken employees' emotional attachment to the organization.

Work–life balance (WLB) has been identified as a potential protective factor that may buffer the negative effects of work stress and toxic leadership. Employees who experience balanced work–life conditions tend to report lower stress levels and higher well-being (Jamhur et al., 2025). This factor is particularly important for Gen Z, who prioritize flexibility and quality of life (Iwanto, 2024). A Jakpat survey conducted in February 2024 involving 655 Gen Z respondents in Indonesia reveals that 74% consider work–life balance essential for maintaining mental health, 69% for sustaining motivation, and 68% for reducing stress while enhancing performance. Furthermore, Lamian et al. (2023) emphasize that work–life balance strengthens affective commitment and reduces turnover intentions. Despite these findings, limited studies have examined the mediating role of work–life balance in explaining how work stress and toxic leadership influence employee engagement, particularly among Gen Z employees in Indonesia's hospitality sector.

Theoretically, this study draws upon the Theory of Planned Behavior (Ajzen, 1991), which posits that attitudes, subjective norms, and perceived behavioral control shape

behavioral intentions and actual behavior. In organizational contexts, employees' perceptions of stress, leadership behavior, and work–life balance influence their attitudes and intentions toward engagement. Additionally, the Job Demands–Resources (JD-R) Model explains that excessive job demands combined with insufficient resources can lead to burnout and disengagement. Empirical evidence by Zerai et al. (2016) further demonstrates that toxic leadership increases perceived stress, potentially disrupting work–life balance and reducing engagement.

Based on the empirical phenomenon and identified research gaps, this study is urgent due to the growing dominance of Gen Z within Bali's workforce and increasing concerns regarding stress and toxic leadership in hospitality settings. The novelty of this research lies in integrating work stress and toxic leadership within a single framework while positioning work–life balance as a mediating variable among Gen Z employees in Bali. Accordingly, this study aims to examine the direct effects of work stress and toxic leadership on work–life balance and employee engagement, as well as to test the mediating role of work–life balance in these relationships. The findings are expected to contribute theoretically to engagement literature within the TPB and JD-R frameworks and practically to human resource strategies for sustaining Gen Z employee engagement in the hospitality industry.

2. Literature Review

Job Demands–Resources (JD-R) Model

The Job Demands–Resources (JD-R) Model, developed by Bakker and Demerouti (2001), explains how job characteristics influence employees' psychological conditions and behavior. The model classifies job characteristics into two main categories: **job demands** and **job resources**. Job demands refer to aspects of work that require sustained physical or psychological effort and may lead to stress and exhaustion. In contrast, job resources help employees achieve work goals, reduce job demands, and promote personal growth. In this study, work stress and toxic leadership are conceptualized as job demands that may generate negative attitudes and weaken supportive norms for engagement. Conversely, work–life balance is positioned as a job resource that fosters positive attitudes and well-being. Thus, the JD-R model explains how workplace conditions influence employees' psychological processes, while the Theory of Reasoned Action (TRA) explains how these processes translate into behavioral intentions and employee engagement.

Relevance of the Theory of Reasoned Action (TRA)

The Theory of Reasoned Action (TRA), developed by Fishbein and Ajzen (1975), posits that behavior is driven by intention, which is influenced by two factors: attitude toward the behavior and subjective norms. Individuals are assumed to act rationally by considering consequences before making decisions. In this study, work stress and toxic leadership influence Gen Z employees' attitudes and subjective norms regarding work and work–life balance. High stress and toxic leadership tend to form negative attitudes and unsupportive social norms, weakening employees' intention to engage fully in their work. Conversely, when organizations support work–life balance, employees develop positive attitudes and perceive supportive norms, strengthening their intention to maintain balance and actively engage in their roles (Jakpat, 2024). TRA therefore complements the JD-R model by explaining how workplace demands and resources shape attitudes and norms, which ultimately influence employee engagement behavior.

Employee Engagement

Employee engagement is defined as a positive psychological state characterized by energy, dedication, and involvement in work (Aji & Wijaya, 2023). Engaged employees demonstrate loyalty, enthusiasm, pride, and optimism in facing challenges (Jayanti, 2021). The O.C. Tanner Institute (2022) describes engagement as a strong emotional connection between employees and their work. Similarly, The Stepstone Group (2023) emphasizes two dimensions: positive work experience and organizational commitment. Mohammed et al. (2025) further define engagement as a sense of belonging, high motivation, and emotional and cognitive involvement. Key indicators of employee engagement include job satisfaction, well-being (physical and psychological safety), and self-esteem (confidence and feeling valued) (Mohammed et al., 2025).

Work Stress

Work stress occurs when perceived job demands exceed an individual's ability to cope, leading to psychological discomfort and reduced well-being (Nurhayanti et al., 2021). Siregar (2022) adds that excessive job pressure may trigger physiological, psychological, and behavioral changes. Some studies report that work stress negatively affects employee engagement (Herman et al., 2022; Sulistyojati, 2021). However, other findings suggest that moderate stress may enhance adaptability and dedication (Irmawati et al., 2023; Fikri et al., 2024). Indicators of work stress include workload, work fatigue, shift work, and job security (Nelliayana et al., 2023).

Toxic Leadership

Toxic leadership refers to destructive leadership behavior that harms employees' psychological well-being. It is characterized by manipulation, authoritarianism, and resistance to criticism (Hidayat & Wulansari, 2025). Such behavior creates an unhealthy work environment, particularly affecting Gen Z employees who value openness and recognition. Studies confirm that toxic leadership negatively influences employee engagement (Aljumah et al., 2025; Tuckey et al., 2023). Key indicators include abusive supervision, self-promotion, unpredictability, and narcissism (Soomro et al., 2024).

Work–Life Balance

Work–life balance refers to an individual's ability to manage work demands alongside personal life effectively. Rahmawati et al. (2022) define it as the capacity to allocate time, energy, and commitment harmoniously between work and personal roles. Prasetyo et al. (2023) emphasize that work–life balance also involves perceived satisfaction in both domains. Balanced employees tend to experience lower stress, stronger commitment, and higher engagement. Indicators of work–life balance include time balance, involvement balance, and satisfaction balance (Damayanti & Khatimah, 2025).

The Effect of Work Stress on Work–Life Balance

Work stress refers to pressure arising when job demands exceed an employee's ability to cope. Urba et al. (2022) explain that stress may be negative (distress), reducing well-being and work–life balance, or positive (eustress), enhancing motivation and time management. According to the Job Demands–Resources (JD-R) Model, work stress represents a job demand that can drain employees' physical and emotional energy. When job demands outweigh available resources, employees may struggle to maintain balance between professional and personal life. From the perspective of the Theory of Reasoned Action (TRA), poor work–life balance may shape negative attitudes toward work, reducing behavioral intention and active involvement. Prior studies (Herman et al., 2022; Urba et al., 2022) confirm that higher work stress is associated with lower well-being and engagement.

H1: Higher work stress leads to lower work–life balance.

The Effect of Toxic Leadership on Work–Life Balance

Leadership pressure does not always produce negative outcomes. Under certain conditions, demanding leadership may create eustress that enhances productivity (Anandita et al., 2025). However, within the JD-R framework, toxic leadership is categorized as a harmful job demand that increases psychological strain. Excessive pressure and limited resources may disrupt employees' ability to manage work and personal roles, thereby reducing work–life balance. TRA further explains that persistent leadership pressure may foster negative attitudes and weaken subjective norms supporting balance. Empirical findings (Tawfik et al., 2025; Efandi et al., 2023) show that toxic leadership generates excessive stress and emotional exhaustion, ultimately lowering work–life balance.

H2: Higher toxic leadership leads to lower work–life balance.

The Effect of Work–Life Balance on Employee Engagement

Work–life balance reflects employees' ability to fulfill work demands without neglecting personal life. According to the JD-R Model, work–life balance functions as a psychological resource that reduces stress and enhances motivation. Employees who maintain balance tend to demonstrate higher energy, dedication, and involvement. TRA also suggests that employees who perceive supportive balance develop positive attitudes and stronger intentions to engage in their work. Studies by Perdhana et al. (2022) and Chaniago et al. (2022) confirm that work–life balance enhances motivation, commitment, and employee engagement.

H3: Higher work–life balance leads to higher employee engagement.

The Effect of Work Stress on Employee Engagement

Work stress significantly influences employee engagement (Putri et al., 2024). Within the JD-R Model, stress is a job demand that negatively affects engagement when not balanced by adequate resources. TRA further explains that excessive stress may shape negative attitudes toward work, lowering employees' intention to engage. However, some studies (Irmawati & Rudini, 2023; Fikri & Taufik, 2024) argue that manageable stress can enhance motivation and dedication. In contrast, Herman et al. (2022) report a negative effect. These inconsistent findings indicate contextual differences.

H4: Higher work stress leads to lower employee engagement.

The Effect of Toxic Leadership on Employee Engagement

Toxic leadership creates a stressful and conflict-prone environment, reducing psychological well-being (Nuraini & Rachman, 2022; Fikri & Taufik, 2024). Within the JD-R framework, toxic leadership increases psychological demands and emotional exhaustion, thereby decreasing motivation and engagement. According to TRA, destructive leadership behavior shapes negative attitudes and weakens norms supporting engagement. Empirical evidence (Aljumah et al., 2025; Tuckey et al., 2023) confirms that toxic leadership significantly reduces employee engagement.

H5: Higher toxic leadership leads to lower employee engagement.

The Mediating Role of Work–Life Balance in the Relationship Between Work Stress and Employee Engagement

Work stress does not always produce negative outcomes. When managed effectively, it may stimulate performance (Yukl, 2013). However, excessive stress disrupts work–life balance and reduces engagement. Based on the JD-R Model, work–life balance functions as a job resource that helps employees manage demands and protect well-being. TRA suggests that positive perceptions of balance foster favorable attitudes and stronger engagement intentions.

Studies (Chaniago et al., 2022; Jannata & Perdhana, 2022) show that balanced employees manage stress better and remain more engaged.

H6: Work–life balance mediates the relationship between work stress and employee engagement.

The Mediating Role of Work–Life Balance in the Relationship Between Toxic Leadership and Employee Engagement

While challenging pressure (eustress) may enhance performance (Yukl, 2013; Anandita et al., 2025), toxic leadership is inherently destructive. Within the JD-R Model, toxic leadership increases job demands that disrupt work–life balance, especially when organizational support is limited. According to TRA, toxic leadership fosters negative attitudes and weakens supportive norms, reducing engagement intentions. Although work–life balance serves as a buffering resource, it may only partially mitigate the negative impact of toxic leadership (Chaniago et al., 2022).

H7: Work–life balance mediates the relationship between toxic leadership and employee engagement.

3. Methods

Population and Sample

Determining the population and sample is a crucial step to ensure that the collected data accurately represent the research object. The population of this study consists of all Generation Z employees in Bali Province aged between 17 and 28 years. However, since the exact population size is unknown, a specific sampling approach was required.

According to Sugiyono (2024), a population refers to a generalization area consisting of objects or subjects determined by the researcher for study and conclusion drawing. The sampling technique used in this study is **purposive sampling**, meaning respondents were selected based on specific criteria relevant to the research objectives. The criteria included: (1) willingness to participate voluntarily; (2) being aged 17–28 years in accordance with Indonesian labor regulations and representing early to mid-career stages; (3) working in the tourism sector, particularly in hotels and restaurants, due to the dynamic and high-interaction nature of the industry; and (4) being permanent employees to ensure sufficient work experience and organizational attachment.

Since the exact population size is unknown, the sample size was determined based on Hair et al. (2021), who recommend that the minimum sample size for PLS-SEM analysis is 5–10 times the number of indicators. This study uses 14 indicators; therefore, the minimum sample size is calculated as: $n \geq 10 \times 14 = 140$ respondents.

Thus, a minimum of 140 respondents was required. The multiplier of 10 was chosen due to the complexity of the model, which includes multiple latent variables and mediation relationships, ensuring statistical power and stable estimation.

Research Variables

Research variables are defined as measurable constructs determined by the researcher to obtain information and draw conclusions (Sugiyono, 2024). This study includes independent variables (work stress and toxic leadership), a dependent variable (employee engagement), and a mediating variable (work–life balance).

Work stress refers to the level of pressure experienced by employees when job demands exceed their abilities. Toxic leadership refers to destructive leadership behaviors that negatively affect employees. Employee engagement represents employees' level of involvement, enthusiasm, and commitment to their work and organization. Work–life balance reflects employees' ability to balance work demands with personal life responsibilities.

All variables were operationalized using measurement indicators adapted from prior studies. Employee engagement was measured through job satisfaction, well-being, and self-esteem (Mohammed et al., 2025). Work stress was measured through workload, fatigue, shift work, and job security (Nelliya et al., 2023). Toxic leadership was assessed using abusive supervision, self-promotion, unpredictability, and narcissism (Anandita et al., 2025; Soomro et al., 2024). Work–life balance was measured through time balance, involvement balance, and satisfaction balance (Damayanti & Khatimah, 2025).

Data Analysis Technique

This study employs Structural Equation Modeling (SEM) using the Partial Least Squares (PLS) approach with SmartPLS 4.0 software. PLS-SEM was selected because it can analyze complex relationships, including mediation effects, does not require normally distributed data, and is suitable for relatively small samples and exploratory models.

The analysis consists of two main stages: evaluation of the outer model and evaluation of the inner model.

Outer model evaluation assesses measurement validity and reliability. Convergent validity is evaluated using outer loadings (>0.70) and Average Variance Extracted (AVE > 0.50). Discriminant validity is assessed using the Heterotrait–Monotrait Ratio (HTMT < 0.90). Reliability is evaluated using Cronbach’s Alpha and Composite Reliability (CR > 0.70) (Hair et al., 2021).

Inner model evaluation assesses structural relationships between latent variables. This includes collinearity testing using VIF (<5), coefficient of determination (R²), effect size (f²), and predictive relevance (Q² > 0) (Hair et al., 2021).

Mediation Analysis

Mediation analysis in PLS-SEM is conducted using bootstrapping to test the significance of indirect effects (Hair et al., 2021). Path coefficients, t-statistics, and p-values are examined to determine mediation type. Full mediation occurs when the indirect effect is significant and the direct effect becomes insignificant after including the mediator. Partial mediation occurs when both direct and indirect effects are significant. If the indirect effect is not significant, mediation is not supported.

4. Results and Discussion

The respondent characteristics in this study are based on data from 150 respondents collected through an online questionnaire distributed via Google Forms. The characteristics include gender, age, employment status, and district/city of workplace. A detailed summary is presented in Table 1.

Table 1. Respondent Characteristics

No	Characteristic	Classification	Number of Respondents	Percentage
1	Gender	Female	80	53.33%
		Male	70	46.67%
2	Age	17–28 Years	150	100%
3	Employment Status	Permanent Employee	150	100%
4	District/City	Denpasar City	20	13.33%
		Badung Regency	58	38.67%
		Bangli Regency	1	0.67%

Buleleng Regency	4	2.67%
Jembrana Regency	2	1.33%
Karangasem Regency	6	4.00%
Klungkung Regency	4	2.67%
Tabanan Regency	9	6.00%
Gianyar Regency	46	30.67%

Source: Processed Primary Data, 2026

Based on Table 4.1, the majority of respondents are female (53.33%), while male respondents account for 46.67%. All respondents are aged 17–28 years (100%) and are permanent employees (100%), in accordance with the study criteria.

In terms of workplace location, respondents are distributed across various districts/cities in Bali Province. The largest proportion comes from Badung Regency (38.67%), followed by Gianyar Regency (30.67%) and Denpasar City (13.33%). The remaining respondents are from Tabanan Regency (6.00%), Karangasem Regency (4.00%), Buleleng Regency (2.67%), Klungkung Regency (2.67%), Jembrana Regency (1.33%), and Bangli Regency (0.67%).

Reflective Measurement Model Evaluation (Outer Model)

The measurement model in this study consists of a reflective measurement model in which the variables of Work Stress, Toxic Leadership, Employee Engagement, and Work–Life Balance are measured reflectively. According to Hair et al. (2021), evaluation of the reflective model requires outer loadings > 0.70, indicating that indicators have good ability to reflect the latent construct. Indicators with outer loading values between 0.40–0.70 may still be retained if their removal does not significantly improve the reliability and validity of the construct.

Table 2. Instrument Validity Results (Outer Loading)

Variable	Item Code	Indicator	Outer Loadings	AVE
Employee Engagement	EE 1.1	Job Satisfaction	0.745	0.618
	EE 1.2		0.802	
	EE 2.1	Well-being	0.784	
	EE 2.2		0.802	
	EE 3.1	Self-esteem	0.834	
	EE 3.2		0.745	
Work Stress	SK 1.1	Workload	0.715	0.617
	SK 1.2		0.790	
	SK 2.1	Work Fatigue	0.822	
	SK 2.2		0.825	
	SK 3.1	Work Shift	0.770	
Toxic Leadership	TL 1.1	Abusive Supervision	0.864	0.731
	TL 1.2		0.858	
	TL 2.1	Self-Promotion	0.850	
	TL 2.2		0.831	
	TL 3.2	Unpredictability	0.849	
	TL 4.1	Narcissism	0.894	

	TL 4.2		0.839	
Work–Life Balance	WLB 1.1	Time Balance	0.702	0.546
	WLB 1.2		0.744	
	WLB 2.2	Involvement Balance	0.641	
	WLB 3.1	Satisfaction Balance	0.784	
	WLB 3.2		0.810	

Source: Processed Data, 2026

Based on Table 2, most indicators meet the convergent validity criteria with outer loading values ≥ 0.70 . According to Hair et al. (2021), indicators with values between 0.40–0.70 are acceptable if they have strong theoretical support and do not reduce AVE and Composite Reliability. Therefore, indicators below 0.70 were retained. The measurement model is thus considered valid and suitable for inner model testing.

Discriminant Validity Test

Discriminant validity ensures that each construct is conceptually distinct and empirically different.

Table 3. Discriminant Validity – HTMT

Variable	Employee Engagement (Y)	Work Stress (X1)	Toxic Leadership (X2)	Work–Life Balance (M)
Employee Engagement (Y)				
Work Stress (X1)	0.241			
Toxic Leadership (X2)	0.118	0.872		
Work–Life Balance (M)	0.667	0.384	0.228	

Source: Processed Data, 2026

Table 4. Discriminant Validity – Cross Loadings

	EE Y	SK X1	TL X2	WLB M
EE1.1	0.745	0.132	-0.037	0.323
EE1.2	0.802	0.162	0.009	0.415
EE2.1	0.784	0.190	0.100	0.415
EE2.2	0.802	0.211	0.048	0.497
EE3.1	0.834	0.238	0.015	0.516
EE3.2	0.745	0.319	0.195	0.502
SK1.1	0.383	0.715	0.356	0.387
SK1.2	0.069	0.790	0.633	0.209
SK2.1	0.149	0.822	0.714	0.246
SK2.2	0.109	0.825	0.718	0.286
SK3.1	0.151	0.770	0.738	0.188
TL1.1	0.051	0.723	0.864	0.226
TL1.2	0.055	0.686	0.858	0.187
TL2.1	0.013	0.582	0.850	0.091
TL2.2	0.115	0.617	0.831	0.188

TL3.2	0.115	0.642	0.849	0.160
TL4.1	0.053	0.625	0.894	0.175
TL4.2	0.009	0.597	0.839	0.177
WLB1.2	0.460	0.391	0.244	0.744
WLB2.2	0.336	0.194	0.171	0.641
WLB3.1	0.407	0.141	0.054	0.787
WLB3.2	0.486	0.264	0.137	0.810
WLB1.1	0.412	0.324	0.148	0.702

Source: Processed Primary Data, 2026

Discriminant validity was evaluated using the HTMT (Heterotrait–Monotrait Ratio) and cross-loading criteria. Based on Table 3, all HTMT values between constructs are below 0.90, indicating that each construct is empirically distinct from the others. The highest HTMT value is 0.872, which remains within acceptable limits. Furthermore, based on the cross-loading results presented in Table 4, each indicator loads higher on its own construct compared to other constructs. This confirms that there is no overlap between constructs and that each indicator accurately measures its intended latent variable. Thus, the measurement model fulfills discriminant validity requirements and is suitable for structural model evaluation.

Inner Model Evaluation

Multicollinearity Test (VIF)

The multicollinearity test was conducted using VIF to ensure that there are no excessively strong correlations among exogenous variables.

Table 5. VIF Results

Relationship	VIF
Work Stress (X1) → Employee Engagement (Y)	2.624
Work Stress (X1) → Work–Life Balance (M)	2.333
Toxic Leadership (X2) → Employee Engagement (Y)	2.365
Toxic Leadership (X2) → Work–Life Balance (M)	2.333
Work–Life Balance (M) → Employee Engagement (Y)	1.177

Based on Table 5, all VIF values range between 1.177 and 2.624, which are below the maximum threshold of 5 and even below the more conservative threshold of 3.3. This indicates that there is no multicollinearity problem in the structural model, and each exogenous variable is capable of independently explaining the endogenous variables.

Coefficient of Determination (R²) and Predictive Relevance (Q²)

The Goodness of Fit test presents the R-square and Q-square values for each endogenous construct.

Table 6. Goodness of Fit (R² and Q²)

	R-square	Adjusted R-square	Q-square
Employee Engagement (Y)	0.357	0.344	0.204
Work–Life Balance (M)	0.150	0.139	0.066

Based on Table 6, the R-square value for Employee Engagement is 0.357, with an adjusted R-square of 0.344. This indicates that 35.7% of the variance in Employee Engagement is explained by Work Stress, Toxic Leadership, and Work–Life Balance, which falls into the moderate category. Meanwhile, Work–Life Balance has an R-square value of 0.150 and an adjusted R-square of 0.139, indicating weak explanatory power. However, the Q-square values for both endogenous constructs are positive (0.204 for Employee Engagement and 0.066 for Work–Life Balance), demonstrating that the model has predictive relevance.

Effect Size (f²)

The effect size (f²) analysis was conducted to determine the relative contribution of each exogenous variable to the endogenous variables.

Table 7. Effect Size (f²)

Relationship	f ²	Category
Work Stress → Employee Engagement	0.034	Weak
Work Stress → Work–Life Balance	0.125	Moderate
Toxic Leadership → Employee Engagement	0.032	Weak
Toxic Leadership → Work–Life Balance	0.014	Weak
Work–Life Balance → Employee Engagement	0.376	Strong

Based on Table 7, Work Stress has a weak effect on Employee Engagement (0.034) and a near-moderate effect on Work–Life Balance (0.125). Toxic Leadership has weak effects on both Employee Engagement (0.032) and Work–Life Balance (0.014). In contrast, Work–Life Balance shows a strong effect on Employee Engagement (0.376), indicating that it is the most dominant variable influencing Employee Engagement in this model.

Hypothesis Testing

Hypothesis testing was conducted using the bootstrapping method in SmartPLS 4.0. According to Hair et al. (2021), a relationship is considered statistically significant if the T-statistic is greater than 1.96 and the P-value is less than 0.05.

Table 8. Direct Effects

Path	Original Sample	STDEV	T-stat	P-value
SK → WLB	0.497	0.126	3.953	0.000
TL → WLB	-0.165	0.124	1.330	0.184
WLB → EE	0.533	0.071	7.542	0.000
SK → EE	0.240	0.110	2.183	0.029
TL → EE	-0.219	0.104	2.117	0.034

Table 9. Indirect Effects

Path	Original Sample	STDEV	T-stat	P-value
SK → WLB → EE	0.265	0.084	3.161	0.002
TL → WLB → EE	-0.088	0.069	1.271	0.204

The direct effect testing results show that Work Stress has a positive and significant effect on Work–Life Balance ($\beta = 0.497$; $t = 3.953$; $p = 0.000$). Toxic Leadership has a negative but not significant effect on Work–Life Balance ($\beta = -0.165$; $t = 1.330$; $p = 0.184$). Work–Life Balance has a positive and significant effect on Employee Engagement ($\beta = 0.533$; $t = 7.542$; $p = 0.000$). Work Stress also has a positive and significant effect on Employee Engagement ($\beta = 0.240$; $t = 2.183$; $p = 0.029$). Meanwhile, Toxic Leadership has a negative and significant effect on Employee Engagement ($\beta = -0.219$; $t = 2.117$; $p = 0.034$).

The indirect effect testing indicates that Work–Life Balance significantly mediates the relationship between Work Stress and Employee Engagement ($\beta = 0.265$; $t = 3.161$; $p = 0.002$). However, Work–Life Balance does not significantly mediate the relationship between Toxic Leadership and Employee Engagement ($\beta = -0.088$; $t = 1.271$; $p = 0.204$).

Overall, these findings indicate that Work–Life Balance plays a crucial role in enhancing Employee Engagement and serves as an important mediating variable in the relationship between Work Stress and Employee Engagement, although it does not mediate the effect of Toxic Leadership.

Discussion

The Effect of Work Stress on Work–Life Balance

The findings indicate that work stress has a positive and significant effect on work–life balance. This result suggests that work stress does not necessarily deteriorate employees' ability to maintain balance between work and personal life. Instead, under certain conditions, work stress may encourage employees to regulate their time and responsibilities more effectively. From the perspective of the Job Demands–Resources (JD-R) theory, work stress is categorized as a job demand. However, job demands do not automatically produce negative outcomes if employees possess adequate job resources and personal coping capacities. In the tourism sector, particularly in hotels and restaurants, employees often face high workloads, unpredictable schedules, and intense service expectations. These conditions may encourage Generation Z employees to actively manage their time, prioritize tasks, and develop adaptive coping strategies to avoid burnout. In addition, the Theory of Reasoned Action (TRA) explains that work stress can shape employees' attitudes and behavioral intentions. When employees perceive stress as manageable and meaningful, they may develop a proactive intention to protect their personal well-being by consciously maintaining work–life balance. This intention is then translated into concrete behavior, such as setting boundaries, organizing schedules, and allocating time for personal recovery. This finding aligns with research conducted by Anandita et al. (2025) and Gibran et al. (2024), which suggests that manageable work stress (eustress) can enhance employees' efficiency in organizing priorities and balancing professional and personal responsibilities. Therefore, in this context, work stress appears to function as a motivating challenge rather than a purely detrimental pressure.

The Effect of Toxic Leadership on Work–Life Balance

The results indicate that toxic leadership does not significantly influence work–life balance. Although toxic leadership tends to exert a negative direction of influence, its effect on employees' ability to balance work and personal life is not statistically meaningful. This outcome can be interpreted through the JD-R framework, where work–life balance is more strongly influenced by structural job demands such as workload, working hours, and shift systems rather than interpersonal leadership style alone. In the tourism industry, especially in hotels and restaurants, operational systems and standardized schedules often determine employees' work patterns. Consequently, the ability to maintain work–life balance may be shaped more by organizational systems than by direct leadership behavior. From the perspective of TRA, Generation Z employees tend to regulate their work–life balance based on personal values and internal intentions. As a generation that strongly values flexibility and self-care, they may attempt to maintain balance regardless of leadership behavior. While toxic leadership may create psychological discomfort, it does not automatically prevent employees from organizing their personal time. However, previous studies by Tawfik et al. (2025) and Efandi et al. (2023) highlight that leadership pressure can become a source of excessive stress, particularly when employees lack psychological resilience. In such cases, toxic leadership may disrupt emotional stability and indirectly affect work–life balance. Nevertheless, in this study's context, leadership toxicity does not directly determine employees' work–life balance.

The Effect of Work–Life Balance on Employee Engagement

The findings demonstrate that work–life balance positively influences employee engagement. This indicates that employees who are able to maintain equilibrium between professional responsibilities and personal life tend to exhibit stronger emotional, cognitive, and behavioral attachment to their work. Within the JD-R framework, work–life balance can be conceptualized as a job resource that enhances well-being and reduces strain. When employees perceive that their organization supports balance, they experience lower stress and higher psychological energy, which contributes to increased motivation and engagement. From the perspective of TRA, employees who experience satisfactory work–life balance develop positive attitudes toward their job. They also perceive supportive subjective norms within the workplace, which strengthen their intention to remain actively involved. These positive intentions are subsequently reflected in higher levels of employee engagement. This finding is consistent with Perdhana et al. (2022), who emphasize that balance between work and personal life enhances motivation, enthusiasm, and responsibility. Similarly, Chaniago et al. (2022) argue that flexible work arrangements, reasonable workloads, and organizational support improve comfort, perceived appreciation, and employee commitment.

The Effect of Work Stress on Employee Engagement

The results show that work stress has a positive and significant effect on employee engagement. This suggests that in certain contexts, work stress may function as a stimulating challenge rather than a purely harmful burden. According to the JD-R theory, job demands such as work stress may enhance engagement when supported by sufficient job resources. In the tourism sector, employees frequently encounter demanding service environments. However, when these demands are perceived as opportunities to demonstrate competence and professionalism, they may strengthen focus, responsibility, and involvement. TRA further explains that employees' attitudes toward stress influence their behavioral intentions. When stress is perceived as a meaningful part of professional growth, employees may consciously choose to remain committed and engaged despite challenging conditions. Professional norms within the hospitality industry may also reinforce this commitment. This finding aligns with Anandita et al. (2025) and Gibran et al. (2024), who argue that manageable stress (eustress) can enhance efficiency, adaptability, and engagement. Therefore, in this context, stress does not automatically reduce engagement but may instead stimulate constructive involvement.

The Effect of Toxic Leadership on Employee Engagement

The findings indicate that toxic leadership negatively affects employee engagement. This demonstrates that destructive leadership behavior reduces employees' emotional and cognitive attachment to their work. Within the JD-R framework, toxic leadership represents a destructive job demand that increases psychological strain while simultaneously reducing job resources such as support, trust, and fairness. In service-intensive sectors like hotels and restaurants, toxic leadership can create an unsafe and demotivating environment, particularly for Generation Z employees who value inclusivity and open communication. From the perspective of TRA, negative perceptions of leadership shape unfavorable attitudes toward the organization. When employees perceive their leaders as unfair or manipulative, they may consciously reduce their involvement as a form of psychological withdrawal. This finding supports previous studies by Tuckey et al. (2023) and El-Shafie et al. (2024), which show that unhealthy leadership diminishes engagement, lowers performance, and threatens organizational sustainability.

The Mediating Role of Work–Life Balance in the Relationship Between Work Stress and Employee Engagement

The results indicate that work–life balance significantly mediates the relationship between work stress and employee engagement. This suggests that work stress can indirectly enhance engagement when employees are able to maintain balance in their lives. According to Preacher and Hayes (2004), mediation occurs when the indirect pathway through a mediator is meaningful, regardless of the direct effect. In this context, work–life balance functions as a protective mechanism that transforms work stress into constructive engagement. Within the JD-R framework, work–life balance operates as a job resource that reduces the negative impact of job demands while enhancing motivation. When employees successfully balance their responsibilities, stress becomes more manageable and less detrimental. TRA also explains that work stress may shape positive intentions to preserve well-being. Employees who intentionally regulate balance are more likely to translate stress into productive engagement rather than emotional exhaustion.

The Mediating Role of Work–Life Balance in the Relationship Between Toxic Leadership and Employee Engagement

The findings reveal that work–life balance does not mediate the relationship between toxic leadership and employee engagement. This suggests that the negative impact of toxic leadership on engagement cannot be neutralized merely by maintaining work–life balance. According to Preacher and Hayes (2004), mediation requires a meaningful indirect pathway. In this case, such a pathway is not supported. From the JD-R perspective, toxic leadership constitutes a destructive demand that directly erodes psychological safety and trust. Unlike general work stress, which may be manageable, toxic leadership undermines essential job resources such as fairness and emotional support. Therefore, its negative effect cannot be fully compensated by personal balance strategies alone. TRA further explains that when employees develop negative attitudes toward their leaders, they may intentionally reduce engagement regardless of their ability to maintain personal balance. In this situation, behavioral withdrawal is primarily driven by perceptions of leadership rather than work–life considerations.

5. Conclusion

This study examined the effects of work stress and toxic leadership on employee engagement, with work–life balance as a mediating variable among Generation Z employees in the tourism sector, particularly in hotels and restaurants. The findings reveal that work stress positively influences both work–life balance and employee engagement, suggesting that challenging stress (eustress) can function as a motivating factor that encourages adaptive coping and stronger involvement at work. In contrast, toxic leadership negatively and significantly affects employee engagement, although it does not significantly influence work–life balance. Furthermore, work–life balance positively enhances employee engagement and significantly mediates the relationship between work stress and engagement. However, work–life balance does not mediate the relationship between toxic leadership and engagement, indicating that the destructive nature of toxic leadership directly undermines employees' psychological attachment to their work. Overall, this study reinforces the distinction between constructive job demands and destructive leadership behaviors in shaping employee engagement.

Despite its contributions, this study has several limitations. First, the research employed a cross-sectional design, which limits the ability to capture dynamic changes in stress levels, leadership behavior, and employee perceptions over time. Second, the model included only four main variables—work stress, toxic leadership, work–life balance, and employee engagement—

while other potentially influential factors such as organizational support, psychological resilience, job satisfaction, and organizational commitment were not examined. Third, the sample was limited to Generation Z employees in the tourism sector in Bali, restricting the generalizability of the findings to other generations, industries, or cultural contexts. Finally, the data were collected solely through self-reported questionnaires, which may introduce subjective bias and limit the objectivity of responses.

From a practical perspective, organizations in the tourism and hospitality sector should manage work stress constructively by setting clear performance expectations, distributing workloads fairly, and providing meaningful but manageable challenges to employees. Since work–life balance significantly enhances employee engagement, management should implement supportive policies such as flexible scheduling, fair shift systems, and employee well-being programs tailored to the needs of Generation Z. Additionally, preventing toxic leadership must become a strategic priority. Organizations should conduct regular leadership evaluations, provide training focused on empathetic and participative leadership styles, and establish safe reporting mechanisms to address harmful supervisory behaviors. Because toxic leadership directly reduces engagement and cannot be neutralized solely through work–life balance, leadership development initiatives are essential for sustaining a healthy organizational climate.

Future research is encouraged to adopt longitudinal designs to better understand how work stress, leadership dynamics, and engagement evolve over time. Expanding the research model by incorporating additional variables such as organizational support, psychological resilience, job satisfaction, or organizational culture would provide a more comprehensive explanation of employee engagement. Comparative studies across different generations, industries, or geographical regions would also enhance the generalizability of findings. Furthermore, mixed-method approaches combining quantitative surveys with qualitative interviews could provide deeper insights into how Generation Z employees interpret stress, leadership behavior, and work–life balance in real organizational contexts. Such extensions would strengthen theoretical development within the JD-R and TRA frameworks while offering broader managerial implications.

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