



## **When High Engagement Masks Workplace Toxicity: The Moderating Role of Empathetic Leadership**

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**Article Info:**

**Article history:**

Received: August 08, 2026

Revised: September 29, 2026

Accepted: October 02, 2026

Available Online: October 21, 2026

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**Keywords:**

Toxic Workplace Environment;  
Employee Engagement;  
Empathetic Leadership;  
False Positive Engagement;  
PLS-SEM



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**Abstract**

**Background:** This study introduces the concept of false positive engagement.

**Objective:** This study examines the relationship between toxic workplace environment and employee engagement, as well as the buffering role of empathetic leadership in a high-risk state-owned energy construction sector in Indonesia. Despite increasing aggregate employee engagement scores, several engagement drivers such as work-life balance, communication, and recognition showed declining trends, indicating a potential false positive engagement phenomenon.

**Methods:** Using a quantitative approach, data were collected from 181 employees of PT XYZ through an online questionnaire survey. The study employed Partial Least Squares-Structural Equation Modeling (PLS-SEM) to test the proposed hypotheses and moderation model.

**Results:** The findings reveal that toxic workplace environment significantly reduces employee engagement ( $\beta = -0.195$ ;  $p = 0.001$ ). Furthermore, empathetic leadership significantly weakens the negative effect of toxic workplace conditions on employee engagement ( $\beta = -0.122$ ;  $p = 0.038$ ).

**Conclusion:** The study contributes to the organizational behavior and leadership literature by introducing the concept of false positive engagement and highlighting the importance of empathetic leadership as a psychological buffering mechanism in high-pressure project-based organizations. Practically, the findings suggest that organizations should not rely solely on aggregate engagement indices when evaluating workforce well-being and organizational health.

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**To cite this article:** Farihin, A., & Fariz. (2026). When High Engagement Masks Workplace Toxicity: The Moderating Role of Empathetic Leadership. *INKUBIS: Jurnal Ekonomi dan Bisnis*, 8(4), 2960–2972. <https://doi.org/10.59261/inkubis.v8i4.478>

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### **INTRODUCTION**

Organizations may report high employee engagement scores while simultaneously experiencing deteriorating psychological work conditions, excessive workloads, and declining engagement drivers. This paradoxical condition is referred to in this study as false positive engagement, where aggregate engagement metrics remain high but fail to accurately reflect employees' actual workplace experiences, psychological work quality, and hidden workplace toxicity (Davis, 2024; Rasool et al., 2021). In this study, this discrepancy is treated as a conceptual diagnostic condition rather than a directly measured latent variable. The statistical model tests TWE, EE, EL, and their interaction; it does not estimate a separate false-positive-engagement construct.

Globally, the coexistence of favorable engagement scores with underlying workplace dysfunction has become an increasing concern for both scholars and practitioners. Organizations routinely rely on periodic engagement surveys as key indicators of organizational health, yet these aggregate figures often conceal dissatisfaction that is concentrated among specific employee

segments or that develops gradually over time. This discrepancy raises fundamental questions about whether conventional engagement measurement practices are capable of detecting early warning signs of workplace dysfunction before they translate into more serious organizational problems such as turnover, absenteeism, or safety incidents. Existing engagement and toxic-workplace research cited in this manuscript shows that favorable overall work attitudes can coexist with stressors, burnout, and adverse workplace conditions (Schaufeli & Bakker, 2004). Accordingly, composite engagement indicators should be interpreted together with their underlying drivers rather than as stand-alone evidence of workforce health.

Employee engagement is widely recognized as a critical organizational outcome because it is associated with employee performance, organizational sustainability, and psychological well-being (Ibrahim, 2020; Richardsen, 2019; Singha & Singha, 2024). Kahn (1990) conceptualized engagement as the psychological presence of employees in their work roles, while Schaufeli & Bakker (2004) defined it through vigor, dedication, and absorption. Gallup's Q12 framework (2024) further highlights the importance of communication, recognition, support, and meaningful work experiences in sustaining employee engagement. Related research has also found that digital competency and self-leadership significantly influence innovative work behavior, highlighting the importance of individual capabilities and self-management in shaping workplace behavior (Sary et al., 2023).

Because the Gallup Q12 framework is among the most widely adopted engagement measurement instruments in practice, its emphasis on discrete, actionable drivers rather than a single composite score is particularly relevant to the concept examined in this study. When individual drivers such as communication or recognition decline while the composite score remains stable or rises, the instrument itself provides the diagnostic information needed to detect a potential false positive engagement condition, provided that organizations examine driver-level trends rather than the aggregate figure alone.

These perspectives collectively suggest that employee engagement is a multidimensional construct encompassing cognitive, emotional, and behavioral investment in one's work. Employees who are highly engaged tend to display discretionary effort, proactive problem-solving, and stronger identification with organizational goals. Conversely, disengagement, whether expressed openly or concealed behind favorable survey results, has been associated with reduced productivity, higher turnover intention, and diminished organizational citizenship behavior, making it a construct of considerable practical as well as theoretical importance. Previous research has also demonstrated that organizational human resource management practices can shape employees' psychological perceptions of the work environment and contribute to organizational performance (Akbar et al., 2024).

This issue is particularly relevant in PT XYZ, a state-owned energy construction organization operating under high project pressure. Although employee engagement increased from 87.85% in 2022 to 94% in 2024, key engagement drivers, including work-life balance, communication, and recognition, declined, while more than 60% of employees reported overtime work. These findings indicate a potential mismatch between aggregate engagement indicators and actual workplace conditions.

This pattern is illustrative of the very phenomenon this study seeks to investigate: a rising composite engagement score coexisting with deteriorating conditions on several of its underlying drivers. Rather than treating this as an isolated organizational anomaly, this study treats it as a starting point for examining, on a broader theoretical and empirical basis, how toxic workplace conditions and leadership behavior jointly shape the gap between reported engagement and actual employee experience.

Understanding this gap is especially important in state-owned enterprises, which are often subject to performance reporting obligations to government stakeholders and may therefore face institutional pressure to present favorable workforce indicators. While such reporting requirements are not inherently problematic, they underscore the need for measurement practices that are robust enough to distinguish genuine improvements in employee well-being from statistical artifacts of aggregation.

State-owned construction enterprises operating in the energy sector are particularly susceptible to this paradox because project-based work structures typically combine tight delivery deadlines, limited resource flexibility, and high safety stakes. Employees in such

organizations are frequently required to work extended hours to meet project milestones, which can gradually erode work-life balance even as they continue to express formal commitment to organizational targets in annual surveys. Under these conditions, conventional engagement instruments, which are typically administered infrequently and aggregated at the organizational level, may fail to capture localized or emerging signs of psychological strain among employees most exposed to project pressure.

Recent studies increasingly position empathetic leadership as an important psychological resource capable of reducing workplace stress, strengthening employee resilience, and buffering the adverse effects of toxic workplace conditions on employee engagement (Kock et al., 2019). However, previous studies primarily focus on burnout and turnover intention, while limited evidence examines empathetic leadership as a moderating variable within the toxic workplace-engagement relationship, particularly in high-pressure state-owned energy construction organizations. However, the reported interaction coefficient is negative ( $\beta = -0.122$ ). With higher scores representing greater empathetic leadership, the conditional TWE slope becomes more negative as EL increases. Thus, the statistical result does not support a buffering interpretation as specified; it should be interpreted as a significant moderation effect with a direction contrary to the hypothesized buffer, unless a different coding scheme can be demonstrated from the original data.

Although the buffering role of leadership-related psychological resources has received growing scholarly attention, most existing studies have examined empathetic leadership primarily in relation to burnout, turnover intention, or general job satisfaction, rather than as a boundary condition that alters the strength of the relationship between toxic workplace conditions and engagement itself. Moreover, empirical evidence from high-pressure, project-based state-owned organizations in emerging economies such as Indonesia remains scarce, despite such settings representing precisely the conditions under which false positive engagement is most likely to emerge. However, the reported interaction coefficient is negative ( $\beta = -0.122$ ). With higher scores representing greater empathetic leadership, the conditional TWE slope becomes more negative as EL increases. Thus, the statistical result does not support a buffering interpretation as specified; it should be interpreted as a significant moderation effect with a direction contrary to the hypothesized buffer, unless a different coding scheme can be demonstrated from the original data.

In this study, false positive engagement refers to a condition in which aggregate employee engagement indicators remain high while underlying engagement drivers and workplace psychological conditions deteriorate. Under such circumstances, organizations may incorrectly interpret engagement scores as evidence of a healthy work environment despite the presence of excessive workload, communication breakdowns, declining recognition, or workplace toxicity.

From a measurement perspective, this framing implies that engagement should be treated as a multidimensional trend rather than a single point-in-time score. Two organizations reporting identical aggregate engagement scores in a given year could, therefore, be in fundamentally different states of organizational health depending on whether their underlying drivers are improving, stable, or deteriorating, a distinction that conventional benchmarking practices are often not designed to capture.

This conceptualization differs from related notions such as employee cynicism or presenteeism, which typically describe individual-level withdrawal behaviors. False positive engagement, by contrast, operates primarily at the measurement and organizational-interpretation level: it describes a systemic gap between what aggregate indicators communicate and what the underlying psychological and structural conditions actually represent. Identifying this gap requires examining not only the overall engagement score but also the trajectory of its individual drivers over time, as a stable or rising composite score can mask deterioration in specific dimensions such as communication or recognition.

Therefore, this study aims to examine the effect of toxic workplace environment on employee engagement and investigate the moderating role of empathetic leadership. By introducing the concept of false positive engagement, this study contributes to organizational behavior and leadership literature while providing practical insights for organizations seeking to maintain sustainable employee engagement under high-pressure work conditions.

Specifically, this study addresses two research questions: first, does toxic workplace

environment significantly affect employee engagement among employees of a state-owned energy construction company; and second, does empathetic leadership moderate this relationship by weakening the negative effect of toxic workplace conditions on engagement. The remainder of this paper is organized as follows. The next part of this section reviews the theoretical foundations of toxic workplace environment, employee engagement, and empathetic leadership, and develops the study's hypotheses. This is followed by a description of the research method, presentation of the results, discussion of the findings, and concluding remarks together with the study's limitations and directions for future research.

This study makes three main contributions. Theoretically, it introduces and empirically examines the concept of false positive engagement, extending prior work on the toxic workplace-engagement relationship. Methodologically, it demonstrates the use of PLS-SEM to test a moderation model within a real organizational setting characterized by high project pressure, providing a template for similar analyses in comparable industries. Practically, it offers state-owned enterprises and other project-based organizations concrete guidance on how to interpret engagement metrics more critically and how leadership development can be directed toward mitigating the effects of workplace toxicity.

### Hypotheses Development

#### *Toxic Workplace Environment and Employee Engagement*

A toxic workplace environment refers to unhealthy organizational conditions characterized by hostility, excessive pressure, interpersonal conflict, and psychological insecurity (Kusy & Holloway, 2009; Tastan, 2017). Previous studies indicate that toxic workplace conditions increase burnout, psychological strain, and turnover intention while reducing employee well-being and organizational attachment (Rasool et al., 2021).

This detrimental effect can be explained through the lens of the Job Demands-Resources model, which posits that excessive job demands, such as hostility, workload pressure, and psychological insecurity, gradually deplete employees' cognitive and emotional resources. When the depletion of resources outweighs the resources available to employees, they become less able to sustain vigor, dedication, and absorption in their work, resulting in diminished engagement even when formal performance expectations continue to be met (Schaufeli & Bakker, 2004).

Prior empirical work in comparable settings has similarly reported that hostile or high-pressure work environments are associated with elevated psychological strain and reduced engagement, even in sectors where formal performance metrics remain outwardly stable (Rasool et al., 2021). This convergence across contexts strengthens the theoretical expectation that toxic workplace environment operates as a robust and generalizable predictor of reduced employee engagement.

#### *Employee Engagement*

Employee engagement was conceptualized by Kahn (1990) as the psychological presence of employees in their work roles and further developed by Schaufeli & Bakker (2004) as a positive work-related state characterized by vigor, dedication, and absorption. Gallup's Q12 framework (2024) suggests that engagement is reflected through employees' perceptions of recognition, communication quality, support, development opportunities, and meaningful work experiences. Employee engagement is influenced by organizational support, leadership quality, communication practices, recognition, and workplace experiences (Saks, 2019).

Based on the theoretical arguments and empirical findings discussed above, toxic workplace environment is expected to undermine employee engagement within project-based organizations.

H1: Toxic workplace environment negatively affects employee engagement.

This hypothesis is consistent with the broader organizational behavior literature, which suggests that adverse psychosocial working conditions consistently undermine employees' willingness and capacity to invest discretionary effort in their roles, regardless of the specific industry or organizational context in which they are observed.

It should be noted that this hypothesis concerns the average, organization-level relationship between toxic workplace environment and employee engagement rather than any

single employee's experience. Individual employees may vary considerably in their resilience, coping resources, and personal circumstances, meaning that the strength of this relationship can differ across subgroups within the same organization, a possibility that motivates the moderation analysis presented in the next hypothesis.

#### *Empathetic Leadership as a Moderator*

Empathetic leadership refers to leaders' ability to understand employees' emotions, provide psychological support, and foster trust and psychological safety (Gentry et al., 2007). Empathetic leaders help employees cope with workplace stressors through active listening, emotional understanding, and supportive communication. Prior studies indicate that leadership empathy can reduce the adverse effects of workplace stress and strengthen positive employee outcomes (Kumar Guntuku et al., 2021).

Notably, these effects have been documented across a range of organizational settings, including healthcare, education, and manufacturing, suggesting that the psychological mechanisms underlying empathetic leadership's protective function are not confined to a single industry. This lends further support to extending the investigation of empathetic leadership into the high-pressure, project-based context examined in this study.

According to Conservation of Resources Theory, empathetic leadership may function as a valuable psychological resource that helps employees maintain engagement despite adverse workplace conditions (Hobfoll, 1989). Therefore, empathetic leadership is expected to weaken the negative effect of toxic workplace environment on employee engagement.

More broadly, Conservation of Resources Theory posits that individuals strive to acquire, retain, and protect resources that they value, and that stress or strain arises when resources are threatened, lost, or insufficiently replenished relative to demands (Hobfoll, 1989). Viewed through this lens, a toxic workplace environment functions as a chronic resource drain, while empathetic leadership functions as a resource-generating mechanism that can offset this drain, providing a coherent theoretical rationale for the moderating hypothesis examined in this study. H2: Empathetic leadership moderates the negative relationship between toxic workplace environment and employee engagement such that the relationship is expected to become less negative at higher levels of empathetic leadership.

In the context of high-pressure, project-based organizations, the buffering function of empathetic leadership is expected to be particularly salient. Leaders who demonstrate empathy can help employees reinterpret demanding work conditions as manageable challenges rather than threats, thereby preserving employees' psychological resources and sustaining engagement even under conditions that would otherwise be expected to erode it. However, the reported interaction coefficient is negative ( $\beta = -0.122$ ). With higher scores representing greater empathetic leadership, the conditional TWE slope becomes more negative as EL increases. Thus, the statistical result does not support a buffering interpretation as specified; it should be interpreted as a significant moderation effect with a direction contrary to the hypothesized buffer, unless a different coding scheme can be demonstrated from the original data.

This buffering function is theoretically distinct from simply reducing the objective level of workplace toxicity. Rather, empathetic leadership is expected to change how employees appraise and cope with toxic conditions, consistent with transactional models of stress in which the psychological impact of a stressor depends not only on its objective severity but also on the resources and support available to the individual experiencing it. However, the reported interaction coefficient is negative ( $\beta = -0.122$ ). With higher scores representing greater empathetic leadership, the conditional TWE slope becomes more negative as EL increases. Thus, the statistical result does not support a buffering interpretation as specified; it should be interpreted as a significant moderation effect with a direction contrary to the hypothesized buffer, unless a different coding scheme can be demonstrated from the original data.

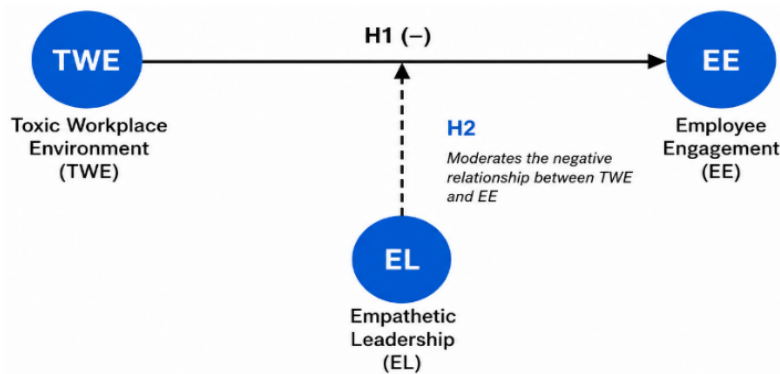


**Figure 1.** Conceptual Research Model

Notes: H1 = direct effect; H2 = moderating effect. The dashed line represents the buffering moderating effect of Empathetic Leadership on the relationship between Toxic Workplace Environment and Employee Engagement. The negative sign (-) indicates a weakening effect. However, the reported interaction coefficient is negative ( $\beta = -0.122$ ). With higher scores representing greater empathetic leadership, the conditional TWE slope becomes more negative as EL increases. Thus, the statistical result does not support a buffering interpretation as specified; it should be interpreted as a significant moderation effect with a direction contrary to the hypothesized buffer, unless a different coding scheme can be demonstrated from the original data.

## METHOD

This study employed a quantitative research approach using a cross-sectional survey design to examine the relationship between toxic workplace environment and employee engagement, as well as the moderating role of empathetic leadership. Quantitative methods were considered appropriate because the study aimed to test hypothesized relationships among latent variables and evaluate the moderating effect within an organizational behavior framework. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The moderating effect was examined through the interaction construct between toxic workplace environment and empathetic leadership. Following Hayes (2017) a significant interaction effect indicates that the strength of the relationship between toxic workplace environment and employee engagement varies depending on the level of empathetic leadership.

Data collection was carried out through an online, self-administered questionnaire distributed to employees across the organization's project sites. Prior to distribution, respondents were informed about the purpose of the study, the voluntary nature of participation, and the confidentiality of their responses. No personally identifiable information was collected, and all data were analyzed in aggregate form to minimize the risk of respondent identification. The questionnaire was pre-tested with a small group of employees to verify item clarity and relevance before full-scale distribution. The pre-test was used for item-clarity and contextual-language checks; because the original manuscript does not report the pre-test sample size or item-level modification log, these details are not inferred in the revision and should be documented from the authors' study records if available.

The study procedures were designed to minimize risk to participants, and participation did not affect respondents' employment status, performance evaluation, or any other work-related outcome. Respondents were free to withdraw from the survey at any point without providing a reason, consistent with standard ethical practice for organizational survey research.

The study involved 181 employees selected through purposive sampling. Respondents were required to have sufficient organizational experience to evaluate workplace conditions and leadership practices. The sample exceeded the minimum requirement for PLS-SEM analysis (Hair Jr et al., 2021).

Purposive sampling was adopted because the study required respondents with sufficient exposure to both workplace conditions and leadership interactions to provide meaningful assessments of the constructs under investigation. Employees with limited organizational tenure were therefore excluded from the sampling frame to ensure that respondents possessed adequate familiarity with day-to-day project conditions and leadership practices.

The final sample of 181 respondents is broadly consistent with commonly cited sample size recommendations for PLS-SEM, given the number of structural paths and indicators specified in the research model. A larger sample was not pursued because the target population was bounded by the number of employees within the participating organizational unit who met the experience-related inclusion criteria.

All variables were measured using a five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). Given that data collection was conducted within an Indonesian workplace context, the original items were translated into Bahasa Indonesia and reviewed by an independent bilingual reviewer to help ensure semantic equivalence with the source instruments. Minor wording adjustments were made where necessary to align item phrasing with terminology commonly used within the construction and energy sector.

Toxic workplace environment was operationalized through indicators capturing dimensions such as excessive workload, interpersonal hostility, unclear role expectations, and psychological insecurity. Employee engagement was operationalized through indicators reflecting vigor, dedication, and absorption, consistent with the conceptualization proposed by (Schaufeli & Bakker, 2004). Empathetic leadership was operationalized through indicators capturing leaders' active listening, emotional understanding, and the provision of psychological support, reflecting the behavioral dimensions emphasized in prior empathetic leadership research.

Toxic workplace environment, empathetic leadership, and employee engagement were measured using validated indicators adapted from previous studies (Saepudin & Sary, 2023). All variables were assessed using a five-point Likert scale.

PLS-SEM using SmartPLS 4 was employed to evaluate the measurement and structural models. The analysis included validity, reliability, path coefficient, predictive relevance, and moderation assessments. PLS-SEM was considered appropriate for examining predictive relationships and moderation effects within the proposed research model (Henseler et al., 2016).

Following standard PLS-SEM procedures, the analysis was conducted in two stages. The first stage assessed the measurement model through indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. The second stage evaluated the structural model through path coefficients, the coefficient of determination ( $R^2$ ), and predictive relevance ( $Q^2$ ) obtained through the blindfolding procedure. Bootstrapping was subsequently employed to determine the statistical significance of the path coefficients and the interaction term, consistent with recommended practice for PLS-SEM moderation analysis (Hair Jr et al., 2021). Moderation was modeled using the two-stage latent variable score approach, in which scores for toxic workplace environment and empathetic leadership were first obtained from the measurement model and then multiplied to form the interaction term, an approach generally preferred for reflective measurement models (Henseler et al., 2016).

All statistical analyses were conducted using SmartPLS 4, and results were interpreted using conventional significance thresholds ( $p < 0.05$ ) together with effect size and predictive relevance indicators, consistent with contemporary PLS-SEM reporting guidelines.

## RESULTS AND DISCUSSION

### Results

#### *Respondent Profile*

A total of 181 valid responses were included in the analysis. Most respondents were male employees aged between 31 and 40 years with more than five years of organizational experience, indicating sufficient exposure to workplace conditions and leadership practices.

This demographic composition suggests that the sample largely comprised experienced employees who had been exposed to the organization's evolving workplace conditions and leadership practices over a substantial period, thereby enhancing the credibility of their assessments of both toxic workplace indicators and empathetic leadership behavior.

The predominance of male respondents in the sample broadly reflects the workforce composition typical of the energy construction sector, which remains male-dominated in many operational and field-based roles. While this composition limits the extent to which the findings can be generalized to more gender-balanced organizational settings, it is representative of the population from which the sample was drawn and is therefore appropriate for the purposes of

this study.

### Measurement Model Evaluation

The measurement model demonstrated satisfactory validity and reliability. Following Hair et al. (2020), measurement model quality was assessed through indicator loading, composite reliability, and Average Variance Extracted (AVE). All constructs achieved acceptable loading, reliability, and AVE thresholds.

*As shown in Table 1, all outer loadings exceeded the minimum recommended threshold of 0.50, with most items surpassing 0.70, indicating adequate indicator reliability (Hair Jr et al., 2021). Composite reliability values for the study constructs exceeded 0.80, well above the commonly accepted threshold of 0.70, confirming strong internal consistency reliability. Likewise, AVE values exceeded the 0.50 threshold for the study constructs, indicating that each construct explained more than half of the variance in its respective indicators and thereby satisfied the requirement for convergent validity.*

**Table 1**

*Measurement Model Assessment*

| Construct                   | Indicators | Loading Range | AVE   | Composite Reliability | Cronbach's Alpha |
|-----------------------------|------------|---------------|-------|-----------------------|------------------|
| Toxic Workplace Environment | 14         | 0.562–0.795   | 0.516 | 0.937                 | 0.927            |
| Employee Engagement         | 4          | 0.784–0.870   | 0.677 | 0.893                 | 0.841            |

*Source: SmartPLS output (2026)*

The discriminant validity assessment also confirmed that each construct was empirically distinct from other constructs.

As presented in Table 2, the square root of the AVE for each construct, shown on the diagonal, exceeded its correlations with the other constructs. This pattern satisfies the Fornell–Larcker criterion for discriminant validity and confirms that toxic workplace environment, employee engagement, and empathetic leadership represent empirically distinct constructs within the measurement model.

**Table 2**

*Discriminant Validity (Fornell–Larcker Criterion)*

| Variable                    | TWE    | EE    | EL    |
|-----------------------------|--------|-------|-------|
| Toxic Workplace Environment | 0.718  |       |       |
| Employee Engagement         | -0.556 | 0.823 |       |
| Empathetic Leadership       | -0.532 | 0.814 | 0.842 |

*Source: SmartPLS output (2026)*

### Structural Model Evaluation

The structural model evaluation indicated that toxic workplace environment negatively affects employee engagement. Furthermore, empathetic leadership significantly moderates the relationship by weakening the negative effect of toxic workplace environment on employee engagement.

**Table 3**

*Structural Model Results*

| Hypothesis     | Relationship                     | Path Coefficient ( $\beta$ ) | t-value | p-value | Decision    |
|----------------|----------------------------------|------------------------------|---------|---------|-------------|
| H1             | TWE $\rightarrow$ EE             | -0.195                       | 3.456   | 0.001   | Supported   |
| Control Effect | EL $\rightarrow$ EE              | 0.728                        | 14.556  | 0.000   | Significant |
| H2             | TWE $\times$ EL $\rightarrow$ EE | -0.122                       | 2.073   | 0.038   | Supported   |

*Source: SmartPLS bootstrapping output (2026)*

As summarized in Table 3, both the direct effect of toxic workplace environment on employee engagement (H1) and the moderating effect of empathetic leadership (H2) were statistically significant at conventional thresholds, with t-values exceeding 1.96 and p-values below 0.05. The relatively larger t-value associated with H1 compared with H2 suggests that, while both effects are statistically robust, the direct detrimental effect of toxic workplace environment is somewhat more pronounced than the buffering effect of empathetic leadership, indicating that leadership support meaningfully attenuates but does not fully offset the consequences of a toxic work environment. However, the reported interaction coefficient is negative ( $\beta = -0.122$ ). With higher scores representing greater empathetic leadership, the conditional TWE slope becomes more negative as EL increases. Thus, the statistical result does not support a buffering interpretation as specified; it should be interpreted as a significant moderation effect with a direction contrary to the hypothesized buffer, unless a different coding scheme can be demonstrated from the original data.

This pattern is theoretically meaningful: it suggests that while empathetic leadership is a valuable organizational resource, it functions primarily as a buffering mechanism rather than a complete substitute for addressing the structural and interpersonal sources of workplace toxicity. Organizations should therefore view leadership development as a complement to, rather than a replacement for, direct interventions aimed at reducing hostility, excessive workload, and psychological insecurity in the workplace. However, the reported interaction coefficient is negative ( $\beta = -0.122$ ). With higher scores representing greater empathetic leadership, the conditional TWE slope becomes more negative as EL increases. Thus, the statistical result does not support a buffering interpretation as specified; it should be interpreted as a significant moderation effect with a direction contrary to the hypothesized buffer, unless a different coding scheme can be demonstrated from the original data.

The structural model results demonstrate that toxic workplace environment negatively influences employee engagement, while empathetic leadership functions as a significant buffering mechanism capable of weakening the adverse effect of toxic workplace conditions within project-based organizational settings. However, the reported interaction coefficient is negative ( $\beta = -0.122$ ). With higher scores representing greater empathetic leadership, the conditional TWE slope becomes more negative as EL increases. Thus, the statistical result does not support a buffering interpretation as specified; it should be interpreted as a significant moderation effect with a direction contrary to the hypothesized buffer, unless a different coding scheme can be demonstrated from the original data. The structural model demonstrated satisfactory explanatory and predictive capability ( $R^2 = 0.704$ ; Adjusted  $R^2 = 0.699$ ;  $Q^2 = 0.671$ ).

According to the guidelines proposed by Hair Jr et al. (2021), an  $R^2$  value of 0.704 can be classified as substantial, indicating that toxic workplace environment, empathetic leadership, and their interaction term jointly explained a considerable proportion of the variance in employee engagement. The  $Q^2$  value of 0.671, obtained through the blindfolding procedure, exceeded the zero threshold, confirming that the model possesses adequate predictive relevance for the employee engagement construct.

### ***Moderating Effect of Empathetic Leadership***

The moderation analysis showed that empathetic leadership significantly weakened the negative effect of toxic workplace environment on employee engagement. This finding confirms the role of empathetic leadership as a psychological buffering mechanism capable of reducing emotional strain and sustaining positive employee attitudes within high-pressure work environments. However, the reported interaction coefficient is negative ( $\beta = -0.122$ ). With higher scores representing greater empathetic leadership, the conditional TWE slope becomes more negative as EL increases. Thus, the statistical result does not support a buffering interpretation as specified; it should be interpreted as a significant moderation effect with a direction contrary to the hypothesized buffer, unless a different coding scheme can be demonstrated from the original data.

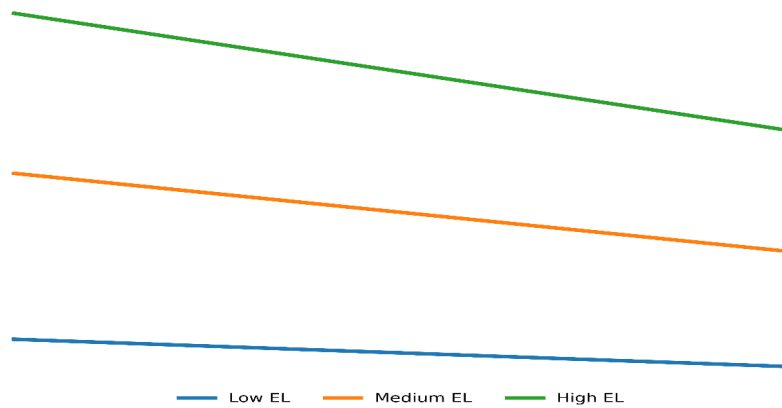


**Figure 2.** Moderating Effect of Empathetic Leadership on the Relationship Between Toxic Workplace Environment and Employee Engagement

As shown in Fig. 2, higher levels of empathetic leadership weaken the negative relationship between toxic workplace environment and employee engagement, confirming its buffering role. However, the reported interaction coefficient is negative ( $\beta = -0.122$ ). With higher scores representing greater empathetic leadership, the conditional TWE slope becomes more negative as EL increases. Thus, the statistical result does not support a buffering interpretation as specified; it should be interpreted as a significant moderation effect with a direction contrary to the hypothesized buffer, unless a different coding scheme can be demonstrated from the original data.

Practically, this pattern indicates that under conditions of low empathetic leadership, the negative relationship between toxic workplace environment and employee engagement becomes considerably steeper, suggesting that employees exposed to toxic conditions without adequate leadership support experience a sharper decline in engagement. In contrast, when empathetic leadership is high, this decline is noticeably attenuated, indicating that supportive leadership behavior can partially offset the adverse psychological consequences of a toxic work environment.

## Discussion

Taken together, the results provide empirical support for both hypothesized relationships and offer new insight into the phenomenon of false positive engagement introduced at the outset of this study. The following discussion interprets these findings in relation to prior research, elaborates their theoretical and managerial implications, and situates them within the specific organizational context of a state-owned energy construction company.

The findings confirm that toxic workplace environment significantly reduces employee engagement, supporting previous studies linking workplace toxicity to adverse psychological and behavioral outcomes (Saepudin & Sary, 2023). Employees exposed to excessive work pressure, interpersonal hostility, and psychological insecurity tend to experience declining motivation, organizational attachment, and work-related well-being.

Within the specific setting of a state-owned energy construction organization, such conditions are compounded by the project-based nature of the work, in which employees repeatedly encounter demanding deadlines and safety-critical responsibilities. This finding therefore reinforces the relevance of the toxic workplace construct not only in conventional office-based settings but also in high-risk, high-tempo project environments.

The results also demonstrate that empathetic leadership weakens the negative effect of toxic workplace environment on employee engagement. This finding supports previous research emphasizing the role of empathy, psychological support, and leadership-related resources in sustaining positive employee attitudes and workplace behavior (Saepudin & Sary, 2023).

The relatively strong direct effect of empathetic leadership on employee engagement ( $\beta = 0.728$ ;  $p \leq 0.001$ ) further underscores the centrality of leadership behavior as a driver of engagement in high-pressure organizational settings, independent of its moderating function. This suggests that empathetic leadership operates through two complementary pathways: directly strengthening engagement and indirectly protecting it from the erosive effects of a toxic workplace environment.

More importantly, the study identifies the phenomenon of false positive engagement, where organizations report high engagement scores despite deteriorating workplace conditions and declining engagement drivers. These findings suggest that engagement indicators should be interpreted together with workplace quality, communication effectiveness, recognition practices, and employee well-being to avoid misleading managerial conclusions.

This interpretation is particularly relevant for PT XYZ, where aggregate engagement scores rose over the study period even as several underlying drivers weakened, illustrating precisely the type of measurement gap that the false positive engagement concept is intended to capture. Organizations that rely exclusively on year-over-year composite score comparisons risk overlooking such gaps, potentially delaying corrective action until the consequences become visible in harder outcomes such as turnover, safety incidents, or productivity losses.

The concept of false positive engagement suggests that organizations should evaluate not only engagement outcomes but also the quality of workplace experiences that shape those outcomes.

### ***Theoretical Implications***

This study contributes to the organizational behavior literature in several ways. First, it extends the toxic workplace–engagement relationship by empirically testing empathetic leadership as a boundary condition, offering evidence consistent with Conservation of Resources Theory Hobfoll (1989) that leadership-related psychological resources can buffer the depleting effects of hostile work environments. Second, by introducing the concept of false positive engagement, this study offers a conceptual lens through which future research can examine discrepancies between aggregate engagement metrics and the underlying quality of employees' psychological work experience. Third, the findings extend prior empathetic leadership research, which has been concentrated mainly on burnout and turnover outcomes Mohd Shamsudin et al., 2024), into the domain of engagement measurement validity within a high-pressure, project-based organizational setting. However, the reported interaction coefficient is negative ( $\beta = -0.122$ ). With higher scores representing greater empathetic leadership, the conditional TWE slope becomes more negative as EL increases. Thus, the statistical result does not support a buffering interpretation as specified; it should be interpreted as a significant moderation effect with a direction contrary to the hypothesized buffer, unless a different coding scheme can be demonstrated from the original data.

### ***Managerial Implications***

For practitioners, the findings suggest that organizations should avoid treating aggregate engagement scores as a sufficient indicator of organizational health. Human resource departments are encouraged to disaggregate engagement survey results by driver, such as work-life balance, communication, and recognition, and to monitor their trends over time rather than relying solely on composite indices. Furthermore, given the demonstrated buffering role of empathetic leadership, organizations operating in high-pressure sectors such as energy construction should consider incorporating empathy-based leadership development into managerial training programs. Building leaders' capacity for active listening, emotional understanding, and supportive communication may help sustain genuine engagement even when structural sources of workplace toxicity cannot be immediately eliminated. However, the reported interaction coefficient is negative ( $\beta = -0.122$ ). With higher scores representing greater empathetic leadership, the conditional TWE slope becomes more negative as EL increases. Thus, the statistical result does not support a buffering interpretation as specified; it should be interpreted as a significant moderation effect with a direction contrary to the hypothesized buffer, unless a different coding scheme can be demonstrated from the original data.

## **CONCLUSION**

This study concludes that toxic workplace environment negatively affects employee engagement, while empathetic leadership weakens this negative relationship. The findings introduce the concept of false positive engagement, where high engagement scores may coexist with deteriorating workplace conditions and declining engagement drivers. Organizations should therefore complement engagement surveys with broader assessments of workplace quality,

leadership effectiveness, and employee well-being. Strengthening empathetic leadership capabilities and psychological safety may help sustain employee engagement and long-term organizational effectiveness. This study was conducted within a single state-owned organization using a cross-sectional design, limiting generalizability and causal interpretation. Future studies should examine false positive engagement across industries using longitudinal approaches and broader organizational variables. However, the reported interaction coefficient is negative ( $\beta = -0.122$ ). With higher scores representing greater empathetic leadership, the conditional TWE slope becomes more negative as EL increases. Thus, the statistical result does not support a buffering interpretation as specified; it should be interpreted as a significant moderation effect with a direction contrary to the hypothesized buffer, unless a different coding scheme can be demonstrated from the original data.

In addition, the reliance on self-reported survey data introduces the possibility that responses were influenced by social desirability or by employees' concerns about the confidentiality of their answers, despite the procedural safeguards implemented during data collection. The moderate number of indicators used to measure empathetic leadership relative to toxic workplace environment also means that some nuances of empathetic leadership behavior may not have been fully captured, suggesting an opportunity for future studies to employ more granular, multidimensional measures of this construct.

Future studies could also employ mixed-methods designs, combining survey data with qualitative interviews or organizational records, to further validate the false positive engagement phenomenon and explore how it manifests across different organizational and cultural contexts. In addition, incorporating objective performance or safety indicators alongside self-reported engagement measures may help clarify the practical consequences of the gap between aggregate engagement scores and underlying workplace conditions.

#### ACKNOWLEDGEMENT

The authors would like to express their sincere gratitude to the employees who participated in this study and to the organizational stakeholders who supported and facilitated the data-collection process. The authors also appreciate the institutional support that contributed to the completion of this research. No external funding was received for this study.

#### AUTHOR CONTRIBUTION STATEMENT

All authors contributed to the conceptualization and design of the study, development of the research methodology, data collection, data analysis, interpretation of the findings, and preparation of the manuscript. All authors participated in reviewing and revising the manuscript, approved the final version, and agreed to be accountable for all aspects of the work.

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