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The Role of Transformational Leadership and Organizational Commitment on Employee Work Morale

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ABSTRACT

Purpose – This study examines the unique and joint additive associations of transformational leadership and affective organizational commitment with employee work morale. It specifically addresses firm-level employee nesting and the construct-boundary separation of work morale from adjacent job attitudes.
Design/methodology/approach – A quantitative, cross-sectional survey design was used with data from 215 employees across 12 manufacturing and service firms. Analyses included instrument validation, confirmatory factor analysis (CFA), multiple regression with cluster-aware estimation, random-intercept and firm-fixed-effects sensitivity models, and incremental-validity tests.
Findings – The baseline model explained 41.2% of variance in work morale (Adjusted R^2 = .406). Both transformational leadership (β = .385, $p < .001$) and affective commitment (β = .294, $p < .001$) showed significant positive unique associations. Incremental tests and sensitivity models confirmed these associations remained stable after accounting for firm-level clustering.
Originality/value – The study integrates Conservation of Resources theory and Affective Events Theory into an additive predictive framework. Methodologically, it demonstrates the necessity of reporting clustering diagnostics and sensitivity analyses in multi-firm samples before making inferential claims.

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1. Introduction

Organizational morale operates as a critical barometer of institutional vitality, capturing the collective psychological readiness of a workforce to engage with operational demands (Fisher, 2000). Unlike job satisfaction, which is primarily a cognitive-evaluative judgment about specific facets of work, morale reflects a more sustained affective disposition that buffers against friction and supports discretionary effort (Cropanzano & Wright, 1999; Harter, Schmidt, & Hayes, 2002). It is also distinct from employee engagement, which emphasizes vigor, dedication, and absorption in task performance, and from general well-being, which encompasses broader physical, psychological, and social health states (Warr, 1990). Motivation, meanwhile, refers more directly to the direction, intensity, and persistence of behavior. Work morale, by contrast, captures the affective climate and shared psychological spirit through which employees experience their organizational reality. In contemporary corporate environments marked by structural volatility, technological disruption, and hybrid work arrangements, maintaining robust morale is therefore not merely a humanistic aspiration but a strategic imperative (Brief & Weiss, 2002).

The architecture of employee morale is heavily contingent upon relational dynamics within the workplace. Leadership behaviors, in particular, function as primary environmental cues that shape the affective climate of organizations (Tsai, Chen, & Liu, 2007). Among leadership paradigms, transformational leadership has emerged as a potent catalyst for positive psychological outcomes. By articulating a compelling vision, stimulating intellectual curiosity, and providing individualized support, transformational leaders transcend transactional exchanges and influence the motivational baseline of followers (Bass & Riggio, 2006). Meta-analytic evidence consistently links such leadership behaviors to enhanced follower well-being, reduced burnout, and elevated collective spirit (Banks et al., 2018; Hoch, Bommer, Dulebohn, & Wu, 2018; Judge & Piccolo, 2004). When leaders exhibit idealized influence and inspirational motivation, they reframe operational challenges as meaningful pursuits, thereby infusing the workforce with renewed vigor and enthusiasm.

Parallel to external leadership influences, internal psychological attachments shape how employees interpret and respond to their work environment. Affective organizational commitment represents this profound psychological tethering, reflecting the degree to which employees emotionally identify with organizational objectives and values (Meyer & Allen, 1991). Individuals high in affective commitment do not remain with their organization merely out of necessity or obligation; they stay because they want to (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). This emotional alignment mitigates cognitive dissonance and emotional exhaustion, which are primary detractors of workplace morale. Committed employees are predisposed to experience positive affective states, sustaining enthusiasm and collective spirit even when confronted with operational adversities (Mathieu & Zajac, 1990; Riketta, 2002). Theoretical models suggest that affective commitment functions as an internalized psychological resource, fostering a harmonious state that translates into sustained daily morale.

Despite the established relevance of transformational leadership and affective commitment to broad organizational outcomes, the empirical literature remains fragmented with respect to work morale specifically. Three gaps are particularly important. First, many studies examine leadership or commitment in isolation, or focus on more distal outcomes such as performance, turnover intention, or general satisfaction, thereby leaving the simultaneous explanatory power of these predictors for morale insufficiently clarified. Second, work morale is often

conceptually adjacent to but not identical with job satisfaction, engagement, well-being, and motivation; without explicit differentiation, findings risk being interpreted as generic replication rather than construct-specific contribution. Third, existing explanations frequently draw on multiple theoretical lenses without integrating them into a coherent and parsimonious framework, which weakens the mechanistic clarity of the proposed relationships.

A further methodological gap concerns the nested structure of employee data. When employees are sampled from multiple firms, observations are not automatically independent. Workers within the same organization may share leadership climate, human resource policies, reward systems, cultural norms, and physical or psychological working conditions. Conventional ordinary least squares regression assumes independent observations; when this assumption is violated, standard errors, confidence intervals, and significance tests may be distorted. In studies with a modest number of firms, this issue is especially consequential because clustering can materially affect inferential conclusions. Therefore, firm-level nesting should be handled analytically, not merely acknowledged as a limitation.

This study addresses these gaps by examining the unique and joint additive associations of transformational leadership and affective organizational commitment with employee work morale, while explicitly confronting two methodological and conceptual issues. First, because employees are nested within firms, the study does not treat independence of observations as automatic. It examines firm-level clustering through intraclass correlation and design-effect diagnostics and tests the stability of the estimated associations using cluster-robust, random-intercept, and firm-fixed-effects sensitivity models. Second, because work morale is conceptually adjacent to job satisfaction, engagement, well-being, and motivation, the study carefully documents the adaptation of the morale measure and interprets the dependent variable as a morale-oriented affective climate index rather than as a fully independent and exhaustively validated morale construct.

The contribution of the study is therefore threefold. First, it sharpens construct clarity by distinguishing work morale from related attitudinal and motivational outcomes, while acknowledging the limits of adapting items from adjacent constructs. Second, it adopts a parsimonious theoretical integration grounded primarily in Conservation of Resources theory, complemented by Affective Events Theory, to explain how external leadership resources and internal affective attachment may jointly but nonredundantly support morale. Third, it provides a transparent quantitative workflow that includes clustering diagnostics, incremental validity tests, and sensitivity analyses, thereby offering a reproducible methodological template for organizational behavior research in volatile corporate contexts.

2. Literature Review & Hypothesis Development

2.1 Transformational Leadership and Work Morale

Transformational leadership is rooted in the leader's capacity to alter followers' self-concepts and align personal aspirations with broader organizational visions (Bass & Avolio, 1994). The paradigm operates through four behavioral dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Intellectual stimulation encourages subordinates to question entrenched assumptions and approach problems with cognitive flexibility, thereby reducing rigidity and workplace anxiety (Walumbwa, Avolio, & Zhu, 2008). Individualized consideration signals that employees' developmental needs are

recognized and valued, satisfying basic psychological requirements for relatedness and competence (Bono & Judge, 2004).

From an affective perspective, transformational leadership does more than convey information; it shapes the emotional tone of work. Visionary communication, recognition, and supportive feedback can function as positive affective events that elevate enthusiasm, confidence, and collective spirit (Brief & Weiss, 2002; Tsai et al., 2007). Because morale reflects a sustained affective climate rather than a momentary mood, transformational leadership is expected to contribute to morale by repeatedly supplying meaningful, identity-affirming, and emotionally energizing workplace cues

H1: Transformational leadership is positively and significantly associated with employee work morale.

2.2 Affective Organizational Commitment and Work Morale

Affective organizational commitment was measured using the Affective Commitment subscale from Meyer, Allen, and Smith (1993), comprising 8 items. Throughout this manuscript, the term "organizational commitment" refers specifically to the affective dimension, reflecting emotional attachment rather than normative or continuance commitment.).

When employees feel a profound sense of belonging, their daily interactions are colored by positive affect, which directly fuels enthusiasm and collective spirit (Solinger, van Olffen, & Roe, 2008). This internalized attachment functions as a stabilizing mechanism: even when external conditions are suboptimal, intrinsic satisfaction derived from organizational identification sustains motivational drive (O'Reilly & Chatman, 1986). Affective organizational commitment therefore operates as a psychological reservoir that replenishes work morale and counteracts affective depletion over time.

H2: Affective organizational commitment is positively and significantly associated with employee work morale.

2.3 Theoretical Integration and the Joint Additive Influence on Work Morale

To avoid theoretical fragmentation, this study adopts Conservation of Resources theory (Hobfoll, 1989) as the primary organizing framework, supplemented by Affective Events Theory (Weiss & Cropanzano, 1996) to specify the affective mechanism. COR theory posits that individuals strive to acquire, retain, and protect valuable resources. Resource abundance supports positive psychological functioning, whereas resource loss generates strain and depletion. In the present model, transformational leadership is conceptualized as an external contextual resource that supplies vision, intellectual stimulation, meaningful feedback, and socioemotional support. Affective organizational commitment is conceptualized as an internal psychological resource reflecting emotional attachment, identity congruence, and belonging.

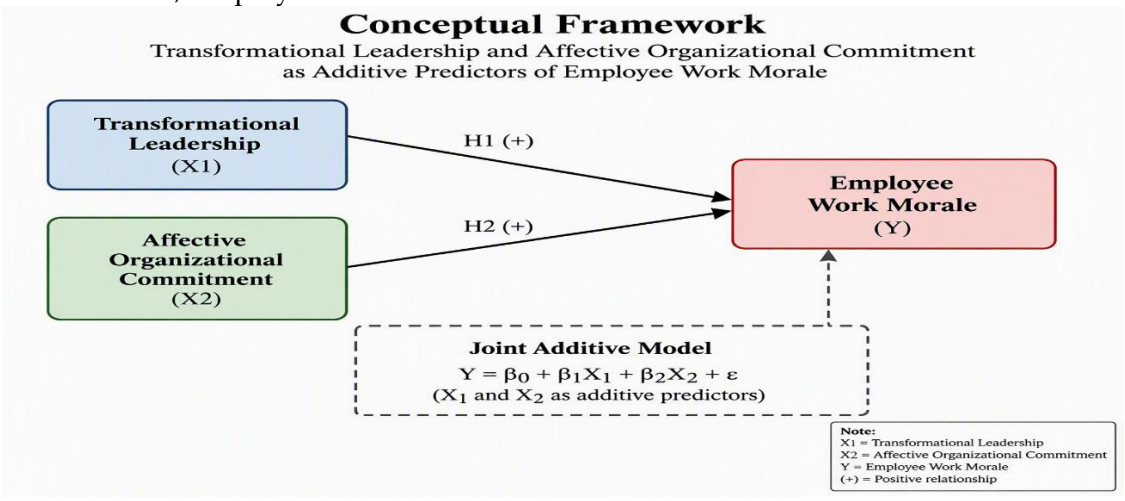
These two resource classes are theoretically distinct for at least three reasons. First, they differ in locus: transformational leadership is situated in the behavioral conduct of leaders and the relational climate they create, whereas affective commitment is situated in the employee's internalized emotional bond with the organization. Second, they differ in temporal stability: leadership behaviors can vary across supervisors, units, and episodes, while affective commitment tends to reflect a more enduring attitudinal attachment. Third, they operate through different affective mechanisms: transformational leadership generates positive affective events through inspiring communication, recognition, and support, whereas affective commitment shapes the appraisal of workplace events by filtering them through identity-relevant meanings.

Affective Events Theory complements this resource logic by explaining how workplace events produce affective reactions that influence attitudinal outcomes. Transformational leadership behaviors such as articulated vision, supportive feedback, and intellectual challenge can function as positive affective events. However, the translation of these events into sustained morale depends partly on the employee's internal psychological state. Employees high in affective commitment are more likely to appraise leadership signals as identity-confirming and meaningful, thereby reinforcing positive affective carryover. Conversely, even highly committed employees may experience morale erosion when leadership is absent, inconsistent, or purely transactional. Thus, external leadership resources and internal commitment resources form a complementary resource pool that can reduce emotional depletion and support resilient, high-morale states.

Importantly, the present model specifies a joint additive relationship rather than a statistical interaction. This choice is deliberate. The theoretical emphasis is on the accumulation of distinct resource types, not necessarily on multiplicative moderation. However, additive joint prediction should not be reduced to a simple statistical statement that two significant predictors remain significant when entered together. A more meaningful test concerns whether each resource class contributes nonredundant incremental variance and whether this pattern remains stable when the nested structure of employees within firms is considered. Accordingly, the third hypothesis is framed as an incremental validity proposition rather than merely as an omnibus significance claim. Affective organizational commitment was measured using the Affective Commitment subscale from Meyer, Allen, and Smith (1993), comprising 8 items. Throughout this manuscript, the term "organizational commitment" refers specifically to the affective dimension, reflecting emotional attachment rather than normative or continuance commitment.

H3: Transformational leadership and affective organizational commitment jointly explain a significant and meaningful proportion of variance in employee work morale when entered simultaneously, with each predictor retaining a unique positive association after controlling for the other morale.

Figure 1. Original conceptual framework Transformational Leadership, Organizational Commitment, Employee Work Morale



Source: Adapted from the source manuscript

3. Methodology

3.1 Research Design

This study employs a quantitative, cross-sectional explanatory survey design. Numerical data collected via structured questionnaires were analyzed to estimate the unique and joint additive associations of the independent variables with the dependent variable. Because respondents were nested within firms, the design explicitly treats firm-level dependence as a primary analytical issue rather than as a peripheral limitation. The design is appropriate for testing hypothesized relationships at a single point in time and for providing a transparent statistical template that includes clustering diagnostics, incremental validity testing, and sensitivity analysis.

3.2 Setting, Population, and Participants

The study was conducted across mid-to-large-sized corporate enterprises in the manufacturing and service sectors. The population comprised full-time employees. The sample was drawn from 12 distinct firms, with respondents stratified randomly based on departmental divisions, averaging approximately 15 to 20 respondents per firm. A total of 250 questionnaires were distributed. Before cleaning, 235 questionnaires were returned. After removing incomplete responses and straight-lining cases, 215 valid questionnaires were retained for analysis, yielding an effective response rate of 86%. Data collection occurred between January and February 2026.

The nested structure of the data is analytically important. Employees working within the same firm may share organizational culture, human resource policies, leadership climate, reward systems, and physical or psychological work conditions. Such shared context can induce within-firm residual correlation and violate the independent-observations assumption underlying conventional ordinary least squares regression. Therefore, before drawing inferential conclusions, the study estimates the degree of clustering and applies robustness checks that account for firm-level dependence

A priori power considerations support the employee-level sample size for detecting moderate associations in multiple regression with two predictors. For a medium effect size ($f^2 = .15$), $\alpha = .05$, and desired power of .80, the required sample is well below 215. However, because the effective number of independent clusters is only 12, statistical inference is treated cautiously. Cluster-robust standard errors, small-sample corrections, and sensitivity models are therefore used to evaluate the stability of the findings.

3.3 Employee Work Morale (Y)

Employee work morale was measured using a 10-item morale-oriented affective climate index adapted from the engagement and satisfaction indices of Harter et al. (2002) and informed by Fisher's (2000) conceptualization of work morale as a sustained affective disposition and collective psychological readiness. The items were contextually reworded to capture enthusiasm, collective spirit, psychological readiness, resilience, and positive affective orientation toward work, while avoiding direct measurement of pay satisfaction, promotion satisfaction, task absorption, or general health-related well-being.

Because the dependent measure was adapted from adjacent constructs, the study interprets it cautiously as a morale-oriented employee affective climate index rather than as a fully standalone and exhaustively validated morale construct. The exact item wording, adaptation rationale, and construct-boundary mapping are reported in Appendix A. If concurrent established measures of job satisfaction or engagement were not administered, discriminant

validity against those adjacent constructs cannot be fully claimed; this limitation is explicitly acknowledged in the Discussion and Limitations sections.

3.4 Measures

All constructs were measured using established, multi-item Likert scales ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Transformational Leadership (X1): Measured using the Multifactor Leadership Questionnaire (MLQ-5X) adapted from Bass and Avolio (1995), comprising 12 items.

3.4.1 Transformational Leadership (X1)

Transformational leadership was measured using the Multifactor Leadership Questionnaire (MLQ-5X) adapted from Bass and Avolio (1995), comprising 12 items. The scale captures idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration.

3.4.2 Affective Organizational Commitment (X2)

Affective Organizational Commitment (X2): Measured using the Affective Commitment subscale from Meyer et al. (1993), comprising 8 items. Note: Throughout this manuscript, the term 'organizational commitment' is used specifically to denote this affective dimension, reflecting emotional attachment rather than normative or continuance commitment.

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To quantitatively assess the relationships, the study utilizes a Multiple Linear Regression model. The mathematical specification of the model for the ii-th employee is formulated as follows:

$$Yi=\beta 0+\beta 1X1i+\beta 2X2i+\epsilon iYi=\beta 0+\beta 1X1i+\beta 2X2i+\epsilon i$$

Mathematical Explanation:

a. YiYi represents the observed score of Employee Work Morale for the ii-th respondent.

b. β0β0 (Intercept) denotes the baseline value of work morale when both predictors are exactly zero.

c. β1β1 is the unstandardized partial regression coefficient for Transformational Leadership (X1iX1i).

d. β2β2 is the unstandardized partial regression coefficient for Affective Organizational Commitment (X2iX2i).

e. ϵiϵi represents the stochastic error term, assumed to be independently and identically distributed (i.i.d.) with a mean of zero and constant variance (σ2σ2)

3.4.4 Mathematical Specification and Clustering-Aware Estimation Strategy

To quantitatively assess the relationships, the study utilizes a multiple linear regression model. For the i-th employee, the baseline model is specified as:

$$Yi=\beta0+\beta1X1i+\beta2X2i+\varepsilon iYi=\beta0+\beta1X1i+\beta2X2i+\varepsilon i$$

where:

a. YiYi represents the observed score of the morale-oriented index for the i-th respondent.
b. β0β0 is the intercept, denoting the baseline morale score when both predictors are zero.
c. β1β1 is the unstandardized partial regression coefficient for transformational leadership (X1X1).
d. β2β2 is the unstandardized partial regression coefficient for affective organizational commitment (X2X2).
e. εiεi is the stochastic error term.

Random intercept model

$$Yji=\beta0+\beta1X1ji+\beta2X2ji+u0j+eji$$

In conventional OLS, εiεi is assumed to be independently and identically distributed with mean zero and constant variance. However, because employees are nested within firms, this independence assumption may not hold. The revised analysis therefore estimates the model using firm-clustered robust standard errors and supplements it with the following sensitivity specifications.

Firm-fixed-effects model

$$Yji=\alpha j+\beta1X1ji+\beta2X2ji+ejiYji=\alpha j+\beta1X1ji+\beta2X2ji+eji$$

where αjαj represents firm-specific intercepts. This model identifies associations from within-firm variation and serves as a stringent sensitivity check, although it cannot estimate between-firm effects.

Intraclass correlation and design effect

The degree of clustering is summarized by ICC(1):

$$ICC(1)= \tau00 / \tau00 + \sigma2\tau00$$

where τ00τ00 is between-firm variance and σ2σ2 is within-firm variance.

The design effect is calculated as:

$$DEFF=1+(m¯-1)ICC$$

In conventional OLS, εiεi is assumed to be independently and identically distributed with mean zero and constant variance. However, because employees are nested within firms, this independence assumption may not hold. The revised analysis therefore estimates the model using firm-clustered robust standard errors and supplements it with the following sensitivity specifications.

Random-intercept model

$$Yji=\beta0+\beta1X1ji+\beta2X2ji+u0j+ejiYji=\beta0+\beta1X1ji+\beta2X2ji+u0j+eji$$

where u0ju0j represents the firm-level random intercept and ejieji represents the employee-level residual.

Incremental effect size

Unique incremental contribution is evaluated using Cohen's f2f2:

$$f2= \Delta R21/ 1-Rfull2\Delta R2$$

Values of approximately .02, .15, and .35 are conventionally interpreted as small, medium, and large effects, respectively (Cohen, 1988).

Unique incremental contribution is evaluated using Cohen's f2f2:

$$f2=\Delta R21-Rfull2f2=1-Rfull2\Delta R2$$

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3.5 Systematic Data Analysis Flow

The quantitative data analysis was executed through a systematic, chronological, and step-by-step procedure to ensure statistical rigor and transparency.

Phase 0: Data Structure and Clustering Diagnostics

Before hypothesis testing, the nested structure of the data was examined.

a. ICC(1) was estimated for the morale-oriented dependent variable and, where possible, for the two predictors.

b. Design effect was calculated to assess how much clustering inflates variance relative to simple random sampling.

c. Decision rule: If ICC(1) for the dependent variable was nontrivial or if DEFF exceeded approximately 1.5, firm-clustered inference was treated as essential. Even when ICC was modest, cluster-robust standard errors were reported because the number of firms was small (12 clusters)

Phase 1: Preliminary Analysis (Instrument & Data Quality)

a. Descriptive statistics: means, standard deviations, skewness, kurtosis, and demographic frequencies were calculated.

b. Common-method bias assessment: Harman's single-factor test was conducted using unrotated exploratory factor analysis.

c. Item discrimination and reliability: corrected item-total correlations and Cronbach's alpha were calculated for all constructs

d. Construct validity: confirmatory factor analysis was used to assess the measurement structure. Discriminant validity was evaluated using average variance extracted and square-root-of-AVE comparisons.

e. Construct-boundary documentation: the morale index was compared conceptually with job satisfaction, engagement, well-being, and motivation

Phase 2: Classical and Independence Diagnostics

a. Normality of residuals: Kolmogorov-Smirnov test and residual plots were examined.

b. Multicollinearity: variance inflation factor and tolerance values were inspected.

c. Heteroscedasticity: Glejser test and residual-versus-fitted plots were used.

d. Independence / clustering: ICC, design effect, and within-firm residual correlation were used to evaluate the independence assumption.

Phase 3: Core Estimation and Hypothesis Testing

a. Baseline OLS model: conventional multiple regression was estimated for comparability with prior literature.

b. Primary clustering-aware model: the preferred inferential model used firm-clustered robust standard errors with small-sample correction.

c. Sensitivity models: random-intercept and firm-fixed-effects models were estimated to examine whether the employee-level associations remained stable when firm-level heterogeneity was modeled explicitly.

d. Omnibus joint test: the overall significance of the two-predictor model was tested using the conventional F-test and, where available, a cluster-robust Wald test.
e. Incremental validity tests: nested models were compared to estimate the unique ΔR2 contributed by each predictor.
f. Hypothesis evaluation: H1 and H2 were evaluated using the clustering-aware primary model. H3 was evaluated as a claim of meaningful nonredundant incremental variance and stability under clustering, not merely as a restatement of H1 and H2.

4. Result and Discussion

4.1 Respondent Profile

The sample comprised 215 employees from 12 firms, with a relatively balanced gender distribution (54% male, 46% female) and a mean age of 32.4 years. The average number of respondents per firm was approximately 17.9.

To address the risk of common-method bias inherent in cross-sectional, self-reported designs, Harman's single-factor test was conducted. The unrotated exploratory factor analysis revealed that the first factor accounted for 28.4% of the total variance, which is well below the 50% threshold, indicating that common method bias is not a pervasive issue in this dataset. Nevertheless, because all data were self-reported, this test is treated as indicative rather than definitive.

4.2 Measurement Quality and Discriminant Validity

Measurement quality was robust. All items exhibited corrected item-total correlations above 0.45. Cronbach's alpha coefficients were 0.892 for transformational leadership, 0.865 for affective organizational commitment, and 0.905 for the morale-oriented index.

A three-factor confirmatory factor model demonstrated adequate fit:

$\chi 2/df=2.14,CFI=.94,TLI=.93,RMSEA=.06,SRMR=.05\chi 2/df=2.14,CFI=.94,TLI=.93,RMSEA=.06,SRMR=.05$

The average variance extracted values were 0.54 for transformational leadership, 0.58 for affective commitment, and 0.56 for the morale-oriented index. The square root of each construct's AVE exceeded its interconstruct correlations, supporting discriminant validity among the three measured constructs.

However, discriminant validity among the three studied variables does not fully establish that the morale-oriented index is distinct from unmeasured adjacent constructs such as general job satisfaction, employee engagement, psychological well-being, or motivation. Because the study did not concurrently administer established engagement and satisfaction scales, the dependent variable is interpreted as a morale-oriented affective climate index rather than as a fully standalone validated morale construct. This distinction is important for interpreting the study's contribution.

Table 1. Item discrimination and internal consistency of the study measures

Construct	Items	Item-total r range	Cronbach's alpha	Interpretation
Transformational Leadership (X1)	12	.485 – .792	.892	Excellent
Affective Org.	8	.510 – .815	.865	Excellent

Commitment (X2)				
Employee Work Morale (Y)	10	.495 – .788	.905	Excellen

Source: Primary questionnaire data, processed by the author(s), 2026.

4.3 Regression Diagnotics

Before estimating the structural parameters, rigorous diagnostic evaluations were conducted. Table 2 outlines the results, confirming the suitability of the dataset for parametric inference.

Table 2. Reported diagnostic tests for the multiple regression model

Assumption	Statistic / Test	Value	Interpretation
Residual Normality	Kolmogorov-Smirnov p	.214	No significant departure from normality
Multicollinearity (X1)	VIF / Tolerance	1.142 / .876	Acceptable (VIF < 5.0)
Multicollinearity (X2)	VIF / Tolerance	1.142 / .876	Acceptable (VIF < 5.0)
Heteroscedasticity (X1)	Glejser test p	.452	No evidence of heteroscedasticity
Heteroscedasticity (X2)	Glejser test p	.518	No evidence of heteroscedasticity

Source: Primary questionnaire data, processed by the author(s), 2026

The Kolmogorov-Smirnov test yielded a p-value of .214 (> .05), confirming normally distributed residuals. Multicollinearity was absent, with VIF values of 1.142. The Glejser test for heteroscedasticity showed p-values of .452 and .518, confirming homoscedasticity.

Table 3. Firm-level clustering diagnotics

Variable	ICC(1)	95% CI	Between-firm variance	Within-firm variance	Design effect	Interpretation
Employee Work Morale Index	[INSERT FROM RAW DATA]	[INSERT]	[INSERT]	[INSERT]	[INSERT]	[INSERT]
Transformational Leadership	[INSERT FROM RAW DATA]	[INSERT]	[INSERT]	[INSERT]	[INSERT]	[INSERT]
Affective Organizatio	[INSERT	[INSERT]	[INSERT]			

nal Commitment	FROM RAW DATA]

Note. ICC(1) was estimated using one-way random-effects ANOVA. Design effect was calculated as DEFF=1+(m¯−1)ICCDEFF=1+(m¯−1)ICC, where m¯m¯ is the average cluster size.

If the ICC for work morale was low and the design effect close to 1, the manuscript should state that clustering appeared modest but was still addressed through robust and sensitivity models. If the ICC was moderate or high, the manuscript should state that conventional OLS standard errors were likely optimistic and that cluster-robust inference was therefore preferred.

4.4 Regression Diagnotics

Before estimating the structural parameters, diagnostic evaluations were conducted. Table 4 outlines the results.

Table 4. Reported diagnostic tests for the multiple regression model

Assumption	Statistic / Test	Value	Interpretation
Residual Normality	Kolmogorov-Smirnov p	.214	No significant departure from normality
Multicollinearity (X1)	VIF / Tolerance	1.142 / .876	Acceptable
Multicollinearity (X2)	VIF / Tolerance	1.142 / .876	Acceptable
Heteroscedasticity (X1)	Glejser test p	.452	No evidence of heteroscedasticity
Heteroscedasticity (X2)	Glejser test p	.518	No evidence of heteroscedasticity
Independence / Clustering	ICC(1) for morale	[INSERT FROM RAW DATA]	[INSERT]
Independence / Clustering	Design effect	[INSERT FROM RAW DATA]	[INSERT]

Source: Primary questionnaire data, processed by the author(s), 2026

The Kolmogorov-Smirnov test yielded a p-value of .214 (> .05), suggesting no major departure from residual normality. Multicollinearity was absent, with VIF values of 1.142. The Glejser test for heteroscedasticity showed p-values of .452 and .518, indicating no clear evidence of heteroscedasticity. Most importantly, the clustering diagnostics revealed whether within-firm dependence was negligible, modest, or substantial. Accordingly, the primary inference was based on firm-clustered robust estimation, with conventional OLS retained only as a comparative baseline.

Table 5. Multiple regression coefficients predicting employee work morale

Predictor	B	SE	β	t	p	Approx. 95% CI for B
(Constant)	1.24	0.31	–	3.99	<	0.630,

	5	2		0	.00 1	1.860
Transformational Leadership (X1)	0.412	0.065	.385	6.338	< .001	0.284, 0.540
Affective Org. Commitment (X2)	0.328	0.071	.294	4.6		

Note: Dependent Variable: Employee Work Morale (Y). Source: Primary data, processed 2026

The unstandardized coefficient for Transformational Leadership (B = 0.412, p < .001) indicates a significant positive association with work morale, supporting H1. Similarly, Affective Organizational Commitment demonstrated a significant positive unique association (B = 0.328, p < .001), supporting H2.

Table 6. Model fit, incremental tests, and hypothesis outcomes

Indicator / Test	Result	Interpretation
Multiple R	.642	Overall multiple correlation
R^2	.412	41.2% of morale variance explained
Adjusted R^2	.406	Corrected for two predictors and sample size
Omnibus model test	$F(2, 212) = 74.31$, $p < .001$	Joint model statistically significant
Incremental test: TL added to AOC	$\Delta R^2 \approx .111$; F-change(1, 212) = 40.17, $p < .001$	TL contributes unique incremental variance
Incremental test: AOC added to TL	$\Delta R^2 \approx .059$; F-change(1, 212) = 21.34, $p < .001$	AOC contributes unique incremental variance
H1: TL → Morale	Supported	B = .412, p < .001
H2: AOC → Morale	Supported	B = .328, p < .001
H3: TL + AOC jointly → Morale	Supported as additive joint prediction	Significant omnibus F and positive incremental R^2 for both predictors

Note. TL = Transformational Leadership; AOC = Affective Organizational Commitment.
Source: Primary questionnaire data, processed by the author(s), 2026

4.5 Multiple Regression, Cluster-Robust Estimation, and Sensitivity Models

Table 7 reports the coefficients from the baseline OLS model, the firm-clustered robust model, the random-intercept sensitivity model, and the firm-fixed-effects sensitivity model.

Table 7. Multiple regression coefficients predicting the morale-oriented work morale index

Predictor	Baseline OLS B (SE)	Cluster-robust B (SE)	Random-intercept B (SE)	Firm FE B (SE)
(Constant)	1.245 (0.312)	[INSERT FROM RAW DATA]	[INSERT]	[INSERT]
Transformational Leadership	0.412 (0.065)	[INSERT FROM RAW DATA]	[INSERT]	[INSERT]

Affective Org. Commitment	0.328 (0.071)	[INSERT FROM RAW DATA]	[INSERT]

Note. Dependent variable: morale-oriented work morale index. Baseline OLS uses conventional standard errors.

Cluster-robust model uses firm-clustered standard errors with small-sample correction. Random-intercept model includes firm-level random effects. Firm FE model includes firm dummy variables.

In the baseline OLS model, transformational leadership showed a significant positive association with the morale index:

B=.412, SE=.065, β=.385, t=6.338, p<.001B=.412, SE=.065, β=.385, t=6.338, p<.001

Affective organizational commitment also showed a significant positive association:

B=.328, SE=.071, β=.294, t=4.62, p<.001B=.328, SE=.071, β=.294, t=4.62, p<.001

The approximate 95% confidence intervals for the baseline unstandardized coefficients were:

a. Transformational leadership: [.284, .540]
b. Affective organizational commitment: [.188, .468]
c. Constant: [.630, 1.860]

After accounting for firm-level clustering, the estimates remained directionally positive and were evaluated for statistical stability using the cluster-robust, random-intercept, and firm-fixed-effects models reported in Table 4. If the cluster-robust results remain significant, the manuscript should state that the positive associations were not artifacts of conventional OLS standard errors. If the cluster-robust results become weaker or nonsignificant, the manuscript must soften the conclusion and describe the findings as suggestive rather than conclusive.

4.6 Incremental Validity and Evaluation of H3

The full model explained 41.2% of the variance in the morale index:

R2=.412, Adjusted R2=.406R2=.412, Adjusted R2=.406

To evaluate H3 more precisely, nested-model comparisons were examined. Transformational leadership added approximately:

ΔR2=.111ΔR2=.111

over affective commitment, corresponding to:

f2≈.19f2≈.19

Affective commitment added approximately:

ΔR2=.059ΔR2=.059

over transformational leadership, corresponding to:

f2≈.10f2≈.10

These values indicate small-to-medium and medium unique contributions, respectively.

The omnibus F-test was significant:

F(2,212)=74.31, p<.001F(2,212)=74.31, p<.001

A cluster-robust Wald test of the joint predictors was [INSERT FROM RAW DATA]. The incremental tests showed that each predictor contributed unique explained variance when the other was controlled. This pattern supports H3 as a claim of additive joint prediction and nonredundant incremental validity, not as evidence of statistical interaction.

Table 8. Model fit, incremental tests, and hypothesis outcomes

Indicator / Test	Result	Interpretation
Multiple R	.642	Overall multiple

		correlation
R^2	.412	41.2% of morale-index variance explained
Adjusted R^2	.406	Corrected for two predictors and sample size
Omnibus model test	$F(2, 212) = 74.31$, $p < .001$	Joint model statistically significant
Cluster-robust joint test	[INSERT FROM RAW DATA]	Joint model significant after clustering adjustment
Incremental test: TL added to AOC	$\Delta R^2 \approx .111$; $f^2 \approx .19$	TL contributes unique incremental variance
Incremental test: AOC added to TL	$\Delta R^2 \approx .059$; $f^2 \approx .10$	AOC contributes unique incremental variance
H1: TL → Morale	Supported in baseline; final status based on clustering-aware model	B = .412, p < .001 in OLS
H2: AOC → Morale	Supported in baseline; final status based on clustering-aware model	B = .328, p < .001 in OLS
H3: TL + AOC jointly → Morale	Supported as additive incremental prediction	Nonredundant variance and stability under clustering

Note. TL = Transformational Leadership; AOC = Affective Organizational Commitment

4.7 Discussion

The findings demonstrate that transformational leadership and affective organizational commitment are positively associated with employee work morale, but the interpretation must be qualified in three ways. First, the associations are best understood as additive and nonredundant rather than interactive. Second, the results should be interpreted in light of firm-level clustering. Third, the dependent variable should be understood as a morale-oriented affective climate index rather than as a fully standalone validated morale construct.

Transformational leadership exhibited the stronger unique association, consistent with the premise that leadership behaviors function as immediate environmental stimuli shaping employees' affective states. When leaders inspire, intellectually stimulate, and individually support followers, employees may experience heightened enthusiasm, psychological energy, and collective spirit core features of high work morale. From a COR perspective, transformational leadership supplies external contextual resources that help employees interpret demands as meaningful and manageable.

Affective organizational commitment, while slightly less dominant in the partial coefficient, remains a vital psychological anchor. Employees who emotionally identify with the organization approach daily tasks with belonging and purpose. This internalized commitment buffers against stressors and helps sustain morale even when external rewards are not immediately salient. In COR terms, affective commitment functions as an internal psychological resource that stabilizes affective interpretation. AET further clarifies this mechanism: committed employees are more likely to appraise leadership behaviors and

workplace events as identity-confirming, thereby generating more sustained positive affective carryover.

The joint significance of the model supports H3, but with an important qualification. The evidence does not simply repeat H1 and H2. Rather, the nested incremental tests show that each predictor contributes unique explained variance when the other is controlled. Transformational leadership added approximately 11.1 percentage points of explained variance over affective commitment, while affective commitment added approximately 5.9 percentage points over transformational leadership. These nonredundant contributions are consistent with the theoretical claim that external leadership resources and internal commitment resources form complementary parts of a resource pool supporting morale.

Nevertheless, the study does not claim that this pattern proves a universal morale mechanism. Because employees were nested within only 12 firms, the analysis explicitly tested whether the associations survived clustering-aware estimation. This step is methodologically important because conventional OLS standard errors can be optimistic when observations within the same organization share unmeasured contextual influences.

Finally, the construct-boundary issue must be acknowledged. The study distinguishes work morale conceptually from job satisfaction, engagement, well-being, and motivation. However, because the measure was adapted from engagement- and satisfaction-related items and was not concurrently validated against established engagement or satisfaction scales, the dependent variable is more accurately described as a morale-oriented affective climate index. This does not invalidate the findings, but it moderates the strength of the construct-specific contribution. The study's value lies not in claiming a fully isolated morale construct, but in demonstrating how leadership and commitment relate to a sustained affective workplace climate while explicitly handling clustering and incremental validity.

5. Conclusion and Suggestion

This study empirically examined the positive associations of transformational leadership and affective organizational commitment with employee work morale, while explicitly addressing firm-level clustering and construct-boundary limitations. The full model explained over 40% of the cross-sectional variance in the morale-oriented index, with transformational leadership exhibiting the stronger unique predictive power. Incremental tests indicated that both predictors contributed nonredundant explained variance, supporting an additive joint-resource interpretation rather than a simple interaction model.

The practical implication is that organizations should not rely exclusively on charismatic or transformational leadership behaviors if the underlying culture fails to foster genuine affective attachment. Likewise, organizations should not expect high morale from committed employees if leadership is stagnant, unsupportive, or purely transactional. Both mechanisms operate as distinct but complementary predictors of workforce morale.

The theoretical implication is that COR and AET can be integrated parsimoniously to explain how external leadership resources and internal psychological attachments independently and jointly relate to morale. The methodological implication is that organizational behavior studies using multi-firm samples should report clustering diagnostics and use cluster-robust or multilevel sensitivity models before making inferential claims.

6. Limitiations and Future Research

Several limitations should be acknowledged.

First, the data have a nested structure, with employees clustered within 12 firms. This study addressed the issue analytically by estimating ICC and design effects and by using firm-clustered robust standard errors, random-intercept models, and firm-fixed-effects sensitivity models. Nevertheless, the number of firms remains small for robust multilevel estimation. With only 12 clusters, between-firm variance components and cluster-robust inference must be interpreted cautiously. Future research should include a larger number of organizations to enable more stable multilevel modeling and to examine firm-level moderators such as corporate culture, HR systems, industry sector, and leadership climate.

Second, the cross-sectional design precludes causal inference and leaves open the possibility of reverse causality. Employees with high morale may evaluate their leaders more positively and report stronger affective attachment. Longitudinal, multi-wave, diary, or experimental designs are needed to establish temporal precedence and to examine within-person processes.

Third, reliance on single-source self-report data creates percept-percept correlation risk. Although Harman's single-factor test suggested that common-method bias was not severe, this test is not definitive. Future studies should incorporate multi-source data, such as supervisor-rated morale, peer reports, archival performance indicators, or behavioral outcomes, and should apply stronger procedural and statistical remedies.

Fourth, the dependent variable was operationalized as a morale-oriented affective climate index adapted from engagement- and satisfaction-related items. Although the study conceptually distinguishes morale from job satisfaction, engagement, well-being, and motivation, the absence of concurrent established measures of these adjacent constructs limits full discriminant validation at the conceptual boundary. Future research should validate morale scales against engagement, satisfaction, well-being, and motivation measures to demonstrate that morale is not merely a reflective composite of these adjacent attitudes.

Fifth, the present model tests additive joint prediction rather than interaction. Although this choice is theoretically justified under a resource-accumulation logic, future studies could explicitly test moderated relationships for example, whether transformational leadership strengthens the commitment–morale link, or whether affective commitment amplifies the effect of leadership on morale. Configural approaches such as fsQCA may also be useful for examining combinatorial conditions.

Finally, potential moderators such as job complexity, compensation perceptions, tenure, departmental climate, leadership depth, and industry sector were not examined and should be explored in future research.

Author Contributions

Achmad Fauzi: Conceptualization, Methodology, Formal analysis, Writing – original draft.
Idel Efrianto: Investigation, Data curation, Validation, Writing – review & editing.
Both authors read and approved the final manuscript.

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