

The impact of transformational leadership on employee performance: The mediating role of job satisfaction and organizational commitment

Fahad Aldossari¹,  Salem Alanizan^{2*}

^{1,2}College of Administration and Finance, Business Administration Department, Saudi Electronic University, Saudi Arabia; s.alanizan@outlook.com (S.A.).

Abstract: Leadership style plays a critical role in shaping employee behavior, motivation, and productivity. Transformational leadership, characterized by idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, has been increasingly recognized for its capacity to foster positive workplace outcomes. The primary objective of this study was to examine the relationship between transformational leadership and employee performance and to investigate the extent to which job satisfaction and organizational commitment mediate this relationship. The study employed a quantitative research design, utilizing a structured questionnaire that was distributed to 259 respondents across various job roles and industries. The results revealed that transformational leadership has a strong, positive impact on employee performance. Job satisfaction and organizational commitment were found to significantly mediate this relationship. The findings highlight the importance of adopting transformational leadership behaviors to improve employee satisfaction, commitment, and performance. This study contributes to the leadership and organizational behavior literature by providing empirical evidence of the dual mediating roles of job satisfaction and organizational commitment in the relationship between transformational leadership and employee performance. However, the study is limited by its cross-sectional design and reliance on self-reported data, which may affect causality and introduce bias. Therefore, future research should employ longitudinal or multi-source data collection methods and explore additional mediators such as employee engagement or psychological empowerment.

Keywords: Employee performance, Job satisfaction, Organizational commitment, Transformational leadership.

1. Introduction

Leadership is a pivotal factor influencing employees' corporate success and personnel effectiveness. In the competitive business landscape, firms continually pursue diverse techniques to enhance employee productivity and overall performance. In particular, transformational leadership (TL) has garnered considerable attention among leadership styles for its capacity to inspire, motivate, and facilitate organizational change. TL is defined by leaders' ability to formulate a vision, promote innovation, and motivate staff to surpass their performance goals [1]. This leadership style is well known for its beneficial effects.

In this context, employee performance is a vital element that influences the success and sustainability of an organization [2]. Employee performance is influenced by multiple factors, including leadership style, job satisfaction (JS), and organizational commitment (OC). TL is crucial in molding employees' attitudes and habits, which, in turn, affects their performance levels. Leaders who adopt TL approaches typically cultivate a friendly workplace, inspire a sense of purpose in their employees, and promote ongoing learning and development [3].

Notably, JS and OC are critical mediating variables that connect TL to employee success. Employees who are content with their positions typically demonstrate elevated levels of motivation,

engagement, and productivity while performing their responsibilities [4]. OC denotes the degree to which employees align with the organization's objectives and values, thereby influencing their readiness to contribute to its success. When employees feel valued, supported, and appreciated by their leaders, they are more likely to experience JS and OC, resulting in enhanced performance [5].

TL emphasizes encouraging and motivating individuals to achieve elevated performance by cultivating a culture characterized by innovation, trust, and continuous professional development [6]. Employees exhibiting OC are more likely to demonstrate superior job performance, enhanced discretionary effort, and a readiness to exceed their job specifications. Employee performance and organizational success are heavily dependent on effective leadership. TL is one of the most effective leadership styles, as it inspires, motivates, and engages employees [6]. This leadership style, initially presented by Burns [7] and subsequently refined by Bass [8] is defined by the following four principal dimensions:

- Idealized influence (Charisma): Leaders model ethical behavior and communicate a clear, inspirational vision, earning employees' respect and loyalty.
- Inspirational motivation: These leaders convey a persuasive vision and establish elevated standards, motivating employees to strive for shared goals. By cultivating excitement and optimism, they establish an inspiring work environment [9].
- Intellectual stimulation: Transformational leaders encourage employees to engage in creative thinking, challenge assumptions, and devise innovative solutions. They foster problem-solving and autonomous thinking, facilitating ongoing learning and adaptability.
- Individualized consideration: These leaders provide tailored support and mentorship, recognizing employees' unique needs and facilitating their potential growth and development. This cultivates a sense of belonging and recognition, thereby enhancing employees' JS and dedication to their jobs [9].

A multitude of factors influence JS, including, but not limited to, a conducive, inclusive, and inspiring work environment that enhances it. Employees who perceive psychological safety and respect from their bosses are more likely to derive satisfaction from their work. Several key factors contribute to and enhance JS, including the following:

- Leadership support: Employees who receive mentorship, acknowledgment, and career advancement opportunities from their leaders exhibit enhanced JS. Transformational leaders provide personalized attention, tailoring their approach to meet employees' needs and ambitions [10].
- Significant employment: When employees perceive the significance and impact of their work, their satisfaction increases. Transformational leaders empower employees to recognize the wider significance of their contributions, thereby augmenting their sense of fulfillment.
- Growth opportunities: Employees appreciate career growth prospects, initiatives to update their skills, and well-defined promotion trajectories.

This study focuses on organizational effectiveness, which extends beyond personnel performance. Workplaces that value TL can motivate, satisfy, and retain personnel. Furthermore, leadership development programs and a culture of continual learning and growth can boost staff performance and long-term success. Understanding the mediation function of JS and OC can help firms target initiatives to boost employee engagement and prevent turnover. Leaders may motivate, commit, and align employees with business goals by fostering a favorable workplace culture, recognizing contributions, and offering career growth opportunities [11]. Therefore, the conclusions derived from this study will help firms improve leadership and employee performance.

2. Literature Review

The examination of the concept of leadership and its influence on employee performance has been a crucial focus in organizational behavior and management research for decades. Leadership is crucial in determining an organization's dynamics and influencing employees' attitudes, motivation, and overall effectiveness. TL has garnered considerable attention among leadership styles for its capacity to inspire, empower, and cultivate a high-performance culture inside businesses [1].

In contrast to transactional leadership, which relies on exchanges and rewards, TL cultivates intrinsic motivation, inventiveness, and dedication, thereby positively influencing employee behavior and performance. The correlation between TL and employee performance is not consistently direct and is frequently influenced by psychological and organizational variables [3].

Specifically, JS is a significant psychological condition that measures an employee's satisfaction with their work, duties, and leadership [4]. It is affected by factors such as recognition, autonomy, work-life balance, and relationships. Transformational leaders promote trust, empowerment, and growth, which, in turn, boosts JS. They inspire employees to take charge, acquire new skills, and contribute to the company's success. Employees' fulfillment, in turn, boosts their JS, engagement, and performance.

This section initiates the discussion by examining TL, its theoretical underpinnings, and its unique attributes in comparison to other leadership styles [12]. The subsequent section analyzes employee performance, including its definition, measuring methodologies, and the key factors that influence it in corporate contexts. The literature study incorporates empirical evidence that substantiates the relationship between leadership, engagement, and performance, providing valuable insights into the complex nature of leadership influence. TL: Concept and Theoretical Foundations

2.1. Concept of TL

TL is a leadership style that prioritizes the capacity of leaders to inspire, influence, and intellectually engage their workers to surpass organizational objectives. The concept was initially presented by James MacGregor Burns, who distinguished between transactional leadership and TL. Transactional leaders prioritize order through a framework of incentives and penalties, whereas transformational leaders transcend basic transactions to connect with their employees on a more profound, human level [13]. This leadership style fosters inner motivation, dedication, and a shared sense of purpose within an organization. In Bass [8] further developed Burns' approach by formulating the TL theory, which delineates the essential traits that differentiate transformational leaders from transactional leaders.

2.2. Theoretical Underpinnings of TL

The theoretical foundation of TL is rooted in Bass [8] TL theory, which delineates the following four key components that define transformational leaders: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. These four elements are essential for comprehending the functioning of TL within an organizational framework and its influence on employee behavior.

Idealized influence refers to a leader's ability to serve as a role model for employees, demonstrating ethical and visionary leadership that fosters trust and appreciation [9]. Employees admire transformative leaders who exhibit elevated moral and professional standards, fostering respect and loyalty throughout their teams. Inspirational motivation is intricately linked to idealized influence, as it encompasses a leader's ability to articulate a clear, ambitious, and compelling vision that resonates with their employees.

2.3. TL and Employee Performance

The association between TL and employee performance has been thoroughly examined, with empirical evidence consistently demonstrating a positive correlation between them. TL cultivates a supportive workplace in which individuals feel empowered, esteemed, and inspired to exceed their designated job responsibilities

[6]. Transformational leaders inspire and challenge their colleagues, fostering an environment that promotes creativity, problem-solving, and innovation—essential elements that boost job performance.

The research conducted by Devi [14] provided substantial evidence of the beneficial effects of TL on employee performance. Their meta-analysis of leadership research indicated that TL correlates with increased staff productivity, enhanced discretionary effort, and superior job outcomes [14].

2.4. TL and OC

OC denotes the psychological bond individuals form with their organizations, which, in turn, influences their propensity to stay with the company and contribute to its sustained success [15]. TL is essential in enhancing this commitment by cultivating a supportive and engaging workplace culture. Studies have shown that employees under TL tend to display elevated levels of affective commitment, indicating a profound emotional attachment to the firms. The three-component model of OC delineates the following three dimensions of commitment: affective commitment, continuation commitment, and normative commitment [3].

2.5. Challenges and Critiques of TL

Although TL offers numerous benefits, it is not without its obstacles. One critique of TL is that it may foster an overreliance on a leader. Employees who are overly dependent on a transformative leader's vision and direction may face difficulties with autonomy and independent decision-making [16]. Moreover, the elevated expectations established by transformative leaders may occasionally contribute to employee burnout, as individuals may feel compelled to consistently perform at outstanding levels. Herein, another significant challenge relates to the ethical implications of TL.

2.6. Employee Performance: Definition, Measurement, and Influencing Factors

Employee performance is a fundamental notion in organizational behavior and human resource (HR) management, indicating the degree to which employees effectively execute their job obligations and contribute to an organization's success [17]. It is frequently characterized as the efficiency and quality with which employees perform their assigned tasks. Employee performance not only encompasses task completion but also initiative, invention, teamwork, and adaptability, all of which are essential for organizational success.

2.7. Evaluation of Employee Performance

Evaluating employee performance is crucial for firms to recognize outstanding achievers, deliver constructive feedback, and implement strategic workforce planning. Diverse performance measurement methodologies have evolved, each with its distinct advantages and drawbacks [18]. One such prevalent framework is Campbell's Performance Model, which categorizes performance into the following distinct components: job-specific task competence, non-job-specific task proficiency, communication proficiency, and adaptability [19].

2.8. Determinants of Employee Performance

Various factors, including personal attributes, organizational elements, leadership styles, employee motivation, and work environment conditions, influence employee performance. An in-depth understanding of these characteristics is crucial for firms to formulate policies and initiatives that enhance employee productivity and JS [20].

2.9. JS as a Mediator Between Leadership and Performance

2.9.1. Comprehending JS in the Workplace

JS is a crucial psychological condition that represents an employee's comprehensive assessment of their work experience. It encompasses multiple aspects, including emotional, cognitive, and behavioral elements, that influence an employee's attitude toward their employment [21]. Scholars have

extensively examined JS as a pivotal factor influencing employee welfare, productivity, and organizational success. For instance, Locke characterized JS as a favorable emotional condition arising from the evaluation of one's employment and work experience [22].

2.9.2. Leadership and JS

Leadership is a crucial factor that significantly influences JS, shaping employees' workplace experiences. Various leadership styles, behaviors, and attitudes have a profound influence on employees' perceptions of their work, peers, and company culture [5]. TL has been consistently associated with elevated JS owing to its focus on idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Transformational leaders enhance JS by fostering a sense of purpose, promoting personal development, and empowering individuals. These leaders motivate their subordinates by proactively setting high standards, offering constructive feedback, and encouraging creativity.

2.9.3. JS as a Mediator Between Leadership and Performance

The mediating role of JS in the relationship between leadership and performance has been thoroughly examined in organizational behavior research. Leadership has a direct impact on JS, which, in turn, affects employee performance, establishing JS as a crucial link in this relationship [23]. Employees with elevated JS are more likely to exhibit higher engagement, productivity, and commitment to their employers, leading to enhanced overall performance. Job satisfaction primarily mediates this association by enhancing motivation and discretionary effort [24].

2.9.4. Organizational Consequences of JS as a Mediator

Identifying JS as an intermediary between leadership and performance has significant practical implications for businesses. Organizations must prioritize investment in leadership development programs that focus on TL principles. This is because educating managers to motivate, support, and intellectually engage their team members can enhance JS, leading to improved performance levels [25]. Leadership training should emphasize communication proficiency, emotional intelligence, and employee engagement strategies to foster a nurturing work culture that promotes employee satisfaction and motivation.

2.10. OC's function in Leadership and Performance

2.10.1. Comprehending OC

OC is a key notion in organizational behavior, indicating the extent to which employees identify with, participate in, and exhibit loyalty to their organization. It signifies the emotional and psychological bond that employees share with their jobs, which, in turn, affects their readiness to contribute to the organization's objectives and sustain their employment over a considerable period of time. Berberoglu [26] established a comprehensive framework for understanding OC, delineating it into three distinct components: affective commitment, continued commitment, and normative commitment [27].

2.10.2. Leadership and OC

Leadership is a crucial factor that influences OC. The demeanor and conduct of leaders profoundly influence employees' perceptions of their work environment, prospects for career advancement, and general JS, all of which impact their commitment levels [28]. TL has been consistently associated with elevated OC due to its focus on inspiration, vision, intellectual stimulation, and personal assistance. Transformational leaders cultivate affective commitment by establishing a workplace where employees perceive themselves as valued, respected, and empowered [25].

2.10.3. OC as a Predictor of Employee Performance

OC is a crucial factor influencing employee performance. Employees with strong OC typically exhibit elevated job engagement, discretionary effort, and organizational citizenship behaviors (OCBs). This commitment to dedicating time and effort to their work results in enhanced job performance, productivity, and workplace harmony [29]. Affective commitment is significantly correlated with increased motivation, job engagement, and overall effectiveness. Employees with an emotional connection to their organization tend to demonstrate enhanced passion, creativity, and resilience in their roles.

2.10.4. Consequences for Organizations and Leadership Advancement

Due to the significant interplay between OC, leadership, and employee performance, companies must implement robust strategies that foster commitment across all levels. Leadership development programs must emphasize TL principles, ensuring that managers and executives can inspire, encourage, and effectively engage their team members [30]. In addition, leaders must be trained to cultivate trust, articulate a compelling vision, and promote employee advancement through mentorship and career development initiatives. Organizations should also invest in employee-centric policies to enhance affective commitment [31].

2.10.5. Integrating the Variables: Theoretical and Empirical Perspectives on Mediation

The correlation between TL and employee performance is complex and is moderated by additional factors that influence the translation of leadership practices into tangible workplace outcomes. The two most critical mediating variables in this relationship are JS and OC [32]. These elements function as psychological and behavioral conduits through which leadership impacts employee performance. Mediation transpires when an independent variable (TL) affects a dependent variable (employee performance) through one or more intermediary factors (JS and OC).

2.11. Interplay Between Leadership, Employee Engagement, and Organizational Performance

2.11.1. Comprehending Employee Engagement

Employee engagement is a crucial concept in contemporary organizational behavior, referring to the degree to which employees are emotionally invested in their work, exhibit enthusiasm, and actively contribute to their organization's success [33]. Engagement transcends mere JS; it embodies the psychological bond individuals share with their work and their organization. Khan [34] introduced the notion of engagement, characterizing it as the extent to which employees invest their cognitive, emotional, and physical energy in their work tasks. Engaged employees demonstrate proactivity, initiative, and elevated motivation, resulting in improved performance.

2.11.2. Leadership in Augmenting Employee Engagement

Leadership is crucial in enhancing employee engagement by shaping workplace culture, establishing clear standards, and providing support and appreciation. TL is closely associated with elevated engagement levels due to its focus on inspiration, empowerment, and personalized support [12]. Leaders who articulate a persuasive vision, promote autonomy, and foster a culture of trust and respect enhance employee engagement, resulting in increased effort, passion, and innovation.

2.11.3. Employee Engagement as an Indicator of Job Performance

Engaged employees are more likely to demonstrate superior job performance, resilience, and OCBs, which encompass voluntary efforts that contribute to a positive work environment. Employees who possess a robust sense of purpose and alignment with organizational objectives are more likely to go beyond their job descriptions in aiding colleagues and fostering team success.

The research conducted by Arifin, et al. [35] revealed that employee engagement is a more potent predictor of employee performance than conventional characteristics, such as JS and OC. Specifically,

their research demonstrated that engaged individuals exhibit greater productivity, adaptability, and a readiness to confront obstacles, resulting in enhanced performance outcomes. Additionally, Riyanto, et al. [36] conducted a meta-analysis, which indicated that employees' engagement significantly improves individual and team performance across multiple industries. Moreover, the research conducted by Boyd [37] explored the mediating roles of JS and OC, examining how these factors either facilitate or hinder leadership effectiveness in influencing performance outcomes.

2.11.4. Intermediary Function of Employee Engagement in the Relationship Between Leadership and Performance

Leadership has a direct impact on employee performance, with employee engagement serving as a significant mediator in this dynamic. Employees who encounter inspirational leadership, acknowledgment, and autonomy are more likely to engage in the work context, thereby improving their motivation and performance [38]. Engagement serves as the conduit linking TL to job outcomes, ensuring that leadership initiatives yield significant results. Empirical research substantiates this mediating impact. Balwant, et al. [12] found that TL significantly improves engagement, leading to increased task performance and creativity. Their study concluded that firms fostering an engagement-oriented leadership culture achieve elevated levels of creativity and customer satisfaction. Moreover, Hendri [39] investigated the impact of employment resources, specifically leadership support, career development opportunities, and team collaboration, on engagement, which subsequently enhances job performance [32].

2.11.5. Practical Implications for Organizations

Due to the significant relationship between employee engagement, leadership, and performance, firms must implement plans that foster engagement at every level. Leadership development programs must focus on enhancing TL competencies, ensuring that managers effectively inspire, encourage, and support their teams [38]. Moreover, organizations should prioritize policies that foster participation, including opportunities for professional growth, mentorship programs, and recognition efforts. This is because employees who perceive themselves as valued and supported are more likely to maintain engagement, resulting in enhanced productivity, reduced attrition, and elevated workplace morale [40].

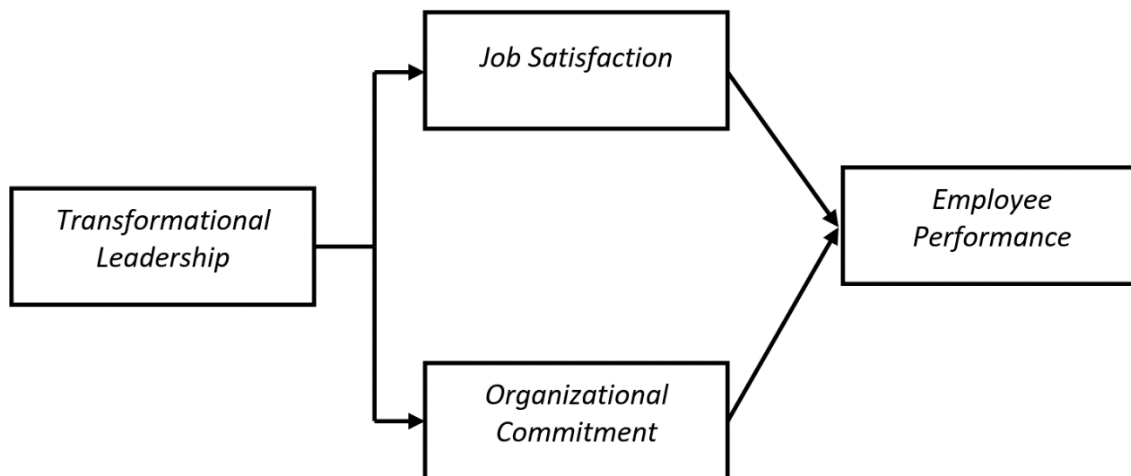


Figure 1.
Conceptual Model of the Study.

2.12. Conceptual Model of the Study

The conceptual model depicted in Figure 1, which underlies this study, examines the relationship between TL and employee performance, highlighting the mediating effects of JS and OC. TL inspires

and motivates employees by fostering a clear vision, providing intellectual stimulation, and considering the individual needs of each employee. This leadership approach has a significant impact on various workplace factors, particularly employee performance, JS, and OC. The conceptual model suggests that TL enhances employee performance both directly and indirectly through JS and OC.

2.13. Hypothesis

The following hypotheses have been proposed in this study:

- H₁: TL has a positive and significant impact on employee performance.*
- H₂: JS mediates the relationship between TL and employee performance.*
- H₃: OC mediates the relationship between TL and employee performance.*
- H₄: JS has a positive and significant impact on employee performance.*
- H₅: OC has a positive and significant impact on employee performance.*

3. Methodology

The research methodology employed to investigate the impact of TL on employee performance utilized JS and OC as the mediating variables. This quantitative research enabled the examination of various relationships and the testing of hypotheses regarding TL, JS, and OC through deductive reasoning. A sample of employees was surveyed through cross-sectional surveys to identify patterns and linkages [41]. The target population included bankers, doctors, manufacturers, and technologists in Saudi Arabia. Junior staff, middle management, and senior executives were also included to gain a comprehensive view of leadership and performance across organizational systems. The National Labor Observatory [42] estimates that 2,356,829 Saudi workers are employed in the workforce, which precluded a nationwide survey. Therefore, a 500-person stratified random sample was selected to ensure a balanced representation across employment levels, industries, and experience. Based on predicted response rates, 200 completed surveys were required for statistical analysis and to yield useful insights [43].

Data was collected through email and web-based structured surveys. Furthermore, several factors, such as TL, JS, organizational loyalty, and performance, were evaluated using a Likert scale. The survey utilized the Multifactor Leadership Questionnaire (MLQ) for TL, the Job Satisfaction Survey (JSS) for JS, and Meyer and Allen's OC Scale for employee commitment. The productivity, creativity, teamwork, and adaptability of supervisors and self-reports were also evaluated. A small group participated in a pilot study to enhance the reliability of the survey before full-scale data collection.

Furthermore, pilot testing was utilized to refine the language, organization, and response options of the questionnaires [44]. SPSS and AMOS were used for statistical analysis of the data. Descriptive statistics helped in detailing the demographics and participants' responses.

Additionally, the correlation between TL, JS, OC, and employee performance was investigated. Structural Equation Modeling (SEM)¹ mediation analysis revealed how JS and OC indirectly influence employee performance under TL, whereas multiple regression analysis highlighted the intensity and significance of these associations. To safeguard the accuracy and validity of the measurement instrument, Cronbach's alpha reliability testing was used to evaluate the internal consistency between the survey items [45].

3.1. Research Approach

This quantitative study examined the relationship between TL and employee performance, using JS and OC as the mediating variables. Statistical analysis ensured objectivity, dependability, and the ability to generalize findings to a larger population, making the quantitative method acceptable. The study employed quantitative data to investigate the impact of TL on employee performance, as well as the effects of JS and OC on this relationship. The research employed a deductive approach, drawing on

¹SEM is an advanced statistical method that enables the testing of complex relationships among multiple variables simultaneously.

theories and frameworks related to leadership and organizational behavior. The study utilized survey data to test hypotheses derived from theoretical models. This organized method is commonly utilized in the social sciences domain to test or refute theoretical assumptions [46].

Primary data were collected through a survey to obtain standardized responses from a large number of employees. Leadership, employee views, and workplace attitudes were systematically measured using surveys. The participants' responses were consistent and comparable to those from standardized surveys. The participants rated their agreement or disagreement with statements about TL, JS, OC, and employee performance using the Likert scale. The study employed validated measurement tools, including the MLQ to assess TL, the JSS to evaluate JS, and Meyer and Allen's OC Scale to measure employee commitment. Self-reported and supervisor-rated performance measures included productivity, innovation, teamwork, and adaptability [47]. The research was cross-sectional, meaning that data were collected at a single point in time rather than over an extended period. This design was suitable for identifying organizational patterns and relationships.

To investigate leadership effectiveness across various organizational contexts, the target population consisted of Saudi Arabian employees from diverse industries, job categories, and experience levels. Participants were selected using stratified random sampling to ensure fair representation from different sectors and hierarchies. In the study, 500 employees were invited to participate, with an expected response rate of at least 200 complete questionnaires for statistical analysis [48].

3.2. Research Design

This descriptive and explanatory study investigated how JS and OC mediate the relationship between TL and employee performance. Essentially, the study examined employees' perceptions of TL, JS, OC, and organizational success, all of which are considered key determinants of organizational achievement. It described leadership actions and how employees perceived their impact on motivation, engagement, and performance. The explanatory component assessed whether TL directly affected employee performance and if JS and OC mitigated this effect. This study, therefore, used both descriptive and explanatory methodologies to investigate leadership and workforce outcomes [49].

TL, JS, OC, and employee performance were examined through a cross-sectional survey to identify trends, correlations, and causal relationships. This method enabled the rapid and cost-effective collection of data from a diverse workforce, which is ideal for organizational research. The cross-sectional method was also used to structure employee responses, examining how leadership affects motivation, engagement, and job performance. Additionally, it enabled comparisons across employee categories, including sectors, job levels, and experience levels, providing a deeper understanding of how TL is perceived in varied organizational settings [50]. Survey-based methods offered standardized data from a broad sample, facilitating generalization to the larger workforce.

3.3. Target Population and Sample Size

This survey targeted Saudi Arabian employees in the private sector, specifically those working in the banking, healthcare, manufacturing, utilities, and technology sectors. The study included junior staff, middle management, and senior management as participants to gain a comprehensive understanding of how TL affects JS, OC, and employee performance. As leadership perceptions often vary by employee level, their varied experiences helped explain how leadership practices affect motivation, engagement, and productivity. Including multiple industries enriched the study by providing diverse perspectives, as the leadership styles and workplace settings varied across different businesses.

As mentioned earlier, the National Labor Observatory Human Resources Development Fund [42] estimated that 2,356,829 Saudi workers are employed in the workforce. As this population was deemed too large to survey all employees, a representative sample was chosen to provide meaningful and generalizable results [51].

To ensure statistical significance and practicality, 500 employees were surveyed. Based on typical organizational study response rates, 200 completed surveys were collected for robust statistical analysis. A well-defined sampling approach was crucial to ensure that the selected participants accurately represented the workforce.

3.4. Data Collection Approach

This study collected data using structured surveys sent through email and popular survey programs, such as Google Forms and Qualtrics. The survey was designed to collect quantitative data for consistency and statistical analysis. Given Saudi Arabia's large and diverse workforce, internet distribution was deemed the most efficient and practical way to reach participants across various industries and organizational levels.

A closed-ended Likert scale was used in the survey to measure the level of agreement or disagreement among the respondents. This method minimized response bias and maintained comparability across participants while collecting meaningful data on respondents' reflections on TL, employee performance, OC, and JS [52].

3.5. Data Analysis

The collected data was analyzed using advanced statistical techniques to ensure accurate and meaningful interpretations of the relationships between TL, JS, OC, and employee performance. The statistical software SPSS and AMOS were utilized to perform various analytical procedures, ensuring the robustness and reliability of the findings. The analysis began with descriptive statistics, which included calculating measures such as mean, standard deviation (SD), and frequency distributions to summarize demographic information and response patterns.

Subsequently, correlation analysis was conducted to examine the relationships between the key study variables. The direction and strength of the associations between these variables were determined by correlation coefficients, revealing how the direction and strength of these associations influence OC, employee performance, JS, and TL. In case significant correlations were observed, regression analysis was applied to assess the extent to which TL influences employee performance. While controlling for JS and OC, multiple regression models helped determine the individual contribution of TL to employee performance. This technique was particularly valuable in understanding the predictive power of leadership behaviors and their direct impact on workforce productivity, engagement, and overall job performance [21]. To investigate whether JS and OC act as mediating variables, a mediation analysis was conducted using SEM in AMOS.

4. Data Analysis and Results

This chapter presents the empirical findings derived from a structured questionnaire distributed to 259 respondents out of 500, representing a 51.8 percent response rate. The questionnaire examined the impact of TL on employee performance, as well as the mediating roles of JS and OC.

4.1. Demographic Data Analysis

The demographic analysis in Table 1 revealed that most participants were aged between 25 and 34 years (39.0 percent), with a balanced representation across other age groups. Men comprised 61.0 percent of the sample, and women accounted for 39.0 percent. A significant portion of the respondents (34.4 percent) had 6 to 10 years of work experience, and 58.3 percent of them occupied non-managerial positions.

Table 1.
Description of participants (N = 259).

Characteristic	Frequency	Percentage	Characteristic	Frequency	Percentage
Gender			Work Status		
Male	158	61	Employee	151	58.3
Female	101	39	Managerial	108	41.7
Total	259	100%	Total	259	100%
Characteristic	Frequency	Percentage	Characteristic	Frequency	Percentage
Age			Work Experience		
18-24 Years	23	8.9	0-2 Years	33	12.7
25-34 Years	101	39	3-5 Years	50	19.3
35-44 Years	74	28.6	6-10 Years	89	34.4
45-54 Years	45	17.4	11-15 Years	56	21.6
55+ Years	16	6.2	15 + Years	31	12
Total	259	100%	Total	259	100%

In terms of education, Table 2 indicates that 40.5 percent of the respondents held a bachelor's degree, followed by 35.5 percent with a master's degree, indicating a well-educated workforce.

Table 2.
Description of participants on education (N=259).

Characteristic	Frequency	Percentage
Education		
High School	33	12.7
Bachelor	105	40.5
Master	92	35.5
Doctorate	29	11.2
Total	259	100%

4.2. Results of Descriptive Statistics and Reliability Analysis

Table 3 shows that JS had the highest mean score at 3.83 (SD = 2.10), whereas OC had the lowest mean at 3.32 (SD = 1.34). All four variables displayed positive skewness, with OC exhibiting the highest skewness value of 1.03, suggesting that more respondents rated their commitment lower than the average. These descriptive results offer initial insights into the distribution and central tendencies of the key constructs, highlighting areas where perceptions vary more significantly, particularly in leadership and commitment. This foundation supports further inferential analysis in the study.

Table 3.
Descriptive Statistics on variables (N = 259).

Constructs	Mean	SD	Skewness
Transformational Leadership	3.56	2.74	0.78
Job Satisfaction	3.83	2.10	0.88
Organizational Commitment	3.32	1.34	1.03
Employee Performance	3.61	1.90	0.78

The results presented in Table 4 demonstrate strong internal consistency across all variables. Employee performance achieved the highest reliability score with a Cronbach's alpha of 0.90, indicating excellent reliability. OC followed closely with a value of 0.89, and JS also demonstrated high reliability with a score of 0.88. TL, while slightly lower, still exhibited optimum reliability with a Cronbach's alpha of 0.80. A Cronbach's alpha value of 0.7 or above is generally considered acceptable [53]. As all values exceeded the commonly accepted threshold of 0.70, the scales used to measure each variable were considered reliable for this study. These results confirmed that the survey items consistently reflect the constructs they were intended to measure, supporting the overall validity of the research instrument.

Table 4.
Reliability analysis.

Variables	No. of Items	Cronbach's Alpha
Transformational Leadership	8	0.80
Job Satisfaction	8	0.88
Organizational Commitment	8	0.89
Employee Performance	8	0.90

4.2.1. Results of Multivariate Analysis

Table 5 presents the results of the construct validity and reliability analysis, focusing on the extraction of the latent variables. All constructs, namely employee performance, OC, JS, and TL, demonstrated excellent psychometric qualities. Specifically, their composite reliability (CR) values (ρ_c) values were all greater than 0.70, indicating strong internal consistency. Employee performance reported the highest CR at 0.99, followed by OC (0.90), JS (0.89), and TL (0.79).

Furthermore, the average variance extracted (AVE) for all constructs significantly exceeded the acceptable threshold of 0.50, thereby affirming robust convergent validity. The AVE values ranged from 0.78 for TL to 0.88 for employee performance, indicating that the constructs explained a substantial portion of the variance. Additionally, collinearity statistics [variant inflation factor (VIF) values from the collinearity matrix] were all below the critical value of 5, with JS having the highest VIF value of 2.69. This indicated no concerns about multicollinearity among the variables. The results collectively confirmed that the measurement model demonstrated strong construct validity, reliability, and discriminant validity, making it suitable for subsequent SEM and hypothesis testing.

Table 5.
Construct validity and reliability.

Latent Factors	No. of Items	Composite Reliability (ρ_a)	Composite Reliability (ρ_c)	Average Variance Extracted (AVE)	Collinearity Matrix
Transformational Leadership	8	0.91	0.79	0.78	1.10
Job Satisfaction	8	0.88	0.89	0.87	2.69
Organizational Commitment	8	0.89	0.90	0.87	2.57
Employee Performance	8	0.89	0.99	0.88	2.59

Table 6 illustrates the significance and fit of the model using R-squared and adjusted R-squared values for each construct. The R-squared values indicated a high proportion of variance explained by the model, with employee performance showing the highest R-squared value at 0.89, followed by JS at 0.88, OC at 0.79, and TL at 0.78. The adjusted R-squared values, which account for the number of predictors in the model, remained robust across all constructs, with employee performance again leading at 0.88.

These results strongly suggested that the model possesses significant explanatory power and a good overall fit. The high R-squared values demonstrated that independent variables effectively predict outcomes related to employee behavior and perceptions. Overall, the model was statistically significant and well-suited for further structural analysis, validating its effectiveness in explaining the relationships among TL, JS, OC, and employee performance.

Table 6.
Fitness of Model.

Variables	No. of Items	R-Square	Adjusted R-Square
Transformational Leadership	8	0.783	0.773
Job Satisfaction	8	0.883	0.821
Organizational Commitment	8	0.789	0.832
Employee Performance	8	0.889	0.877

4.3. Results of Correlation Analysis

The correlation matrix in Table 7 revealed strong positive relationships among all constructs. According to Cohen [54] a correlation value between .50 and 1.0 indicates a strong correlation between variables. Consistent with this, the highest correlation in this study was observed between TL and OC ($r = 0.98$). The overall results support the study's conceptual model, demonstrating that TL has both a direct and indirect influence on employee performance, mediated through JS and OC. These findings provide a strong empirical foundation for the study's theoretical framework and have practical implications for organizational leadership practices.

Table 7.
Correlation analysis.

Variables	Transformational Leadership	Job Satisfaction	Organizational Commitment	Employee Performance
Transformational Leadership	1			
Job Satisfaction	0.97**	1		
Organizational Commitment	0.98**	0.90**	1	
Employee Performance	0.78**	0.78**	0.76**	1

Note: * $p < .05$, ** $p < .01$, Cronbach's alpha italicised along the diagonal.

4.4. Results of SEM

As presented in Table 8, construct validity was confirmed through CR and AVE. All constructs exceeded the acceptable thresholds for CR (> 0.70) and AVE (> 0.50), demonstrating strong convergent validity. Furthermore, VIF values were well below the critical value of 5, ruling out multicollinearity issues. Model fitness and explanatory power were evaluated using R-squared and adjusted R-squared values. Employee performance showed the highest R-squared value (0.89), indicating that the independent variables could explain a substantial portion of its variance.

The structural model and hypothesis testing revealed statistically significant and positive relationships for all four hypotheses. TL had a positive impact on employee performance ($\beta = 0.86$), JS ($\beta = 0.79$), and OC ($\beta = 0.45$). Moreover, the combined mediating effect of JS and OC on employee performance was also significant ($\beta = 0.76$).

Table 8.
Structural Model and Hypothesis Testing.

Hypotheses	Regression Coefficient (β)	Standard Deviation (SD)	T-statistics(O/SD)	P-value	Remarks
Hypothesis 1	0.86	0.38	8.01	0.00	Accepted
Hypothesis 2	0.79	0.05	6.82	0.00	Accepted
Hypothesis 3	0.45	0.79	4.91	0.00	Accepted
Hypothesis 4	0.76	0.06	7.83	0.00	Accepted

5. Discussion and Conclusion

This study thoroughly examined the impact of TL on employee performance, with a focus on JS and OC as the mediating factors. The findings, supported by robust statistical analysis and a solid theoretical framework, confirm the fundamental concept that TL has a significant impact on employee performance. TL impacts employee perception, alignment with company goals, and overall performance through both direct and indirect channels. The results show that transformational leaders—those who express a compelling vision, intellectually stimulate their colleagues, provide individualized support, and model ethical behavior—are indeed more likely to create a high-performing, contented, and dedicated workforce. A robust and statistically significant correlation exists between TL and employee performance. This confirms the assertions of Bass [8] and other scholars that TL is a strategic advantage, not merely a leadership style. Visible and supportive leaders empower, motivate, and hold employees accountable. These psychological factors encourage innovation, teamwork, and resilience by

motivating individuals to go beyond their job responsibilities. TL fosters an organizational culture that values excellence and continuous improvement.

This research has significant implications for both theory and practice. Theoretically, the study contributes to the existing literature on multifaceted employee performance. By situating performance within a broader organizational context, influenced by leadership style, employee attitudes, and workplace culture, rather than solely focusing on individual attributes or managerial approaches, this study offers a more holistic perspective. The research employs the TL theory, Herzberg's Two-Factor Theory, and commitment models to examine the influence of leadership on performance. This provides future researchers with a more comprehensive perspective, particularly when examining the dynamic relationship between psychological states and organizational behaviors.

Practically, the findings offer clear guidelines for managers, HR experts, and organizational leaders seeking to enhance employee performance. Leadership training should emphasize transformative skills, including emotional intelligence, effective communication, ethical integrity, and supportive coaching. These abilities are strategic imperatives that significantly impact a company's capacity to attract and retain top talent. Furthermore, companies should invest in processes and procedures that foster JS and OC. Examples include transparent career growth, meaningful work design, participatory decision-making, and strong recognition programs. By aligning these aspects with leadership initiatives, firms can establish a virtuous cycle where satisfied and committed workers drive higher performance, ultimately improving results and enhancing their competitive advantage.

Another important point highlighted by this study is the adaptability of TL. While this study was conducted within a specific organization or region, its conclusions reflect global leadership trends that emphasize adaptation, inspiration, and emotional connection. The findings of this study emphasize that leaders must build trust, articulate a clear vision, and foster individual growth in increasingly diverse and dynamic environments.

This study concludes that TL is instrumental in creating high-performing, satisfied, and dedicated workforces. Transformational leaders directly improve employee performance and foster long-term JS and OC by setting an example, inspiring innovation, and providing support to employees. These findings strongly support the academic and practical understanding that TL is essential for effective organizational management in today's complex and dynamic corporate environment.

5.1. Limitations and Scope for Future Research

Despite its value, this study has several drawbacks. These constraints offer opportunities for future studies to broaden, refine, and validate these findings.

First, the study's cross-sectional design makes it difficult to definitively determine causality. While strong connections and predictive associations were found among TL, JS, OC, and employee performance, longitudinal research is needed to establish the direction and stability of these relationships over time.

Second, the method of data collection poses another limitation. The study employed structured questionnaires to collect self-reported data, which may be susceptible to biases such as social desirability bias, recall bias, and common method variance. Although efforts were made to ensure anonymity and mitigate response bias, future studies could benefit from incorporating multiple data sources to increase the validity and reliability of the findings. For instance, combining self-reports with supervisor evaluations, peer feedback, and objective performance measures could provide a more comprehensive understanding of employee behavior and leadership effectiveness.

Furthermore, while statistically significant, the sample size was limited to a specific sector or region, which may have restricted the generalizability of the findings. Organizational culture, industry conventions, and regional leadership expectations might have influenced the perception of TL and employee attitudes. Replicating this study across various industries, job functions, and cultures may strengthen its external validity. Comparative research between countries, especially those with

collectivist and individualist cultures, could also reveal how cultural context influences the relationships among TL, JS, OC, and performance.

Moreover, while JS and OC are key mediators, they do not fully explain the psychological complexity of the leadership–performance relationship. Further research could incorporate additional mediating or moderating variables such as employee involvement, leadership trust, psychological empowerment, and organizational justice. Investigating these variables may reveal more nuanced pathways through which TL operates.

Lastly, the study did not consider moderating characteristics such as gender, age, tenure, or leadership level. These demographic factors may influence how employees respond to TL and their levels of satisfaction and commitment. Future models incorporating such moderators could help customize leadership methods to diverse workforces. Finally, this study did not compare TL to other leadership styles, such as transactional or servant leadership, which presents another avenue for future exploration.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Copyright:

© 2025 by the authors. This open-access article is distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

References

- [1] M. Anderson, "Transformational leadership in education: A review of existing literature," *International Social Science Review*, vol. 93, no. 1, pp. 1-13, 2017.
- [2] M. Asbari, "Is transformational leadership suitable for future organizational needs?," *International Journal of Social, Policy and Law*, vol. 1, no. 1, pp. 51-55, 2020. <https://doi.org/10.8888/ijospl.v1i1.17>
- [3] A. M. A. Ausat, S. Suherlan, T. Peirisal, and Z. Hirawan, "The effect of transformational leadership on organizational commitment and work performance," *Journal of Leadership in Organizations*, vol. 4, no. 1, 2022. <https://doi.org/10.22146/jlo.71846>
- [4] H. Banjarnahor, W. Hutabarat, A. M. Sibuea, and M. Situmorang, "Job satisfaction as a mediator between directive and participatory leadership styles toward organizational commitment," *International Journal of Instruction*, vol. 11, no. 4, pp. 869-888, 2018.
- [5] S. A. Boamah, H. K. S. Laschinger, C. Wong, and S. Clarke, "Effect of transformational leadership on job satisfaction and patient safety outcomes," *Nursing Outlook*, vol. 66, no. 2, pp. 180-189, 2018. <https://doi.org/10.1016/j.outlook.2017.10.004>
- [6] I. Buil, E. Martínez, and J. Matute, "Transformational leadership and employee performance: The role of identification, engagement and proactive personality," *International journal of hospitality management*, vol. 77, pp. 64-75, 2019. <https://doi.org/10.1016/j.ijhm.2018.06.014>
- [7] M. J. Burns, *Leadership*. New York: Harper & Row, 1978.
- [8] M. B. Bass, *Leadership and performance beyond expectations*. Collier Macmillan: Free Press, 1985.
- [9] D. Ladkin and C. B. Patrick, "Whiteness in leadership theorizing: A critical analysis of race in Bass' transformational leadership theory," *Leadership*, vol. 18, no. 2, pp. 205-223, 2022.
- [10] W. Jiatong, Z. Wang, M. Alam, M. Murad, F. Gul, and S. A. Gill, "The impact of transformational leadership on affective organizational commitment and job performance: the mediating role of employee engagement," *Frontiers in Psychology*, vol. 13, p. 831060, 2022. <https://doi.org/10.3389/fpsyg.2022.831060>
- [11] S.-Y. Lee, N. J. Lee, U.-J. Choi, H. S. Kim, K.-H. Shin, and S.-K. Cheong, "A study on detection of a critical spot and the securing safety method of cfrp bicycle forks by finite element method," *Journal of the Korean Society of Safety*, vol. 31, no. 6, pp. 1-5, 2016.
- [12] P. T. Balwant, R. Mohammed, and R. Singh, "Transformational leadership and employee engagement in Trinidad's service sector: The role of job resources," *International Journal of Emerging Markets*, vol. 15, no. 4, pp. 691-715, 2020. <https://doi.org/10.1108/ijoem-01-2019-0026>

- [13] P. Kwan, "Is transformational leadership theory passé? Revisiting the integrative effect of instructional leadership and transformational leadership on student outcomes," *Educational administration quarterly*, vol. 56, no. 2, pp. 321-349, 2020. <https://doi.org/10.1177/0013161X1986113>
- [14] V. R. Devi, "Impact of leadership style on employee engagement," *Pacific Business Review International*, vol. 8, no. 12, pp. 1107-1116, 2016. <https://doi.org/10.37200/ijpr/v23i4/pr190437>
- [15] J. A. Porter, "The relationship between transformational leadership and organizational commitment in nonprofit long term care organizations: The direct care worker perspective," Doctoral Dissertation, Creighton University, 2014.
- [16] W. Fourie and F. Höhne, "Thou shalt not fail? Using theological impulses to critique the heroic bias in transformational leadership theory," *Leadership*, vol. 15, no. 1, pp. 44-57, 2019. <https://doi.org/10.1177/1742715017730453>
- [17] E. A. Atatsi, J. Stoffers, and A. Kil, "Factors affecting employee performance: A systematic literature review," *Journal of Advances in Management Research*, vol. 16, no. 3, pp. 329-351, 2019. <https://doi.org/10.1108/jamr-06-2018-0052>
- [18] B. Motyka, "Employee engagement and performance: A systematic literature review," *International Journal of Management and Economics*, vol. 54, no. 3, pp. 227-244, 2018.
- [19] K. Na-Nan, K. Chaiprasit, and P. Pukkeeree, "Factor analysis-validated comprehensive employee job performance scale," *International Journal of Quality & Reliability Management*, vol. 35, no. 10, pp. 2436-2449, 2018. <https://doi.org/10.1108/ijqrm-06-2017-0117>
- [20] M. B. Peñaflor and R. D. Juevesa, "Management practices and employee engagement in the workplace: A qualitative-phenomenological study," *Open Journal of Business and Management*, vol. 9, no. 1, pp. 288-308, 2020. <https://doi.org/10.4236/ojbm.2021.91016>
- [21] T. A. Judge, S. C. Zhang, and D. R. Glerum, "Job satisfaction," *Essentials of job attitudes and other workplace psychological constructs*, pp. 207-241, 2020. <https://doi.org/10.4324/9780429325755-11>
- [22] C. Monroe et al., "The value of intentional self-care practices: The effects of mindfulness on improving job satisfaction, teamwork, and workplace environments," *Archives of psychiatric nursing*, vol. 35, no. 2, pp. 189-194, 2021. <https://doi.org/10.1016/j.apnu.2020.10.003>
- [23] S. K. Hilton, W. Madilo, F. Awaah, and H. Arkorful, "Dimensions of transformational leadership and organizational performance: The mediating effect of job satisfaction," *Management Research Review*, vol. 46, no. 1, pp. 1-19, 2023. <https://doi.org/10.1108/mrr-02-2021-0152>
- [24] I. Shafique, M. N. Kalyar, and B. Ahmad, "The nexus of ethical leadership, job performance, and turnover intention: The mediating role of job satisfaction," *Interdisciplinary Description of Complex Systems: INDECS*, vol. 16, no. 1, pp. 71-87, 2018. <https://doi.org/10.7906/index.16.1.5>
- [25] A. Purwanto, "The relationship of transformational leadership, organizational justice and organizational commitment: A mediation effect of job satisfaction. Papers.ssrn.com," Retrieved: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3986678, 2021.
- [26] A. Berberoglu, "Impact of organizational climate on organizational commitment and perceived organizational performance: Empirical evidence from public hospitals," *BMC Health Services Research*, vol. 18, pp. 1-9, 2018. <https://doi.org/10.1186/s12913-018-3149-z>
- [27] K. Bodjrenou, M. Xu, and K. Bomboma, "Antecedents of organizational commitment: A review of personal and organizational factors," *Open Journal of Social Sciences*, vol. 7, no. 5, pp. 276-289, 2019. <https://doi.org/10.4236/jss.2019.75024>
- [28] I. Keskes, J. M. Sallan, P. Simo, and V. Fernandez, "Transformational leadership and organizational commitment: Mediating role of leader-member exchange," *Journal of Management Development*, vol. 37, no. 3, pp. 271-284, 2018. <https://doi.org/10.1108/jmd-04-2017-0132>
- [29] F. Cesário and M. J. Chambel, "Linking organizational commitment and work engagement to employee performance," *Knowledge and Process Management*, vol. 24, no. 2, pp. 152-158, 2017. <https://doi.org/10.1002/kpm.1542>
- [30] G. Abid, F. Contreras, S. Ahmed, and T. Qazi, "Contextual factors and organizational commitment: Examining the mediating role of thriving at work," *Sustainability*, vol. 11, no. 17, p. 4686, 2019. <https://doi.org/10.3390/su11174686>
- [31] Y. Chen, X. Zhou, and K. Klyver, "Collective efficacy: Linking paternalistic leadership to organizational commitment," *Journal of Business Ethics*, vol. 159, no. 2, pp. 587-603, 2019. <https://doi.org/10.1007/s10551-018-3847-9>
- [32] J. Park, S. J. Han, J. Kim, and W. Kim, "Structural relationships among transformational leadership, affective organizational commitment, and job performance: the mediating role of employee engagement," *European Journal of Training and Development*, vol. 46, no. 9, pp. 920-936, 2022. <https://doi.org/10.1108/ejtd-10-2020-0149>
- [33] B. Ghani, S. I. Hyder, S. Yoo, and H. Han, "Does employee engagement promote innovation? The Facilitators of innovative workplace behavior via mediation and moderation," *Heliyon*, vol. 9, no. 11, p. e21817, 2023. <https://doi.org/10.1016/j.heliyon.2023.e21817>
- [34] N. Khan, "Adaptive or transactional leadership in current higher education: A brief comparison," *International review of research in open and distributed learning*, vol. 18, no. 3, pp. 178-183, 2017.

- [35] Z. Arifin, N. Nirwanto, and A. Manan, "Improving the effect of work satisfaction on job performance through employee engagement," *International Journal of Multi-Discipline Science*, vol. 2, no. 1, pp. 1-9, 2019.
- [36] S. Riyanto, E. Endri, and N. Herlisha, "Effect of work motivation and job satisfaction on employee performance: Mediating role of employee engagement," *Problems and Perspectives in Management*, vol. 19, no. 3, p. 162, 2021. [http://dx.doi.org/10.21511/ppm.19\(3\).2021.14](http://dx.doi.org/10.21511/ppm.19(3).2021.14)
- [37] S. Boyd, "The impact of transformational and transactional leadership on employee engagement in the government contracting arena. ProQuest," Retrieved: <https://search.proquest.com/openview/d97700bcc5f5a1579d4cae25e812109/1?pq-origsite=gscholar&cbl=18750&diss=y>. [Accessed 2024].
- [38] N. Ribeiro, İ. Yücel, and D. Gomes, "How transformational leadership predicts employees' affective commitment and performance," *International Journal of Productivity and Performance Management*, vol. 67, no. 9, pp. 1901-1917, 2018. <https://doi.org/10.1108/ijppm-09-2017-0229>
- [39] M. I. Hendri, "The mediation effect of job satisfaction and organizational commitment on the organizational learning effect of the employee performance," *International Journal of Productivity and Performance Management*, vol. 68, no. 7, pp. 1208-1234, 2019. <https://doi.org/10.1108/ijppm-05-2018-0174>
- [40] K. Asefa and S. Kant, "Transactional academic leadership effect on employee's engagement: The mediating impact of extrinsic motivation," *Partners Universal International Research Journal*, vol. 1, no. 4, pp. 54-62, 2022. <https://doi.org/10.5281/zenodo.7422224>
- [41] R. H. Adler, "Trustworthiness in qualitative research," *Journal of Human Lactation*, vol. 38, no. 4, pp. 598-602, 2022. <https://doi.org/10.1177/08903344221116620>
- [42] Human Resources Development Fund, "Human resources development fund," Retrieved: <https://www.hrdf.org.sa/en/media-center/news/general/job-contributions-rise/>, 2025.
- [43] G. R. Bauer, S. M. Churchill, M. Mahendran, C. Walwyn, D. Lizotte, and A. A. Villa-Rueda, "Intersectionality in quantitative research: A systematic review of its emergence and applications of theory and methods," *SSM-Population Health*, vol. 14, p. 100798, 2021.
- [44] F. J. Blanco-Encomienda and E. Rosillo-Díaz, "Quantitative evaluation of the production and trends in research applying the structural equation modelling method," *Scientometrics*, vol. 126, no. 2, pp. 1599-1617, 2021. <https://doi.org/10.1007/s11192-020-03794-x>
- [45] K. Takata and K. Hallmann, "A systematic quantitative review of authenticity in sport tourism," *Journal of Sport & Tourism*, vol. 25, no. 1, pp. 26-41, 2021. <https://doi.org/10.1080/14775085.2021.1877564>
- [46] D. Stockemer, G. Stockemer, and J. Glaeser, *Quantitative methods for the social sciences*. Switzerland: Springer International Publishing, 2019.
- [47] Z. Shi *et al.*, "Methodological quality of machine learning-based quantitative imaging analysis studies in esophageal cancer: a systematic review of clinical outcome prediction after concurrent chemoradiotherapy," *European Journal of Nuclear Medicine and Molecular Imaging*, pp. 1-20, 2022. <https://doi.org/10.1007/s00259-021-05658-9>
- [48] V. Renjith, R. Yesodharan, J. A. Noronha, E. Ladd, and A. George, "Qualitative methods in health care research," *International journal of preventive medicine*, vol. 12, no. 1, p. 20, 2021. https://doi.org/10.4103/ijpvm.IJPVM_321_19
- [49] H. A. Mohamed Shaffril, S. F. Samsuddin, and A. Abu Samah, "The ABC of systematic literature review: the basic methodological guidance for beginners," *Quality & quantity*, vol. 55, pp. 1319-1346, 2021. <https://doi.org/10.1007/s11135-020-01059-6>
- [50] S. Mishra and S. Alok, "handbook of research methodology phytopharmacological evaluation of selected medicinal plants used in the treatment of type ii diabestes (niddm) view project," Retrieved: <https://dspace.unitywomenscollege.ac.in/bitstream/123456789/1319/1/BookResearchMethodology.pdf>, 2022.
- [51] E. Lett, E. Asabor, S. Beltrán, A. M. Cannon, and O. A. Arah, "Conceptualizing, contextualizing, and operationalizing race in quantitative health sciences research," *The Annals of Family Medicine*, vol. 20, no. 2, pp. 157-163, 2022. <https://doi.org/10.1370/afm.2792>
- [52] M. K. Jamieson, G. H. Govaart, and M. Pownall, "Reflexivity in quantitative research: A rationale and beginner's guide," *Social and Personality Psychology Compass*, vol. 17, no. 4, p. e12735, 2023. <https://doi.org/10.1111/spc3.12735>
- [53] A. J. Gliem and R. R. Gliem, "Calculating, interpreting, and reporting cronbach's alpha reliability coefficient for likert-type scales," presented at the Midwest Research to Practice Conference in Adult, Continuing, and Community Education, Columbus, pp. 82-88, 2003.
- [54] J. Cohen, *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers, 1988.