



Leader-Member Exchange and Employee Performance: The Mediating Role of Work Engagement and Job Satisfaction

Yudi Siswadi^{1*}, Salman Farisi¹, Muhammad Arif¹, Rini Astuti¹

Fakultas Ekonomi dan Bisnis, Universitas Muhammadiyah Sumatera Utara

Jln. Kapten Mukhtar Basri No. 3 Medan 20238, Indonesia

*Email: yudisiswadi@umsu.ac.id

CORRESPONDING AUHTOR*:

Yudi Siswadi
Fakultas Ekonomi dan Bisnis,
Universitas Muhammadiyah
Sumatera Utara

*Email: yudisiswadi@umsu.ac.id

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ABSTRACT

Purpose — This study investigates and evaluates the direct or indirect effects of leader-member exchange on work engagement and job satisfaction on employee performance.

Methodology — This study adopts a causal approach, examining causal relationships between variables. It involved 200 employees from a Pharmaceutical Company in Medan, North Sumatra, Indonesia, with a sample size of 197 employees. Questionnaires were employed in this study's data collection process. Smartpls (Partial Least Squares) 3.0 software was utilised for structural equation modelling in statistical analysis.

Findings — The findings of this study reveal that direct leader-member exchange, work engagement, and job satisfaction significantly affect employee performance. Leader-member exchange significantly affects performance through work engagement and employee job satisfaction at the Pharmaceutical Company in Medan, North Sumatra, Indonesia.

Originality/Novelty — This study's novelty highlights the mediating role of work engagement and job satisfaction in the relationship between Leader-Member Exchange (LMX) and employee Performance improvement, providing new insights into such psychological mechanisms.

Implications — This research provides information for the Pharmaceutical Company in Medan, North Sumatra, Indonesia, and related parties to improve employee performance by increasing job satisfaction and work engagement and improving existing leadership to provide employee comfort.

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INTRODUCTION

In an increasingly complex and dynamic world of work, the relationship between leaders and subordinates is one of the key factors determining employee performance. Leader-Member Exchange (LMX) theory explains that the quality of relationships between leaders and team members can affect various aspects of employee behaviour and performance (Pranata et al., 2024). A good relationship between leaders and employees creates a supportive work environment, which can improve individual performance in the organization (Liyana et al., 2024).

Employee performance is crucial to achieving organisational goals. Several studies have shown that employee performance can be influenced by various factors, including leadership, motivation, and job satisfaction (López-Cabarcos et al., 2022). One of the main factors that can improve employee performance is high work engagement, which can be influenced by the quality of the relationship between leaders and employees (Hartono & Soerjanto, 2024).

Work engagement is a psychological state characterised by passion, dedication, and full involvement in work (Innstrand et al., 2022). Employees with high work engagement tend to be more productive and contribute more to the organization. Several studies have shown that high-quality LMX can increase work engagement, which positively impacts employee performance (Jufrizen, et al., 2024)

In addition to work engagement, job satisfaction is an important factor in improving employee performance. Job satisfaction reflects the extent to which individuals feel satisfied with their jobs regarding the work environment, salary, and relationships with coworkers and superiors (Zhenjing et al., 2022). Previous research found that a positive relationship between leaders and employees can increase job satisfaction and improve performance (Kauppila, 2024).

Several studies have shown that work engagement and job satisfaction can act as mediators in the relationship between LMX and employee performance (Jufrizen, et al., 2024). In other words, a good relationship between leaders and subordinates can increase work engagement and job satisfaction, contributing to improved employee performance. Some studies have also shown that when employees feel valued and supported by their leaders, they tend to be more motivated to perform better (López-Cabarcos et al., 2022). This support can be in the form of constructive feedback, opportunities for growth, and recognition of contributions made. This suggests that LMX can contribute directly or indirectly to employee performance through work engagement and job satisfaction.

However, research on the mediating role of work engagement and job satisfaction in the relationship between LMX and employee performance is still limited. Most of the existing research focuses more on the direct relationship between LMX and performance without exploring the underlying mechanism (Pandia et al., 2023). Therefore, further research is needed to understand how work engagement and job satisfaction can strengthen the relationship between LMX and employee performance. A study conducted by (Khan et al., 2020) found that leaders who have good relationships with subordinates can create a more conducive work environment, which ultimately improves performance. This factor further strengthens that LMX relationships not only have a direct impact but also through



psychological factors that affect employees.

Furthermore, research by (Ly, 2024) shows that work engagement is important in determining how much an employee contributes to the organization. Employees who are more involved in their work tend to show higher commitment and more optimal results. Meanwhile, research by (Supardi et al., 2023) emphasized that job satisfaction is important in determining employee well-being. High job satisfaction increases productivity and reduces stress and turnover in the organization. According to a meta-analysis conducted by (Premru et al., 2023), high-quality LMX relationships can help create a more cooperative and synergistic work culture. This suggests that the relationship between leaders and subordinates has far-reaching implications for overall organizational dynamics.

Ye et al., (2024) also highlights that high work engagement can increase innovation and creativity at work. Thus, the better the relationship between leaders and employees, the more likely employees are to innovate and develop. Understanding the factors that influence employee performance is becoming increasingly important in modern industry. Organizations can achieve a better competitive advantage by strengthening the relationship between leaders and subordinates and increasing job engagement and satisfaction (Elrehail et al., 2020).

Thus, this study examines the mediating role of work engagement and job satisfaction in the relationship between LMX and employee performance. By understanding this mechanism, organizations can design more effective strategies for improving employee performance through strengthening the relationship between leaders and their team members. In addition, this research is also expected to provide theoretical contributions to developing the LMX concept and practical implications for organizational management to increase employee satisfaction and engagement. Organizations can create a more productive and sustainable work environment by strengthening the relationship between leaders and employees. Thus, this research becomes relevant in modern organizations that continue to experience changes and challenges. A deeper understanding of employee performance factors can help organizations manage human resources more effectively and achieve sustainable competitive advantage.

Leader-Member Exchange (LMX) theory states that leaders build different relationships with each employee, which impacts various aspects of the organization, including individual performance (Jufrizen & Rosalia, 2022). Employees with high-quality relationships with leaders tend to get more support, feedback, and development opportunities, improving their performance (Wang et al., 2023). Work Engagement is a psychological condition in which employees show high energy, dedication, and full involvement in work (Jufrizen, et al., 2023). A good relationship between leaders and employees can increase work engagement because employees feel supported and valued (Rahmadani et al., 2020). Research by (Jufrizen, et al., 2024) shows that high job engagement positively impacts employee productivity and performance. Job Satisfaction describes employee satisfaction with their job, which includes factors such as compensation, work environment, and relationships with superiors and coworkers (Gazi et al., 2024). A positive LMX increases job satisfaction as employees feel more valued and access better resources (Jufrizen & Hutasuhut, 2022). High job satisfaction improves employee performance (Gazi et al., 2024). Some studies state that work engagement and job satisfaction can mediate the relationship between LMX and employee performance



(Jufrizen, et al., 2024). Employees with good relationships with leaders tend to be more engaged in their work, which increases their satisfaction and ultimately positively impacts performance. This study presents a novelty by examining the dual mediating role of work engagement and job satisfaction in the relationship between leader-member exchange and employee performance in the pharmaceutical industry in Medan, using the SEM-PLS approach, which is rarely applied in local contexts and specific industry sectors.

Hypotesis Development

The Relationship of Leader-Member Exchange with Work Engagement, Job Satisfaction, and Employee Performance

Leader-member exchange (LMX) is a theory that emphasizes the quality of relationships between leaders and team members. These relationships can vary from low (formal and limited) to high (trusting, respectful and supportive). The quality of these relationships has a major influence on employee work behavior and attitudes. When an employee feels a positive relationship with his leader, he shows higher loyalty, commitment, and dedication to work.

Research shows that LMX has a significant effect on work engagement. A study by (Khuc, 2023) in the context of banking in Vietnam showed that good LMX relationships increase employees' enthusiasm, concentration, and emotional involvement in work. According to (Santalla-Banderali & Alvarado, 2022), good LMX increases communication satisfaction in the organization, directly impacting job satisfaction and better performance. In addition, (Kapil & Rastogi, 2020) found that quality LMX relationships create feelings of being valued and empowered, strengthening employee job satisfaction. This satisfaction then drives improved performance, both individually and in teams. In addition, high LMX quality has a direct and indirect impact on improving employee performance. Research by (Jufrizen et al., 2024) and (Prilatama et al., 2025) shows that good LMX increases motivation and innovative behaviour, supporting improved individual performance. Thus, building positive relationships between leaders and team members strengthens a healthy work climate and boosts productivity and overall organisational success. Based on this relationship, the following hypothesis is formulated:

H1: Leader-Member Exchange Affects Work Engagement

H2: Leader-Member Exchange Affects Job Satisfaction

H3: Leader-Member Exchange Affects Employee Performance

Relationship between Work Engagement and Employee Performance

Work engagement, which reflects employees' emotional and cognitive involvement in work, has a positive relationship with employee performance. Research by (Yao et al., 2022) showed that the relationship between work engagement and job performance is curvilinear, where too high or too low levels of engagement can negatively affect performance. However, in the presence of high psychological capital, this relationship becomes more positive, suggesting that psychological capital can amplify the positive impact of work engagement on performance. In addition, a study by (Nkansah et al., 2023), found that employee engagement significantly influences employee performance. Although job demands moderated this



relationship, engagement remained the main predictor of employee performance in crisis conditions. Overall, these studies confirm that work engagement is important in improving employee performance, especially when supported by factors such as psychological capital and effective management of job demands. Therefore, the following hypothesis was formulated:

H4: Work Engagement Affects Employee Performance

Relationship between Job Satisfaction and Employee Performance

Job satisfaction has an important role in improving employee performance. Research by (Jufrizen & Hutasuhut, 2022) shows that job satisfaction positively and significantly affects employee performance. Satisfied employees tend to be more motivated and committed to carrying out their duties, increasing productivity and work quality. In addition, a study by (Gazi et al., 2024) found that job satisfaction directly impacts employee performance and acts as a mediator between work engagement and performance. Employees who are actively engaged in their work will feel more satisfied, which drives improved performance. However, it is important to note that job satisfaction is not the only factor that affects employee performance. Research by (Cao et al., 2024) shows that although job satisfaction has a positive relationship with performance, work motivation also plays an important role as a mediator. In other words, job satisfaction can significantly improve employee performance when supported by high work motivation. These studies confirm that job satisfaction contributes positively to employee performance, especially when supported by other factors such as motivation and work engagement. Therefore, the following hypothesis was formulated:

H5: Job Satisfaction Affects Employee Performance

Relationship between Leader-Member Exchange and Employee Performance Mediated by Work Engagement

High Leader-Member Exchange (LMX) is characterized by trusting, respectful, and supportive working relationships between leaders and employees. This relationship is proven to positively affect employee performance, especially through the mediating role of work engagement. Research by (Jufrizen, et al., 2024) shows that LMX not only has a direct impact on employee performance but also indirectly through increased work engagement. Employees who feel supported by their leaders tend to be more motivated, enthusiastic and engaged at work. Another study by (Aggarwal et al., 2020) confirmed that work engagement significantly mediates between LMX and work outcomes. When work engagement increases due to the quality of relationships with superiors, employees are more focused, productive, and able to perform better. Building a strong LMX can be an effective strategy to improve performance through increasing employees' emotional and psychological engagement with work. Thus, work engagement becomes an important bridge in strengthening the positive influence of LMX on overall employee performance. Based on this relationship, the following hypothesis is formulated:

H6: Leader-Member Exchange Influences Employee Performance through Work Engagement



Relationship between Leader-Member Exchange and Employee Performance Mediated by Job Satisfaction

Leader-member exchange (LMX) focuses on the quality of relationships between leaders and employees built through trust, communication, and support. Research shows that a good LMX relationship can increase job satisfaction, which in turn has a positive effect on employee performance. According to (Jufrizen et al., 2024). High LMX increases job satisfaction because employees feel valued and empowered by their leaders, encouraging them to work better.

The study by (Santalla-Banderali & Alvarado, 2022) also shows that job satisfaction is a significant mediator in the relationship between LMX and performance. When employees are satisfied with their jobs, they tend to be more committed and motivated and have higher productivity. This suggests that job satisfaction improves individual performance, which reinforces the importance of positive leader relationships in creating a supportive work environment. Overall, a positive leader-employee relationship (LMX) increases job satisfaction, which has a direct impact on improving employee performance. A good LMX is an effective strategy for improving performance through higher job satisfaction. Based on this relationship, the following hypothesis is formulated:

H7: Leader-Member Exchange Affects Employee Performance through Job Satisfaction

Based on the theory and empirical findings that have been mentioned, LMX influences employee performance both directly and indirectly through work engagement and job satisfaction. Therefore, this study aims to test this relationship empirically to provide deeper insight into the factors that influence employee performance. Figure 1 depicts the research framework:

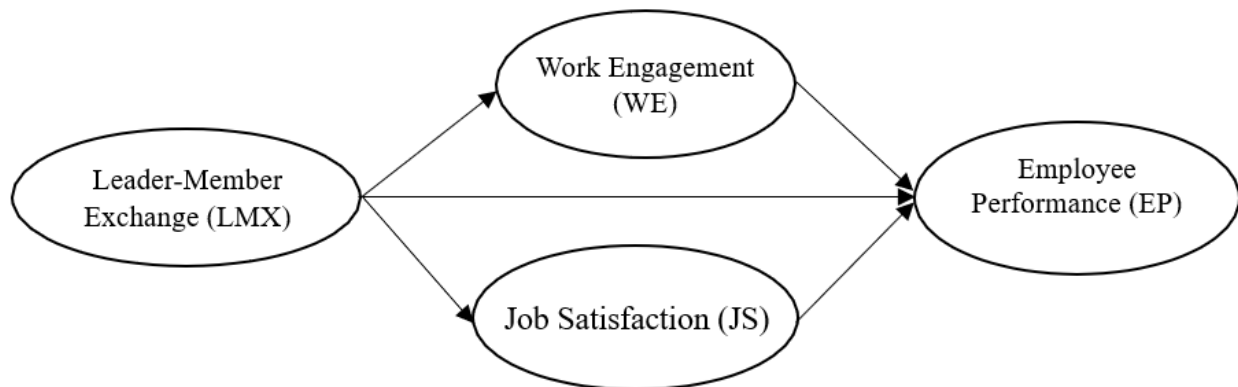


Figure 1. Research Framework



METHOD

The research undertaken is quantitative, focusing on the presentation of numerical data and statistical analysis (Sugiyono, 2012). The quantitative design was chosen because the main purpose of this research is to empirically test the relationship between variables and measure the effect of mediation statistically. The quantitative approach makes it possible to measure variables objectively through standardized instruments (e.g., Likert scale questionnaires), involve larger samples so that research results can be generalized to a wider population, identify and test causal relationships between Leader-Member Exchange (LMX), Work Engagement, Job Satisfaction, and Employee Performance with a high degree of precision and use powerful statistical analysis methods, to test conceptual models and hypotheses that have been formulated deductively.

The research factors are assessed using instruments devised by researchers and highlighted in scholarly articles. The LMX variables are evaluated utilizing the instrument that (Terpstra-Tong et al., 2020) developed, using 8 indicators. The calculation of job satisfaction is predicated on the Job Descriptive Index, which is from (Luthans et al., 2021), using 8 indicators. The survey on Work Engagement, which was created by (Schaufeli & Bakker, 2010) using 8 indicators, and the evaluation of employee performance, which is from (Bernardin & Russel, 2013), were utilised in this research using 8 indicators. The instruments consist of statements presented as a Likert scale survey.

The data collection process entailed the dissemination of Google Forms questionnaires via the messaging platforms WhatsApp and Telegram. This method involves the distribution of questionnaires to a predetermined sample. The entire sample for this research comprised personnel employed by pharmaceutical companies located in Medan, North Sumatra, Indonesia. It is critical to evaluate the LMX, work engagement, job satisfaction, and performance with the employee's viewpoint in mind. The personnel of a pharmaceutical company in Medan, North Sumatra, Indonesia, are the subject of this study. Using a Likert scale, interval data is gathered as part of the survey methodology. A Likert scale will be employed to evaluate the questionnaires of all participants. The scale ranges from Strongly Agree (5 points) to Disagree (1 point).

The data analysis used is structural equation modelling conducted using PLS software to evaluate the model used in this study. The analytical method comprises two fundamental components: the inner and outer models. The inner model specification test assesses the fidelity of the specified relationships, whether between endogenous and exogenous variables or between latent variables. The outer model, also known as the measurement model, clarifies the relationship between each indicator block and the latent variable to which it corresponds (Ghozali & Latan, 2015). SEM-PLS was chosen because this research involves mediating variables (Job Involvement and Job Satisfaction) in the relationship between Leader-Member Exchange (LMX) and Employee Performance. SEM-PLS is very effective in testing complex models and can simultaneously estimate direct and indirect relationships between variables.



RESULTS

Outer Model Analysis

It is crucial to evaluate the reliability of a measuring instrument by computing reliability statistics, including D.G. rho and Cronbach's alpha. Cronbach's alpha signifies the minimum level of dependability associated with a construct, while composite reliability offers a more precise assessment of its intrinsic value. A composite reliability score exceeding 0.60 is generally considered satisfactory by the established protocol for Cronbach's alpha. If both metrics exceed the threshold of 0.60, the construct possesses high dependability. These metrics provide researchers with significant insights into the reliability and consistency of their constructs, thereby enhancing the credibility of their findings and conclusions.

Table 1. Composite Reliability

Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Employee Performance	0.910	0.927	0.616
Job Satisfaction	0.920	0.935	0.645
Leader-Member Exchange	0.922	0.937	0.650
Work Engagement	0.905	0.922	0.595

Table 1 shows that the four components exhibit considerable dependability as measurement instruments, exceeding the minimum criterion of 0.6 for Cronbach's alpha and composite reliability. Table 1 displays AVE values that exceed 0.5, which means good convergent validity, implying that the latent variable can explain more than fifty percent of the average variance measured among these indicators.

To assess the distinctiveness of the reflective measurement model, cross-loadings are contrasted with the square of the correlation between constructs. This evaluation process guarantees that the indicators precisely mirror the specified constructions and not any other components within the model. Discriminant validity is robustly established when indicators demonstrate higher loadings on their constructs than on other constructs. Assessing the relationship between constructs is critical to confirm discriminant validity by squaring the correlation between indicators.

Table 2. Discriminant Validity

Indicator	Employee Performance	Job Satisfaction	Leader-Member Exchange	Work Engagement
EPR.1	0.815	0.825	0.538	0.740
EPR.2	0.801	0.736	0.520	0.809
EPR.3	0.859	0.831	0.647	0.765
EPR.4	0.779	0.688	0.666	0.653
EPR.5	0.777	0.691	0.683	0.617
EPR.6	0.704	0.603	0.684	0.522

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Indicator	Employee Performance	Job Satisfaction	Leader-Member Exchange	Work Engagement
EPR.7	0.762	0.688	0.568	0.589
EPR.8	0.771	0.717	0.520	0.704
JSN.1	0.759	0.781	0.509	0.717
JST.2	0.735	0.742	0.517	0.700
JST.3	0.698	0.736	0.640	0.630
JST.4	0.742	0.864	0.598	0.684
JST.5	0.763	0.876	0.592	0.705
JST.6	0.704	0.760	0.476	0.605
JST.7	0.735	0.794	0.602	0.604
JST.8	0.799	0.857	0.556	0.779
LME.1	0.689	0.617	0.874	0.581
LME.2	0.682	0.605	0.883	0.577
LME.3	0.632	0.560	0.762	0.502
LME.4	0.659	0.647	0.833	0.586
LME.5	0.565	0.526	0.769	0.474
LME.6	0.564	0.571	0.856	0.490
LME.7	0.506	0.437	0.721	0.408
LME.8	0.599	0.525	0.733	0.548
WEG.1	0.737	0.784	0.583	0.796
WEG.2	0.734	0.683	0.630	0.778
WEG.3	0.508	0.523	0.390	0.721
WEG.4	0.465	0.446	0.309	0.746
WEG.5	0.814	0.787	0.598	0.817
WEG.6	0.787	0.747	0.560	0.795
WEG.7	0.549	0.547	0.405	0.798
WEG.8	0.553	0.529	0.378	0.714

The results displayed in Table 2 suggest that discriminant validity is substantial for each variable, as correlations between variables and their respective indicators are stronger than those between indicators of other variables.

An additional critical element in the measurement process is the Herriott-Monotrait Ratio (HTMT) value. Juliandi (2018) stated that an HTMT score below 0.90 indicates a high degree of discriminant validity for a given concept. This metric verifies the uniqueness of the constructs in the measurement model by demonstrating that each construct encompasses distinct variations not collectively represented by the others.



Table 3. Heretroit-Monotoroit Ratio (HTMT)

Variable	Employee Performance	Job Satisfaction	Leader-Member Exchange
Employee Performance			
Job Satisfaction	0.807		
Leader-Member Exchange	0.836	0.756	
Work Engagement	0.812	0.893	0.676

Table 3 shows the HTMT for each variable below 0.90, suggesting that the variables possess robust discriminant validity. This suggests that the configuration of indicators within each variable precisely reflects the intended structures.

Inner Model Test

R-square is a significant metric for evaluating a model's ability to account for data variability. Juliandi (2018) posits that an R-square value of 0.75 shows that a model is robust, while values of 0.50 and 0.25 indicate moderate and feeble models, respectively. An analysis of the R-square values derived from the data analyzed by the smartPLS 4.0 software yields valuable insights regarding the model's predictive capability and overall quality.

Table 4. R-Square

Variable	R Square	R Square Adjusted
Employee Performance	0.899	0.898
Job Satisfaction	0.492	0.489
Work Engagement	0.424	0.421

As shown in Table 4, LMX, Job Satisfaction, and Work Engagement significantly impact Employee Performance, accounting for a considerable proportion of the variance with an R-square value of 0.899. It is possible to attribute around 89.9% of the variability in employee performance to fluctuations in work engagement, LMX, and job satisfaction. A robust model is indicated by the fact that 10.1% of the other variables significantly impact the prediction of employee performance. A significant relationship exists between Work Engagement, LMX, and Job Satisfaction, as evidenced by the R-square value of 0.492, which accounts for 49.2% of the variance in Job Satisfaction and suggests a noteworthy model. External variables are responsible for 50.8% of the variance in Job Satisfaction. Work Engagement is substantially impacted by the Leader-Member Exchange, which accounts for 42.4% of the variance in Work Engagement. This model is substantial, considering that external variables account for 57.6% of the variance in Work Engagement.

Hypothesis Testing

This evaluation aids in hypothesis testing by elucidating the route coefficients in the structural model, thereby establishing the significance of linkages. The smart PLS 4.0 software facilitates a thorough assessment of the model's interconnections and dynamics through



hypothesis testing, which consists of direct and indirect evaluations.

Table 5. Path Coefficient

Hypothesis	Path	T Statistics	P Values	Information
H1	Leader-Member Exchange → Work Engagement	11.753	0.000	Accepted
H2	Leader-Member Exchange → Job Satisfaction	13.190	0.000	Accepted
H3	Leader-Member Exchange → Employee Performance	4.644	0.000	Accepted
H4	Work Engagement → Employee Performance	4.960	0.000	Accepted
H5	Job Satisfaction → Employee Performance	10.727	0.000	Accepted
H6	Leader-Member Exchange → Work Engagement → Employee Performance	5.017	0.000	Accepted
H7	Leader-Member Exchange → Job Satisfaction → Employee Performance	8.084	0.000	Accepted

The results obtained from an exhaustive Smart PLS analysis performed on the entire dataset are briefly presented in Table 5. The findings underscore the substantial influence that Leader-Member Exchange has on various aspects of organizational dynamics. Hypotheses H1, H2, and H3 are statistically confirmed to be significantly affected by the Leader-Member Exchange, namely employee performance ($t = 4.644$, $p = 0.000$), job satisfaction ($t = 13.190$, $p = 0.000$), and work engagement ($t = 11.753$, $p = 0.000$). Hypothesis H4 is confirmed by the research findings, which indicate a robust correlation between employee performance and work engagement ($t = 4.960$, $p = 0.000$). Statistical research supports the notion that job satisfaction substantially impacts employee performance ($t = 10.727$, $p = 0.000$), thereby confirming hypothesis H5. The research presents persuasive evidence regarding the impact of Leader-Member Exchange on the performance of employees, operating via both direct and indirect channels. Hypothesis H6 was validated through the mediation study, demonstrating a significant and positive association between Leader-Member Exchange and employee performance. Work engagement further mediated this correlation ($t = 5.017$, $p = 0.000$). By influencing job satisfaction, Leader-Member Exchange significantly influences employee performance, thus providing support for hypothesis H7 ($t = 8.084$, $p = 0.000$).

DISCUSSION

The Effect of Leader-Member Exchange on Work Engagement

The results of the first hypothesis testing suggest a significant and positive relationship between LMX and work engagement ($t = 11.753$, $p = 0.000$). This means that the better the relationship between superiors and subordinates, characterized by mutual trust, mutual respect, and open communication, the higher the employees' motivation, enthusiasm, and involvement



in their work. Employee work engagement can be increased at pharmaceutical companies in Medan, North Sumatra, Indonesia, through effective leader-member interactions. In the pharmaceutical industry that demands high accuracy and responsibility, good interpersonal relationships between leaders and employees are a crucial factor that encourages high work engagement, thus strengthening the relationship between LMX and work engagement. Fostering constructive relationships and effective communication between leaders and subordinates are critical factors in increasing employees' emotional and psychological commitment to their work. A good relationship between leaders and subordinates increases motivation, trust, and a sense of belonging at work, making employees more emotionally, cognitively, and physically engaged. Consistent with prior research conducted by (Wagner & Koob, 2022), (Aggarwal et al., 2020), and (Breevaart, Bakker, Demerouti, & Heuve, 2015), the results underscore the substantial correlation that exists between member-leader interaction and employee engagement.

The Effect of Leader-Member Exchange on Job Satisfaction

Upon careful examination of the second hypothesis, it becomes evident that LMX has a considerable and statistically significant impact on employee job satisfaction ($t = 13.190$, $p = 0.000$). This means that the higher the quality of the relationship between leaders and subordinates, the higher the job satisfaction employees feel. The caliber of leader-member interactions within pharmaceutical companies in Medan, North Sumatra, Indonesia, significantly impacts employee work satisfaction. In pharmaceutical companies with high workloads and strict operational standards, support from superiors is an important source of motivation and job comfort, thus significantly strengthening the impact of LMX on job satisfaction. When leaders build good relationships with subordinates through effective communication, emotional support, and trust, employees feel more valued and comfortable in their jobs. This increases job satisfaction, contributing to employee productivity and organisational loyalty. Interactions that foster a positive office environment are distinguished by reciprocal communication, assistance, loyalty, and regard; these elements enhance the employees' perception of worth and acknowledgement. The results align with prior investigations carried out by (Goswami & Jena, 2023); (Bennouna et al., 2024); (Jordan & Troth, 2011), and (Harris et al., 2009), which underscore the substantial influence of leader-member exchange on the level of job satisfaction among employees.

The Effect of Leader-Member Exchange on Employee Performance

The analysis of the third hypothesis reveals a significant and positive correlation between leader-member exchange and employee performance ($t = 4.644$, $p = 0.000$). In Pharmaceutical Companies located in Medan, North Sumatra, Indonesia, fostering positive LMX enhances employee performance. This means that the better the relationship quality between leaders and subordinates, the higher the level of performance shown by employees. Support from leaders also provides a sense of security and reinforces positive perceptions of work roles, which drives productivity and consistent target achievement. This explains why this study's correlation between LMX and employee performance is so strong. Strong bonds



between leaders and subordinates empower leaders to effectively motivate their teams, resulting in increased productivity and improved performance. When leaders build good relationships with subordinates, employees feel valued, supported, and motivated. This increases employee productivity, commitment and results, ultimately contributing to organizational success. These findings resonate with prior studies conducted by (Breevaart, Bakker, Demerouti, & Heuvel, 2015); (Choy et al., 2016); (Chaurasia & Shukla, 2013) and (Choy et al., 2016), which emphasize the beneficial and statistically significant impact of leader-member exchange on employee performance.

The Effect of Work Engagement on Employee Performance

Furthermore, the analysis results for the fourth hypothesis indicate that employee performance significantly benefits from work engagement ($t = 4.960$, $p = 0.000$). Within Pharmaceutical Companies in Medan, North Sumatra, Indonesia, heightened job engagement correlates positively with improved employee performance. This means that the higher the employee's involvement in their work, the better their performance. Employees with high work engagement are more motivated, energized, and focused on getting the job done, resulting in better performance. Engaged employees also tend to be more productive and innovative and contribute more to the organisation's success. Employees who demonstrate initiative and a shared sense of accountability in their roles experience notable advancements in personal achievement and decision-making autonomy, ultimately enhancing overall performance. Consistent with prior investigations by (Paliga, 2022); (Tisu et al., 2020); (Li et al., 2021), (Sugianingrat et al., 2019); (Anitha, 2014) and (Yao et al., 2022), these findings underscore the substantial positive influence of employee engagement on performance.

The Effect of Job Satisfaction on Employee Performance

The examination of the fifth hypothesis reveals that employee performance and job satisfaction are significantly and positively correlated ($t = 10.727$, $p = 0.000$). Enhanced employee performance correlates with greater job satisfaction at Medan, North Sumatra, Indonesia, and pharmaceutical companies. Employees who are satisfied with their jobs will be more motivated and loyal and perform better, increasing productivity and work quality. Conversely, dissatisfied employees tend to be less motivated and can experience a decline in performance. Therefore, improving job satisfaction can be an important strategy for organizations in improving employee performance. Positive emotions that arise from work-related experiences and employment-related factors influence employment satisfaction. Employee satisfaction positively correlates with tension reduction, increased contentment, and a strengthened sense of security and dedication to the workplace. This results in increased employee effort and motivation, improving performance. The results align with prior investigations conducted by (Jufrizen, Khair, et al., 2023), (Crossman & Abou-Zaki, 2003); (Marbun & Jufrizen, 2022); (Goetz & Wald, 2022), and (Kim & Choi, 2018), which underscore the favorable influence of job satisfaction on staff productivity.



The Effect of Leader-Member Exchange on Employee Performance through Work Engagement

The examination results regarding the sixth hypothesis indicate that LMX impacts employee performance via work engagement ($t = 5.017$, $p = 0.019$). By increasing job engagement, pharmaceutical companies in Medan, North Sumatra, Indonesia, can enhance employee performance by developing solid leader-member relationships. When leaders build good relationships with subordinates, employees feel more valued and supported. This increases work engagement, making employees more energised, dedicated, and focused. As a result, their performance improves in terms of productivity and work quality. Therefore, a good leader-subordinate relationship plays an important role in creating high work engagement, which positively impacts employee performance. Positive leader-subordinate relationships foster an atmosphere conducive to productivity, inspiring staff members to voluntarily undertake supplementary duties and accept accountability for their professional positions. The heightened level of employee engagement can be attributed to their voluntary dedication, which motivates them to carry out their responsibilities with greater diligence, ultimately enhancing their performance. Consistent with prior investigations conducted by (Chaurasia & Shukla, 2013); (Jufrizen, et al., 2024); (Utami & Zakiy, 2020), and (Sepdiningtyas & Santoso, 2017), the findings underscore the impact of leader-member interchange on employee performance as measured by job engagement.

The Effect of Leader-Member Exchange on Employee Performance through Job Satisfaction

Upon examination of the seventh hypothesis, it is determined that LMX influences employee performance via job satisfaction ($t = 8.084$, $p = 0.019$). Pharmaceutical company executives in Medan, North Sumatra, Indonesia, can adopt an approach to improve employee performance and satisfaction with their jobs: cultivating positive leader-member interactions. An environment conducive to fostering positive relationships between leaders and subordinates may influence employees to voluntarily accept additional responsibilities and contribute to increased job satisfaction. Enhanced job satisfaction positively influences employee performance by cultivating heightened levels of commitment and devotion. A good relationship between leaders and subordinates (LMX) creates a comfortable and supportive work environment, which increases employee job satisfaction. Employees who are satisfied with their jobs tend to be more motivated and committed and work better, resulting in higher performance. Thus, job satisfaction is an important factor that bridges the influence of LMX on employee performance. Scholars including (Suharnomo & Kartika, 2018); (Jufrizen et al., 2024); (Wulandari et al., 2020) and (Mitasari et al., 2023) have conducted research that substantiates the relationship between leader-member exchange and employee performance via job satisfaction.

Leader-member interchange is crucial for the sustainability of pharmaceutical companies inside a corporate organization in Indonesia. Hence, it necessitates effective management and careful consideration. The study findings suggest that leader-member interchange positively impacts job happiness, work engagement, and employee job performance in pharmaceutical

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firm organizations. Pharmaceutical companies should prioritize the influence of work engagement and job happiness. The given research results and hypotheses suggest that leader-member interchange and the mediation of work engagement and job happiness can significantly impact employee job performance. Thus, pharmaceutical companies in Medan, North Sumatra, Indonesia, must enhance the leader-member interchange capability of their leaders and employees. Enhanced employee job performance will directly influence company earnings and improve employee well-being.

CONCLUSION

This research aims to examine the impact of Leader-Member Exchange (LMX) on employee performance at a pharmaceutical company in Medan, North Sumatra, Indonesia. This will be accomplished by analyzing work engagement and job satisfaction. The substantial influence of LMX, work engagement, and job satisfaction on employee performance is indisputable. The caliber of the leader-team member relationship significantly impacts employee job contentment and work engagement. Furthermore, work engagement is an intermediary factor in the relationship between employee performance and LMX. The relationship between leader-member exchange and employee performance at pharmaceutical companies in Medan, North Sumatra, Indonesia, may be influenced indirectly by job satisfaction.

This study suggests that Medan, North Sumatra pharmaceutical companies improve the relationship between leaders and members (LMX) to build professional respect and work engagement. This can be achieved by improving leader competence, employee communication, and socialization before new assignments. The company is also advised to conduct training to increase self-confidence and teamwork. To increase job satisfaction, companies must provide incentives, recognition, and career opportunities, create a pleasant work environment, and apply the latest technology. Further research is recommended to expand independent variables related to human resources.

This study has limitations because it only uses one independent variable, LMX, and has a small sample size. To improve the accuracy of the results, it is recommended that the sample be enlarged and variables added in future research.

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