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Moderating Role of Employee Vitality in the Relationship Between Transformational Leadership and Job Performance

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Abstract

This paper examines the mediating role of employee vitality (EV) in the relationship between transformational leadership (TL) and job performance i.e., task performance (TP) and contextual performance (CP) of HR practitioners (HRP) in the manufacturing sector within the northern region of Malaysia using Self-Determination Theory (SDT), Stakeholder Theory (ST), and Conservation of Resources Theory (CRT). 300 responses were received and analysed using SmartPLS 4.0. Results indicated that TL has an indirect effect on TP and CP, mediated by EV, thus demonstrating that TL qualities of supervisors play a role in enhancing the vitality of HRP which then improves their performance.

Keywords: *Organisational resilience, employee well-being, leadership effectiveness, workplace vitality, performance enhancement*

Introduction

This study originates from the realisation of how important HR practitioners (HRP) are to organisations during the recent COVID-19 pandemic – how organizations around the world rely on HRP in their respective organizations to coordinate and management their human resources amidst the greatest work disruption in the past century. This has raised the question on how the job performance of HRP can be improved through factors such as leadership styles of their supervisors, and the role played by their personal level of vitality in this relationship. Ultimately, when the next big work disruption hit, HRP will be better prepared and equipped to aid their respective organizations wade through the tough times.

The importance of leadership in shaping organisational outcomes has been well-established in the literature. TL, in particular, has been linked to a variety of positive employee outcomes, including enhanced TP and organisational citizenship behavior (Mirza et al., 2023). However, the specific mechanisms through which TL influences these outcomes remain less understood. One potential mechanism that has received comparatively less attention in the literature is the concept of EV. EV, or the positive feeling of having energy available to oneself, is a crucial aspect of employee well-being and performance. Yet, its role in mediating the relationship between TL and performance outcomes has not been thoroughly examined.

This study aims to fill this gap in the literature by exploring the mediating role of EV in the relationship between TL and two types of performance: TP and CP. TP refers to the

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effectiveness with which job-specific tasks are performed, while CP refers to behaviors that contribute to the organisational environment, such as helping others and showing initiative (Siddiqui et al., 2023). In addition to its focus on EV, this study also contributes to the literature by applying the COR theory to explain the relationships between TL, EV, and performance. The COR theory, which posits that individuals strive to acquire, maintain, and protect their resources, provides a novel theoretical perspective on these relationships (Bauwens et al., 2023).

Finally, this study provides context-specific insights by focusing on HRP in the manufacturing sector in Northern Malaysia. This focus allows for a deeper understanding of the dynamics of leadership-performance relationships in this particular setting, which may have unique cultural, economic, or industry characteristics (Anom & Gustomo, 2023).

This paper begins with an elaboration on the background of the study before proceeding to discuss the problem statement, objectives of the study and a review of literature on the constructs under study. The underlying theory will also be discussed before describing how the hypotheses were developed. Finally, the statistical methods used for analysis and its results will be expounded before elaborating on the findings of this study.

Research Background

The manufacturing sector, a critical component of Malaysia's economy, is characterized by its dynamic and challenging environment. Within this sector, human resource (HR) practitioners play a pivotal role in managing the workforce, shaping organisational culture, and driving performance. Their leadership style, particularly TL, can significantly influence employee outcomes, including TP and CP (Don Ton et al., 2022). However, the mechanisms through which TL influences these outcomes, particularly in the context of the manufacturing sector in Northern Malaysia, remain under-explored. One potential mechanism that has received less attention in the literature is the concept of EV. EV, a sense of having energy available to oneself, is a crucial aspect of employee well-being and performance. Yet, its role in mediating the relationship between TL and performance outcomes has not been thoroughly examined (Shoaib et al., 2022).

This study aims to address this gap by investigating the mediating role of EV in the relationship between TL and two types of performance: TP and CP, among HRP in the manufacturing sector in Northern Malaysia. A total of 300 HRP participated in this study, providing data via questionnaires. The data were analysed using SmartPLS 4, a software tool for structural equation modelling. By focusing on this specific context, this study seeks to provide insights into the dynamics of leadership-performance relationships in the manufacturing sector in Northern Malaysia, which may have unique cultural, economic, or industry characteristics. This focus on a specific context is a key aspect of the study's novelty, as it allows for a deeper understanding of these dynamics in a setting that may differ from those typically studied in the existing literature (Manesh et al., 2018).

Problem Statement

The role of TL in influencing employee performance has been widely recognized in various sectors, including healthcare (Manesh et al., 2018) and education (Shoaib et al., 2022). However, the manufacturing sector, particularly in Northern Malaysia, has not been thoroughly explored.

This sector is a critical component of Malaysia's economy, and HRP within this sector play a pivotal role in managing the workforce and driving performance. Despite the importance of this role, there is a dearth of studies investigating the influence of TL on HRP' performance in this specific context. Moreover, while the impact of TL on TP and CP is well-documented, the mediating role of EV in this relationship is less understood. EV, a sense of having energy available to oneself, is a crucial aspect of employee well-being and performance. However, its role in mediating the relationship between TL and performance outcomes has not been thoroughly examined in the existing literature (Don Ton et al., 2022).

The problem this study seeks to address is the lack of understanding of the specific mechanisms through which TL influences performance outcomes in this context, particularly the role of EV. By addressing this problem, the study aims to contribute to a deeper understanding of the dynamics of leadership-performance relationships in the manufacturing sector in Northern Malaysia.

Research Objectives

The field of organisational behavior has long recognized the pivotal role of leadership in shaping employee performance. TL, in particular, has been linked to a variety of positive employee outcomes, including enhanced TP and organisational citizenship behavior (Don Ton et al*.,* 2022). However, the specific mechanisms through which TL influences these outcomes remain less understood. Building on this foundation, our research aims to delve deeper into the under-explored concept of EV. EV, or the positive feeling of having energy available to oneself, is a crucial aspect of employee well-being and performance. Yet, its role in mediating the relationship between TL and performance outcomes has not been thoroughly examined (Shoaib et al., 2022).

Our study seeks to fill this gap in the literature by exploring the mediating role of EV in the relationship between TL and two types of performance: TP and CP. TP refers to the effectiveness with which job-specific tasks are performed, while CP refers to behaviors that contribute to the organisational environment, such as helping others and showing initiative. Furthermore, we aim to apply the COR theory to provide a theoretical explanation for these relationships. The COR theory, which posits that individuals strive to acquire, maintain, and protect their resources, offers a fresh perspective on these relationships (Hanna, 2016).

Lastly, our research seeks to provide context-specific insights by focusing on HRP in the manufacturing sector in Northern Malaysia. This focus allows for a deeper understanding of the dynamics of leadership-performance relationships in this particular setting, which may have unique cultural, economic, or industry characteristics (Manesh et al., 2018). By addressing these objectives, our study aims to contribute to a more comprehensive understanding of the dynamics of leadership-performance relationships.

Literature Review

Task performance and contextual performance

TP and CP are two critical dimensions of job performance that have been extensively studied in the field of organisational behavior. TP refers to the effectiveness with which job-specific tasks are performed, while CP refers to behaviors that contribute to the organisational

environment, such as helping others and showing initiative (Çalışkan & Köroğlu, 2022). It is often seen as the core of an employee's job and is typically defined by the technical and administrative tasks outlined in a job description. It is directly related to the production processes of an organisation and contributes to the organisation's technical core (Yoo & Kim, 2021). However, the factors that influence TP can vary. For instance, a study by Jannesari et al. (2021) found that the frequency of interactions and personality traits such as extraversion and openness can significantly impact TP.

CP, on the other hand, is not explicitly part of the job description but is essential for the maintenance and enhancement of the organisational environment. It includes behaviors such as helping colleagues, volunteering for extra job activities, following organisational rules and procedures, and endorsing, supporting, and defending organisational objectives. These behaviors, although not directly related to the job itself, contribute to the organisational, social, and psychological environment in which the technical core must function (Bhardwaj & Kalia, 2021). Interestingly, a study by Anwar et al. (2020) found that an internal locus of control can have a negative impact on employees' CP.

Both TP and CP are critical for the overall performance and success of an organisation. However, the factors that influence these two types of performance may differ. For instance, employee engagement and organisational culture have been found to significantly influence both task and CP in the hospitality industry (Bhardwaj & Kalia, 2021). Further research is needed to understand the specific factors that influence task and CP in different sectors and contexts, such as the manufacturing sector in Northern Malaysia.

Transformational leadership

TL, a leadership style that focuses on the inner development of followers, has been a topic of profound interest among scholars for decades. Compared to transactional leadership, which emphasizes reward and punishment, TL seeks to stimulate followers intellectually, thereby initiating organisational transformation through a change in people's perceptions (Christian et al., 2022).

The impact of TL on teacher performance has been a particular focus of recent research. For instance, a study by Jarminto et al. (2022) found a significant correlation between principal TL and teacher performance. Similarly, a study by Rizkie et al. (2022) found both direct and indirect effects of principal's TL on teacher performance, mediated by quality culture and job satisfaction. Moreover, TL has been linked to work motivation and work discipline. A study by Albuni et al. (2022) found that TL, work discipline, and work motivation all had direct and indirect effects on teacher performance.

Despite these findings, the specific mechanisms through which TL influences performance outcomes, particularly in the context of different sectors and cultural contexts, remain less understood. Further research is needed to explore these mechanisms and to understand how TL can be effectively cultivated and managed in different organisational contexts. Additionally, while TL has been studied extensively in the context of education, more research is needed to understand its impact in other sectors, such as the manufacturing sector in Northern Malaysia.

Employee vitality

EV, a sense of having energy available to oneself, has been increasingly recognized as a crucial aspect of employee well-being and performance. The concept of vitality has been linked to various positive outcomes in the workplace, including increased work engagement and optimal

functioning (Pap et al., 2022). It is suggested that proactive vitality management, a bottom-up, proactive employee behavior, and strengths use, a proactive personal resource, can facilitate engagement independently but yield the strongest results when used together. Several studies have explored the concept of EV, its determinants, and its impact on various aspects of work performance. For instance, Tummers et al. (2016) conducted a study that analysed the effects of leadership and job autonomy on vitality. The study showed that both leader's task communication and job autonomy are positively related to vitality which suggests that public organisations can potentially increase EV by increasing task communication from leaders and by providing employees with greater job autonomy. Meanwhile, Hakanen et al. (2019) investigated the relative importance of various job demands and resources for EV among different employment groups and found that job feedback made the strongest contribution to work engagement and workload to exhaustion thus suggesting that organisations should focus on enabling job feedback and preventing high workload in all employment groups to enhance vitality.

On the other hand, the relationship between EV and job performance, particularly among white-collar workers, has also been a subject of interest in organisational research. Alessandri et al. (2018) conducted a study investigating a dynamic mediational model posing work engagement as the mediator of the longitudinal relation between Psychological Capital (PsyCap) and job performance proving that both absolute levels and increases in PsyCap predicted subsequent work engagement increases, which in turn predicted job performance increases. The mediating role of the changes in work engagement between previous PsyCap and performance change was confirmed over time. Furthermore, Miraglia et al. (2017) conducted a study intending to uncover the mechanisms linking self-efficacy to job performance by analyzing the mediating role of job crafting. The study confirmed the mediating role of crafting actions, which may represent the behavioral process underlying the positive effect of self-efficacy on individual outcomes.

Underpinning theory

The theoretical underpinning of this study is grounded in three key theories: the SDT, ST and the COR theory. Each of these theories provides a unique lens through which the relationships between TL, EV, and performance can be understood.

SDT posits that individuals are more likely to engage in behaviors that they find intrinsically motivating and that fulfill their basic psychological needs for autonomy, competence, and relatedness (Ryan & Deci, 2000). In the context of TL, leaders who foster an environment that supports the fulfilment of these psychological needs can enhance EV. This is because when employees feel autonomous, competent, and connected, they are more likely to feel energized and engaged in their work, which in turn can enhance their task and CP. This perspective is supported by the findings of Mirza et al. (2023), who found that TL and servant leadership increase employee engagement, TP, and organisational citizenship behavior.

ST suggests that organisations have a responsibility to consider the interests of all stakeholders, including employees, in their decision-making processes (Freeman, 1984). In the context of this study, transformational leaders who consider the interests and well-being of their employees are likely to create an environment that supports EV. This is because when employees feel valued and cared for, they are more likely to feel energized and engaged in their

work, which can enhance their performance. Siddiqui et al. (2023) found that ethical leadership had a direct influence on a firm's environmental, task, and CP, as well as indirect effects through varied sustainability policies.

Finally, the COR theory posits that individuals strive to retain, protect, and build resources and what happens when those resources are threatened (Hobfoll, 1989). In the context of this study, the resources refer to the personal, social, and material resources of HRP. Transformational leaders, through their inspirational motivation, intellectual stimulation, individualized consideration, and idealized influence, can cultivate resourceful environments that boost EV, which in turn enhances TP and CP.

Together, these theories provide a comprehensive framework for understanding the dynamics of leadership-performance relationships and the mediating role of EV. They offer a novel perspective on how TL can impact performance through the cultivation of resources, fulfilling psychological needs, and considering the interests of all stakeholders.

Hypotheses development

The development of the hypotheses for this study is grounded in the theoretical perspectives of SDT, ST, and the COR theory, as well as empirical evidence from recent studies on TL, EV, and performance.

H1: *TL is positively associated with employee TP.*

This hypothesis is based on the premise of SDT that leaders who foster an environment that supports the fulfilment of psychological needs can enhance EV and, in turn, TP (Ryan & Deci, 2000). Empirical evidence from Mirza et al. (2023) supports this hypothesis, showing that TL and servant leadership increase employee engagement, TP, and organisational citizenship behaviour.

H2: *TL is positively associated with CP.*

This hypothesis is grounded in the ST, which suggests that leaders who consider the interests and well-being of their employees can create an environment that supports EV and, in turn, CP (Freeman, 1984). Alshahrani et al. (2023) provides empirical support for this hypothesis, showing that innovative work behavior, a key aspect of TL, influences organisational performance.

H3: *TL is positively associated with EV.*

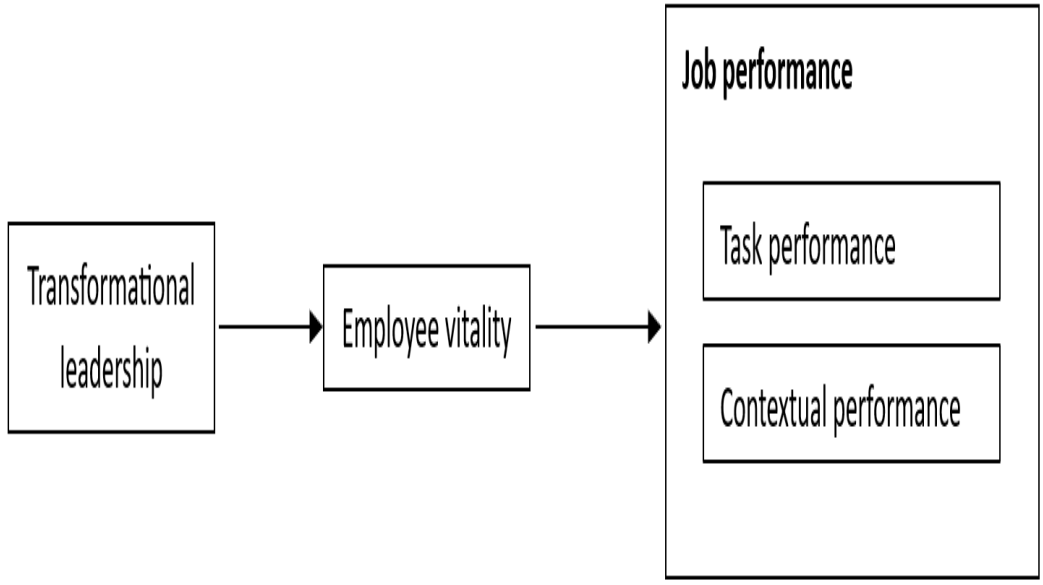
This hypothesis is based on the premise of the COR theory that leaders who cultivate resourceful environments can boost EV (Hobfoll, 1989). Empirical evidence from Mirza et al. (2023) supports this hypothesis, showing that TL can increase employee engagement, a key aspect of EV.

H4: *EV mediates the relationship between TL and TP.*

H5: *EV mediates the relationship between TL and CP.*

These hypotheses are based on the premise of all three theories that EV can serve as a mechanism through which TL influences performance. Empirical evidence from Anom and Gustomo (2023) supports these hypotheses, showing that innovative work behavior, a key aspect of EV, can mediate the effect of TL on improving employee performance.

Figure 1: Research framework



Methods

Sampling

This study focused on full-time HRP employed in manufacturing companies within the northern region of Malaysia. A purposive sampling strategy was used to select participants, the profile of which is shown in Appendix A.

Measurement

A total of 1216 emails were sent to HRP of relevant companies seeking their participation in the study. Of these, 557 HRP responded and were issued questionnaires consisting of 32 items measuring TL, EV, TP and CP. The response rate was 60.3%, with 336 responses received. After excluding 36 responses not meeting the inclusion criteria, the final sample size was 300 HRP, accounting for 53.8% of the questionnaires distributed, thus ensuring the study's robustness.

Dependent variable (job performance): The dependent variable, job performance, was divided into TP and CP. HRP rated their own TP using a 6-item scale from Williams and Anderson (1991), Lynch et al. (1999), and adopted by Talukder et al. (2018), scored on a 7-point Likert scale. CP was also rated using a 4-item scale from the same sources, scored similarly on a 7-point Likert scale.

Mediating variable (EV): EV was gauged in this research using five items from Kark and Carmeli (2009), scored on a 7-point Likert scale ranging from '1' "strongly disagree" to '7' "strongly agree".

Independent variables (TL): TL was measured through seven items adapted from Carless et al., (2000), using a similar 7-point Likert scale.

Common method variance: To mitigate common method variance, this study adopted the recommendations of Tehseen et al., (2017) besides reducing ambiguity in the questionnaire through a pilot test, and using statistical control remedies such as the Rönkkö and Ylitalo's (2011) six-step marker variable approach. Marker variables used four questions, which according to Chin et al. (2013), can remove up to 70% of common method variance. These questions were adopted from studies by Lichtenstein et al. (1993) and used by Hampson et al. (2021) to measure price consciousness. The items are listed below:

1. I go to extra effort to find lower prices.
2. I shop at more than one store to take advantage of low prices.
3. The money saved by finding low prices is worth the time and effort.
4. I compare prices of at least a few brands before I choose one.

Lastly, a full collinearity test was conducted following Kock (2015) to identify any issues with common method variance.

Statistical methods

Data analysis for this study was performed using SPSS version 29 and Smart Partial Least Squares (PLS) version 4.0. Initial checks for missing values and normality were conducted, and descriptive statistics calculated. Common method variance was also addressed through the use of marker variables, and a full collinearity test.

Next, the measurement model was evaluated using SmartPLS to ensure reliability and validity of the constructs, which included examining factor loadings for item correlations.

The structural model was then evaluated, beginning with assessing collinearity issues and examining the significance of the relationships within the model. Hypotheses were tested and coefficients of determination (r^2) were assessed, followed by examining effect size (f^2) and the model's predictive relevance using PLS Predictive analysis. Finally, hypotheses testing was conducted for H1, H2 and H3 in addition to mediation analysis for the remaining hypotheses: H4 and H5 based on statistical significances of the total effect, direct effect, and specific indirect effect between variables.

Results

Descriptive statistics

Data analysis for this study was performed using SPSS version 29 and Smart Partial Least Squares (PLS) version 4.0. Initial checks for missing values and normality were conducted and descriptive statistics calculated. Although the Partial Least Squares Structural Equation Modeling (PLS-SEM) used is nonparametric and doesn't require normality of data, the data set was still tested for extreme non-normality due to the potential problems this might cause in assessing parameter significance (Civelek, 2018). Based on skewness and kurtosis measures of the data, it was found that the data generally within the acceptably normal ranges according to Yim and Byon (2020) i.e., ±2 range for skewness and ±5 range for kurtosis. The result of normality analysis is also shown in Table 1 below.

Table 1: Normality analysis

		TP	CP	EV	TL
N	Valid	300	300	300	300
	Missing	0	0	0	0
Mean		5.9657	5.8852	5.5523	5.7918
Std. Deviation		.68619	.73559	.92333	.73760
Variance		.471	.541	.853	.544
Skewness		-.622	-.435	-1.122	-.555
Std. Error of Skewness		.141	.141	.141	.141
Kurtosis		.374	-.236	2.771	-.020
Std. Error of Kurtosis		.281	.281	.281	.281

TP; task performance, CP; contextual performance, EV; employee vitality, TL; transformational leadership

Common method variance

This research used marker variables, and a full collinearity test, to confirm the absence of common method variance (CMV). Marker variables were used to allow a comparison of the baseline model and the marker model (Table 2). The result revealed similar r^2 values CP, EV and TP without any substantial changes in the relationship between the constructs. The statistical significance of all paths also remained consistent, thereby further supporting the absence of CMV in this studyalso revealed no significant model differences, further supporting the absence of CMV.

Table 2: Comparison between baseline model and marker included model.

Relations	**Without Marker Variable**			**With Marker Variable**		
Direct effects	Path coef.	p-values	Remarks	Path coef.	p-values	Remarks
EV -> CP	0.494	0.000	Supported	0.486	0.000	Supported
EV -> TP	0.495	0.000	Supported	0.485	0.000	Supported
TL -> CP	0.100	0.094	Not supported	0.095	0.109	Not supported
TL -> EV	0.367	0.000	Supported	0.355	0.000	Supported
TL -> TP	0.093	0.133	Not supported	0.087	0.154	Not supported
Indirect effect	Without MV	p-values	Remarks	With MV	p-values	Remarks
TL -> EV -> CP	0.181	0.000	Supported	0.172	0.000	Supported
TL -> EV -> TP	0.181	0.000	Supported	0.172	0.000	Supported
Change in Coefficient of Determination (R^2) - with and without Marker Variables						
R-square	Without MV			With MV		
CP	0.290			0.296		
EV	0.134			0.145		
TP	0.287			0.294		
Change in Adjusted R^2 - with and without Marker Variables						
Adjusted R-square	Without MV			With MV		
CP	0.285			0.289		
EV	0.132			0.140		
TP	0.282			0.287		

Finally, the full collinearity test, following Kock (2015) which used variance inflation factors (VIF) to confirm the absence of common method bias obtained VIF values below the 3.3 threshold for every item (Table 3) thus concluding that that there were no CMV issues in the model, allowing the study to proceed with additional statistical analysis.

Table 3: Full collinearity test - VIF

	CP	EV	RANDOM	TL	TP
CP			1.602		
EV			1.125		
RANDOM					
TL			1.357		
TP			1.565		
CP			1.602		

Assessment of measurement model

Factors loadings, construct reliability and validity

In the study, factor loading (Table 4) was used to correlate each item with its principal component, as defined by Pett et al. (2003). Given that none of the items had factor loadings less than the recommended 0.6 (Awang, 2015; Yana et al., 2015), no items were removed. Reliability was established using Cronbach's Alpha and Composite Reliability (CR), both of which exceeded the required 0.70 threshold (Hair et al., 2021), with values ranging from 0.866 to 0.938 and 0.870 to 0.941 (Table 5), respectively.

Table 4: Factor loading

	CP	EV	TL	TP
CP15	0.851			
CP16	0.856			
CP17	0.864			
CP18	0.806			
EV19		0.917		
EV20		0.917		
EV21		0.873		
EV23		0.922		
TL34			0.870	
TL36			0.911	
TL37			0.904	
TL38			0.878	
TL39			0.914	
TP10				0.855
TP11				0.789
TP12				0.847
TP13				0.742
TP14				0.858
TP9				0.845

Table 5: Construct reliability analysis

	Cronbach's alpha	Composite reliability (rho_a)
CP	0.866	0.870
EV	0.928	0.929
TL	0.938	0.940
TP	0.905	0.916

Convergent validity was next confirmed as the Average Variance Extracted (AVE) for all constructs was above the recommended 0.50 threshold (Table 6), indicating no issue.

Table 6: Construct convergent validity (AVE)

	Average variance extracted (AVE)
CP	0.713
EV	0.823
TL	0.802
TP	0.679

Finally, discriminant validity was established using the Fornell and Larcker Criterion (Table 7), cross loadings (Table 8), and the Heterotrait-Monotrait (HTMT) Ratio (Table 9). These results confirmed discriminant validity had been achieved.

Table 7: Fornell & Larcker Criterion

	CP	**EV**	**TL**	**TP**
CP	0.844			
EV	0.531	0.907		
TL	0.281	0.367	0.895	
TP	0.767	0.529	0.274	0.824

Note: the square root of AVE is in bold and italicized

Table 8: Cross loading

	CP	**EV**	**TL**	**TP**
CP15	0.851	0.457	0.190	0.732
CP16	0.856	0.384	0.197	0.633
CP17	0.864	0.488	0.282	0.611
CP18	0.806	0.450	0.269	0.615
EV19	0.478	0.917	0.278	0.485
EV20	0.484	0.917	0.324	0.454
EV21	0.434	0.873	0.412	0.462
EV23	0.527	0.922	0.317	0.515
TL34	0.238	0.357	0.870	0.274
TL36	0.246	0.317	0.911	0.248
TL37	0.244	0.300	0.904	0.236
TL38	0.247	0.313	0.878	0.206
TL39	0.281	0.348	0.914	0.259
TP10	0.657	0.417	0.240	0.855
TP11	0.568	0.372	0.182	0.789
TP12	0.608	0.355	0.198	0.847
TP13	0.564	0.410	0.211	0.742
TP14	0.724	0.540	0.254	0.858
TP9	0.638	0.472	0.253	0.845

Table 9: Heterotrait-Monotrait (HTMT) Ratio

	CP	**EV**	**TL**	**TP**
CP				
EV	0.586			
TL	0.308	0.391		

TP	0.859	0.566	0.292

Assessment of the structural model

Multicollinearity analysis

In the present study, Variance Inflation Factor (VIF) was used to investigate potential issues of multicollinearity. Based on recommendations by Kim (2019) and Hair et al. (2021), a VIF value exceeding 5.0 signifies the presence of multicollinearity. As depicted in Table 10, the VIF values in this study ranged from 1.748 to 4.629. These values, being under the specified threshold of 5, suggest the absence of substantial multicollinearity problems within the study.

Table 10: Multicollinearity statistics (VIF) for indicators

	VIF
CP15	2.288
CP16	2.423
CP17	2.136
CP18	1.755
EV19	4.629
EV20	4.562
EV21	2.714
EV23	3.727
TL34	2.774
TL36	3.899
TL37	3.759
TL38	3.186
TL39	3.818
TP10	2.719
TP11	2.201
TP12	2.803
TP13	1.748
TP14	2.466
TP9	2.462

Results of hypotheses testing

The structural model and the results of hypotheses testing are shown in Figure 1 and Table 11 below. Accordingly:

H1: *TL is positively associated with employee TP.*

The p-value for the direct relationship between TL and TP is greater than 0.05, indicating that the relationship is not statistically significant. This suggests that TL is not directly associated with TP. Hence, H1 is not supported.

H2: *TL is positively associated with CP.*

The p-value for the direct relationship between TL and CP is greater than 0.05, indicating that the relationship is not statistically significant. This suggests that TL is not directly associated with CP. Therefore, H2 is also not supported.

H3: *TL is positively associated with EV.*

The p-value for the relationship between TL and EV is less than 0.05, indicating a statistically significant relationship. This suggests that TL is positively associated with EV thus supporting H3.

H4: *EV mediates the relationship between TL and TP.*

The p-value for the indirect effect of TL on TP through EV is less than 0.05, indicating a statistically significant relationship. This suggests that EV does mediate the relationship between TL and TP. Thus, H4 is supported.

H5: *EV mediates the relationship between TL and CP.*

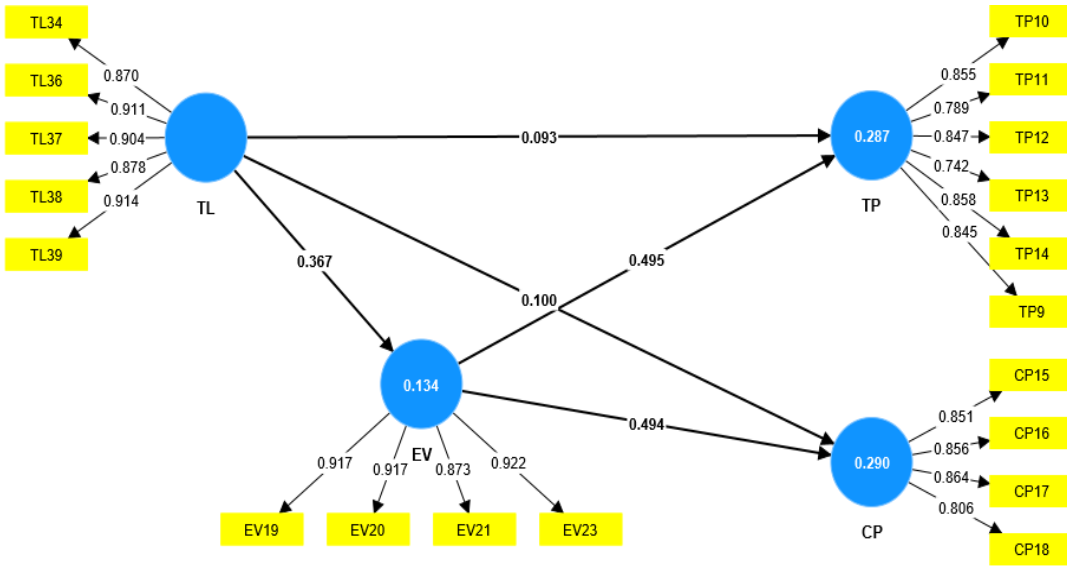
The p-value for the indirect effect of TL on CP through EV is less than 0.05, indicating a statistically significant relationship. This suggests that EV does mediate the relationship between TL and CP therefore supporting H5.

Table 11: Summary of total effects, direct effects and specific indirect effects of constructs

	Total effect		**Direct effect**		**Specific Indirect effect**					
	Coefficient	*p-value*	*Coefficient*	*p-value*		*Coefficient*	*SD*	*t-value*	*p-value*	*CI (2.5% - 97.5%)*
EV -> CP	0.494	0.000	0.494	0.000	TL -> EV -> CP	0.181	0.038	4.726	0.000	0.113-0.265
EV -> TP	0.495	0.000	0.495	0.000	TL -> EV -> TP	0.181	0.039	4.628	0.000	0.113-0.268
TL -> CP	0.281	0.000	0.100	0.094						
TL -> EV	0.367	0.000	0.367	0.000						
TL -> TP	0.274	0.000	0.093	0.133						

TP; task performance, CP; contextual performance, EV; employee vitality, TL; transformational leadership

Figure 1: Structural Model



Coefficient of determination (r2)

In this research, the coefficient of determination (r^2 value) was employed to measure the predictive accuracy of the model as recommended by Chicco et al. (2021), Sharma et al. (2020), and Zhang et al. (2018). As per Hair et al. (2021), r^2 value of 1 signifies perfect prediction, while 0.75, 0.50, and 0.25 can be considered substantial, moderate, and weak predictive accuracy.

Table 12: Coefficient of determination (r^2)

	R-square
CP	0.290
EV	0.134
TP	0.287

As shown in Table 12, EV exhibited an r^2 value of 0.134 in the study, suggesting that TL account for 13.4% of its variance. TP and CP demonstrated r^2 values of 0.287 and 0.290 respectively, denoting that EV explains 29% of their variance. These r^2 values surpass the 0.10 threshold proposed by Falk and Miller (1992), confirming that the model possesses acceptable predictive power.

Effect size (f2)

The study also evaluated the predictive capability of each independent construct using its effect size (f^2), which estimates the predictive relevance and change in r^2 when a specific variable is excluded from the model, as described by Hair et al. (2021). Following the classifications provided by Cohen (2013) and Hair et al. (2021), effect sizes are categorized into small (0.02 to 0.15), medium (0.15 to 0.35), and large (0.35 and above). This effect size assessment was incorporated in the study to account for the differential impact of variables in the model as shown in Table 13.

Table 13: Assessment of effect sizes (f^2)

	Employee vitality (endogenous variable)	Task performance (endogenous variable)	Contextual performance (endogenous variable)

Exogenous variables	f^2 value	Effect size	f^2 value	Effect size	f^2 value	Effect size
Employee vitality			0.297	Medium	0.298	Medium
Transformational leadership	0.155	Medium	0.011	-	0.012	-

Predictive relevance of model (Q^2)

The study also assessed the predictive relevance (Q^2) of the structural model to determine its predictive power and accuracy (Al Mansoori et al., 2020; Newaz et al., 2020). This analysis, which predicts endogenous constructs in the reflective model, was conducted using PLS Predict in Smart PLS (Najib et al., 2021). Ali and Kashif (2020) suggest that the Q^2 value should surpass zero, with 0.02, 0.15, and 0.35 signifying weak, moderate, and substantial predictive relevance, respectively. In this study, as presented in Table 14, the Q^2 values for EV, TP and CP were 0.123, 0.066, and 0.070 respectively, all surpassing zero albeit only signifying the model's weak predictive relevance.

Table 14: Predictive relevance of model (Q^2)

	Q^2predict
CP	0.070
EV	0.123
TP	0.066

Discussion

This study unveils that TL qualities exhibited by the immediate supervisors of the HRP have a significant positive effect on EV. Hence, this suggests that when supervisors demonstrate TL behaviors, it significantly enhances the vitality or energy levels of their HRP. Consequently, the results of this study also show that EV has a significant positive effect on both TP and CP suggesting that HRP with higher vitality levels perform better both in their specific tasks and in broader contextual aspects of their work.

As the same results indicate that TL qualities of supervisors do not have a significant direct effect on either TP or CP of the HRP, this means that the influence of TL on performance is not direct but rather mediated through other factors, such as EV. This suggests that TL enhances performance not directly, but by boosting EV, which in turn improves both TP and CP. Hence, it can be surmised that TL qualities of supervisors play a crucial role in enhancing the vitality of HRP, which subsequently improves their performance. However, the effect of TL on performance is indirect and mediated through its impact on EV.

The outcomes of this study appear to align well with the three theories upon which the research model is based on. The finding that TL has a significant positive effect on EV as well as the mediating role of EV in the relationship between TL and performance both supports what is posited by the SDT. The theory posits that individuals are more likely to engage in behaviors that they find intrinsically motivating and fulfilling. In the context of this study, TL, which is characterized by inspiring and motivating followers, can foster a sense of intrinsic motivation and vitality among employees thus explaining how TL has a significant positive effect on EV. Inadvertently, these intrinsically motivated behaviors (such as those driven by vitality) can lead to improved performance and thus explaining the the mediating role of EV in the relationship between TL and performance.

The same can be explained using ST which suggests that organisations should always consider

the interests of all stakeholders, including employees. Hence, when leaders consider the needs and interests of their followers (as posited by ST), they can enhance their followers' vitality, which in turn can improve performance thus explaining how transformational leaders, by considering the needs and interests of their followers, will then also be able to enhance EV and performance. This subsequently supports the finding that TL has a significant indirect effect on performance through EV.

Finally, as explained by the COR theory, valuable resources (such as TL) can lead to the conservation of other resources (such as vitality), which in turn can improve performance. Here, TL can be seen as a valuable resource that can enhance EV and performance thus explaining how it can have a significant positive effect on EV which eventually leads to improved performance.

Besides being supported by the relevant theories, the findings of this study are also in alignment with several other earlier studies that have explored the impact of TL on various aspects of employee behavior and performance. For instance, the study by Li et al. (2020), found that TL positively predicted employees' pro-environmental behaviors, with environmental passion and autonomous motivation serving as mediators. This aligns with the current study's findings on the positive impact of TL on EV and the mediating role of vitality in performance outcomes. Furthermore, the study by Chen et al. (2018), found an inverted U-shaped relationship between TL and employee TP suggesting that the impact of TL on performance might not be linear and could be influenced by other factors, which could explain why the current study found no direct effect of TL on TP.

Contributions

Insofar as the contributions of this study is concerned, this study makes several significant theoretical and practical contributions to the existing body of literature on TL, EV, and performance. From a theoretical perspective, this study addresses a gap in the literature by examining the mediating role of EV in the relationship between TL and performance. While previous studies have explored the impact of TL on performance (e.g., Chen et al. (2018), few have specifically examined the mediating role of EV. This study provides empirical evidence of this mediating role, thereby enhancing our understanding of the mechanisms through which TL impacts performance.

Furthermore, this study contributes to the theoretical literature by examining the indirect effects of TL on performance through EV. While previous studies have suggested that TL can have indirect effects on performance e.g., Elgelal and Noermijati (2014), few have specifically examined the indirect effects through EV. This study provides empirical evidence of these indirect effects, thereby expanding our understanding of the pathways through which TL impacts performance.

Practically, the findings of this study have important implications for organisational leaders and HRP. The results suggest that fostering TL can enhance EV, which in turn can improve performance. This highlights the importance of leadership development programs that focus on TL behaviors. Moreover, the findings suggest that organisations should also focus on strategies to enhance EV, such as wellness programs and initiatives to promote work-life balance.

Finally, the novelty of this study lies in its context. It examines these relationships among HRP in manufacturing companies in Malaysia post-COVID-19, a context that has received little attention

in the literature. This unique context allows for the examination of these relationships in a setting that is characterized by unique challenges and opportunities, thereby enhancing the generalizability of the findings and providing valuable insights for organisations operating in similar contexts.

Limitations and suggestions for future researches

While this study offers valuable insights it is subject to several limitations. Among others, this study employs a cross-sectional design, which, while providing a snapshot of the relationships at a particular point in time, limits the ability to infer causality. Hence, it is suggested that future studies take a longitudinal approach to better understand the dynamics of these relationships over time and establish a clearer cause-and-effect relationship between TL, EV, and performance.

Next, the reliance on self-reported measures also introduces the potential for bias, including social desirability bias where participants may respond in a manner they perceive as favorable rather than providing an accurate reflection of their behaviors or performance. While steps have been taken in this study to reduce the possibility of this happening, it is recommended that future studies incorporate objective measures of performance or third-party evaluations to complement self-reported measures.

Thirdly, the study's context, focusing on HRP in manufacturing companies in Malaysia post-COVID-19, may limit the generalizability of the findings. While this context offers unique insights, the relationships observed may differ in other industries, geographical locations, or cultural contexts. Future studies could explore these relationships in a variety of settings to enhance the generalizability of the findings.

Finally, the study may not have accounted for all relevant variables that could influence the relationships between TL, EV, and performance. Therefore, factors such as organisational culture, individual personality traits, or other leadership styles could potentially influence these relationships and should be considered in future research.

Conclusion

In conclusion, this study provides a comprehensive investigation into the relationships between TL, EV, and job performance among HRP in the manufacturing sector in Malaysia confirming that EV is a vital construct that mediates this relationship. These results contribute to the theoretical understanding of the mechanisms through which TL influences performance and offer practical insights for organizational leaders and HRP and underscores the need for organizations to foster TL qualities, particularly in challenging times, as it manifests itself as a form of EV. Overall, this study illuminates the profound influence of TL on EV and performance even in the face of adversity.

Appendix A: Respondent profile

	Frequency	**Percentage**
Gender		
Male	70	23.3%
Female	230	76.7%
Age		
25 and below	23	7.7%
26 to 41	153	51.0%
42 to 57	113	37.7%

58 and above	11	3.7%
Job level		
Senior Manager and above	61	20.3%
Manager	75	25.0%
Senior executive	70	23.3%
Junior executive	66	22.0%
Clerical/administrative or equivalent	28	9.3%
Sector		
Electrical & electronics	62	20.7%
Precision engineering and equipment	62	20.7%
Medical devices	11	3.7%
Aerospace/avionics	10	3.3%
Others	155	51.7%

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