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The Role of Transformational Leadership and Emotional Intelligence to Increase Innovative Work Behavior with Psychological Empowerment as Mediating Variable

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Abstract:

This study aims to analyze the effect of Transformational Leadership (TL) and Emotional Intelligence (EI) on Innovative Work Behavior (IWB), with Psychological Empowerment (PE) as a mediating variable. This research was conducted on State Civil Apparatus (ASN) in Pekalongan Regency Government. The survey method was used through data from online questionnaires distributed to 350 respondents from 5 Regional Apparatus, namely: Public Works and Spatial Planning Office, Public Housing and Settlement Area and Environment Office, Education and Culture Office, Food Security and Agriculture Office, and Health Office. The sampling technique was carried out using the Percentage Proportional method, which reflects the number of ASNs in each PD. This means that if a sample is taken from 5 PDs, then there must be proportional representation from each PD respondent. Data analysis using the Structural Equation Modeling Partial Least Square (SEM PLS) application with WarpPLS version 7.0 software. Data analysis techniques carried out through several tests, among others: Model Fit Test, Path Coefficients Test, Adjusted R-squared (R^2) Test, Multicollinearity Test, Reliability and Validity Test and Mediation Test. The results showed that Transformational Leadership and Emotional Intelligence have a positive effect on Innovative Work Behavior, both directly and partially mediated through Psychological Empowerment as a mediator. This research has theoretical and managerial implications.

Keywords: *Transformational Leadership, Emotional Intelligence, Psychological Empowerment, Innovative Work Behavior*

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1. Introduction

In an era of rapid technological change, organizations in various sectors face disruption challenges that force them to adapt quickly. New technologies such as *artificial intelligence* and the *Internet of Things* spur innovation, which is becoming a key strategy to improve competitiveness (Halawi, 2024; Fay et al., 2015). This challenge requires companies to make a radical transformation in the field of management, where the role of HR is very important in shaping organizational capabilities (Ulrich, 1997).

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TL plays a key role in improving employees' IWB. Transformational leaders inspire employees to overcome challenges and create creative solutions, which has a positive impact on IWB, especially when intrinsic motivation and PE are also high (Saeed et al., 2019; Ashfaq et al., 2021). However, there are different research results, such as those found by Purwanto (2023), which show that TL does not affect IWB directly.

In addition to TL, EI also plays an important role in influencing IWB. Individuals with high emotional intelligence tend to be more able to innovate and contribute positively to their work (Cheng et al., 2023; Binsaeed, 2023). Research by Malik (2020) and Orhan (2012) shows that EI has a significant positive correlation with IWB, although there are also studies that show the opposite result (Khan et al., 2021).

PE emerged as an important mediating variable in the relationship between TL and IWB. Employees who feel psychologically empowered tend to be more proactive and innovative in their work (Yadav, 2022; Cheng, 2023). PE also mediates the effect of EI on IWB, with individuals who have high EI more likely to feel empowered and able to manage their emotions in the work context, which in turn increases their IWB (Khan, 2021; Alotaibi, 2020).

This study highlights the important role of TL and EI in shaping IWB, with PE as a mediating variable. Efforts to improve IWB in organizations should consider the development of TL, EI, and PE.

2. Theoretical Background

Transformational Leadership and Psychological Empowerment

Research conducted by Pradhan et al., (2016) that TL has a positive and significant effect on PE. In their view, creating a supportive environment requires PE and transformational leadership skills. It triggers recognition, development, participation in decision-making, and professional development of employees. The positive emotional connection enhances their sense of psychological empowerment. In addition, transformative leadership is effective in addressing employee stress, leading to more productive outcomes. Consequently, positive PE interventions have a positive impact on the relationship between TL and employees' IWB. (Afsar et al., 2014). Adogymus (2018) mentioned, when employees perceive their leaders as transformational figures, they tend to feel more psychologically empowered. In this context, the behavior exhibited by the transformational leader becomes a specific external stimulus, triggering an internal process of evaluation in employees and shaping their perception of the PE. This type of environmental stimulation according to Hackman (1992) will shape PE perceptions through employees' internal evaluations. Therefore, it is concluded that TL as an external stimulus that pays attention to employee development will affect employees' PE. Therefore, we can make a hypothesis:

H_1 : Transformational Leadership has a positive effect on Psychological Empowerment

Emotional Intelligence and Psychological Empowerment

Grandey et al., (2004) revealed that the emotional labor level of front-line employees is largely influenced by intrinsic motivation. This means that a deep understanding of the meaning of work can be a key driver for front-line employees' intrinsic motivation in completing their tasks. And BakKer (2017) added, when employees find meaning from their daily tasks, they are more likely to internalize rules on how to express emotions in accordance with company policies. Thus, it can be concluded that employees who feel meaning in their work are more likely to show a true emotional response rather than a superficial one i.e. an emotional response without actually feeling it deeply when interacting with customers.

Such as the research conducted by Lucas et al., (2008) in the hospital sector which found that nurses had access to empowering work structures and they had managers who had emotionally intelligent leadership styles, who both experienced significantly less emotional exhaustion, with improved emotional health, working conditions, and job satisfaction. Therefore, we can hypothesize:

H_2 : Emotional Intelligence has a positive effect on Psychological Empowerment

Transformational Leadership and Innovative Work Behavior

According to TL theory, transformational leaders provide opportunities for employees to participate in decision-making processes, cooperation, and ideas, which can make them feel more empowered in their work (Stanescu, 2021). This, in turn, aids competency development and learning that enhances innovation. Innovative work behavior requires employees to have a high need to achieve and a low need to conform which is facilitated by transformational leaders (Afsar et al., 2014). Furthermore, research conducted by Eisenbeiss et al. (2008) mentioned that the mentioned characteristics of a leader trigger intrinsic motivation and create an environment for creativity and innovation. In line with research conducted by Masa'deh (2016), the impact of TL is imitation motivation and empowerment which in turn positively influences and encourages innovative work behavior among employees. (Sosik et al., 2018). Therefore, we can hypothesize:

H_3 : Transformational Leadership has a positive effect on Innovative Work Behavior

Emotional Intelligence and Innovative Work Behavior

Employees who have EI can better understand and manage their own actions as well as those of others. This ability allows them to identify and respond appropriately to emotions in specific situations. In addition, EI also contributes to increased innovative behavior (Mayer et al., 1999). According to the model created by Mayer and Salovey, there are four main abilities, namely the perception of emotions; the use of emotions for the inspiration of emotional understanding; and finally the regulation of emotions for the enrichment of personal development and social relationships (Lee, 2003). Thus, individuals who have this ability will be able to manage problems that may occur more effectively when compared to others who do not have this ability. Scott & Bruce, (2020) also argue that employees with higher EI tend to have higher skills in creativity and that the emotional environment of the organization tends to have a positive impact on employees' IWB. Employees with high EI tend to stay positive and

focused which makes them inspire their coworkers to embrace innovative ideas and show support and gain support for innovative ideas. This suggests that employees who have higher EI will improve. Therefore, we can make a hypothesis:
H_4 : Emotional Intelligence has a positive effect on Innovative Work Behavior

Psychological Empowerment and Innovative Work Behavior:
Research conducted by Pradhan et al., (2016) that TL has a positive and significant effect on PE. In their view, creating a supportive environment requires PE and TL skills. This requires recognition, development, participation in decision making, and professional development of employees. A positive emotional connection increases their sense of PE. In addition, transformative leadership is effective in addressing employee stress, leading to more productive outcomes. Consequently, positive PE interventions have a positive impact on the relationship between TL and employees' IWB. (Afsar et al., 2014). This type of environmental stimulation according to Hackman (1992) will shape PE perceptions through employees' internal evaluations. Therefore, it is concluded that TL as an external stimulus that pays attention to employee development will affect employee PE. Therefore, we can hypothesize:
H_5 : Psychological empowerment has a positive effect on innovative work behavior

The Relationship of Transformational Leadership to Innovative Work Behavior mediated by Psychological Empowerment
PE according to Masood & Afsar (2017) is considered a strong mediator, which plays an important role in the interaction between employee IWB and TL. This is supported by previous research which found that PE is able to mediate the influence of TL on IWB (Afsar et al., 2014). According to Spreitzer (1995), PE encompasses a variety of different antecedents, namely, the organization, co-workers, and various sources within the environment or the individual. Although leaders can have a significant effect on the work environment of their subordinates, many factors are constrained by them within the organization. Organizational rules and regulations, HR policies, and social arrangements can be examples of this. These will make subordinates feel that PE reinforces leadership (Shalley, 2004). Therefore, we can make a hypothesis:
H_6 : Empowerment Psychology mediates the effect of Transformational Leadership on Innovative Work Behavior.

The Relationship of Emotional Intelligence to Innovative Work Behavior mediated by Psychological **Empowerment**
Alotaibi et al., (2020) studied the role of empowering leadership and EI in increasing employee psychological empowerment and engagement. They concluded that employees with higher EI and leadership skills showed higher psychological empowerment and engagement which played an important role in the interaction between employees' IWB. Mayer and Salovey (1993) used the term "Emotional Intelligence" for the first time, defining it as a kind of talent for observing one's own and others' emotions, recognizing them and using this information to guide one's thinking or actions. Diana (2020) who examined 138 respondents found that PE can partially mediate the relationship between EI on IWB. In previous research, Spreitzer (1995) considered PE as a process that specifically motivates individuals and creates

a feeling of accomplishment. In addition, (Jenskins, 1996) also described PE as a motivational tool that increases people's enthusiasm to perform certain tasks that they were previously unable to do. It also includes the ability to recognize and manage one's own and others' emotions. This can also be referred to as EI (Howe, 2008). Therefore, we can hypothesize:

H_7 : Empowerment Psychology mediates the influence of emotional Intelligence on Innovative Work Behavior

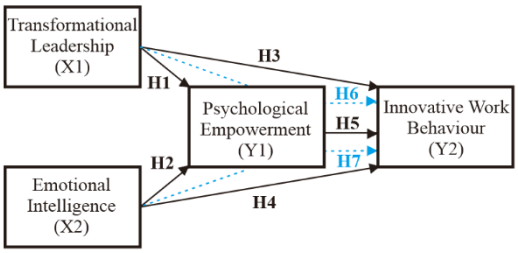

Figure 1. Research Framework

3. Methodology

This type of research is quantitative. The data source in this study is primary data obtained directly distributed to the object of research, namely selected respondents in 5 Regional Apparatus (PD) in the Pekalongan Regency Government, including: Public Works and Spatial Planning Office, Public Housing and Settlement Area and Environment Office, Education and Culture Office, Food Security and Agriculture Office, Health Office. The questionnaires distributed in this study were to measure the TL, EI, PE and IWB measurement variables using Bass' Likert Scale (1998) scores 1-7, from score 1 which means "Strongly Disagree", 2 means "Disagree", 3 means "Somewhat Agree" 4 means "Neutral", 5 means "Somewhat Agree", 6 means "Agree" and score 7 means "Strongly Agree". The research sample is part of the population of this study, with a sample size of 200 respondents. The sampling technique was carried out using the Proportional Percentage method, which reflects the proportion of *samples of* the number of ASN in each PD in a balanced manner. In other words, if the sample is taken from 5 PDs, then there must be a proportional representation of each respondent in each PD.

Table 1. Respondent Criteria

No.	Criteria
1	Employees who have been appointed as ASN
2	Minimum age of employees is 20 years old
3	Employee education is at least high school or equivalent
4	Have worked for at least 1 year

From the results of the sampling, 350 respondents were obtained.

The collected data were analyzed using the Structural Equation Modeling Partial Least Square (SEM PLS) method with the assistance of WarpPLS version 7.0 software.

SEM PLS was chosen due to its ability to simultaneously analyze the relationships between latent variables, as well as to test both the measurement model and the structural model concurrently. WarpPLS version 7.0 was utilized because of its advanced features, which enable more precise and accurate analysis, including the testing of validity and reliability of the research instruments, as well as the estimation of the path relationships between latent variables.

4. Empirical Findings/Result

Data testing through several instruments, including:

a. Model Fit Test

The purpose of this test is to determine the extent to which the model built is suitable or in accordance with the empirical data used in the study, and evaluate whether the proposed model as a whole can explain the relationship between the hypothesized variables well.

Table 2. Model Fit

Indicator	Value	Ideal Boundary	Interpretation
Average Path Coefficient (APC)	0,25	P < 0.001	The relationship between variables in the model is significant and strong.
Average R-squared (ARS)	0,514583	P < 0.001	The model was able to explain 74.1% of the variance of the endogenous latent variables.
Average Adjusted R-squared (AARS)	0,513194	P < 0.001	Good model stability in explaining the variance of endogenous latent variables.
Average Block VIF (AVIF)	4.059	≤ 5 *(acceptable)*, ≤ 3.3 *(ideal)*	There is slight multicollinearity, but it is still within acceptable limits.
Average Full Collinearity VIF (AFVIF)	3.584	≤ 5 (acceptable), ≤ 3.3 (ideal)	Full multicollinearity in the model is still within acceptable limits.
Tenenhaus GoF (Goodness of Fit)	0,361111	≥ 0.36 *(large)*	The model has a very good overall fit.
Sympson's Paradox Ratio (SPR)	1.000	≥ 0.7 *(acceptable)*, 1 *(ideal)*	There is no Simpson's Paradox, the direction of the relationship between variables is consistent.
R-squared Contribution Ratio (RSCR)	1.000	≥ 0.9 *(acceptable)*, 1 *(ideal)*	The R2R^2R2 contributions of the predictor variables to the endogenous variables are optimal.
Statistical Suppression Ratio (SSR)	1.000	≥ 0.7 *(acceptable)*	No statistically significant suppression, the measured relationship is genuine.
Nonlinear Bivariate Causality Direction Ratio (NLBCDR)	1.000	≥ 0.7 *(acceptable)*	The direction of causality in the model is consistent with the hypothesis, with no significant nonlinear deviations.

Source: Processed Primary Data (2024)

Average Path Coefficient (APC) = 0.360, P < 0.001, indicating the average path coefficient in the model, that the relationship between the variables in this model is strong and statistically significant. *Average R-squared (ARS)* of 0.741, P < 0.001. This ARS test measures the average R2R^2R2 value of endogenous latent variables. The value of 0.741 indicates that this model is able to explain 74.1% of the variance of the endogenous latent variables, which is a strong indication that this model has excellent

predictive power. *Average Adjusted R-squared (AARS)* = 0.739, P < 0.001. is an adjusted version of ARS that considers the number of predictor variables which indicates good model stability in explaining the variance of endogenous latent variables.

Average Block Variance Inflation Factor (AVIF) of = 4.059 *(acceptable if* ≤ 5, *ideally* ≤ 3.3). This test is to measure multicollinearity among blocks of variables in the model. The value of 4.059 indicates that the model is within acceptable limits for multicollinearity (≤ 5), although slightly higher than ideally (≤ 3.3). This indicates that there is some multicollinearity, but not at an alarming level. *Average Full Collinearity Variance Inflation Factor (AFVIF)* = 3.584 *(acceptable if* ≤ 5, *ideally* ≤ 3.3). Used to measure full multicollinearity in the model. This value indicates that although there is some multicollinearity, it is within acceptable limits. *Tenenhaus GoF (Goodness of Fit)* = 0.520 *(small* ≥ 0.1, *medium* ≥ 0.25, *large* ≥ 0.36), a measure of overall model fit. The GoF value of 0.520 indicates that this model has a very good fit, being in the *"large"* category which indicates that this model is very good at explaining the variance of the data.

Sympson's Paradox Ratio (SPR) = 1.000 (*acceptable if* ≥ 0.7, *ideally* = 1). Used to measure whether there is *Simpson's Paradox* in the model. An SPR value of 1.000 indicates that there is no *Simpson's Paradox*, which means that the direction of the relationship between latent variables is consistent across different segments of data. This is the ideal condition. *R-squared Contribution Ratio (RSCR)* = 1.000 (*acceptable if* ≥ 0.9, *ideally* = 1), used to measure the contribution of R2R^2R2 from predictor variables to endogenous variables. This value indicates that the contribution of each predictor to the endogenous variable is optimal. *Statistical Suppression Ratio (SSR)* = 1.000 *(acceptable if* ≥ 0.7), used to measure whether there is statistical suppression in the model. A value of 1.000 indicates the absence of statistical suppression, which means all measured relationships are genuine and not affected by statistical suppression. *Nonlinear Bivariate Causality Direction Ratio (NLBCDR)* =1.000 (*acceptable if* ≥ 0.7) to measure the direction of nonlinear causality in bivariate relationships. A value of 1.000 indicates that the direction of causality in the model fully conforms to the hypothesis, without any significant nonlinear deviations.

Based on the model fit tests described, this model performs very well. All key indicators show that the model has a good fit with the data, can explain significant variance of the latent variables, and does not exhibit multicollinearity or other inconsistency issues. In other words, the model is suitable for use in further analysis and the results are reliable.

b. *Path Coefficients* Test

This test aims to assess the strength and direction of the relationship between the independent and dependent variables in the research model. The path coefficient describes the direct effect of one variable on other variables in the structural model.

The Direct Effect of TL on IWB, showing the Path Coefficient (β): 0.855 with P-value: <0.001 indicates TL has a positive and significant influence on IWB. The beta coefficient of 0.855 indicates that each one-unit increase in TL will increase IWB by 0.855 units. A p-value of <0.001 indicates that this result is highly statistically significant, which means that the likelihood of this relationship occurring by chance is very small (less than 0.1%). Thus, we can be confident that TL really does affect IWB.

Direct Effect of EI on IWB with Path Coefficient (β): 0.833, P-value: <0.001, indicating that EI also has a positive and significant influence on IWB. The beta coefficient of 0.833 indicates an influence that is almost as strong as TL. The P-value <0.001 indicates that this relationship is highly statistically significant, so it can be confirmed that EI plays an important role in increasing IWB. The effect of TL on PE, Path Coefficient (β): 0.356, P-value: <0.001, TL has a positive and significant influence on PE. The beta coefficient of 0.356 indicates that an increase in TL will increase PE. The P-value of <0.001 confirms that this result is highly statistically significant, indicating that TL markedly increases the sense of empowerment among employees.

Direct Effect of EI on PE, indicating Path Coefficient (β): 0.477, P-value: <0.001, that EI has a stronger positive and significant influence than TL on PE, with a beta coefficient of 0.477. This indicates that EI is more effective in increasing PE. The p-value < 0.001 indicates that this result is highly statistically significant, so we can be confident that EI substantially increases psychological empowerment in the workplace. The Direct Effect of PE on IWB, showing Path Coefficient (β): 0.280, P-value: <0.001 indicating that PE has a positive and significant influence on IWB. The beta coefficient of 0.280 indicates that PE plays an important role in enhancing innovative work behavior. The P-value < 0.001 ensures that this effect is highly significant, which means that PE actually supports innovation in work behavior.

The Indirect Effect of TL on IWB through PE, showing Path Coefficient (β): 0.270, P-value: <0.001, carrying This indirect effect indicates that part of the influence of TL on IWB is mediated by PE. With a beta coefficient of 0.270, PE partially mediates the effect of TL on IWB. The **p-value < 0.001** confirms that this mediation is highly significant, suggesting that PE is an important pathway through which TL affects IWB. **Indirect Effect of EI on IWB through PE, Path Coefficient (β):** 0.419, **P-value:** <0.001, This indirect effect is stronger than TL, with a beta coefficient of 0.419. This suggests that PE plays an important role as a mediator in the relationship between EI and IWB. The **P-value < 0.001** indicates that this mediation is highly significant, ensuring that an increase in EI has a significant impact on IWB through PE**.**

Table 3. Path Coefficient Test

HYPOTHESIS	B	P VALUE	DESCRIPTION
TL -> IWB	0.855	<0.001	TL has a positive and significant influence on IWB
EI -> IWB	0.833	<0.001	EI has a positive and significant influence on IWB.
TL -> PE	0.356	<0.001	TL has a positive and significant influence on PE.
EI -> PE	0.477	<0.001	EI has a positive and significant influence on PE.
PE -> IWB	0.280	<0.001	PE has a positive and significant influence on IWB.
TL->PE -> IWB	0.270	<0.001	PE partially mediates the relationship between TL and IWB.

HYPOTHESIS	B	P VALUE	DESCRIPTION
EI -> PE -> IWB	0.419	<0.001	PE partially mediates the relationship between EI and IWB.

Source: Processed Primary Data (2024)

These results indicate that both TL and EI have a positive and significant influence on IWB directly or indirectly through PE. The partial mediation of PE indicates that employee PE is an important pathway through which TL and EI can increase IWB. All significant path coefficients indicate that the model is robust and all tested variables are interrelated in the expected way.

The partial mediation here also suggests that there are other mechanisms besides PE that may play a role in the relationship between TL and IWB, as well as EI and IWB. This indicates that PE is important, but not the only factor that mediates the relationship. Researchers need to consider other factors that may also play a role for further research.

c. Adjusted R-squared Test *(Adjusted R²)*

The purpose of the *Adjusted R-squared* (R^2) test is to measure how much variability in the dependent variable can be explained by the independent variables in the model. The R-squared value indicates the proportion of the total variation in the results that can be explained by the model built.

Table 4. R-squared Test (R^2)

Dependent Variable	R-squared (R^2)	Adjusted R-squared (Adjusted R^2)	Interpretation
IWB	0,836	0,835	The model is highly efficient and does not suffer from *overfitting*, demonstrating stability in explaining IWB variability.
PE	0,645	0,643	The model explains the variability of PE quite well, despite larger adjustments, it is still efficient and not *overfitting*.

Source: Processed Primary Data (2024)

Adjusted R-squared (Adjusted R²) provides an adjustment to the R^2 value by taking into account the number of predictors in the model. This value is important because adding predictors to the model often increases the R^2 value, but does not necessarily mean the model is better. Adjusted R^2 helps evaluate whether the addition of predictor variables makes a significant contribution or simply adds complexity without substantially improving the quality of the model.

Adjusted R-squared for IWB = 0.835. The high Adjusted R^2 value that is close to the R^2 value indicates that the model used to explain the variability of the IWB is very good. The model does not suffer from *overfitting*, which means that the addition of predictor variables has been done well without adding unnecessary variability. In other words, the model is efficient and stable in explaining IWB.

Adjusted R-squared for PE = 0.643. Although the Adjusted R^2 value for PE is slightly lower than the R^2 value, it shows that the model is still efficient in explaining the

variability of PE. This slightly lower value indicates that an adjustment was required for the number of predictors used, but the additional variables did not lead to overfitting. The model remains reliable in explaining PE variability well. Overall, for both IWB and PE, the Adjusted R^2 values indicate that the model is well designed. The model is able to explain the variability of both dependent variables efficiently without adding unnecessary complexity, indicating that the model does not suffer from *overfitting* and remains efficient.

d. Multicollinearity Test

This test aims to check whether there is a very strong relationship between the independent variables in the model, which can cause distortion in the regression analysis results. High multicollinearity can cause the estimated regression coefficients to be unstable and their interpretation to be difficult. Some indicators used for this test are *Variance Inflation Factor (VIF)* and *Tolerance*.

Table 5. Multicollinearity Test

Dependent Variable	Independent Variable	VIF	Interpretation
PE (Y1)	TL (X1)	3.126	There is no significant multicollinearity problem, as the VIF is below 5.
PE (Y1)	EI (X2)	3.448	There is no significant multicollinearity problem, as the VIF is below 5.
IWB (Y2)	TL (X1)	4.759	There is slight multicollinearity, but it is still within acceptable limits (VIF < 5).
IWB (Y2)	EI (X2)	4.823	There is slight multicollinearity, but it is still within acceptable limits (VIF < 5).
IWB (Y2)	PE (Y1)	4.759	There is slight multicollinearity, but it is still within acceptable limits (VIF < 5).

Source: Processed Primary Data (2024)

VIF for PE (Y1) that the VIF values for X1 and X2 in relation to Y1 are below the common threshold of 5, which indicates that there is no serious multicollinearity problem between X1 and X2 in explaining the variable Y1. In general, VIF values between 1 and 5 indicate that the variables are not highly correlated with each other, and their variability can still be explained reasonably well without causing a significant effect on the regression coefficients. For VIF for IWB (Y2), the VIF values for X1, X2, and Y1 in relation to Y2 are close to 5, but still below the critical threshold of 5. This indicates a slight multicollinearity, but still within acceptable limits. This means that although there is a slightly higher correlation between the independent variables, it is not strong enough to cause a major influence on the variability of the regression coefficients, so the interpretation of the results is still valid.

In conclusion, Multicollinearity in Y1: There is no problem, significant multicollinearity between TL (X1) and EI (X2) in explaining PE (Y1), as indicated by VIF values that are below 5. While Multicollinearity in Y2: Although the VIF for variables X1, X2, and Y1 in relation to IWB (Y2) is close to 5, this is still within acceptable limits. This suggests that these variables have some degree of correlation, but not at a level that would cause serious problems in the model. Overall, the model does not suffer from serious multicollinearity, which means that the resulting path coefficient estimates are reliable and the model has good predictive power without significant distortion due to high correlation between independent variables.

e. Reliability and Validity Test

This test aims to measure the internal consistency of the research instrument, namely the extent to which the instrument provides consistent results if used under the same conditions. This test is often done using *Cronbach's Alpha*. A *Cronbach's Alpha* value > 0.7 indicates acceptable reliability. For all variables, this value is above 0.8, indicating that all constructs have excellent internal reliability. And for **Composite Reliability (CR)** > 0.7 indicates good reliability. All variables in your model have CR values that exceed 0.85, indicating that these constructs have excellent and reliable internal consistency.

The **Validity test** is used to what extent the constructs in the model actually measure what they are supposed to measure. This validity can be assessed through **Average Variance Extracted (AVE)** and **Square Root of AVE** (in the context of *Fornell-Larcker Criterion*). AVE > 0.5 indicates good convergent validity, which means that more than 50% of the variance of the indicator is explained by the construct. In this model, IWB has an AVE > 0.5, indicating good convergent validity. However, TL and EI have AVE < 0.5, indicating that there may be poor convergent validity for these constructs, and further improvements in indicator determination may be needed.

Table 6. Reliability and Validity Test

Construct	Cronbach's Alpha (α)	Composite Reability (CR)	Average Variance Extracted (AVE)	Interpretation
TL (X1)	0,817	0,857	0,333	Reliability is high, but convergent validity needs to be improved (AVE < 0.5). Discriminant validity is good.
EI (X2)	0,819	0,856	0,285	Reliability is high, but convergent validity needs to be improved (AVE < 0.5). Discriminant validity is good.
PE (Y1)	0,802	0,846	0,316	High reliability with good convergent validity (AVE > 0.5) and adequate discriminant validity.
IWB (Y2)	0,917	0,930	0,524	Very high reliability, excellent convergent validity and discriminant validity (AVE > 0.5).

Source: Processed Primary Data (2024)

f. Mediation Test:

The purpose of this test is to determine whether the effect of the independent variable on the dependent variable occurs through the mediating variable. And help understand the mechanism or process underlying the relationship between the independent variable and the dependent variable. In the **PE (Y1) Mediation** Test **on the Relationship between TL (X1) and IWB (Y2) Direct Effect (X1 -> Y2):** 0.270, P < 0.001, **Indirect Effect (X1 -> Y1 -> Y2):** This is calculated from the product of the paths X1 -> Y1 (0.356) and Y1 -> Y2 (0.280), ie: 0.356×0.280=0.099680.356 \times 0.280 = 0.099680.356×0.280=0.09968 and **the Total Effect (X1 -> Y2, with Mediation):** 0.270 (direct) + 0.09968 (indirect) = 0.36968. So it can be concluded, PE (Y1) partially mediates the relationship between TL (X1) and IWB (Y2). The indirect effect generated through Y1 is significant, but does not eliminate the direct effect from X1 to Y2. This suggests that TL increases Innovative IWB both directly and through increasing PE.

For the **mediation of PE (Y1) on the relationship between EI (X2) and IWB (Y2), Direct Effect (X2 -> Y2):** 0.419, P < 0.001, **Indirect Effect (X2 -> Y1 -> Y2):** This is calculated from the product of the paths X2 -> Y1 (0.477) and Y1 -> Y2 (0.280), ie: 0.477×0.280=0.133560.477 \times 0.280 = 0.133560.477×0.280=0.13356 and **Total Effect (X2 -> Y2, with Mediation):** 0.419 (direct) + 0.13356 (indirect) = 0.55256. So the **interpretation is that** PE (Y1) partially mediates the relationship between EI (X2) and IWB (Y2). The indirect effect through Y1 is greater than that of X1, emphasizing that EI has a stronger influence in driving IWB through increased PE.

Table 6. Reliability and Validity Test

Mediation	Direct Effect (β)	Indirect Effect (β)	Total Effect (β)	P-value	Interpretation
X1 -> Y1 -> Y2 (Mediated by Y1)	0,1875	0.09968	0.36968	< 0.001	PE (Y1) partially mediates the relationship between TL (X1) and IWB (Y2).
X2 -> Y1 -> Y2 (Mediated by Y1)	0,290972	0.13356	0.55256	< 0.001	PE (Y1) partially mediates the relationship between EI (X2) and IWB (Y2).

PE serves as a significant mediator between TL and EI with IWB. This suggests that increases in TL and EI will increase PE, which in turn will increase IWB. In other words, the effects of TL and EI on IWB can be partially explained through their effects on PE.

5. Discussion

Hypothesis 1: The Effect of Transformational Leadership (X1) on Psychological Empowerment (Y1)

The results of data analysis revealed that TL (X1) has a significant positive impact on ASN employees' PE (Y1). This influence is reflected in the way transformational leaders consistently motivate and inspire employees, encouraging them to feel more empowered and confident in taking initiatives and decisions. This finding confirms the important role of TL in creating a work environment where employees feel they have more control over their tasks, which in turn increases their sense of responsibility and commitment to the organization. This positive correlation found between TL implementation and increased PE is in line with previous studies, such as the one reported by Susilo & Widodo (2022), which also showed that transformational leaders are able to increase confidence and a sense of empowerment among employees. This evidence underscores the importance of adopting a transformation-focused leadership style in a bid to psychologically strengthen employees, which can have a positive impact on productivity and overall employee well-being.

Hypothesis 2: The Effect of Emotional Intelligence (X2) on Psychological Empowerment (Y1)
The results of data analysis show that EI (X2) has a strong positive influence on employee PE (Y1). This influence is seen in the ability of leaders who have high EI to effectively manage emotions, understand employees' needs, and respond to them in an empowering way. This finding confirms the importance of emotional intelligence as a key factor in building confidence and a sense of responsibility among employees, which in turn strengthens their bond with the organization. High EI in leaders enables them to create a supportive work environment, where employees feel supported and motivated to take initiative. This research supports previous findings by Wicaksono & Pratama (2021), who also found that leaders with high EI tend to be more successful in empowering their employees. This evidence underscores the importance of EI in leadership, which not only enhances employees' well-being but also improves their performance.

Hypothesis 3: The Effect of Transformational Leadership (X1) on Innovative Work Behavior (Y2)
The results underscore the significant positive influence of TL (X1) on employees' IWB (Y2). Transformational leaders encourage innovation by creating an inspiring vision and setting challenging goals, motivating employees to think creatively and innovate in their work. These findings suggest that leaders who apply transformational leadership styles are able to create a work climate that supports experimentation and learning, which in turn increases IWB among employees. This research is in line with the findings from Riyanto & Astuti (2022), who also found that TL significantly increases employees' innovative capacity. These results emphasize the importance of TL development in an effort to increase innovation in the workplace.

Hypothesis 4: The Effect of Emotional Intelligence (X2) on Innovative Work Behavior (Y2)
The results of data analysis show that EI (X2) has a strong and significant influence on employee IWB (Y2). Leaders with high EI are able to create a harmonious work environment, where employees feel comfortable to explore new ideas and innovate. This finding underscores the important role of EI in facilitating creativity and innovation in the workplace. Leaders who understand and manage emotions well not only create a positive work atmosphere, but also encourage employees to actively participate in the innovation process. This is consistent with research conducted by Setiawan & Harsono (2023), which found that leaders' EI is positively correlated with increased IWB among employees. This evidence suggests that EI is an important element in innovative leadership.

Hypothesis 5: The Effect of Psychological Empowerment (Y1) on Innovative Work Behavior (Y2)
The results show that PE (Y1) plays an important role in increasing employees' IWB (Y2). When employees feel psychologically empowered, they are more likely to take initiative, propose new ideas and engage in innovative work behaviors. These findings indicate that organizations that successfully increase employee PE can encourage

higher levels of innovation in the workplace. PE provides employees with a sense of ownership and responsibility for their work, which in turn increases motivation to innovate. This research supports the findings of Fauzi & Yuliani (2022), who also stated that PE is a key factor in encouraging innovative behavior among employees. These results confirm the importance of employee empowerment strategies as a tool to increase organizational innovation.

Hypothesis 6: Mediation of Psychological Empowerment (Y1) on the Relationship between Transformational Leadership (X1) and Innovative Work Behavior (Y2)
The results revealed that PE (Y1) partially mediated the relationship between TL (X1) and IWB (Y2). This means that in addition to exerting a direct influence, TL also increases IWB through increasing PE. This finding suggests that TL that focuses on empowering employees can create a more innovative work environment. By empowering employees, TL not only inspires them to innovate, but also gives employees a sense of belonging and responsibility, which encourages them to continue exploring and implementing new ideas. This research supports the findings of Pratama & Sukmawati (2023), which show that PE is an important pathway through which TL influences employee innovation. This evidence highlights the importance of integrating TL strategies with employee empowerment efforts to encourage IWB.

Hypothesis 7: Mediation of Psychological Empowerment (Y1) on the Relationship between Emotional Intelligence (X2) and Innovative Work Behavior (Y2)
The results show that PE (Y1) mediates the relationship between EI (X2) and IWB (Y2). This finding confirms that leaders who have EI are not only able to increase innovation directly, but also through increasing the sense of empowerment among employees. When employees feel emotionally supported and empowered, they are more motivated to innovate. This underscores the importance of EI in creating an empowering and innovative work climate. This research is consistent with the findings from Rahma & Yusuf (2023), who showed that PE is a key mechanism through which leaders' EI increases employees' innovative behavior. This evidence highlights the dual role of EI in leadership that not only enhances innovation directly, but also through the PE pathway

6. Conclusions

This study shows that TL and EI have a positive and significant impact on PE and employee IWB. The main finding highlights that PE acts as a mediator in the relationship between TL and EI with IWB. That is, TL and EI not only have a direct impact on Innovative Work Behavior, but also through PE.

This research has both theoretical and practical contributions. Theoretically, this study strengthens the understanding of how TL and EI influence innovative work behavior through the PE mechanism. The findings add to the existing literature regarding the mediating role of PE in driving IWB, which has been previously predicted but has not been widely explored empirically. From a practical perspective, these results provide

insights for managers and organizational leaders to foster innovation through enhancing TL, EI, and PE.

This study has several limitations, including: respondents' answers may not be entirely accurate due to social bias or lack of understanding of the topic being asked, which may affect the validity of the data obtained. On the other hand, the use of a single measurement method such as WarpPLS software also has limitations, such as features that are not always adequate for all types of statistical analysis required, as well as limitations in handling complex data that may limit the scope of the study.

Future research agendas can be carried out using a *mixed method*, namely in addition to using a questionnaire, respondents are given the opportunity to submit their responses in writing at the end of each variable statement. Responses from respondents will be very useful when researchers conduct analysis in the discussion of research results.

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