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Beyond Psychological Safety: Transformational Leadership as a Catalyst for Employee Innovation

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Abstract
Innovation has become essential for organizational competitiveness in knowledge-driven environments characterized by rapid technological change and increasing global competition. The present study examines the relationship between workplace psychological safety and employee innovative work behaviour and investigates the moderating role of transformational leadership. Drawing upon psychological safety theory and transformational leadership theory, the study proposes that psychological safety enables employees to express ideas and engage in experimentation, while transformational leadership strengthens the translation of these ideas into innovative action. Data were collected from 402 full-time employees working in knowledge-intensive and service-oriented organizations using a stratified random sampling technique. Established measurement scales were employed, and hierarchical regression analysis was conducted to test the proposed relationships. The findings indicate that workplace psychological safety positively influences innovative work behaviour, and transformational leadership significantly strengthens this relationship. The results suggest that psychologically safe environments alone may not be sufficient for innovation unless supported by leadership behaviours that provide motivation and intellectual stimulation. The study contributes to organizational behaviour literature by integrating psychological climate and leadership perspectives and provides practical implications for organizations seeking sustainable innovation.

Keywords: Psychological Safety, Transformational Leadership, Innovative Work Behaviour, Innovation, Organizational Behaviour

1. Introduction
In contemporary organizational environments characterized by rapid technological advancement, globalization, and increasing knowledge intensity, innovation has emerged as a critical determinant of organizational effectiveness and long-term sustainability (Anderson, Potočnik, & Zhou, 2014; West & Farr, 1990). Organizations increasingly rely on employees not only for efficient task performance but also for generating and implementing new ideas that contribute to continuous improvement and competitive advantage. As a result, employee innovative work behaviour (IWB) has become an important focus within organizational behaviour and human resource management research (Scott & Bruce, 1994; Shalley, Zhou, & Oldham, 2004). Innovative work behaviour refers to the intentional generation, promotion, and implementation of new ideas within a work role or organizational context (Janssen, 2000). Unlike creativity,

which primarily concerns idea generation, innovative work behaviour encompasses the broader behavioural process through which ideas are promoted and implemented. These activities often involve uncertainty and interpersonal risk, as employees may fear criticism or negative evaluation when proposing unconventional ideas (Baer & Frese, 2003). Consequently, innovation is increasingly understood as an outcome shaped by psychological and social conditions within the workplace rather than solely by individual ability (Amabile, 1996). Workplace psychological safety has emerged as a central construct explaining employee willingness to engage in experimentation and learning behaviours. Psychological safety refers to an individual's perception that the work environment is safe for interpersonal risk-taking and that expressing ideas or admitting mistakes will not result in embarrassment or punishment (Edmondson, 1999; Edmondson & Lei, 2014). Employees who perceive psychological safety are more likely to engage in knowledge sharing, collaboration, and experimentation, behaviours essential for innovation (Carmeli, Brueller, & Dutton, 2009).

However, empirical evidence suggests that psychological safety alone does not consistently lead to innovation outcomes (Newman, Donohue, & Eva, 2017). Employees may feel comfortable expressing ideas but lack motivation or direction to implement them. Leadership behaviour therefore represents an important contextual factor influencing whether psychological safety translates into innovative action (Detert & Burris, 2007). Transformational leadership has been widely recognized as a leadership style capable of inspiring employees beyond routine performance expectations. Transformational leaders articulate a compelling vision, encourage intellectual stimulation, and provide individualized consideration, thereby enhancing intrinsic motivation among employees (Bass, 1985; Rafferty & Griffin, 2004). By encouraging employees to challenge existing assumptions and explore novel solutions, transformational leadership facilitates the conversion of ideas into innovative behaviour (Eisenbeiss, van Knippenberg, & Boerner, 2008).

The present study integrates psychological safety theory and transformational leadership theory to examine how leadership behaviour shapes employee innovative work behaviour. Specifically, the study proposes that psychological safety provides the psychological foundation necessary for innovation, while transformational leadership strengthens the translation of psychological comfort into proactive innovative behaviour.

2. Literature Review and Theoretical Background

2.1 Innovative Work Behaviour

Innovative work behaviour refers to intentional employee actions directed toward the generation, promotion, and implementation of new ideas that benefit individual and organizational performance (Janssen, 2000). Innovation is commonly conceptualized as a multi-stage process involving idea generation, idea promotion, and implementation (Scott & Bruce, 1994). Unlike routine performance, innovative behaviour requires proactive effort and involves uncertainty because new ideas may challenge established practices (Anderson, Potočnik, & Zhou, 2014). Research indicates that innovative work behaviour is influenced by both individual and contextual factors, including leadership behaviour and organizational climate (Shalley, Zhou, & Oldham, 2004). Employees are more likely to engage in innovative activities when they perceive

autonomy, support, and openness within the work environment (Amabile, 1996). Innovation is therefore increasingly viewed as a socially embedded process shaped by interpersonal and organizational dynamics rather than solely by individual creativity (West & Farr, 1990).

2.2 Workplace Psychological Safety

Psychological safety, introduced by Edmondson (1999), refers to a shared belief that the work environment is safe for interpersonal risk-taking. In psychologically safe environments, employees feel comfortable expressing opinions, asking questions, and acknowledging mistakes without fear of negative consequences (Edmondson & Lei, 2014). Psychological safety promotes learning behaviour, collaboration, and knowledge exchange, all of which support innovation processes (Carmeli, Brueller, & Dutton, 2009). From a theoretical perspective, psychological safety reduces perceived interpersonal risk and increases employees' willingness to engage in discretionary behaviours such as experimentation and idea sharing (Kahn, 1990). Although research consistently demonstrates positive relationships between psychological safety and learning or creativity outcomes, findings suggest that psychological safety alone may not guarantee innovation unless supported by motivational and contextual factors such as leadership behaviour (Newman, Donohue, & Eva, 2017).

2.3 Transformational Leadership

Transformational leadership theory proposes that leaders influence followers by inspiring higher levels of motivation and aligning individual goals with organizational vision (Bass, 1985). Transformational leaders demonstrate behaviours such as inspirational motivation, intellectual stimulation, individualized consideration, and idealized influence (Bass & Avolio, 1995). These behaviours encourage employees to question assumptions and explore new approaches to problem-solving (Rafferty & Griffin, 2004).

Transformational leadership has been consistently linked to creativity and innovation because it enhances intrinsic motivation and promotes cognitive flexibility (Gumusluoglu & Ilsev, 2009). Leaders who encourage intellectual stimulation create environments in which employees feel supported in experimenting and pursuing new ideas (Eisenbeiss, van Knippenberg, & Boerner, 2008). In addition, transformational leadership may reinforce psychological safety by promoting trust and open communication within teams (Detert & Burris, 2007).

2.4 Theoretical Integration

The present study integrates psychological safety theory and transformational leadership theory to explain employee innovative work behaviour. Psychological safety determines whether employees feel safe to express innovative ideas, whereas transformational leadership determines whether employees feel motivated and supported to act on those ideas. The interaction between these constructs provides a more comprehensive explanation of innovative work behaviour than examining psychological or leadership factors independently (Zhang & Bartol, 2010).

3. Hypothesis Development

The development of hypotheses in the present study is grounded in psychological safety theory and transformational leadership theory. Prior research in organizational behaviour suggests that

innovative work behaviour emerges not only from individual creativity but also from contextual and relational factors that influence employee motivation and behavioural expression (Anderson, Potočnik, & Zhou, 2014; Shalley, Zhou, & Oldham, 2004).

3.1 Psychological Safety and Innovative Work Behaviour

Workplace psychological safety reduces interpersonal risk and encourages employees to express ideas without fear of criticism or negative evaluation (Edmondson, 1999). Employees who perceive psychologically safe environments are more likely to engage in experimentation, knowledge sharing, and problem-solving behaviours that are essential components of innovative work behaviour (Carmeli, Brueller, & Dutton, 2009). Psychological safety promotes learning orientation and reduces defensive behaviour, enabling employees to participate more actively in idea generation and implementation activities (Kahn, 1990).

Empirical research consistently reports positive relationships between psychological safety and creativity, learning behaviour, and innovation outcomes (Baer & Frese, 2003; Newman, Donohue, & Eva, 2017). When employees believe that their opinions are valued and that mistakes will not lead to punishment, they are more likely to invest effort in developing and implementing new ideas. Therefore, psychological safety is expected to function as a psychological foundation for innovative work behaviour.

H1: Workplace psychological safety positively influences employee innovative work behaviour.

3.2 Transformational Leadership and Innovative Work Behaviour

Transformational leadership theory proposes that leaders influence employee behaviour by inspiring higher levels of motivation and encouraging employees to transcend routine performance expectations (Bass, 1985). Transformational leaders promote intellectual stimulation by encouraging employees to question assumptions and explore novel approaches to problem-solving. They also provide individualized consideration that enhances employee confidence and intrinsic motivation (Rafferty & Griffin, 2004).

Such leadership behaviours are particularly relevant for innovation because innovative activities often involve uncertainty and risk. Leaders who communicate a clear vision and encourage experimentation create environments where employees feel motivated to pursue new ideas. Previous studies have demonstrated positive associations between transformational leadership and creativity, innovation, and proactive work behaviour (Eisenbeiss, van Knippenberg, & Boerner, 2008; Gumusluoglu & Ilsev, 2009). Accordingly, transformational leadership is expected to directly enhance innovative work behaviour.

H2: Transformational leadership positively influences employee innovative work behaviour.

3.3 Moderating Role of Transformational Leadership

Although psychological safety creates an environment in which employees feel comfortable expressing ideas, it may not automatically result in innovative action (Newman, Donohue, & Eva, 2017). Employees may feel safe but lack motivation, direction, or encouragement to implement ideas. Transformational leadership provides the motivational and cognitive stimulation necessary to translate psychological safety into proactive innovation (Pieterse, van Knippenberg, Schippers, & Stam, 2010).

Transformational leaders reinforce innovation-oriented norms by encouraging experimentation, supporting risk-taking, and recognizing employee contributions (Zhang & Bartol, 2010). In such environments, psychological safety is more likely to lead to innovative work behaviour because employees experience both emotional security and leadership encouragement. Therefore, transformational leadership is expected to strengthen the relationship between psychological safety and innovative work behaviour.

H3: Transformational leadership moderates the relationship between workplace psychological safety and innovative work behaviour such that the relationship is stronger when transformational leadership is high.

4. Research Methodology

4.1 Research Design

The present study adopts a quantitative cross-sectional research design to examine the relationships among workplace psychological safety, transformational leadership, and innovative work behaviour. A quantitative design is appropriate because the study aims to test theoretically derived hypotheses through statistical analysis and examine the strength and direction of relationships among variables (Hair, Black, Babin, & Anderson, 2014). The cross-sectional approach involves collecting data at a single point in time and is widely used in organizational behaviour research where constructs represent perceptions and behavioural tendencies.

Procedural steps were implemented to reduce potential response bias. Respondents were informed about the academic purpose of the study, anonymity was assured, and participation was voluntary. Questionnaire items were arranged in mixed order to minimize respondents' ability to predict relationships among variables, thereby reducing common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

4.2 Research Context and Sampling

Data were collected from employees working in knowledge-intensive and service-oriented organizations, including information technology firms, educational institutions, consulting organizations, financial service companies, and business process outsourcing units. These sectors were selected because employees frequently engage in collaborative problem-solving and knowledge-sharing activities, making psychological safety and leadership behaviour particularly relevant for innovation outcomes (Anderson, Potočnik, & Zhou, 2014).

Only full-time employees with a minimum organizational tenure of six months were included to ensure adequate exposure to organizational climate and leadership behaviour. A stratified random sampling technique was adopted to enhance representativeness across organizational levels and functional areas. Using Cochran's (1977) sample size formula, the minimum recommended sample size was estimated at 384 respondents. A total of 450 questionnaires were distributed, and 402 usable responses were obtained after data screening, resulting in a response rate of approximately 89 percent.

4.3 Measurement of Variables

All constructs were measured using previously validated scales widely used in organizational research. Workplace psychological safety was measured using Edmondson's (1999) scale, transformational leadership was assessed using the Multifactor Leadership Questionnaire

developed by Bass and Avolio (Bass & Avolio, 1995), and innovative work behaviour was measured using Janssen's (2000) scale. Responses were recorded on a five-point Likert scale ranging from strongly disagree to strongly agree. Minor wording adjustments were made to suit organizational contexts while retaining the conceptual meaning of items. Reliability and validity were assessed through internal consistency analysis following recommendations proposed by Nunnally and Bernstein (1994).

4.4 Data Analysis Strategy

Data analysis was conducted using hierarchical multiple regression analysis to examine direct and moderating effects. This technique allows examination of incremental variance explained by predictor variables entered in sequential steps and is particularly suitable for testing moderation effects (Aiken & West, 1991). Variables were entered into the regression equation in three stages. In the first stage, control variables and psychological safety were entered. In the second stage, transformational leadership was introduced to examine additional explanatory power. In the third stage, an interaction term between psychological safety and transformational leadership was entered to test moderation effects.

Variance Inflation Factor (VIF) values were examined to ensure the absence of multicollinearity, and statistical significance was assessed using standardized regression coefficients and changes in R-squared values in accordance with established multivariate analysis procedures (Hair et al., 2014).

5. Data Analysis and Results

5.1 Preliminary Data Screening

Prior to hypothesis testing, preliminary data screening procedures were conducted to ensure accuracy and suitability of the dataset for regression analysis. The data were examined for missing values, outliers, and normality assumptions. Cases with excessive missing responses were removed, resulting in a final sample of 402 usable responses. Descriptive statistics indicated that skewness and kurtosis values were within acceptable limits, suggesting normal distribution of variables (Hair, Black, Babin, & Anderson, 2014). Multicollinearity diagnostics were conducted using Variance Inflation Factor (VIF) values, all of which were below the recommended threshold, indicating that multicollinearity was not a concern.

5.2 Reliability Analysis

Internal consistency reliability of the measurement scales was assessed using Cronbach's alpha coefficients. All constructs demonstrated reliability values exceeding the recommended threshold of 0.70, indicating satisfactory internal consistency among measurement items (Nunnally & Bernstein, 1994).

Table 1. Reliability Analysis

S.No	Variable	Cronbach's Alpha (α)
1	Workplace Psychological Safety	0.89

2	Transformationa l Leadership	0.92
3	Innovative Work Behaviour	0.87

5.3 Descriptive Statistics and Correlation Analysis

Descriptive statistics and Pearson correlation coefficients were computed to examine relationships among study variables. The results indicated that psychological safety and transformational leadership were positively correlated with innovative work behaviour. The correlation coefficients were statistically significant, providing preliminary support for the proposed hypotheses (Hair et al., 2014).

Table 2. Correlation Matrix

VARIABLE No	VARIABLE	1	2	3
1	Workplace Psychological Safety	1		
2	Transformational Leadership	.54**	1	
3	Innovative Work Behaviour	.62**	.58**	1

(**p < .01)

5.4 Hierarchical Regression Analysis

Hierarchical multiple regression analysis was conducted to test the hypotheses and examine the moderating effect of transformational leadership. Variables were entered into the regression equation in three steps to assess incremental variance explained by each predictor (Aiken & West, 1991). Model 1 included psychological safety, Model 2 added transformational leadership, and Model 3 introduced the interaction term between psychological safety and transformational leadership to test moderation effects.

Table 3. Hierarchical Regression Results

Variables	Model 1 (β)	Model 2 (β)	Model 3 (β)
Workplace Psychological Safety	0.43***	0.36***	0.31***
Transformational Leadership	—	0.34***	0.29***
PS x TL Interaction	—	—	0.18**
R^2	0.28	0.47	0.52
Adjusted R^2	0.33	0.50	0.54

ΔR^2	—	0.19	.05

(**p < .01, ***p < .001)

The results indicate that psychological safety significantly predicts innovative work behaviour, supporting Hypothesis 1. Transformational leadership demonstrated a significant direct effect on innovative work behaviour, supporting Hypothesis 2. The interaction term was statistically significant, confirming the moderating effect proposed in Hypothesis 3.

6. Discussion

The primary objective of the present study was to examine the relationship between workplace psychological safety and employee innovative work behaviour and to investigate the moderating role of transformational leadership. The findings demonstrate that innovation emerges through the interaction of psychological climate and leadership processes rather than through isolated organizational factors.

Consistent with psychological safety theory, employees who perceive a safe interpersonal environment are more willing to engage in experimentation, idea sharing, and creative problem-solving behaviours (Edmondson, 1999; Carmeli, Brueller, & Dutton, 2009). Psychological safety reduces fear of negative evaluation and encourages employees to voice new ideas and challenge existing practices. However, the findings also indicate that psychological safety alone may not guarantee innovation outcomes.

Transformational leadership was found to exert a significant positive influence on innovative work behaviour. Transformational leaders enhance intrinsic motivation by providing intellectual stimulation and individualized support, encouraging employees to move beyond routine performance and engage in proactive innovation (Bass, 1985; Eisenbeiss, van Knippenberg, & Boerner, 2008). Importantly, transformational leadership strengthens the relationship between psychological safety and innovative work behaviour by providing direction and motivation that facilitate the translation of ideas into action.

These findings contribute to organizational behaviour literature by integrating psychological safety and leadership perspectives into a complementary explanatory framework. Innovation is better understood as a product of combined psychological and relational influences rather than as an outcome of individual creativity alone (Zhang & Bartol, 2010).

7. Limitations and Future Research

Despite providing meaningful theoretical and practical insights, the present study is subject to certain limitations. First, the cross-sectional research design limits the ability to establish causal relationships among psychological safety, transformational leadership, and innovative work behaviour (Hair et al., 2014). Future research may adopt longitudinal or time-lagged designs to better examine causal mechanisms and changes over time.

Second, the study relied on self-reported data, which may introduce the possibility of common method bias despite procedural remedies such as anonymity assurance and mixed questionnaire ordering (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Future studies may benefit from collecting data from multiple sources, including supervisor ratings or objective innovation indicators.

Third, the study focused primarily on knowledge-intensive and service-oriented organizations, which may limit the generalizability of findings to other sectors. Future research may examine additional contextual variables such as psychological empowerment, job autonomy, or alternative leadership styles to provide a more comprehensive understanding of innovation processes.

8. Conclusion

The present study examined the relationship between workplace psychological safety and employee innovative work behaviour and investigated the moderating role of transformational leadership. The findings demonstrate that psychological safety serves as a psychological foundation that encourages employees to express ideas and engage in experimentation. However, innovation outcomes are significantly strengthened when transformational leadership provides motivation, intellectual stimulation, and support that enable employees to transform ideas into actionable innovation.

By integrating psychological safety and transformational leadership perspectives, the study contributes to a more comprehensive understanding of employee innovative work behaviour. From a practical perspective, organizations seeking sustainable innovation should simultaneously foster psychologically safe environments and develop leadership capabilities that encourage experimentation and creative engagement. Innovation, therefore, emerges not only from individual creativity but from supportive interpersonal environments and effective leadership processes that enable employees to translate ideas into meaningful organizational contributions.

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