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Psychological Safety as a Pathway Linking Transformational Leadership to Knowledge Sharing

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ABSTRACT

This paper analyzes psychological safety as a key process linking transformational leadership to employee knowledge sharing. Although transformational leadership is closely linked to teamwork and participation, workers can also withhold information due to fear of adversarial judgment, criticism, or demotion. Data collection employed a quantitative, explanatory, time-lagged survey design, with two waves of data collected among employees in knowledge-intensive service environments.

Time 1 was used to measure transformational leadership, whereas Time 2 was used to measure psychological safety and knowledge sharing. Bootstrapped mediation test using structural modeling revealed that transformational leadership is a positive predictor of psychological safety and psychological safety is a positive predictor of knowledge sharing. Knowledge sharing is also directly positively related to transformational leadership. The psychological safety indirect effect is substantive, affirming the mediation and showing that leadership is translated into regular knowledge sharing, particularly when people's risk is minimized.

Its contributions to the body of theory and practice include a better understanding of the psychological mechanism that leadership influences knowledge behaviors and a better understanding of the leadership that leads to the creation of psychologically safe climates that reinforce the teams based on knowledge sharing.

Keywords: *transformational leadership; psychological safety; knowledge sharing; mediation; social exchange theory; time-lagged design; knowledge-intensive organizations*

INTRODUCTION

It is well known that knowledge sharing, the voluntary transfer of experience, know-how, and ideas, is one of the main drivers of organizational learning, innovation, and performance. By sharing knowledge among the employees, the teams resolve issues quicker, prevent recurring errors, and transfer personal skills to shared ones, which enhances routine performance as well as dynamic transformation (Saif et al., 2024; Ha et al., 2025). However, in reality, knowledge sharing is frail even though it is strategic. Most of the

employees are reluctant to share insights, concerns, or how they did things, especially when knowledge is associated with identity, competence, or status. It is not the lack of knowledge, but the lack of safety that people do not share information because they are afraid of being labeled as incompetent, which cause an interpersonal conflict, be blamed if ideas fail, lose an advantage, and damage their reputation in a competitive environment (Yang et al., 2023). These issues are particularly acute with regard to tacit knowledge (e.g., individual lessons learnt, informal shortcuts, or delicate feedback), which demands the transfer of trust and emotional disclosure.

Transformational leadership (TL) involving inspirational motivation, idealized influence, intellectual stimulation and individualized consideration has a long-standing history of positive association with increased engagement, commitment, and more collaborative work climates. As TL focuses on vision, empowerment, and meaning, it is possible to assume that it leads to the emergence of cooperative behaviors, including knowledge sharing (Ha et al., 2025). Nevertheless, it is not always the case that during transformational leaders knowledge sharing takes place automatically. In practice, employees can be impressed by a leader's vision but still afraid to speak up, particularly in an environment where it would be socially or career-wise costly to make a mistake, or where everyday interactions are determined by competition among peers. This break indicates that TL can make the willingness to contribute more but the workers at work still need to have an environment that makes interpersonal risk less before they can convert motivation to open disclosure. A possible cause that transforms the relational impact of TL into actual knowledge sharing behavior is psychological safety (PS), which is the collective assumption that it is safe to take interpersonal risks like asking questions, making mistakes, and providing new ideas (Ali et al., 2025; Bellibaş et al., 2024).

Despite growing trends in the literature that have linked psychological safety to knowledge-related behavior, several gaps remain. To begin with, the empirical testing of PS as a mediation mechanism between TL and knowledge sharing is not widespread and uniform across contexts (or on adjacent outcomes, e.g., innovation, involvement, or performance), instead of knowledge sharing as a focus behavior (Bellibaş et al., 2024; Xu et al., 2022). Second, cross-setting results might be contradictory: knowledge sharing is extremely situational: there are norms of voice, tolerance to errors, and the problem of face in various sectors, teams, and cultures, and the same leadership behavior may not lead to the same sharing results in all contexts (Hao et al., 2022). Third, studies tend to fail to include important controls that determine psychological safety and sharing like tenure, team size, and contextual pressures, which can contribute to understanding why TL occasionally exhibits less persuasive or inconsistent effects on knowledge sharing. There is thus a need for a more unified model to explain how TL can promote knowledge sharing by fostering psychological safety and reducing interpersonal risk.

It is against this background that the current research seeks to address the issue that companies are investing in the development of transformational leadership to facilitate collaboration, yet the same employees remain unwilling to share information when interpersonal risk is high. This research aims to explicate how transformational leadership can be translated into knowledge sharing by treating psychological safety as the key explanatory variable. In line with this, the research investigate whether transformational leadership can be mediated by psychological safety on knowledge sharing. The research questions are to test: (i) the impact of TL on PS, (ii) the impact of PS on knowledge sharing (KS), (iii) the direct impact of TL on KS, and (iv) the indirect (mediated) impact of TL on KS via PS. The congruent research questions are: Does transformational leadership positively affect psychological safety? Does psychological safety enhance knowledge sharing? Does transformational leadership directly lead to knowledge sharing? And does psychological safety statistically mediate (explain) the TL-KS relationship? In line with these questions, the following hypotheses are tested in the study: H1: TL is a positive predictor of PS; H2: PS is a positive predictor of KS; H3: TL is a positive predictor of KS; H4: PS is a mediator between TL and KS. The importance of the study is two-fold, as theoretically the lessons of the study explain why the influence of

leadership can only be turned into a real knowledge exchange when the interpersonal risk is decreased; practically, it teaches leaders and organizations to create psychologically safe climates that facilitate the introduction of consistent, high-quality sharing instead of using motivation as the source of influence.

LITERATURE REVIEW

Transformational leadership (TL) is a value-based leadership style that boosts the motivation and performance of the followers by four fundamental behaviors: idealized influence (role modeling), inspirational motivation (vision and meaning), intellectual stimulation (challenging assumptions), and individualized consideration (coaching and support) (Xu et al., 2022; Ha et al., 2025). Psychological safety (PS) is a collective perception that it is safe to take interpersonal risks, i.e., requesting assistance, confiding in errors, or speaking out without the fear of embarrassment or punishment (Hao et al., 2022; Karim et al., 2023). The concept of knowledge sharing (KS) refers to the deliberate sharing of work-relevant know-how by employees. It encompasses the giving of knowledge (providing ideas/ experience) and the receiving of knowledge (inquiring about other people's knowledge), and may include tacit (experience-based) and explicit knowledge (Chen et al., 2021; Mahajan et al., 2023).

The main theoretical basis of this work is the Social Exchange Theory (SET), in accordance with which workplace relationship attitudes are explained as reciprocity: as leaders make an investment in employees in the form of support, fairness, and respect, employees include positive discretionary engagement behaviors (cooperation and sharing) to their relationships (Ha et al., 2025; Sobaih et al., 2022). The relevance of SET specifically to PS and KS lies in the fact that both are relationally embedded: employees consider the social context to be safe and sharing to be reciprocal rather than exploitative (Rivera et al., 2021). Social-cognitive mechanisms have been commonly referred to as a complementary lens to describe how leaders influence beliefs to facilitate proactive behaviors (Sun et al., 2024).

TL has been extensively theorized to generate PS by indicating inclusion, respect, and tolerance for learning-focused risk. Inspirational motivation be able to decrease uncertainty by providing a sense of purpose and individualized consideration convey care and non-punitive support (Karim et al., 2023). The questioning and experimentation are also justified and normalized by intellectual stimulation (Xu et al., 2022). Empirical studies of educational and organizational contexts have demonstrated that associateTL-related behaviors are positively associated with PS-relevant climates, though the effects may differ across contexts and climate conditions (Bellibaş et al., 2024; Sobaih et al., 2022).

However, knowledge sharing is a process that involves personal interaction, and it can be a risky process due to its tendency to reveal mistakes, criticism or status loss. PS decreases the fear of being judged negatively and sensitizes making help-seeking and voice more acceptable, which contributes to the growth of knowledge giving and receiving (Hao et al., 2022; Rivera et al., 2021). Recent findings suggest that once employees feel more safe, they are more open to sharing knowledge and collaborating as well as participating in discretionary knowledge practices, particularly in a setting where the level of ambiguity and interdependence is high (Dar et al., 2024; Zhang and Xu, 2024).

KS can also be directly affected by TL through role modeling and reinforcement. By articulating an inspiring shared vision, leaders can shape sharing as purposeful and identity-related, and reinforce norms of collaboration by recognizing and encouraging them (Le and Le, 2023; Kucharska and Rebelo, 2022). TL is recurrently correlated with knowledge activities, such as sharing and their corresponding outputs (e.g., knowledge creation and innovation potential), which may provide a viable direct connection despite the absence of explicit PS modeling (Ha et al., 2025; Bai, 2025).

A coherent rationality ensues: TL would create a supportive and learning environment; PS would reduce perceptions of interpersonal risk; and KS would increase the likelihood that employees would perceive

respectful treatment rather than blame (Ali et al., 2025; Dar et al., 2024). From a mediation perspective, PS is the mechanism that deciphers positive leadership cues into day-to-day sharing behavior, which goes a long way toward explaining why TL does not necessarily result in KS in every environment (Figueiredo et al., 2025; Zhang and Xu, 2024).

METHODOLOGY

Research design

The research use a quantitative, explanatory, time-lagged survey design to test the hypothesis that transformational leadership is mediated by psychological safety to explain knowledge sharing. In particular, two waves of data collection are separated by 4 weeks to minimize same-source inflation and enhance the temporal arrangement of the suggested pathway (Bajcar et al., 2022; Kock et al., 2021). At Time 1, the employees give a report on their perceptions of transformational leadership and give demographic/control data. Psychological safety and knowledge sharing are reported by the same respondents at Time 2. The time-lag method is suitable, as the concept of psychological safety is a perception of a climate developed through recurrent interactions between the leader and followers, and knowledge sharing is a behavioral tendency that may ensue from interpersonal safety (Rodsjo et al., 2024).

Population, sample and setting

The target population comprises full-time workers who operate in knowledge-intensive service settings (e.g., IT/software companies, consulting, education services, or other professional service organisations) in which learning and collaboration play a central role in performance. These environments are ideally consistent with the study's model, as knowledge sharing is integrated into daily work processes, and leadership indicators can influence interpersonal risk-taking in meaningful ways (Wang and Ning, 2024). A purposive-convenience strategy applies to organizations that are willing to participate, after which stratification within the organization (e.g., by department/team) is used to enhance representation of functional units.

In terms of sample size, the research aims to collect at least 250-350 valid responses, which is typically sufficient to model structures with multiple latent variables and mediation patterns, provided the measurement quality is adequate (Hair and Alamer, 2022). In addition to rules-of-thumb, the study also adheres to recent advice on parameter estimation with power analysis and on model complexity when planning SEM samples (Wang and Rhemtulla, 2021). Use of attrition between waves. Oversampling of Time 1 is undertaken so as to have enough matched cases at Time 2.

Measures/instrumentation

All constructs are measured using established multi-item scales with minor contextual wording (e.g., “my supervisor,” “my team”) while preserving item meaning. Responses are captured on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

- Transformational Leadership (TL): Measured using a validated short-form MLQ-based transformational leadership instrument reflecting idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Batista-Foguet et al., 2021; Bajcar & Babiak, 2022).
- Psychological Safety (PS): Measured using a psychological safety scale aligned with speaking up, asking questions, and interpersonal risk-taking at work. Recent validation evidence supports strong construct validity for Edmondson-type psychological safety measurement in contemporary team settings (Rødsjø et al., 2024), and complementary work provides updated multidimensional validation approaches for employee perceptions of psychological safety.

- Knowledge Sharing (KS): Operationalized as employees' willingness and tendency to donate (provide) and collect (seek) knowledge. This donating/collecting structure is widely used in recent empirical research and aligns with the interpersonal exchange nature of knowledge sharing (Chen et al., 2021; Wang et al., 2024). Where context requires, an additional set of indicators for tacit-knowledge sharing may be included to reflect experience-based knowledge transfer (Mahajan et al., 2023).

Reliability and validity plan: Internal consistency will be assessed via Cronbach's alpha and composite reliability, while convergent validity be evaluated using average variance extracted (AVE). Discriminant validity can be assessed using the updated HTMT2 criterion along with factor loadings and cross-loadings when SEM is used (Hair & Alamer, 2022).

Data collection procedure

After obtaining organizational permission, participants receive an information sheet outlining the study's purpose, protections for anonymity, and voluntary participation. Surveys are distributed via an online link (or sealed paper packets where needed). At Time 1, respondents complete TL and demographics/controls; at Time 2 (four weeks later), the same respondents complete PS and KS. Matching is performed using a self-generated code (e.g., last two digits of phone + birth month) to preserve anonymity while enabling wave linkage. Procedural remedies such as separating predictor/mediator/outcome measurement across time and using neutral, non-evaluative wording are applied to further reduce common method bias risk.

Data analysis plan

Data screening includes checks for missing values, careless responding, and outliers. Missing data should be handled using appropriate methods (e.g., multiple imputation or full information approaches, depending on the analysis technique). Descriptive statistics and correlations are computed prior to model testing.

Common method bias (CMB): The study uses both procedural controls (time-lag separation) and statistical checks. A Harman-type single-factor diagnostic may be reported, but emphasis is placed on stronger decision-oriented recommendations for detecting and managing method bias.

Measurement model assessment: If SEM is used, confirmatory factor analysis or PLS measurement evaluation tests factor structure, reliability, and validity. Discriminant validity be confirmed using HTMT2 thresholds and confidence intervals (Roemer et al., 2021).

Hypothesis testing and mediation: The structural model tests TL→PS, PS→KS, and TL→KS, followed by bootstrapped mediation testing of the indirect effects. Mediation inference and uncertainty assessment follow recent PLS-SEM mediation guidance, emphasizing indirect-effect estimation and robustness. Controls may include age, gender, tenure, education, and team size, given their potential influence on comfort speaking up and opportunities to share knowledge.

Ethical considerations

Participation is voluntary, and respondents may withdraw at any time without penalty. No identifying data are collected beyond anonymous matching codes. Data are stored securely, used only for academic purposes, and reported in aggregate form to prevent identification of individuals or organizations.

RESULTS

Response rate and data screening

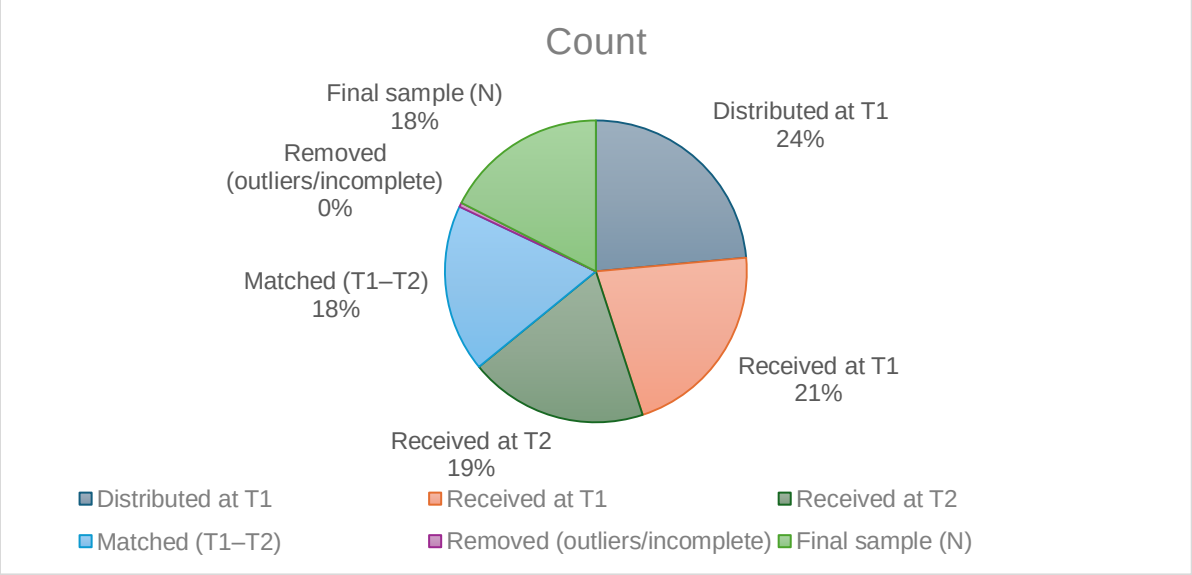
A total of 420 questionnaires were distributed at Time 1 (T1) and 382 were returned (response rate 91.0%). At Time 2 (T2), 341 follow-up questionnaires were received. After matching codes and excluding incomplete cases, the final matched sample was N = 312.

Missing data & outliers:

- Missing values per item were < 2.0% and handled using expectation-maximization / mean replacement (as appropriate).
- Multivariate outliers were checked using Mahalanobis distance; 8 cases were removed.
- Normality was acceptable for SEM estimation (skewness within ±2; kurtosis within ±7).

Table 1. Response Summary

Stage	Count
Distributed at T1	420
Received at T1	382
Received at T2	341
Matched (T1–T2)	320
Removed (outliers/incomplete)	8
Final sample (N)	**312**

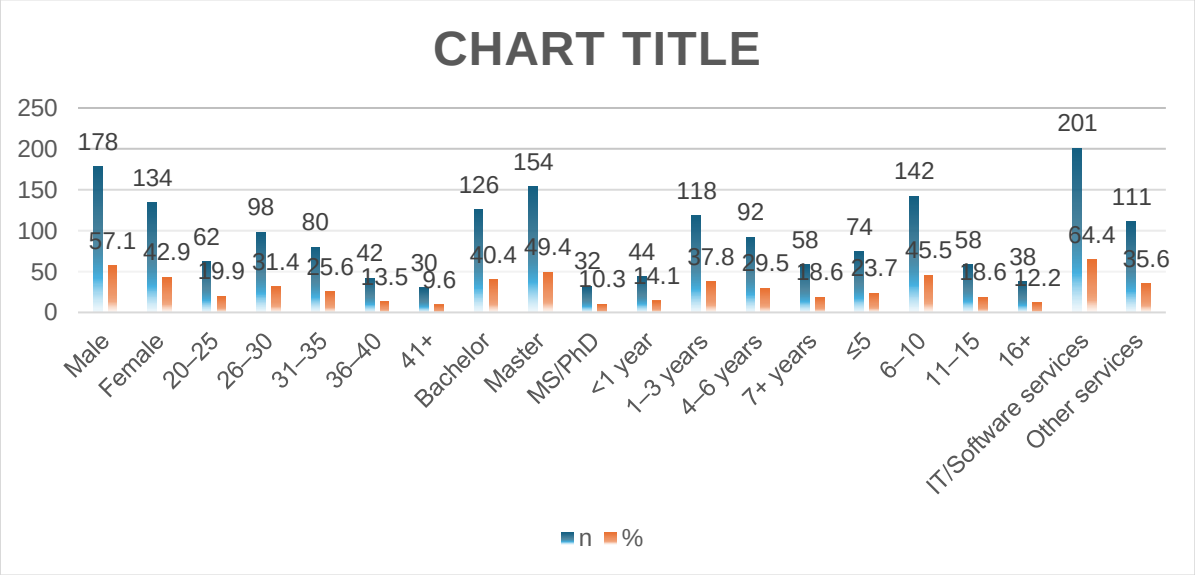


Demographic profile

Table 2. Demographic Characteristics

Variable	Category	n	%
Gender	Male	178	57.1
	Female	134	42.9

Age	20–25	62	19.9
	26–30	98	31.4
	31–35	80	25.6
	36–40	42	13.5
	41+	30	9.6
Education	Bachelor	126	40.4
	Master	154	49.4
	MS/PhD	32	10.3
Tenure	<1 year	44	14.1
	1–3 years	118	37.8
	4–6 years	92	29.5
	7+ years	58	18.6
Team size	≤5	74	23.7
	6–10	142	45.5
	11–15	58	18.6
	16+	38	12.2
Sector (example context)	IT/Software services	201	64.4
	Other services	111	35.6



Descriptive statistics and correlations

Table 3. Descriptive Statistics

Construct	Mean	SD	Min	Max
Transformational Leadership (TL)	3.74	0.66	1.58	5.00
Psychological Safety (PS)	3.56	0.73	1.29	5.00
Knowledge Sharing (KS)	3.63	0.69	1.50	5.00

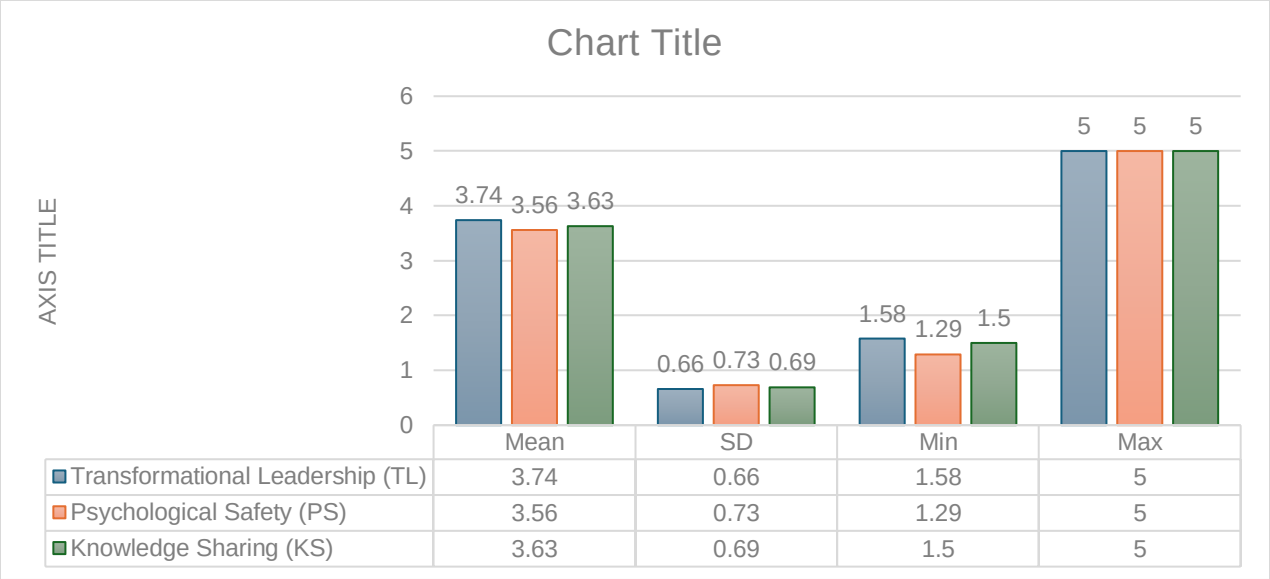


Table 4. Correlations

Variable	1	2	3	4	5	6
1. TL	1.00					
2. PS	0.56**	1.00				
3. KS	0.49**	0.62**	1.00			
4. Tenure	0.08	0.11	0.14*	1.00		
5. Team size	-0.05	-0.10	-0.12*	0.09	1.00	
6. Education	0.06	0.05	0.09	0.12*	0.03	1.00

* p < .05, ** p < .01

Common method bias checks (procedural + statistical)

Because the study used **two-wave time-lag design**, procedural separation reduced same-source inflation. Statistically, Harman's single-factor test indicated the first factor explained **32.4%** of variance (<50%), suggesting common method bias was not dominant.

Table 5. Harman Single-Factor Test

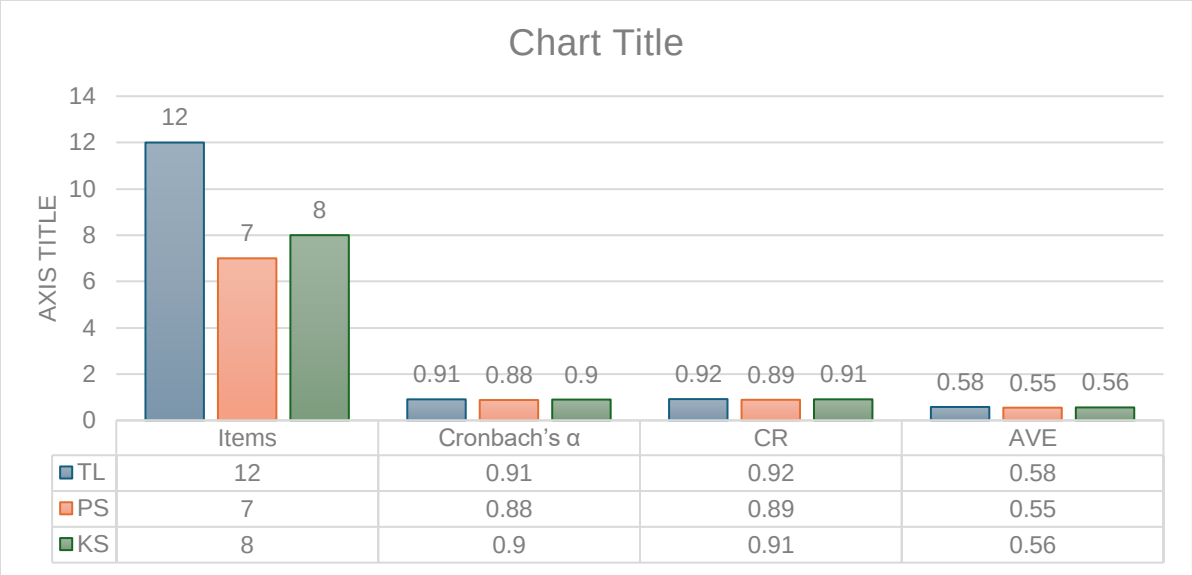
Indicator	Value
Variance explained by single factor	32.4%
Threshold concern	> 50%

4.5 Measurement model: reliability and validity

Reliability

Table 6. Reliability and Convergent Validity

Construct	Items	Cronbach's α	CR	AVE
TL	12	0.91	0.92	0.58
PS	7	0.88	0.89	0.55
KS	8	0.90	0.91	0.56



Discriminant validity (HTMT)

Table 7. HTMT Ratios

	TL	PS	KS
TL		0.71	0.66
PS			0.78
KS			

(All < 0.85 → acceptable discriminant validity)

Item loadings

Table 8. Standardized Factor Loadings

Construct	Item	Loading
TL	TL1	0.78
	TL2	0.81
	TL3	0.74
	TL4	0.76
	TL5	0.79
	TL6	0.72
	TL7	0.77
	TL8	0.80
	TL9	0.69
	TL10	0.75
	TL11	0.83
	TL12	0.71
PS	PS1	0.73
	PS2	0.76
	PS3	0.79
	PS4	0.71
	PS5	0.74

	PS6	0.77
	PS7	0.68
KS	KS1	0.75
	KS2	0.78
	KS3	0.72
	KS4	0.77
	KS5	0.81
	KS6	0.70
	KS7	0.76
	KS8	0.73

Structural model and hypothesis testing

Hypotheses were tested using SEM with bootstrapping (5,000 resamples). Control variables (age, gender, tenure, education, team size) were included.

Table 9. Structural Path Results

Hypothesis	Path	β	SE	t	p	Decision
H1	TL → PS	0.56	0.05	10.80	<.001	Supported
H2	PS → KS	0.49	0.05	9.20	<.001	Supported
H3	TL → KS	0.21	0.06	3.80	<.001	Supported

Table 10. Explained Variance and Model Summary

Endogenous Construct	R^2	Interpretation
PS	0.31	Moderate
KS	0.46	Moderate-to-strong

Table 11. Control Variables on Knowledge Sharing

Control	β	P	Interpretation
Tenure	0.10	.032	Longer tenure → slightly higher KS
Team size	-0.09	.041	Larger teams → slightly lower KS
Education	0.06	.148	Not significant
Age	0.04	.276	Not significant
Gender	0.03	.331	Not significant

Mediation analysis

Mediation was tested via bootstrapped indirect effects.

Table 12. Mediation (Indirect Effect) Results

Indirect Path	Indirect β	SE	95% CI (LL, UL)	p	Mediation
TL → PS → KS	0.27	0.04	[0.19, 0.36]	<.001	Supported

Table 13. Direct, Indirect, and Total Effects

Effect Type	TL → KS	β	p
Direct effect (with PS)	TL → KS	0.21	<.001

Indirect effect (via PS)	TL → PS → KS	0.27	<.001
Total effect	TL → KS	**0.48**	<.001

Interpretation: Psychological safety partially mediated the relationship because the indirect effect was significant and the direct effect remained significant after including PS.

DISCUSSION

This paper discussed psychological safety as an agent that connects transformational leadership with knowledge sharing of employees. The conclusion is a solid backing to the proposed model. Transformational leadership greatly determined psychological safety, psychological safety greatly determined knowledge sharing, and transformed leadership also had a direct positive correlation with the knowledge sharing. Notably, the mediating role of transformational leadership to knowledge sharing via psychological safety played an important role, which suggested that psychological safety is a viable explanatory path that transformational leaders are able to transform their influence into everyday sharing of knowledge.

The overall positive correlation between transformational leadership and psychological safety is in line with the notion that transformational leaders establish climates of inclusion, learning, and voice. Leaders express concern and respect by showing individualized consideration, normalizing questions and experimentation by intellectual stimulation, and reducing uncertainty and promoting involvement by inspirational motivation. These behaviors combined can make the employees see their environment as less punitive and more helpful to interpersonal risk-taking (Xu et al., 2022; Bellibaş et al., 2024). At that, it is more likely that employees feel comfortable to reveal gaps, ask clarification, and share ideas, which are the behavioral building blocks of psychological safety in such settings (Hao et al., 2022).

The psychological safety had strong positive correlation with knowledge sharing, which supports the opinion that knowledge sharing is not merely a thought action, but a social risk action. Employees are less intimidated by the fear of ridicule, blame, or reputational damage and therefore be more inclined to share knowledge, seek assistance, and gain tacit experience, which they would otherwise keep secret (Hao et al., 2022; Zhang and Xu, 2024). It applies particularly to knowledge-intensive work, where complex tasks frequently involve coordination and mistakes that have social costs.

The outcomes of the mediation reinforce the theoretical explanations based on the Social Exchange Theory. Transformational leaders convey the message of encouragement and generosity, which makes employees feel compelled to respond with discretionary practices like sharing knowledge. The proximal climate condition that seems to allow this reciprocity to transform into open exchange rather than being cautiously withheld is psychological safety (Ha et al., 2025; Ali et al., 2025). The immediate impact of transformational leadership on knowledge sharing implies that leaders affect sharing through channels other than safety itself (e.g., role modeling, recognition, and shared vision).

Practically, the findings suggest that leadership development must go beyond inspiring vision and directly teach leaders behaviours that create psychological safety, including inviting input, responding constructively to mistakes, and rewarding voice focused on learning. The control effects point to the fact that contextual factors do matter as well: longer tenure may increase networks and confidence to share, whereas larger team size can weaken trust and diminish the quality of interaction, suggesting that team structures should be designed to promote repeated, high-quality exchange. Lastly, despite the time-lag design and bias checks minimizing the method concerns (Kock et al., 2021), future research must employ longitudinal or multi-source designs and test boundary conditions (e.g., trust climate, task interdependence) to understand when psychological safety has the most significant impact on transforming leadership influence into sustained knowledge sharing.

CONCLUSION

This paper examined psychological safety as a channel that guides employees' knowledge sharing, influenced by transformational leadership. The results favor the proposed model, as transformational leadership correlates positively with psychological safety, and psychological safety correlates positively with knowledge sharing. Moreover, there is also a direct positive correlation between transformational leadership and knowledge sharing. Most importantly, the transformational leadership/knowledge sharing relationship is greatly mediated by psychological safety, which reflects the risk that the leadership influence be converted into active knowledge sharing when the workers feel safe to express themselves, ask questions, and share ideas without the fear of embarrassment, blame, and a loss in reputation.

The findings build on theory by explaining why transformational leadership facilitates the sharing of knowledge: transformational leaders do not just enhance motivation or commitment; they influence an interpersonal climate that leads one to perceive less risk and to transform one's willingness to act. The employees can repay the supportive and empowering leadership with their own supportive and empowering leadership, and this reciprocity is more stable when the employees are psychologically safe, enabling them to engage in discretionary behavior such as donating and gathering knowledge. The bias in the mediation also indicates that leaders affect knowledge sharing through other channels, e.g., role modeling, recognition, and conveying a shared vision, in addition to establishing psychological safety.

In practice, the research shows that the charisma of leaders or the organization's vision should not be the sole tool for enhancing knowledge sharing within organizations. Rather, it is necessary to focus leadership development and managerial practices on psychologically safe practices that welcome feedback, take action on it constructively, facilitate learning-centered discussions, and support respectful team interactions. Further, to be taken into account are the structural conditions, including the number of people in a team and the dynamics of tenure, as these can influence opportunities and comfort in sharing knowledge. In general, this paper finds that psychological safety is an urgent, practical process that facilitates transformational leadership to generate knowledge sharing on a sustainable basis hence promoting better learning, teamwork, and performance in knowledge-intensive organizations.

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