

The Impact of Leadership Style Perception on Communication Effectiveness, Collaboration, and Goal Achievement in School Teams

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Abstract

This study aimed to investigate the impact of leadership style perception on communication effectiveness, collaboration frequency, and goal achievement satisfaction within school teams. The sample consisted of faculty and staff across eight academic units at Bansomdejchaopraya Rajabhat University, to assess how perceived leadership behaviors influence team dynamics in an educational setting. This study employed a quantitative approach to collect data from 247 respondents through a validated survey instrument. The data were analyzed using confirmatory factor analysis and structural modeling techniques. The results revealed that leadership style perception significantly and positively influences communication, collaboration, and satisfaction with goal attainment. Furthermore, communication effectiveness was found to enhance collaboration frequency and goal satisfaction, while collaboration also contributed positively to goal achievement. These results highlighted the importance of how leadership was perceived in influencing effective team performance. The study provided practical insights for educational leaders aiming to foster a collaborative and communicative work environment and provides a validated model that can inform future leadership development initiatives. Recommendations for future research include longitudinal studies and applications in diverse educational contexts.

Keywords: Leadership Style Perception; Communication Effectiveness; Collaboration Frequency; Goal Achievement Satisfaction; Team Performance

Introduction

Effective leadership is essential to enhancing team performance and promoting positive school environments, particularly in the context of ongoing curriculum reforms and increasingly diverse student needs (Harris & Jones, 2019). Within educational institutions, leadership directly influences key aspects of team functioning, including communication effectiveness, collaboration frequency, and satisfaction with goal achievement (Klar et al., 2020). Understanding how leadership is perceived by team members and how these perceptions shape team dynamics is key to improving staff engagement and overall institutional outcomes.

Although leadership has been extensively studied in the corporate and healthcare sectors, there is limited research focusing on leadership style perception in educational contexts (Smylie et al., 2020). In schools, effective leadership goes beyond directive authority to include motivating teams and fostering a collaborative culture. Theoretical models such as transformational and distributed leadership have emerged as particularly relevant in this regard. Transformational leadership inspires and empowers team members toward shared goals, often leading to improved communication and collaboration (Saad Alessa, 2021). In contrast, distributed leadership promotes shared responsibility and collective decision-making, which enhances team cohesion and trust (Hallinger & Kovačević, 2019).

In the Thai educational system, leadership practices aligned with transparency, participation, and empowerment have been emphasized under national initiatives such as Thailand 4.0, which advocate for innovation and collaborative professional cultures in schools (Kulophas & Hallinger, 2019; Phumphakhawat Phumphongkhochasorn, 2021). However, the specific mechanisms through which leadership style perception impacts team communication, collaboration, and goal satisfaction remain underexplored. Leithwood et al. (2020) stress the importance of investigating these internal dynamics to better understand how leadership contributes to school improvement.

This study seeks to address these gaps by examining how leadership style perception influences communication effectiveness, collaboration frequency, and goal achievement satisfaction among school teams. The results are expected to provide practical insights for leadership development programs, equipping school leaders with strategies that enhance team performance. Furthermore, this research contributes to the broader literature on educational leadership by contextualizing leadership style perception within Thai school environments and highlighting its role in supporting institutional effectiveness and responsiveness to contemporary educational demands.

Research Objectives

This research investigates the impact of leadership styles on key aspects of team performance in educational settings. By examining communication effectiveness, collaboration, and goal achievement, the study aims to uncover the important role of leadership in cultivating productive and effective team dynamics within schools.

1. To determine how various leadership style perceptions affect collaboration frequency within school teams.
2. To determine how leadership style perceptions affect goal achievement satisfaction within school teams.
3. To evaluate how communication effectiveness influences collaboration frequency within school teams.
4. To evaluate how communication effectiveness influences goal achievement satisfaction within school teams.

5. To evaluate how collaboration frequency influences goal achievement satisfaction within school teams.

Literature Review

This section synthesizes contemporary research on the influence of perceived leadership styles on key dimensions of team performance in educational settings: communication effectiveness, collaboration frequency, and goal achievement satisfaction. The focus is on how educators' perceptions of leadership behavior affect these team dynamics and outcomes, particularly within the context of Thai schools. This review identifies gaps in existing research and provides a theoretical foundation for examining the interrelationships among leadership perceptions, communication, collaboration, and goal achievement within school teams.

a) Leadership Perception and Team Performance in Education

Leadership perception, the way team members interpret and evaluate the behaviors of their leaders, exerts a substantial influence on team dynamics and performance (Sun, 2019). In educational contexts, leaders' ability to promote a positive communication climate, encourage frequent collaboration, and align teams toward common goals is essential for improving school effectiveness (Phumphakhawat Phumphongkhochasorn, 2021). Studies in Thailand have shown that leadership effectiveness is linked to reforms under the national "Thailand 4.0" initiative, emphasizing innovation, empowerment, and shared responsibility in schools (Thamarat Jangsiriwattana, 2019; Kulophas & Hallinger, 2019).

Thai educators often value leadership that promotes transparency, ethical decision-making, and collective participation, attributes that correlate with higher levels of staff morale, motivation, and commitment to organizational goals (Kulophas & Hallinger, 2019; Makanjuola et al., 2024). Consequently, understanding how leadership is perceived by team members can provide valuable insights into mechanisms that drive communication quality, collaborative behaviors, and satisfaction with goal achievement (Horilla & Siitonen, 2020).

b) Leadership Styles and Communication Effectiveness

Communication effectiveness in school teams hinges on leaders' capacity to create an environment that encourages openness, feedback, and clarity in information exchange (Gramchev et. al, 2023). Leaders perceived as visionary and empowering help team members engage actively in dialogue, reducing misunderstandings and encouraging shared understanding of objectives (Momenian et al., 2020; Smith & Vass, 2019). In the Thai education system, communication channels that are inclusive and transparent contribute significantly to school improvement and teacher engagement (Phumphakhawat Phumphongkhochasorn, 2021; Kilag et al., 2023). Moreover, accountability and recognition by leaders are linked to trust-building, which strengthens communication networks within teams (Mustakim, 2020; Paletta, 2019). This is crucial in hierarchical cultures such as Thailand, where respect for authority coexists with a growing demand

for participative communication. The positive association between perceived leadership style and communication effectiveness supports the first hypothesis:

H1: Leadership style perception positively influences communication effectiveness within school teams.

c) Leadership Perceptions and Collaboration Frequency

Collaboration frequency is a vital indicator of team cohesion and is strongly influenced by the degree to which leaders encourage shared responsibility and mutual support (Walker et. al, 2020). Research in Southeast Asian contexts, including Thailand, underscores the importance of collaboration in addressing diverse student needs and encouraging professional learning communities (Kasmawati, 2019; Dong, 2024). Thai schools that implement collaborative leadership practices tend to experience enhanced resource-sharing and collective problem-solving (Makanjuola et al., 2024).

Perceptions of leaders as supportive and empowering enhance trust and willingness among teachers to collaborate more frequently (Giles & Yazan, 2019; Hsieh et al., 2023). Conversely, leadership perceived as overly directive or transactional may limit collaboration due to reduced autonomy and involvement (Cardona-Cano et al., 2023). These findings align with studies emphasizing the link between leadership perception and collaboration frequency in educational teams (Joseph et al., 2024).

H2: Leadership style perception positively influences collaboration frequency among school team members.

d) Leadership Perceptions and Goal Achievement Satisfaction

Satisfaction with goal achievement reflects team members' appraisal of how effectively their efforts, guided by leadership, translate into accomplishing shared objectives (Dunaetz, 2020). Leadership perceived as clear in vision, accountable, and supportive correlates with higher motivation and stronger alignment with school goals (Guterman, 2023; Rahman, 2022). In Thailand, effective leadership is essential to meeting educational reform targets and sustaining improvement initiatives (Phumphakhawat Phumphongkhochasorn, 2021).

Communication and collaboration serve as mediating factors linking leadership perceptions to goal achievement satisfaction. Effective communication strengthens coordination and trust, while frequent collaboration enhances problem-solving and role clarity, both critical for goal attainment (Markova et al., 2024; Specht & Crowston, 2022). Research suggests that when team members perceive leadership positively, they report greater satisfaction with goal outcomes (Al-Safwani, 2021; Giles & Yazan, 2019). Thus, this study proposes:

H3: Leadership style perception positively influences goal achievement satisfaction within school teams.

H4: Communication effectiveness is positively associated with collaboration frequency within school teams.

H5: Communication effectiveness positively influences goal achievement satisfaction within school teams.

H6. Collaboration frequency is positively associated with goal achievement satisfaction within school teams.

Based on the literature review and related studies, the conceptual framework is created as shown in Figure 1.

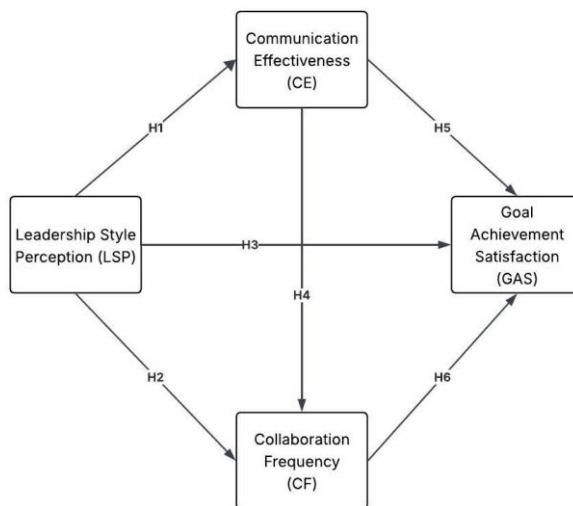


Figure 1. Conceptual Framework

Research Methodology

Research Design

This study adopted a quantitative research design using a survey to collect data. Quantitative research is appropriate here as it allows for systematic measurement and analysis of variables related to leadership style perception and team performance. The survey questionnaire, designed by the researcher, was structured to ensure data collection could be consistent, quantifiable, and statistically analyzable. This design facilitates objective insights into the relationships among the study variables by allowing responses to be easily compared, analyzed, and generalized.

Population

The population for this study comprises 644 faculty and staff members from eight faculties and units within BSRU: the Faculty of Education, Management Science, Humanities and

Social Sciences, Science and Technology, Engineering and Industrial Technology, College of Music, Graduate School, and Demonstration School. These were selected because they represent a broad spectrum of academic disciplines and organizational functions, ranging from STEM and public health to the arts, humanities, education, and administrative units. The distinct academic orientations and operational structures across these faculties are expected to influence how leadership styles are perceived and how team dynamics are experienced. This diversity enhances the study's relevance by providing varied perspectives on leadership and teamwork within the university context.

Sample Size

To determine an adequate sample size, Yamane's formula was applied:

$$n = \frac{N}{1 + Ne^2}$$

where N represents the population size (644), n is the required sample size, and e is the margin of error, set at 5% (0.05). Plugging in the values, the calculation yields a sample size of 247 participants. This sample size is statistically sufficient to ensure that the findings can be generalized to the larger population within a 95% confidence level.

Sampling Technique

Convenience sampling was used due to its practicality and ease of access. The sample was drawn from faculty and staff who were available and willing to participate during the first semester of 2024, specifically during work hours, faculty meetings, and scheduled university activities. While this non-probability method may limit generalizability, it was appropriate given the study's logistical constraints.

Measurement and Instrument Development

A researcher-developed questionnaire was used to gather data, consisting of 30 items organized into three parts:

The survey instrument comprised three parts. Part 1: Demographics (7 items) gathered background data, including role, department, years of experience, and position-specific details for lecturers, administrators, and support staff. Part 2: Leadership Style Perception (13 items) assessed five dimensions: creativity and innovation, vision, empowerment, recognition, and accountability. Part 3: Team Performance (10 items) measured communication effectiveness (3 items), collaboration frequency (3 items), goal achievement satisfaction (4 items), and one open-ended item for additional insights. All close-ended items used a 5-point Likert scale, interpreted through Best's (1982) descriptive scale. The instrument was grounded in relevant literature and aligned with the study's conceptual framework.

Validity and Reliability

Content validity was established through expert review by five specialists in leadership and team dynamics, whose feedback guided item refinement for clarity and relevance. The questionnaire was translated into Thai to ensure cultural and linguistic appropriateness for the BSRU context. A pilot test with 30 participants yielded a Cronbach's alpha of 0.95, indicating excellent internal consistency and reliability ($\alpha \geq 0.70$) for the constructs.

Data Collection

Before data collection, ethical clearance was secured from the BSRU Institutional Review Board (IRB), ensuring adherence to ethical research practices and participant protection. The questionnaire was administered via Google Forms for convenient and efficient electronic data collection. The survey link was shared through various Line messaging groups, specifically the faculty Line group, subject-specific Line groups, and department Line groups, to ensure broad participation across relevant stakeholders. Access to these groups was coordinated through appropriate channels within the institution to maintain transparency and voluntary participation. Data collection was conducted over 10 weeks, allowing participants sufficient time to complete the survey at their convenience. This extended timeframe supported higher response rates and ensured that data were gathered in alignment with the approved sampling strategy.

Data Analysis

Data analysis employed both descriptive and inferential statistical methods. Descriptive statistics, including frequency distributions, means, and standard deviations, were used to summarize and describe demographic data and responses related to leadership perception and team performance. Additionally, factor analysis was utilized to identify underlying constructs within the data.

Results & Discussion

Demographic characteristics

Table 1 presents the demographic profile of the 247 respondents, representing diverse roles, departments, and experience levels within the institution.

Table 1 Demographic Profile of the Respondents (n=247)

Variable/Indicator	Frequency	Percentage
Current Position		
Lecturer	88	35.63
Administrator	49	19.84
Lecturer & Administrator	71	28.74
Support Staff	39	15.79

Table 1 Demographic Profile of the Respondents (n=247) (Continued)

Variable/Indicator	Frequency	Percentage	
Faculty/Department			
Education	12	7.55	
Humanities and Social Sciences	24	15.09	
Engineering and Industrial Technology	11	6.92	
Management Science	65	40.88	
Science and Technology	9	5.66	
College of Music	10	6.29	
Graduate School	4	2.52	
Demonstration School	24	15.09	
Administration			
Support Staff	11	24.44	
Academic Affairs	17	37.78	
Business Operations	17	37.78	
Support Area			
Student Support	14	32.56	
Academic Support	13	30.23	
Technical Support	16	37.21	
Years of Experience			
Lecturer	2 years & below	7	4.40
	3-5 years	79	49.69
	6-10 years	59	37.11
	11 years & above	14	8.81
Administration	2 years & below	7	15.56
	3-5 years	14	31.11
	6-10 years	19	42.22
	11 years & above	5	11.11
Support Staff	2 years & below	3	6.98
	3-5 years	24	55.81
	6-10 years	10	23.26
	11 years & above	6	13.95

The majority of respondents were lecturers (35.63%), followed by those with dual lecturer-administrator roles (28.74%), administrators (19.84%), and support personnel (15.79%). The Faculty of Management Science accounted for the highest proportion (40.88%), with

representation also from the Faculties of Humanities and Social Sciences, Education, the Demonstration School, and others.

Administrators were primarily affiliated with Academic Affairs and Business Operations (37.78%), while support personnel were most commonly engaged in technical (37.21%), student (32.56%), and academic (30.23%) support roles. In terms of professional experience, most respondents had between 3 to 10 years in service. Specifically, 49.69% of lecturers had 3–5 years of experience, while 55.81% of support personnel and 42.22% of administrators had 6–10 years.

These findings reflect a predominantly mid-career workforce with broad institutional involvement, suggesting that the perceptions of leadership style and team performance reported herein are grounded in considerable professional experience. These data suggest a diverse, mid-career workforce, with a strong representation of staff involved in both academic and administrative functions. The prevalence of personnel in dual roles (lecturer-administrator) suggests a dynamic intersection of academic and administrative responsibilities, offering valuable insights into communication and collaboration within institutional teams.

Confirmatory Factor Analysis

Confirmatory factor analysis was used to evaluate the construct validity of latent variables, specifically by testing the congruence between theoretical constructs and empirical data from respondents. This analysis confirms that the sample measurements are a reliable reflection of true population values (Hair et al., 2019). Following standard protocols, the researcher then sequentially assessed convergent and discriminant validity.

Convergent Validity

The evaluation of convergent validity, which determines whether multiple indicators measure the same underlying concept, requires meeting three criteria. First, standardized factor loadings should exceed 0.5, indicating that indicators significantly contribute to their latent variable (Hair et al., 2019). Second, the average variance extracted (AVE) should be at least 0.5 (Knight and Cavusgil, 2004), showing the proportion of variance in the indicators explained by the latent construct:

$$AVE = \frac{\left(\sum_{i=1}^n \lambda_i^2 \right)}{\left(\sum_{i=1}^n \lambda_i^2 \right) + \left(\sum_{i=1}^n \delta_i \right)}$$

AVE = Average variance extracted for each latent variable

λ_i = Standardized factor loading

n = Number of indicators for the latent variable

δ_i = Error variance of the observed variable or measurement error

Third, construct reliability (or composite reliability) should be 0.7 or higher (Hair et al., 2019) using the equation based on Knight and Cavusgil (2004) as follows:

$$CR = \frac{\left(\sum_{i=1}^n \lambda_i \right)^2}{\left(\sum_{i=1}^n \lambda_i \right)^2 + \left(\sum_{i=1}^n \delta_i \right)}$$

CR = construct reliability or composite reliability for each latent variable

This study examined the impact of leadership styles on communication effectiveness, collaboration, and goal achievement in school teams. Three latent constructs: Leadership Style Perception (LSP), Communication Effectiveness (CE), Collaboration Frequency (CF), and Goal Achievement Satisfaction (GAS) were measured using a 23-item questionnaire (excluding the demographic questions) of 247 participants. Confirmatory factor analysis generated measurement models for each construct, and convergent validity was assessed by analyzing standardized factor loadings, CR, and AVE.

The results of the confirmatory factor analysis (CFA) were consistent with the empirical data. The chi-square (χ^2) value is 36.413 with 28 degrees of freedom (df), yielding a relative chi-square (χ^2/df) of 1.300, which is below the recommended threshold of 2.0, suggesting an excellent fit. The non-significant p-value of 0.132 further supports the adequacy.

Additional fit indices also indicated strong model fit: the root mean square error of approximation (RMSEA) was 0.035, below the acceptable cut-off of 0.05; the comparative fit index (CFI) was 0.999; the Tucker-Lewis index (TLI) was 0.994; and the standardized root mean square residual (SRMR) was 0.017, all of which surpass recommended thresholds.

Collectively, these fit indices confirm that the CFA adequately represents the data. The detailed results are summarized in Table 2. Likewise, Table 2 integrates analytical results from the confirmatory factor analysis and convergent validity test.

Table 2. Results of the reliability analysis, overall confirmatory factor analysis, and convergent analysis

Indicators	Lambda (λ_i)	t-value	p-value	SE	α	AVE (ρ_v)	CR (ρ_c)
LSP: Leadership Style Perception					0.976	0.770	0.977
LSP1	0.944	106.084	0.000	0.009			
LSP2	0.888	61.472	0.000	0.014			
LSP3	0.935	92.392	0.000	0.010			
LSP4	0.813	36.119	0.000	0.023			
LSP5	0.941	110.419	0.000	0.009			
LSP6	0.890	58.875	0.000	0.015			
LSP7	0.744	24.887	0.000	0.030			
LSP8	0.747	25.572	0.000	0.029			
LSP9	0.890	59.733	0.000	0.015			
LSP10	0.921	74.277	0.000	0.012			

Table 2. Results of the reliability analysis, overall confirmatory factor analysis, and convergent analysis (Continued)

Indicators	Lambda (λ_i)	t-value	p-value	SE	α	AVE (ρ_v)	CR (ρ_c)
LSP11	0.754	25.878	0.000	0.029			
LSP12	0.938	105.911	0.000	0.009			
LSP13	0.956	93.540	0.000	0.010			
CE: Communication Effectiveness					0.911	0.802	0.924
CE1	0.894	65.523	0.000	0.014			
CE2	0.861	48.954	0.000	0.018			
CE3	0.931	96.622	0.000	0.010			
CF: Collaboration Frequency					0.943	0.830	0.936
CF1	0.931	45.712	0.000	0.020			
CF2	0.941	90.115	0.000	0.010			
CF3	0.859	48.214	0.000	0.018			
GAS: Goal Achievement Satisfaction					0.911	0.710	0.906
GAS1	0.915	41.107	0.000	0.022			
GAS2	0.984	42.696	0.000	0.023			
GAS3	0.764	24.822	0.000	0.031			
GAS4	0.672	18.030	0.000	0.037			

$\chi^2 = 36.413$, $df=28$, $\chi^2/df=1.300$, $p\text{-value} = 0.132$, $RMSEA=0.035$, $CFI=0.999$, $TLI=0.994$, $SRMR=0.017$

The confirmatory factor analysis (CFA) results for Leadership Style Perception (LSP) indicate that all items met the minimum standardized factor loading criterion of >0.50 , confirming their adequacy for the construct. Among the 13 indicators, LSP13 exhibited the highest standardized factor loading at 0.956, followed closely by LSP1 at 0.944, suggesting these items are the most representative of the underlying factor. The lowest loadings were observed for LSP7 (0.744) and LSP8 (0.747), yet both values remain well within acceptable limits, supporting the internal consistency of the scale.

For the Communication Effectiveness (CE) construct, all three indicators demonstrated strong factor loadings, with CE3 having the highest loading at 0.931, followed by CE1 (0.894) and CE2 (0.861). These results confirm that each item is a reliable measure of the construct, with all loadings exceeding the 0.50 threshold.

The CFA for Collaboration Frequency (CF) also yielded excellent results. CF2 showed the highest standardized loading at 0.941, followed by CF1 (0.931) and CF3 (0.859). The strong loadings across all three indicators reflect a well-defined and coherent construct.

Regarding Goal Achievement Satisfaction (GAS), all four indicators met the accepted factor loading criterion. GAS2 emerged as the strongest item with a loading of 0.984, followed by GAS1

(0.915), GAS3 (0.764), and GAS4 (0.672). While GAS4 had the lowest loading among the group, it still met the minimum criterion, indicating its continued relevance to the construct.

Overall, the CFA results demonstrate that all indicators across the four constructs (Leadership Style Perception, Communication Effectiveness, Collaboration Frequency, and Goal Achievement Satisfaction) are valid measures, contributing meaningfully to their respective latent variables.

Descriptive Statistics of the Variables

Descriptive analysis provided baseline insights into participants' perceptions of the four core variables: Leadership Style Perception (LSP), Communication Effectiveness (CE), Collaboration Frequency (CF), and Goal Achievement Satisfaction (GAS). As shown in Table 3, mean scores indicated generally favorable perceptions, while standard deviations reflected response variability. These results support the suitability of the data for further analyses, including confirmatory factor analysis and structural equation modeling. Mean scores were interpreted using Best's (1982) descriptive scale, as: Scores ranging from 1.00 to 1.49 indicate a very low level. A low level is represented by scores between 1.50 and 2.49. Scores falling within the range of 2.50 to 3.49 suggest a moderate level. A high level is indicated by scores between 3.50 and 4.49, while scores from 4.50 to 5.00 represent a very high level.

Table 3. Descriptive Statistics of LSP, CE, CF, and GAS (n=247)

Indicators	Mean	Standard Deviation	Interpretation
Leadership Style Perception (LSP)	4.244		High Level
LSP1	4.23	0.598	High Level
LSP2	4.25	0.494	High Level
LSP3	4.14	0.561	High Level
LSP4	4.12	0.443	High Level
LSP5	4.18	0.634	High Level
LSP6	4.30	0.557	High Level
LSP7	4.54	0.568	Very High Level
LSP8	4.49	0.555	High Level
LSP9	4.09	0.549	High Level
LSP10	4.06	0.755	High Level
LSP11	4.49	0.624	High Level
LSP12	4.12	0.599	High Level
LSP13	4.15	0.546	High Level

Table 3. Descriptive Statistics of LSP, CE, CF, and GAS (n=247) (Continued)

Indicators	Mean	Standard Deviation	Interpretation
Communication Effectiveness (CE)	4.128		High Level
CE1	4.07	0.614	High Level
CE2	4.15	0.466	High Level
CE3	4.16	0.748	High Level
Collaboration Frequency (CF)	3.927		High Level
CF1	3.82	0.862	High Level
CF2	4.14	0.742	High Level
CF3	3.83	0.845	High Level
Goal Achievement Satisfaction (GAS)	4.450		High Level
GAS1	4.30	0.686	High Level
GAS2	4.14	0.733	High Level
GAS3	4.59	0.597	Very High Level
GAS4	4.77	0.450	Very High Level

As shown in Table 3, the overall mean scores for all variables, LSP, CE, CF, and GAS fall within the high to very high levels based on Best's (1982) interpretation scale. This indicates generally positive perceptions among participants across all dimensions of leadership and team performance.

For Leadership Style Perception (LSP), the overall mean was 4.244, suggesting that participants view their leaders favorably. Notably, LSP7 scored at the upper end of the scale, a very high level. This suggests that specific aspects of leadership likely related to empowerment, recognition, or vision are particularly well-regarded. In contrast, LSP10 and LSP9 scored the lowest within the group, though still within the high range, possibly indicating areas with room for improvement in leadership practice.

Communication Effectiveness (CE) had a consistent mean across its indicators, with an overall average of 4.128, indicating that team communication is perceived as clear and effective. The relatively narrow range of scores suggests uniformity in communication experiences, with no major weaknesses identified.

Collaboration Frequency (CF) showed the lowest overall mean among the constructs at 3.927, though it remains within the high level. The slight dip compared to other variables may indicate occasional challenges in consistent teamwork or coordination. However, the higher score for CF2 may reflect strength in certain collaborative practices, possibly task sharing or cooperative problem-solving.

In contrast, Goal Achievement Satisfaction (GAS) had the highest overall mean at 4.450, reflecting a very high level of satisfaction among participants regarding their team's ability to meet goals. Items GAS4 and GAS3 received the highest ratings, indicating strong confidence in goal

accomplishment and possibly a sense of fulfillment in work outcomes. Meanwhile, GAS1 and GAS2, though slightly lower, still reflect a high level of satisfaction.

In summary, the descriptive results reveal a generally strong perception of leadership and team performance. While all variables rated highly, goal achievement stood out as the strongest aspect, and collaboration frequency was the area with the most potential for enhancement.

Hypotheses Testing

Measurement Model and Factor Loadings

Confirmatory factor analysis confirmed the validity of all measurement indicators across the latent constructs. For Leadership Style Perception (LSP), all 13 indicators (LSP1–LSP13) loaded significantly on the LSP factor ($p < 0.001$), with loadings ranging from 0.739 (LSP7) to 0.948 (LSP13), demonstrating strong and reliable factor loadings.

Similarly, the Communication Effectiveness (CE) items (CE1–CE3) showed high and significant loadings between 0.851 and 0.926 ($p < 0.001$). The Collaboration Frequency (CF) indicators (CF1–CF3) also exhibited strong loadings from 0.861 to 0.937 ($p < 0.001$). For Goal Achievement Satisfaction (GAS), all four items loaded significantly ($p < 0.001$), ranging from 0.659 (GAS4) to 0.981 (GAS2), with GAS4 being the lowest but still within acceptable limits.

Table 4 shows the factor loadings affirming the convergent validity of the measurement model, indicating that the observed variables are reliable indicators of their respective constructs.

Table 4. Factor Loadings

Constructs	Estimate	S.E.	Est./S.E.	p-value
LSP1	0.941	0.047	19.817	0.000
LSP2	0.886	0.050	17.816	0.000
LSP3	0.930	0.048	19.435	0.000
LSP4	0.809	0.052	15.489	0.000
LSP5	0.939	0.048	19.739	0.000
LSP6	0.884	0.050	17.819	0.000
LSP7	0.739	0.054	13.626	0.000
LSP8	0.742	0.054	13.697	0.000
LSP9	0.886	0.050	17.746	0.000
LSP10	0.920	0.049	18.819	0.000
LSP11	0.747	0.054	13.773	0.000
LSP12	0.936	0.048	19.622	0.000
LSP13	0.948	0.047	20.085	0.000

Table 4. Factor Loadings (Continued)

Constructs	Estimate	S.E.	Est./S.E.	p-value
CE1	0.894	0.050	18.024	0.000
CE2	0.851	0.050	16.989	0.000
CE3	0.926	0.048	19.345	0.000
CF1	0.934	0.052	18.093	0.000
CF2	0.937	0.048	19.563	0.000
CF3	0.861	0.051	16.870	0.000
GAS1	0.911	0.052	17.470	0.000
GAS2	0.981	0.051	19.139	0.000
GAS3	0.757	0.055	13.670	0.000
GAS4	0.659	0.056	11.729	0.000

Hypotheses Testing and Path Analysis

The structural equation model tested the hypothesized relationships between Leadership Style Perception and the outcome variables. All paths were statistically significant ($p < 0.001$), with standardized estimates well above conventional thresholds as summarized in Table 5.

Table 5. Summary of Hypotheses Testing Results

Hypotheses	Path	Estimate	S.E.	Est./S.E.	p-value	Interpretation
H1	LSP → CE	1.020	0.007	143.837	0.000	Supported
H2	LSP → CF	1.007	0.007	142.682	0.000	Supported
H3	LSP → GAS	0.944	0.021	44.586	0.000	Supported
H4	CE → CF	0.974	0.012	83.705	0.000	Supported
H5	CE → GAS	1.006	0.019	51.777	0.000	Supported
H6	CF → GAS	0.949	0.028	34.356	0.000	Supported

These results indicate that Leadership Style Perception has a strong and statistically significant impact on team-level outcomes: communication effectiveness, collaboration frequency, and satisfaction with goal achievement. Additionally, communication effectiveness significantly predicts both collaboration and goal satisfaction, while collaboration also contributes positively to goal satisfaction.

Correlations Among Latent Variables

The relationships among the main latent variables, Leadership Style Perception (LSP), Communication Effectiveness (CE), Collaboration Frequency (CF), and Goal Achievement Satisfaction (GAS) are presented in Table 6. All correlations were positive and statistically significant ($p < 0.001$), with estimates ranging from 0.944 to 1.020, suggesting highly interrelated

constructs. To interpret the strength of these correlations, Cohen's (1988) guidelines for interpreting the strength of correlations were used for the interpretation of relationships as follows: 0.00-0.19 (very weak), 0.20-0.39 (weak), 0.40-0.59 (moderate), 0.60-0.79 (strong), and 0.80-1.00 (very strong).

Table 6. Correlation of variables

Latent Pair	Correlation Estimate	Interpretation
LSP with CE	1.020*	Very strong positive relationship
LSP with CF	1.007*	Very strong positive relationship
LSP with GAS	0.944	Strong positive relationship
CE with CF	0.974	Strong positive relationship
CE with GAS	1.006*	Very strong positive relationship
CF with GAS	0.949	Strong positive relationship

*Note: Correlation values slightly exceeding 1.000 may result from estimation procedures in Structural Equation Modeling (SEM), particularly with standardized solutions and highly overlapping constructs. These are interpreted as very strong but should be monitored for multicollinearity or model identification issues.

Based on Cohen's (1988) scale, all observed correlations fall within the very strong range, indicating that participants who reported more positive perceptions of leadership style also tended to report higher levels of communication effectiveness, collaboration frequency, and goal achievement satisfaction. Correlation estimates exceeding 1.0 are acknowledged as possible artifacts of model estimation within SEM and are interpreted as indicative of extremely strong relationships, though they may warrant further examination for multicollinearity or construct overlap.

Covariances Among Indicators (Error Terms)

Significant residual covariances were observed among indicator error terms, notably between LSP11 and LSP7, LSP8, and LSP10, and between GAS3 and multiple CF and LSP indicators. Additionally, GAS4 showed multiple significant covariances with LSP items. These residual covariances suggest some overlap or redundancy among items, potentially due to similar wording or shared method variance. While they do not invalidate the overall model, they highlight opportunities for refining the measurement instrument in future research.

Interpretation and Significance

The findings demonstrate that perceptions of leadership style significantly impact key aspects of team performance, including communication effectiveness, collaboration frequency, and satisfaction with goal achievement. The strong and consistent factor loadings affirm the reliability of the measurement model, while the positive and statistically significant structural paths confirm the theoretical framework linking leadership to team dynamics and outcomes.

The high correlations between constructs suggest a cohesive model where leadership promotes a positive environment that enhances both interaction and results among team members. The detected indicator-level covariances, while not undermining the model, suggest areas for scale improvement to reduce item redundancy and enhance discriminant validity. Overall, this study provides robust empirical support for the critical role of leadership in shaping effective team processes and successful goal attainment within organizational settings.

Statistical Significance and Model Fit

Nearly all critical ratios (Est./S.E.) were substantially greater than the 1.96 threshold, with p-values <0.001. This indicates that all estimated relationships are highly reliable and statistically significant.

Conclusion and Further Research

This study examined the influence of leadership style perception on key dimensions of team performance among Thai school teams. The findings revealed that leadership style perception significantly and positively influences collaboration frequency and goal achievement satisfaction. Additionally, communication effectiveness was shown to enhance both collaboration and goal satisfaction, while collaboration frequency also contributed positively to goal achievement.

These results are consistent with prior research highlighting the role of empowering and participative leadership in promoting communication and collaboration in schools (Phumphakhwat Phumphongkhochasorn, 2021; Giles & Yazan, 2019). They also align with theoretical perspectives suggesting that leadership perception, rather than leadership traits alone, significantly influences team behaviors and outcomes (Sun, 2019; Kulophas & Hallinger, 2019). By validating these relationships in the Thai educational context, this study reinforces and extends existing theories on team-based leadership in hierarchical cultures.

Academically, the findings contribute to the growing body of leadership literature by emphasizing the perceptual and relational dimensions of leadership within school teams. Practically, it suggests that school leaders should encourage leadership behaviors that are perceived as transparent, empowering, and communicative to enhance collaboration and goal satisfaction.

The study is limited by its cross-sectional design and context-specific focus. Future research may adopt a longitudinal or mixed-methods approach and explore how leadership style perception functions across diverse educational and cultural settings to broaden generalizability.

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