

Distributed Leadership, Stress Resilience, and Collaboration Frequency among Elementary Teacher-Coordination

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Abstract. This study aimed to determine the mediating role of collaboration frequency in the relationship between distributed leadership and stress resilience among elementary teacher-coordinators. A quantitative non-experimental descriptive-correlational design was used with 110 teacher-coordinators from the Nabunturan West District, Davao de Oro. Three validated scales measured distributed leadership, collaboration frequency, and stress resilience. Data were analyzed using mean, standard deviation, Pearson correlation, and Sobel mediation test. Results showed high levels for all three variables. Distributed leadership had a significant moderate correlation with stress resilience and a strong correlation with collaboration frequency. Collaboration frequency showed a significant moderate correlation with stress resilience. Collaboration frequency significantly and partially mediated the relationship between distributed leadership and stress resilience, accounting for 45.5% of the total effect. It is recommended that school administrators may strengthen distributed leadership by ensuring equitable distribution of leadership tasks, protect regular collaborative meetings, and address structural barriers to expand team teaching practices. Teacher-coordinators are encouraged to actively participate in professional exchanges and seek training in emotional regulation strategies. Future research may employ longitudinal and mixed-method designs.

KEYWORDS

1. distributed leadership
2. collaboration frequency
3. stress resilience
4. mediation analysis
5. elementary teacher-coordinators

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1. Introduction

Teacher-coordinators play a crucial role in elementary schools because they help implement school programs, coordinate instructional and administrative activities, and support teachers while continuing to perform classroom duties. Their work positions them between formal school leadership and everyday classroom practice. When coordination duties are added to teaching responsibilities without sufficient support, teacher-coordinators may experience workload pressure, emotional fatigue, and role strain. For this reason, the relationship among distributed leadership, collaboration frequency,

and stress resilience is important in understanding how schools can support teacher-coordinators more effectively.

The global concern for teacher well-being is connected to the Sustainable Development Goals, particularly Goal 3 on well-being and Goal 4 on quality education (United Nations, 2015). Schools cannot sustain quality education when teachers are unsupported, isolated, or emotionally exhausted. Educational leadership therefore needs to create professional environments where teachers share responsibility, participate in decision-making, and learn collaboratively.

Distributed leadership offers one possible

response to this challenge. It moves away from a strictly hierarchical model of leadership and recognizes that leadership practice is shared among school heads, teachers, coordinators, and other members of the school community. Spillane (2005) described leadership as stretched across people and situations, meaning that leadership is enacted through interactions rather than held only by one formal leader. In schools, this practice can be observed through shared responsibility, empowerment in decision-making, and mutual professional learning.

International studies have associated distributed leadership with teacher self-efficacy, commitment, well-being, and reduced workload stress (Bellibaş, Gümüş, & Chen, 2023; Li & Yao, 2023). These findings suggest that when teachers are trusted and included in leadership processes, they are more likely to feel capable, valued, and professionally supported. However, distributed leadership alone may not automatically produce stronger resilience. It may need to operate through specific day-to-day practices that connect teachers with one another.

Collaboration frequency may be one such mechanism. In this study, collaboration frequency refers to how regularly teacher-coordinators participate in team teaching, collaborative meetings, and professional exchanges. Frequent collaboration allows teachers to share resources, discuss classroom challenges, plan together, and receive emotional and practical support. Kolleck, Schuster, Hartmann, and Gräsel (2021) noted that actual patterns of teacher interaction are critical because collaboration builds trust and knowledge sharing. This means that the frequency of collaboration may matter more than the mere existence of collaborative structures.

Stress resilience is understood as the ability of teachers to cope with professional demands while maintaining self-efficacy, emo-

tional balance, and supportive relationships. Contemporary resilience literature views resilience as a dynamic process that is strengthened by supportive school environments rather than a fixed personal trait (Beltman, 2020). For Filipino public school teachers, this perspective is relevant because their roles often involve both instructional and administrative demands. Local evidence also shows that social support may help reduce burnout among teachers (Sarmiento & Badiang, 2024).

This study examined the mediating role of collaboration frequency in the relationship between distributed leadership and stress resilience among elementary teacher-coordinators in Nabunturan West District, Davao de Oro. The study contributes localized evidence on how shared leadership practices may strengthen teacher resilience through regular collaboration. It also provides practical guidance for school administrators who seek to improve teacher support systems through stronger leadership distribution and more consistent professional collaboration.

1.1. Objectives of the Study. This study determined the mediating role of collaboration frequency in the relationship between distributed leadership and stress resilience among elementary teacher-coordinators. Specifically, it sought to describe the extent of distributed leadership in terms of shared responsibility, empowerment in decision-making, and mutual professional learning; assess the level of stress resilience in terms of self-efficacy, emotional regulation, and social support and relationships; determine the extent of collaboration frequency in terms of participation in team teaching, regularity of collaborative meetings, and frequency of professional exchanges; examine the significant relationships among distributed leadership, stress resilience, and collaboration frequency; and test whether collaboration frequency significantly mediates the relationship between distributed leadership and stress resilience.

1.2. Review of Significant Literature. Distributed leadership has become a significant leadership model in contemporary school improvement. Harris (2020) emphasized that distributed leadership is useful in complex educational environments because it encourages collaboration and participatory decision-making. Instead of relying on the school head as the only source of leadership, schools can draw on the professional knowledge of teachers, coordinators, and teams. This is especially important in public school contexts where instructional, administrative, and community demands are shared across many actors.

Shared responsibility is a key indicator of distributed leadership. It means that teachers and school leaders collectively assume ownership of programs, activities, and outcomes. When responsibility is shared fairly, the burden of school improvement does not fall on one person or a small group. Demirkasımoğlu and Aydın (2025) found that teacher professional capital, including trust and shared responsibility, strongly predicts distributed leadership. However, shared responsibility requires role clarity. Without clear expectations, leadership distribution can create confusion or unequal task assignment (Sachar, 2025).

Empowerment in decision-making is another essential element. Teachers who are empowered are not limited to implementing directives. They are encouraged to participate in decisions about teaching methods, classroom management, school policies, and program implementation. Li and Yao (2023) found that distributed leadership is positively associated with teacher self-efficacy and well-being. This suggests that empowerment strengthens teachers' sense of control over their work and may protect them from stress.

Mutual professional learning refers to teachers learning with and from one another through peer coaching, professional learning communities, collaborative meetings, and re-

flective practice. Abejo and Lopez (2022) argued that intentionally distributed leadership makes professional learning communities more sustainable because teachers take active roles in professional development. Mutual learning can reduce professional isolation and strengthen instructional practice because teachers gain access to the experiences and strategies of colleagues.

Stress resilience is a multidimensional construct involving self-efficacy, emotional regulation, and social support. Self-efficacy gives teachers confidence that they can handle difficult classroom situations and support student learning. Emotional regulation enables them to remain composed during stressful moments. Social support and relationships provide emotional and practical resources that help teachers face professional challenges. Lu, Wang, and Wang (2024) reported that self-efficacy and resilience explain a large portion of teacher well-being, while Schulze and Schmidt (2025) emphasized that collegial support and leadership culture shape emotional exhaustion and work engagement.

Collaboration frequency links leadership conditions with teacher well-being. Professional exchanges, team teaching, and regular meetings allow teachers to transform leadership support into practical assistance. Zakariya and Adegoke (2024) found that teacher cooperation contributes to instructional practice and may buffer the effects of stress. Blair, Sandilos, Ellis, and Neugebauer (2023) also found that positive teacher-teacher and teacher-administrator relationships are associated with greater well-being. These studies support the assumption that collaboration is not merely an administrative activity but a source of resilience.

Despite these findings, there remains a need for localized evidence on how collaboration frequency functions in Philippine elementary schools. Structures such as Learning Action Cells are intended to promote professional

collaboration, yet implementation may differ across schools. The present study addresses this gap by testing whether collaboration frequency mediates the relationship between distributed leadership and stress resilience among teacher-coordinators.

1.3. Theoretical and Conceptual Framework. The study was anchored on Spillane's (2005) Distributed Leadership Theory. The theory explains that leadership practice emerges from interactions among leaders, followers, and situations. In this study, distributed leadership was measured through shared responsibility, empowerment in decision-making, and mutual professional learning. These dimensions represent leadership conditions that may encourage teacher participation and professional collaboration.

The study was also supported by Brouskeli, Papageorgiou, and Kounenou's (2018) Stress Resilience Theory, which identifies self-efficacy, emotional regulation, and social support as important components of resilience. These dimensions were used to understand how teacher-coordinators cope with workplace demands. Kolleck et al.'s (2021) Collaboration Frequency Theory also supported the model by emphasizing that frequent professional interaction strengthens trust, knowledge sharing, and supportive relationships.

The conceptual model positioned distributed leadership as the independent variable, stress resilience as the dependent variable, and collaboration frequency as the mediating variable. The model assumes that distributed leadership creates opportunities for regular collaboration, and that frequent collaboration strengthens teacher-coordinators' resilience through shared problem-solving, emotional support, and professional exchange.

2. Methodology

This study used a quantitative non-experimental descriptive-correlational research design with mediation analysis. The design was appropriate because the study examined the natural relationships among distributed leadership, collaboration frequency, and stress resilience without manipulating the study variables. The descriptive component summarized the levels of the three variables, the correlational component tested the strength and direction of their relationships, and the mediation component examined whether collaboration frequency explained the link between distributed leadership and stress resilience.

The respondents were 110 elementary teacher-coordinators from Nabunturan West District, Davao de Oro. The target population consisted of 152 teacher-coordinators from seven elementary schools. A priori sample size calculation using G*Power 3.1.9.7 indicated a minimum of 77 respondents for detecting a significant mediation effect at $\alpha = .05$ and power = .80. The final sample of 110 exceeded this minimum and provided sufficient statistical power for the planned analyses.

Stratified random sampling was used, with each school serving as a stratum. The sample was proportionally distributed across the seven participating schools. Respondents were included if they had at least three years of full-time teaching experience, had served in a formal or informal coordination role for at least one full academic year, and had direct involvement in collaborative activities such as team teaching, professional learning communities, or grade-level meetings. These criteria ensured that respondents had enough experience to evaluate leadership, collaboration, and resilience in their school context.

Three validated self-administered survey instruments were used. The Distributed Leadership Scale was adapted from Spillane (2005)

and measured shared responsibility, empowerment in decision-making, and mutual professional learning. The Collaboration Frequency Scale was adapted from Kolleck et al. (2021) and measured participation in team teaching, regularity of collaborative meetings, and frequency of professional exchanges. The Stress Resilience Scale was adapted from Brouskeli et al. (2018) and measured self-efficacy, emotional regulation, and social support and relationships.

All instruments used a 5-point Likert scale ranging from 1, Strongly Disagree, to 5, Strongly Agree. Mean scores were interpreted using the following ranges: 1.00-1.80, Very Low; 1.81-2.60, Low; 2.61-3.40, Moderate; 3.41-4.20, High; and 4.21-5.00, Very High. A pilot test was conducted with 30 elementary teacher-coordinators from schools not included in the final sample. The instruments obtained an overall Cronbach's alpha of 0.865, indicating strong internal consistency and suitability

for the main study.

Content validity was established through expert validation by three educational research specialists who reviewed the instruments for relevance, clarity, and alignment with the theoretical constructs. Data collection was conducted during the 2025-2026 school year after securing institutional endorsement and permission from appropriate authorities. Respondents were oriented about the study, informed consent was obtained, and completed questionnaires were collected and encoded for analysis.

Data were analyzed using mean and standard deviation for descriptive results, Pearson product-moment correlation for relationships among variables, and the Sobel test for mediation. All statistical tests were evaluated at the .05 level of significance. Ethical safeguards were observed by ensuring voluntary participation, confidentiality, anonymity of responses, and reporting of results only in aggregate form.

Table 1
Distribution of Respondents by School

School	No. of Respondents
A	8
B	16
C	19
D	18
E	8
F	19
G	22
Total	110

3. Results and Discussion

This section presents the condensed results of the study. The original thesis contained detailed item-level tables; for article publication, these results were consolidated into summary tables while retaining the major descriptive, correlational, and mediation findings.

3.1. Extent of Distributed Leadership. The overall mean for distributed leadership was

4.13, interpreted as High. This indicates that teacher-coordinators perceived distributed leadership practices as generally present in their schools. Among the three dimensions, mutual professional learning had the highest mean of 4.18, followed by empowerment in decision-making with 4.12 and shared responsibility with 4.08.

The high score for mutual professional

learning suggests that schools encourage teacher-coordinators to learn from colleagues, share instructional strategies, and participate in collaborative professional development. This supports the idea that distributed leadership becomes visible when teachers are not only assigned responsibilities but are also given opportunities to learn collectively. The high score for empowerment indicates that respondents felt capable of making decisions about teaching methods and classroom management. However, the slightly lower score for shared responsibility

suggests that the equitable distribution of leadership tasks remains an area for improvement.

These findings align with the view that distributed leadership can build teacher agency and professional commitment when responsibilities and decision-making opportunities are genuinely shared (Bellibas et al., 2023; Li & Yao, 2023). They also point to the need for clear role definition, since distributed leadership may create role ambiguity when tasks are not equitably assigned (Sachar, 2025).

Table 2

Summary of the Extent of Distributed Leadership, Stress Resilience, and Collaboration Frequency

Variable / Dimension	Mean	SD	Description
Distributed Leadership - Shared Responsibility	4.08	0.79	High
Distributed Leadership - Empowerment in Decision-Making	4.12	0.77	High
Distributed Leadership - Mutual Professional Learning	4.18	0.75	High
Distributed Leadership - Overall	4.13	0.08	High
Stress Resilience - Self-Efficacy	4.15	0.78	High
Stress Resilience - Emotional Regulation	4.02	0.80	High
Stress Resilience - Social Support and Relationships	4.20	0.75	High
Stress Resilience - Overall	4.12	0.09	High
Collaboration Frequency - Participation in Team Teaching	3.92	0.83	High
Collaboration Frequency - Regularity of Collaborative Meetings	4.05	0.79	High
Collaboration Frequency - Frequency of Professional Exchanges	4.22	0.74	Very High
Collaboration Frequency - Overall	4.06	0.09	High

3.2. Extent of Stress Resilience. The overall mean for stress resilience was 4.12, interpreted as High. Social support and relationships obtained the highest mean of 4.20, followed by self-efficacy with 4.15 and emotional regulation with 4.02. This means that teacher-coordinators generally viewed themselves as resilient, particularly because they had supportive relationships with colleagues.

The high rating for social support and relationships suggests that collegial support is a major resilience resource in the district. Respondents reported that colleagues helped them face teaching challenges, provided emotional support, and contributed to a supportive school environment. Self-efficacy was also high, indicat-

ing that teacher-coordinators generally trusted their ability to handle classroom demands and support student learning.

Emotional regulation was the lowest dimension, although still High. This result suggests that teacher-coordinators may benefit from additional support in managing stress, remaining emotionally balanced, and using coping strategies during difficult school situations. The finding supports resilience literature indicating that teacher well-being is strengthened through a combination of personal confidence, emotional regulation, and social support (Beltman, 2020; Lu et al., 2024).

3.3. Extent of Collaboration Frequency. The overall mean for collaboration frequency

was 4.06, interpreted as High. Frequency of professional exchanges obtained the highest mean of 4.22, interpreted as Very High. Regularity of collaborative meetings followed with 4.05, while participation in team teaching received the lowest mean of 3.92, although still High.

The Very High rating for professional exchanges shows that teacher-coordinators regularly shared teaching ideas, resources, strategies, feedback, and solutions with colleagues. This suggests that informal and formal professional exchange is a strong feature of the schools in Nabunturan West District. Regular-

ity of collaborative meetings was also High, indicating that schools provided scheduled opportunities to discuss instructional practices and student progress.

Participation in team teaching had the lowest mean among the collaboration dimensions. This may indicate that while teachers value collaboration, team teaching may require more structural support than ordinary professional exchange. Team teaching often requires common planning time, role clarity, and administrative coordination. Thus, strengthening team teaching may require deliberate scheduling and clearer co-teaching arrangements.

Table 3
Highest and Lowest Item-Level Indicators

Variable	Highest Indicator / Item	Mean	Lowest Indicator / Item	Mean
Distributed Leadership	My school encourages professional learning through peer collaboration.	4.35	The responsibility of leading various activities is distributed equally among the staff.	3.95
Stress Resilience	I feel supported by my colleagues when I face challenges in teaching.	4.35	I manage stress effectively while teaching.	3.95
Collaboration Frequency	I regularly exchange teaching ideas and resources with my colleagues.	4.35	I frequently collaborate with colleagues in team teaching.	3.70

3.4. Relationship Among the Variables. The correlation analysis showed significant positive relationships among all variables. Distributed leadership and stress resilience had a moderate positive correlation, $r = 0.54$, $p < .001$. Distributed leadership and collaboration frequency had a strong positive correlation, $r = 0.63$, $p < .001$. Collaboration frequency and stress resilience had a moderate positive correlation, $r = 0.57$, $p < .001$.

The strongest relationship was between distributed leadership and collaboration frequency. This means that when leadership responsibil-

ities are shared, teachers are empowered, and professional learning is encouraged, teacher-coordinators are more likely to collaborate regularly. The significant relationship between collaboration frequency and stress resilience suggests that frequent collaboration may help teachers manage stress by giving them access to professional advice, emotional support, and shared problem-solving. These findings support studies showing that teacher cooperation and positive collegial relationships are associated with improved well-being and instructional quality (Blair et al., 2023; Zakariya & Adegoke, 2024).

Table 4
Significance of the Relationships among Variables

Variables Correlated	r-value	p-value	Interpretation
Distributed Leadership and Stress Resilience	0.54	< .001	Significant, moderate
Distributed Leadership and Collaboration Frequency	0.63	< .001	Significant, strong
Collaboration Frequency and Stress Resilience	0.57	< .001	Significant, moderate

3.5. Mediating Effect of Collaboration Frequency. The mediation analysis confirmed that collaboration frequency significantly and partially mediated the relationship between distributed leadership and stress resilience. Path a, from distributed leadership to collaboration frequency, was significant with a coefficient of 0.63, SE = 0.06, $p < .001$. Path b, from collaboration frequency to stress resilience, was also significant with a coefficient of 0.39, SE = 0.07, $p < .001$. The indirect effect was 0.246, and the Sobel test yielded $z = 5.12$, $p < .001$.

The total effect of distributed leadership on stress resilience was 0.54. When collaboration frequency was included in the model, the direct effect decreased to 0.29 but remained significant. This indicates partial mediation. The mediated proportion was 45.5%, meaning

that nearly half of the influence of distributed leadership on stress resilience operated through collaboration frequency.

This finding is important because it identifies collaboration frequency as an active mechanism in the leadership-resilience relationship. Distributed leadership strengthens resilience not only by giving teachers voice and shared responsibility but also by increasing regular professional interaction. The result supports the theoretical assumption that leadership practices become more beneficial when they are translated into frequent collaboration, peer learning, and supportive professional exchange. Since the mediation is partial, other pathways may also explain the relationship, such as role clarity, autonomy, trust in school leadership, and direct administrative support.

Table 5
Mediating Effect of Collaboration Frequency on the Relationship between Distributed Leadership and Stress Resilience

Path / Effect	Coefficient	SE	z-value	p-value	Interpretation
Path a: Distributed Leadership to Collaboration Frequency	0.63	0.06	-	< .001	Significant
Path b: Collaboration Frequency to Stress Resilience	0.39	0.07	-	< .001	Significant
Total effect: Distributed Leadership to Stress Resilience	0.54	0.07	-	< .001	Significant
Direct effect after mediator	0.29	0.08	-	< .001	Significant
Indirect effect: Sobel test	0.246	-	5.12	< .001	Significant partial mediation
Proportion mediated	45.5%	-	-	-	Partial mediation

4. Conclusions

Based on the findings, distributed leadership, stress resilience, and collaboration frequency among elementary teacher-coordinators in Nabunturan West District were all rated High.

Distributed leadership was strongest in mutual professional learning, stress resilience was strongest in social support and relationships, and collaboration frequency was strongest in professional exchanges. These results suggest

that the district has a favorable foundation for shared leadership, collegial interaction, and teacher support.

The study also concludes that distributed leadership is significantly related to both stress resilience and collaboration frequency. Collaboration frequency is also significantly related to stress resilience. Most importantly, collaboration frequency significantly and partially mediates the relationship between distributed leadership and stress resilience. Therefore, collaboration frequency is a key mechanism through which distributed leadership contributes to stronger stress resilience among teacher-coordinators.

The partial mediation result shows that distributed leadership still has a direct effect on resilience even after accounting for collaboration frequency. This means that distributed leadership may also support resilience through other factors, including empowerment, role clarity, leadership trust, and a stronger sense of professional agency. Nevertheless, collaboration frequency remains a major pathway and should be treated as a priority in school leadership practice.

5. Recommendations

School administrators may strengthen distributed leadership by ensuring that leadership tasks are distributed equitably and transparently. Teacher-coordinators should be given meaningful participation in both classroom-level and

school-level decision-making. School heads may also provide clear role expectations so that shared responsibility does not become role overload.

Schools may protect regular collaborative time through Learning Action Cells, grade-level meetings, peer coaching, and structured professional exchanges. Since team teaching received the lowest score among collaboration indicators, administrators may address scheduling conflicts, provide common planning time, and clarify roles in co-teaching arrangements. Collaboration should be treated not as an additional burden but as a protected support system for teachers.

Professional development may focus on emotional regulation, stress management, restorative discipline, teacher self-efficacy, and proactive classroom organization. These topics directly address the resilience dimension that received the lowest rating and may help teacher-coordinators manage difficult situations more productively.

Future researchers may replicate the study in other districts, divisions, or educational levels to determine whether the mediation model remains stable across contexts. Longitudinal and mixed-method designs may also be used to examine how distributed leadership, collaboration frequency, and stress resilience evolve across a school year and how teacher-coordinators experience collaboration in actual practice.

5. References

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