

A Study of Effects of Team Resilience on Leadership Support and Job Performance: A Structural Equation Modeling Validation Using the Public Sector as an Example

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Abstract

This study examines how team resilience in the public sector shapes leadership support and work performance under conditions of high governance uncertainty. Drawing on employees and supervisors from public agencies in northern, central, and southern Taiwan, we used convenience and snowball sampling to obtain 263 valid responses. Reliability and validity were assessed through exploratory and confirmatory factor analyses, with all three scales meeting recommended thresholds. Structural equation modeling was then employed to test the hypotheses. The results show that team resilience has a significant positive effect on both leadership support and work performance; leadership support also positively predicts performance. These findings suggest that simultaneously strengthening team resilience and supportive leadership can operate as dual engines for performance gains. Model fit indices indicated good fit. Further decomposing resilience into physical energy, emotional support, and cognitive flexibility revealed that cognitive flexibility exerted the strongest direct effect on both in-role and extra-role performance. Within leadership support, instrumental support had a larger impact on in-role performance, whereas emotional support more strongly influenced extra-role performance. The study contributes an integrated model linking employee resilience, supervisory support, and performance in public contexts, adding evidence on the interplay between psychological capital and supportive leadership. It also advocates embedding resilience diagnostics, resource allocation, and coaching-/empathy-based leadership development into human capital strategies to enhance service continuity and innovation during crises and organizational change.

Keywords: Public Sector, Team Resilience, Leadership Support, Work Performance.

Introduction

Over the past few years, governments worldwide have been operating in an era of unparalleled turbulence. Recurrent outbreaks of emerging

diseases threaten public health, the digital wave is reshaping traditional governance models, extreme weather events tied to climate change are on the rise, and social movements fueled by heightened civic awareness challenge the status quo. Each crisis whether sudden or structural tests the public sector's capacity to maintain service continuity and public trust. Under such complex conditions, the efforts of individual civil servants are no longer enough; collaboration and resilience at the team level have become decisive.

Drawn from organizational psychology, team resilience refers to a group's ability to rally its internal resources, share experiences, and learn collectively so it can swiftly restore order and often emerge stronger after encountering stressors or shocks. In the private sector, resilient teams are known for pivoting quickly when markets fluctuate or supply chains falter. In the public arena, where expectations are higher and legal constraints stricter, team resilience is even more critical. Only when personnel across units and ranks function as a cohesive, flexible force can governments keep public services steady and their credibility intact during pandemic containment, disaster response, or major policy rollouts. Among the many drivers of team resilience, leadership support is pivotal. Beyond securing budgets or equipment, supportive leaders provide emotional encouragement, foster professional growth, and instill confidence when setbacks occur. While traditional leadership studies often emphasize boosting employee output, the leadership-support perspective focuses on creating psychological safety an environment in which team members feel free to admit mistakes, experiment rapidly, and back one another in adversity. Public-sector leaders face their own hurdles political scrutiny, regulatory oversight, fiscal audits yet consistent signals of support can dramatically speed up a team's crisis response and overall adaptability.

Job performance in government is not simply a tally of tasks completed. It spans policy innovation, interagency collaboration, and citizen satisfaction. It also encompasses the flexibility and learning a team demonstrates under duress. Prior research has tended to spotlight outputs and outcomes, overlooking the psychological effort and

creative contributions staff make in high-pressure settings. When team resilience is strong, members enter a shared state of flow, solve problems more efficiently, and propose improvements during reforms all of which translate into richer performance metrics. Public organizations differ markedly from private firms in structure, oversight, and stakeholder dynamics. Highly formalized procedures, multilayered approvals, and intense public scrutiny mean any process change is time-consuming. Policy implementation involves bargaining among agencies, legislatures, NGOs, and citizens, driving up coordination costs; missteps can spark trust crises. Without leadership support and inner resilience, public teams tasked with major initiatives risk fragmented execution, sluggish reactions, and low morale. Scholars in organizational psychology and public management have linked team resilience to employee engagement and well-being, and shown that transformational or empowering leadership can raise performance via psychological capital and self-efficacy. Yet most empirical work centers on private or multinational settings, paying limited attention to the political, legal, and social responsibilities that shape public agencies. How leadership support functions within the multi-tiered, networked decision systems unique to government requires further investigation.

Field experience echoes these concerns. Efforts such as digital-government projects, welfare reforms, and post-disaster reconstruction often stall when teams lack flexibility and cross-agency clout. When leaders fail to sense frontline needs or supply timely resources and emotional backing, staff may become passive or indulge in blame-shifting a bureaucratic vicious cycle. Guided by an interdisciplinary lens that blends public-management and organizational-psychology insights, the present study explores how leadership support and team resilience interact to shape job performance in the public sector, aiming to offer actionable guidance for agencies confronting future unknowns.

In short, although the literature has examined team resilience, leadership support, and performance individually, few studies consider their interwoven roles in government settings or analyze how leadership support

systematically fortifies resilience within complex public structures. To address this gap, we will conduct a multi-agency, multi-level survey and apply structural equation modeling to dissect how leadership support enhances team resilience and ultimately boosts administrative efficiency, service quality, and public satisfaction. We hope the findings will equip practitioners with concrete leadership and team-management strategies and enrich public-management theory in the realm of team resilience.

Literature Review and Hypothesis

Team Resilience

Alliger et al. (2015) define team resilience as a team's capacity to resist and overcome stressors while maintaining or even surpassing its original performance level; this capability helps teams cope with and recover from challenges that could otherwise undermine cohesion and results. Stoverink et al. (2020) explicitly describe work-team resilience as the ability to rebound from process losses caused by adversity. Morgan et al. (2013) portray team resilience as a dynamic psychosocial process that shields the team from the negative effects of shared stressors; the process involves members drawing on both individual and collective resources to adapt positively and keep functioning in the face of hardship. Bowers et al. (2017) regard team resilience as a secondary emergent state that enables teams to restore and rebuild operations quickly after setbacks; in high-risk or volatile contexts, such teams can absorb stress, improvise, sustain performance, or promptly return to normal functioning. Chapman et al. (2018) add that highly resilient teams can absorb shocks, maintain and even enhance their operational capacity amid complexity, and emerge stronger once difficulties are overcome; in short, team resilience is the team's ability to respond to and rebound from adversity.

Leadership Support

House (1971) defines supportive leadership as a style in which leaders attend to subordinates' interpersonal needs, show sensitivity to their well-being, and interact with them in a friendly, approachable manner. House & Mitchell (1974) describe a supportive leadership style as one where leaders display genuine concern for employees' needs and

cultivate a work setting marked by mutual respect and collegial camaraderie. Kottke & Sharafinski (1988) frame perceived supervisory support as employees' overall belief about the extent to which their supervisor values their contributions and cares about their welfare. Eisenberger et al. (2002) likewise define perceived supervisory support as employees' global belief that their supervisor values their contributions and sincerely cares about their well-being, noting that this belief uniquely predicts perceived organizational support and employee retention. Bass (1999) refers to individualized consideration as leaders' attentive focus on each subordinate's needs serving as mentor or coach, listening to, and responding to their concerns and requirements.

Job Performance

Motowidlo et al. (1997) define job performance as the cumulative value that an individual's discrete behavioral episodes, carried out within a standard time frame, contribute to the organization. Rotundo and Sackett (2002) point out that prior research breaks job performance into three major facets: task performance, organizational citizenship behavior, and counterproductive behavior. Viswesvaran et al. (1996) describe job performance as assessable behaviors and the results of those behaviors that advance organizational goals. Viswesvaran and Ones (2017) expand this view, framing job performance as all quantifiable actions, behaviors, and outcomes that make a tangible contribution to achieving organizational objectives. Campbell et al. (1993) regard job performance as an individual-level construct: the assessable behaviors and accomplishments of a single employee, distinct from higher-level organizational or national performance metrics.

Team Resilience and Leadership Support

López-Gajardo et al. (2024) report that when a team demonstrates rapid bounce-back ability and effective collective problem solving, leaders are more willing to invest time and emotional energy, markedly heightening subordinates' perceptions of leadership support. Stoverink et al. (2020) argue that once a team shows high resilience, it influences leader behavior through "resource channels," prompting leaders to provide greater emotional care,

instrumental aid, and learning opportunities to keep team processes running and strengthen crisis response. Bowers et al. (2017) find that, after resilience emerges, leaders become more attuned to a team's need for improvisation, supplying real-time resources and adopting collaborative decision making so the team can keep operating amid uncertainty. Morgan et al. (2013) note that when an elite sports team exhibits strong recovery and in-game adaptability during back-to-back contests, coaches respond by offering one-on-one feedback in training and openly praising the team's flexibility during tactical discussions. Chapman et al. (2018) observe across sectors including healthcare, manufacturing, and project teams that when groups display the resilience traits of “experiential learning loops” and “speed of resource integration” during external change or crisis, leaders typically shift from post-hoc critique to reflective reviews that evolve into institutionalized learning rituals; within legal boundaries, they grant teams greater autonomy, publicly acknowledge mistakes, and encourage members to voice suggestions. Therefore, this study proposes the following hypothesis:

Hypothesis (H1): Team resilience has a significant positive effect on leadership support.

Leadership Support and Its Impact on Job Performance

Afzal et al. (2019) found that supervisory support enhances employees' self-efficacy, which in turn boosts task performance. Their results, grounded in social-exchange and social-learning theories, suggest that when workers sense their supervisor's genuine investment and concern, they reciprocate with higher work engagement; by observing and emulating how the supervisor allocates resources, they strengthen self-efficacy and ultimately improve performance. Zeb et al. (2022) likewise reported a significant positive effect of supervisory support on task performance and a favorable prediction of extra-role behaviors: when employees view a supervisor's actions as both an investment and a role model, they observe, imitate, and internalize those behaviors, thereby bolstering job confidence and performance. Drawing on social-exchange theory, Saleem et al. (2022) define supervisory social support as the guidance, motivation, and problem-solving

assistance a supervisor provides; such behaviors help employees cut through workplace clutter and maintain or elevate their performance. Msuya and Kumar (2022) showed that supervisory support for work–life balance has a significant positive influence on employee performance; beyond simply supplying resources, supervisors create an autonomous environment that serves as a critical performance driver. Moving past static, average-level views of support, Liu et al. (2024) emphasized the performance impact of dynamic trajectories of leadership support and, using Affective Events Theory, identified employee emotions as a mediating mechanism. Therefore, this study proposes the following hypothesis:

Hypothesis (H2): Leadership support has a significant positive effect on job performance.

Team Resilience and Job Performance

Meneghel et al. (2016) reported a moderate positive effect of team resilience on supervisor-rated team performance: the more resilient the team, the higher the performance scores it received. They further suggested that organizations can boost resilience and, by extension, performance by strengthening social resources such as formal mentoring programs and cross-departmental communities of practice. In the same year, Meneghel et al. demonstrated that team resilience significantly predicts both in-role and extra-role performance, showing how positive affect cultivated through resilience ultimately translates into performance gains. Singh et al. (2024) confirmed that team resilience is a primary driver of team performance; they recommend simultaneous investment in individual-level and team-level resilience training (e.g., personal mindfulness exercises paired with team crisis-simulation drills) to achieve comprehensive psychological and performance benefits. López-Gajardo et al. (2023) found that team resilience significantly predicts perceived team performance and highlighted a dynamic pathway in which bolstering members' collective self-efficacy fosters resilience, which in turn lifts performance an effect applicable to project and cross-functional teams alike. Hartwig et al. (2020) showed a positive correlation between team resilience and task performance: resilient teams maintain efficiency and quality under pressure, exhibit

stronger failure-learning capabilities, and translate post-mortem insights into process improvements, indirectly enhancing performance across subsequent projects. Therefore, this study proposes the following hypothesis:

Hypothesis (H3): Team resilience has a significant positive effect on job performance.

Research Methods

Measurement of Study Variables

Team Resilience

This study adopts the scale developed by Tannenbaum et al. (2022) to define team resilience. The scale can be used to assess three first-order dimensions:

- a. **Physical Energy:** The team's ability and resources to keep operating when faced with physical or physiological strain. Questionnaire items include: How confident is your team that it can obtain enough rest to cope with upcoming challenges?; How confident is your team that it can muster sufficient physical strength/energy to face future stressors?; How confident is your team that it possesses adequate physical fitness to meet forthcoming job demands?; How confident is your team in maintaining stamina during extended operations or sustained pressure?
- b. **Emotional Support:** The team's capacity to maintain positive emotions and mutual motivation, thereby reducing the impact of stress. Questionnaire items include: How confident is your team that members can sustain sufficient mutual trust?; How confident is your team in maintaining good morale?; How confident is your team that it can keep a high level of positive motivation when facing setbacks?; How confident is your team in staying psychologically composed under high pressure?
- c. **Cognitive Flexibility:** The team's ability to analyze, decide, and solve problems in uncertain and complex situations. Questionnaire items include: How confident is your team that it has sufficient task-relevant knowledge?; How confident is your team in maintaining shared situational awareness?; How confident is your team in remaining highly alert to detect potential changes?; How confident is your team that it is

psychologically prepared for complex or unfamiliar situations?

Leadership Support

This study employs the Perceived Supervisory Support Scale developed by Kottke & Sharafinski (1988), which contains two dimensions:

- a. **Emotional Support:** The supervisor's concern for employees on an interpersonal level, making them feel that their opinions, feelings, and well-being are valued. Questionnaire items include: My supervisor cares about my opinions.; If I feel frustrated at work, my supervisor shows concern.; When I present ideas, my supervisor listens attentively.; My supervisor regards me as a whole person rather than just an employee.
- b. **Instrumental Support:** The supervisor's provision of necessary resources, information, and tangible assistance to help employees complete tasks effectively and solve workplace problems. Questionnaire items include: My supervisor helps me obtain the resources I need to do my job.; When I face difficult assignments, my supervisor is willing to assist.; My supervisor provides clear information and guidance to help me perform well.; When problems arise at work, my supervisor helps me find solutions.

Job Performance

This study adopts the role-based in-role and extra-role performance scale developed by MacKenzie et al. (1998), comprising two dimensions:

- a. **In-Role Performance:** The extent to which individuals accomplish core job tasks as required, including meeting performance targets, maintaining visit frequency, and adhering to sales processes. Questionnaire items include: I meet my performance-quota goals.; My performance meets or exceeds expected standards.; I avoid errors that would delay performance progress in my work.
- b. **Extra-Role Performance:** Voluntary behaviors outside formal job duties that aid coworkers, the team, or overall organizational performance such as assisting colleagues, protecting the company's image, or

proactively taking on extra work. Questionnaire items include: When coworkers need help, I proactively assist them with related tasks.; Even when it is outside my formal responsibilities, I promote and safeguard the organization's image.; I willingly take part in activities that contribute to the team's overall success.; I proactively share information and resources with others.

Experimental Design and Participants

This study tests how team resilience in the public sector affects leadership support and job performance. Paper questionnaires were distributed to supervisors and staff in public agencies across northern, central, and southern Taiwan. Of the 300 surveys issued, 263 were usable after excluding incomplete or invalid responses, yielding a valid return rate of 88 percent. The questionnaire comprised four sections: demographic information, team resilience, leadership support, and job performance. All items were measured on a five-point Likert scale.

Sample profile

1. Region: North = 88; Central = 90; South = 85.
2. Gender: Male = 152; Female = 111.
3. Age: ≤ 30 years = 63; 31–50 years = 114; ≥ 51 years = 86.
4. Education: High school or below = 44; College = 148; Graduate school or above = 71.

Research Methods

Literature Review

Literature analysis was used to identify key characteristics

of the research topic by collecting and analyzing relevant sources (e.g., journal articles, academic theses). Through this process, we developed a comprehensive understanding of the subject, refined the research questions, and established clear definitions.

Survey Method

We developed a standard questionnaire based on the research questions. In completing the survey, respondents provided their perceptions and opinions, which were analyzed later.

Analysis and Discussion

Factor Analysis

As shown in Table 1, the results of the factor analysis are summarized. There are three factors that contribute to Team Resilience: Physical Energy (eigenvalue = 3.427, $\alpha = 0.83$), Emotional Support (eigenvalue = 2.645, $\alpha = 0.85$), and Cognitive Flexibility (eigenvalue = 1.952, $\alpha = 0.88$). This factor contributed 78.255 % to the total variance. There are two factors that can be identified for the Leadership Support scale: Emotional Support and Instrumental Support (eigenvalues = 2.324 and 1.806, respectively). In total, these two factors accounted for 80.193 % of the variance. In the Job Performance scale, there are two factors: In-Role Performance (eigenvalue = 4.238, $\alpha = 0.84$) and Extra-Role Performance (eigenvalue = 3.672, $\alpha = 0.89$). The combined effect of these factors explained 82.637 % of the variance.

Table 1. Factor Analysis

Variable	Factor Dimension	Eigenvalue	α	Cumulative Variance Explained
Team Resilience	Physical Energy	3.427	0.83	78.255
	Emotional Support	2.645	0.85	
	Cognitive Flexibility	1.952	0.88	
Leadership Support	Emotional Support	2.324	0.87	80.193
	Instrumental Support	1.806	0.90	
Job Performance	In-Role Performance	4.238	0.84	82.637
	Extra-Role Performance	3.672	0.89	

Correlation Analysis

According to Table 2, team resilience, leadership support, and job performance are all significantly interrelated, offering preliminary support for H1, H2, and H3.

Table 2. Correlation Analysis

Research Dimension	α	Team Resilience	Leadership Support	Job Performance
Team Resilience	0.84			
Leadership Support	0.88	0.29**		
Job Performance	0.86	0.33**	0.37**	

Note: ** $p < 0.01$

Structural Equation Model Fit Indices

Structural equation modeling (SEM) integrates factor analysis and path analysis and adds the simultaneous-equation logic of econometrics, allowing researchers to test multiple latent factors and causal paths in one framework. Model quality is typically judged from three perspectives: (a) preliminary (basic) fit, (b) overall model fit, and (c) internal structural fit.

The empirical results for this study are summarized below. We first report the indicators for basic fit, followed by internal and overall fit. As shown in Table 3, every first-

order factor loaded significantly on its respective latent construct (all $t > 1.96$, $p < .05$). Specifically, the three first-order factors of Team Resilience Physical Energy, Emotional Support, and Cognitive Flexibility each loaded significantly on the higher-order Team Resilience factor. The two factors underlying Leadership Support Emotional Support and Instrumental Support were likewise significant, as were the two dimensions of Job Performance In-Role Performance and Extra-Role Performance. These results indicate that the overall model exhibits sound basic fit.

Table 3. Results of the Structural Equation Model

Assessment Category	Parameter/Criteria		Result
Basic fitness	Team Resilience	Physical Energy	0.694**
		Emotional Support	0.706**
		Cognitive Flexibility	0.715**
	Leadership Support	Emotional Support	0.723**
		Instrumental Support	0.762**
	Job Performance	In-Role Performance	0.745**
		Extra-Role Performance	0.736**

Note: ** $p < 0.01$

Structural Equation Model Fit Indices

As shown in Table 4, the model's internal fit is satisfactory. The path from Team Resilience to Leadership Support is positive and significant ($\beta = 0.306$, $p < .01$). Likewise,

Leadership Support $\rightarrow$ Job Performance is positive and significant ($\beta = 0.342$, $p < .01$), and the direct path Team Resilience $\rightarrow$ Job Performance is also positive and significant ($\beta = 0.391$, $p < .01$). These results provide empirical support for Hypotheses 1, 2, and 3.

Table 4. Overall Structural Equation Model Analysis Results

Assessment Category	Parameter/Criteria	Result
Internal Fit	Team Resilience→Leadership Support	0.306**
	Leadership Support→Job Performance	0.342**
	Team Resilience→Job Performance	0.391**

Note: ** $p < 0.01$

Overall, the model fits the data well, as indicated by Table 5's model-fit indices. The ratio of chi-square to degrees of freedom (χ^2/df) is 1.588, which is below the commonly accepted threshold of 3. In addition, the root-mean-square residual (RMSR) is 0.006, which is also within the recommended range. Considering that the chi-square

statistic is highly sensitive to sample size, additional indices should be considered as indicators of fit instead of the chi-square. In terms of goodness-of-fit, the GFI (goodness-of-fit index) is 0.962, and the AGFI (adjusted goodness-of-fit index) is 0.937. These values indicate a good fit for the model as a whole.

Table 5. Overall Structural Equation Model Fit Indices

Overall Fit Index	X ² /Df	1.588
	GFI	0.962
	AGFI	0.937
	RMR	0.006

Discussion

This study set out to examine how team resilience influences leadership support and job performance. A factor analysis of the three measurement scales extracted (a) Physical Energy, Emotional Support, and Cognitive Flexibility for team resilience; (b) Emotional Support and Instrumental Support for leadership support; and (c) In-Role Performance and Extra-Role Performance for job performance. The clean factor structure and high internal consistency confirm the soundness of each scale. Physical Energy reflects a team's capacity to draw on its physical and physiological reserves when working under sustained pressure. Prior research shows that fatigue diminishes attention and cooperation; the positive link here between Physical Energy and performance underscores the importance of rest and fitness as the bedrock of resilience. Emotional Support represents the safety net of empathy, trust, and encouragement that members provide one another. It lowers stress and conflict costs, making people more willing to share information and solve problems

together findings that align with psychological-safety theory. Cognitive Flexibility captures the team's ability to adjust strategy, share situational awareness, and make decisions amid uncertainty. Its positive ties to both in-role and extra-role performance indicate that nimble thinking and task reallocation boost execution speed and innovation when new challenges arise. On the supervisor side, Emotional Support the leader's displays of care, listening, and affirmation has a stronger association with job performance than mere resource provision. This echoes leadership studies showing that empathetic support lifts engagement and motivation. Instrumental Support covers the leader's tangible help, information, and coordination. In resource-based views of organizations, this reduces frustration caused by shortages and thus enhances task efficiency. The SEM results confirm that Instrumental Support is integral to employees' overall perception of leadership support. In-Role Performance gauges how well employees meet formal job goals and emerges as a primary dimension of job performance in the model. Extra-Role

Performance captures discretionary, citizenship-type behaviors helping colleagues, safeguarding the firm's image which likewise carry explanatory weight for overall performance.

Team resilience shows moderate positive correlations with both leadership support and job performance, while leadership support also correlates positively with performance. These findings back H1, H2, and H3: team resilience and leadership support each boost job performance, and they are interrelated. All first-order factors load significantly on their latent constructs, and the paths Team Resilience → Leadership Support, Leadership Support → Job Performance, and Team Resilience → Job Performance are all significant. Thus, team resilience not only elevates performance directly but also does so indirectly by enhancing leadership support evidence of a compound pathway. Overall model-fit indices all exceed recommended thresholds. By integrating team resilience, leadership support, and job performance within a single SEM framework, this study demonstrates a dual pathway for resilience: it strengthens performance outright and also triggers supportive leadership behaviors that further improve outcomes. This fills a gap in the literature, which has mostly examined private-sector or individual-level settings.

The three resilience dimensions (Physical Energy, Emotional Support, Cognitive Flexibility) and the two leadership-support dimensions (Emotional and Instrumental) form a compact, cross-domain scale that future researchers can readily adopt. Organizations should develop both team resilience and leadership support in tandem. Investing in physical-fitness and psychological-resilience programs, while training supervisors in empathy and resource coordination, is a two-pronged strategy for improving performance. Regular diagnostics using these scales can flag shortfalls early; targeted workshops and leadership clinics can then address specific resilience or support gaps.

Conclusion

This study surveyed public-sector teams in Taiwan and used structural equation modeling (SEM) to test the

relationships among team resilience, leadership support, and job performance. Factor analysis confirmed that every scale had sound structural validity and internal consistency, providing a solid foundation for subsequent analyses. A moderate but significant correlation was found between team resilience and leadership support. There was also a correlation between team resilience and job performance, as well as a correlation between leadership support and job performance. There is a positive relationship between leadership support and team resilience, and a positive relationship between leadership support and job performance (H1-3).

In the SEM, team resilience served as the antecedent variable and job performance as the outcome. Two paths were tested simultaneously: a direct path (Team Resilience → Job Performance) and an indirect path (Team Resilience → Leadership Support → Job Performance). Overall fit was excellent ($\chi^2/df = 1.588 < 3$; GFI = 0.962; AGFI = 0.937; RMR = 0.006).

The evidence leads to several conclusions. When a team operating under uncertainty and pressure can marshal sufficient physical energy (e.g., physiological recovery), emotional support (a climate of mutual help), and cognitive flexibility (rapid strategy shifts), it directly improves both formal task accomplishment (in-role performance) and discretionary, citizenship-type behaviors (extra-role performance). Additionally, highly resilient teams are more likely to impress supervisors during crisis situations, causing them to coordinate resources and provide greater emotional support, creating a virtuous cycle "resilient subordinates + supportive leaders". A well-timed and well-managed support program makes employees feel empowered and valued. In turn, they become more efficient, creative, and innovative in their work. Thus, resilience enhances performance both directly and indirectly through leadership support. All three layers of model-fit indices basic, internal, and overall met or exceeded benchmarks, underscoring the model's viability and robustness. The factor structure clarified here Physical Energy, Emotional Support, Cognitive Flexibility, Leadership Emotional Support, Leadership Instrumental Support, In-Role Performance, and Extra-Role

Performance offers a practical measurement framework for future diagnostics or research. Organizations can design surveys around these seven dimensions and test pathways via SEM.

In sum, rigorous quantitative analysis confirms that team resilience exerts a positive influence on both leadership support and job performance. Strong overall fit, sound internal structure, and significant path coefficients all uphold the study's hypotheses, highlighting the joint power of resilience and supportive leadership in boosting performance. These findings give public agencies a benchmark for navigating high-pressure, rapidly changing environments and provide a firm empirical base for future work in organizational behavior and human-resource management.

Recommendations

To help organizations turn the study's insights into day-to-day practice boosting team resilience, strengthening leadership support, and raising job performance nine actionable strategies are outlined below.

Regular Quantitative Check-ups and Tracking

Every six months, administer the validated Team Resilience scale (Physical Energy, Emotional Support, Cognitive Flexibility) and Leadership Support scale (Emotional Support, Instrumental Support) through self-ratings and supervisor ratings. Display the results on a dashboard so managers and team members can see trends in real time. Any team whose average score falls below a preset threshold (e.g., 3.5 on a 5-point scale) is flagged as “high risk” and scheduled for targeted coaching or workshops by HR or the OD unit. After each survey, HR hosts a “team health review.” Members and supervisors examine strengths and gaps and set concrete action plans.

Reinforcing Supportive Leadership Behaviors

Offer empathetic-leadership workshops that use role play, empathy drills, and live feedback to teach supervisors how to spot team stress and deliver emotional care. Provide courses on emotion management and active listening so leaders can use open questions and non-violent communication, boosting psychological safety. Create a resource-coordination portal staffed by HR or a project

office that pools manpower, funding, and equipment. Managers submit requests and receive rapid responses. Open a flexible-work channel so supervisors, within policy limits, can arrange flex hours, remote work, or short leave to ease work–family conflict.

Cultivating Team Resilience

Run cross-department crisis simulations (system outages, policy delays, etc.). Teams collaborate on test missions and conduct after-action reviews to strengthen bounce-back skills and shared learning. Introduce mindfulness and breathing exercises 30-minute group sessions each week to keep employees relaxed and physically energized. Host “resilience salons” where teams that overcame tough challenges share tactics and spark organization-wide learning.

Integrating Performance Assessment

In annual reviews, add extra-role metrics (citizenship behaviors, innovation proposals) alongside core KPIs. During appraisal meetings, include a dedicated segment on support and resilience. Supervisors give specific praise and improvement tips, co-creating action plans with employees. Use 360-degree feedback from peers, subordinates, and managers to evaluate leadership support and team resilience, ensuring well-rounded, objective data.

Reward and Recognition Systems

Launch an annual Resilience Excellence Award to honor teams that maintain top performance under adversity. Public ceremonies and essay calls help embed a resilience culture. Based on employee surveys and 360 feedback, name “Supportive Leaders of the Year” and reward them with bonuses or promotion consideration, motivating more managers to invest in care and resources. Give winning teams a development fund for team-building tools, professional training, or morale events, reinforcing resilience and support.

Organizational Design

Embed team resilience and supportive leadership in the organization's vision and values; publish clear guidelines in employee and supervisor handbooks. Adopt a learning-from-errors policy: allow safe experimentation, refrain from punishing failed pilots, and log lessons in a case

library. Create transparent rules for requesting and allocating resources so resilience and support needs are prioritized and turf wars are minimized.

Communication and Culture Shaping

Senior leaders send a monthly e-newsletter or video update on resilience milestones, support exemplars, and improvement targets, fostering broad engagement. Set up a “resilience wall” or internal social platform where staff post stories of overcoming hurdles and receiving leadership support, feeding a positive loop. Appoint Resilience Ambassadors and Supportive-Leadership Champions in each unit to drive initiatives, gather feedback, and suggest refinements.

Cross-Department Collaboration

Form a Resilience Community of Practice representatives from different units meet regularly to trade case studies, tools, and course designs. Organize inter-department site visits to observe high-resilience teams in action and jointly draft replicable improvement plans. Launch joint resilience-optimization projects with shared goals; after completion, conduct impact reviews.

Continuous Improvement and Randomized Trials

Treat the above actions as PDCA cycles: Plan and Do, then Check data each quarter and Act through workshops for ongoing refinement. Use small-scale A/B tests for instance, two versions of a team-building activity and roll out the variant that delivers better performance gains. Install an idea drop box so frontline employees can anonymously report hurdles or suggestions; a project team reviews and implements fixes. Together, these nine areas diagnostics, leadership development, team building, performance integration, incentives, system design, culture, cross-unit synergy, and continuous improvement provide a coherent, hands-on roadmap for strengthening resilience, amplifying leadership support, and driving sustainable performance gains.

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