

Understanding the Impact of Teachers' Self-Efficacy and Work Motivation on Student Outcomes Through Instructional Capacity and Perceived Stress as Mediators: A Structural Equation Modeling Approach

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ABSTRACT

This study examined the impact of teachers' self-efficacy and work motivation on student outcomes, with instructional capacity and perceived stress as mediating variables, using a Structural Equation Modeling (SEM) approach. Grounded in Social Cognitive Theory, Self-Determination Theory, and the Job Demands-Resources (JD-R) Model, the research involved 200 public school teachers in the Philippines. Validated instruments measured the constructs of work motivation, self-efficacy, instructional capacity, perceived stress, and student outcomes. Results revealed that work motivation had significant direct effects on instructional capacity and student outcomes, and a negative effect on perceived stress. Furthermore, both instructional capacity and perceived stress significantly influenced student outcomes, serving as key mediators between motivation and learner performance. Teachers' self-efficacy had a significant direct effect on student outcomes, but no significant indirect effect via the mediators. These findings underscore the importance of fostering teacher motivation, reducing stress, and strengthening instructional capacity to improve educational outcomes. The study provides practical insights for aligning teacher development initiatives with the MATATAG agenda of the Department of Education.

Keywords: work motivation, instructional capacity, perceived stress, student outcomes

INTRODUCTION

The pursuit of academic excellence in education has increasingly hinged on the quality and effectiveness of teaching, providing a fundamental reason for the growing research interest in the multifaceted role of teachers. Critical psychological constructs such as self-efficacy and intrinsic work motivation are considered pivotal in determining instructional quality and ultimately influencing student outcomes. Self-efficacy, defined as a teacher's belief in their capability to execute designated teaching tasks, not only enhances educators' resilience and commitment but also fosters innovative instructional practices essential for stimulating student engagement and academic achievement (Jerrim et al., 2024; Lauermaann & Hagen, 2021). Teachers who perceive themselves as capable are more likely to engage their students meaningfully and lead them toward academic success (Paisun et al., 2024; Zhang, 2022).

Alongside self-efficacy, the motivation that teachers derive from their work has been shown to significantly impact their instructional effectiveness and classroom climate. Motivation fuels active and creative participation in the teaching process, which, in turn, enhances student engagement and learning outcomes (Zheng, 2021; Shen & Guo, 2022; Gepila, 2020). However, this potential is often challenged by growing levels of perceived stress, especially in under-resourced educational contexts such as those in the Philippines. Stress among teachers can erode their instructional focus and hinder the realization of quality teaching (Ridhwan et al., 2022).

It remains unclear, however, how these psychological and contextual factors interact to influence student outcomes particularly through instructional capacity, a construct that encompasses teachers' ability to apply pedagogical knowledge effectively. Instructional capacity reflects not only teachers' knowledge and skills but

also how these are enacted in practice under real classroom conditions (Kahar et al., 2023; Ansari et al., 2020). With teachers under pressure to adapt to shifting curricular demands and increasing workloads, understanding how self-efficacy and motivation interact with instructional capacity and stress becomes crucial to improving educational outcomes.

Despite extensive studies on individual effects of self-efficacy, motivation, and stress, there remains a notable gap in empirical research exploring these constructs in an integrated model, particularly in the Philippine context. Existing studies have primarily focused on isolated variables, often overlooking their interconnectedness. Furthermore, limited empirical evidence exists to examine these relationships in under-researched settings where systemic educational challenges differ significantly from more developed nations (Mtshali et al., 2022). This lack of a localized and holistic understanding complicates efforts to design effective teacher development programs and policy interventions that aim to enhance teacher quality and student outcomes (A. & M., 2024; D., 2024; M., Oats, & Oats, 2024).

The purpose of this study, therefore, is to explore the impact of teachers' self-efficacy and work motivation on student outcomes, with instructional capacity and perceived stress serving as mediating variables. Utilizing Structural Equation Modeling (SEM), this study aims to uncover both direct and indirect pathways that link teachers' psychological attributes with learners' academic performance. This comprehensive analysis intends to offer empirically grounded recommendations to inform teacher development programs and guide educational policies aligned with the Department of Education's MATATAG agenda. Understanding these dynamics is crucial to strengthening the academic foundations that Filipino students need to thrive.

THEORETICAL FRAMEWORK

This study is anchored on three foundational theories that collectively explain the dynamics among the study variables: Social Cognitive Theory, Self-Determination Theory, and the Job Demands-Resources (JD-R) Model.

Social Cognitive Theory (Bandura, 1986) emphasizes the role of observational learning, self-regulation, and self-efficacy in human functioning. According to Bandura (1997), self-efficacy plays a central role in determining how individuals think, feel, and act. In the context of teaching, teachers with high self-efficacy are more likely to employ effective teaching strategies, persist through challenges, and adapt their practices to meet diverse learner needs. This theory supports the inclusion of teachers' self-efficacy as a key predictor of student outcomes.

Self-Determination Theory (Deci & Ryan, 2000) posits that intrinsic motivation arises when individuals feel autonomous, competent, and related to others. In teaching, work motivation is vital in shaping instructional engagement and persistence. Teachers who are intrinsically motivated tend to demonstrate higher levels of enthusiasm, creativity, and dedication, all of which positively affect the classroom environment and learner performance.

Job Demands-Resources (JD-R) Model (Demerouti et al., 2001) explains how job characteristics influence employee wellbeing and performance. In this model, perceived stress is seen as a result of high job demands (e.g., workload, emotional strain), while instructional capacity can be understood as a personal or organizational resource that buffers stress and enhances performance. The interaction between job demands (stress) and job resources (capacity) provides a strong conceptual basis for investigating their mediating roles in the teacher-student outcome relationship.

By integrating these theories, the proposed framework suggests that teachers' self-efficacy and work motivation positively influence student outcomes, both directly and indirectly through the mediating effects of instructional capacity and perceived stress. This theoretical lens also supports the use of Structural Equation Modeling (SEM) to explore the complex, multi-path relationships among the constructs.

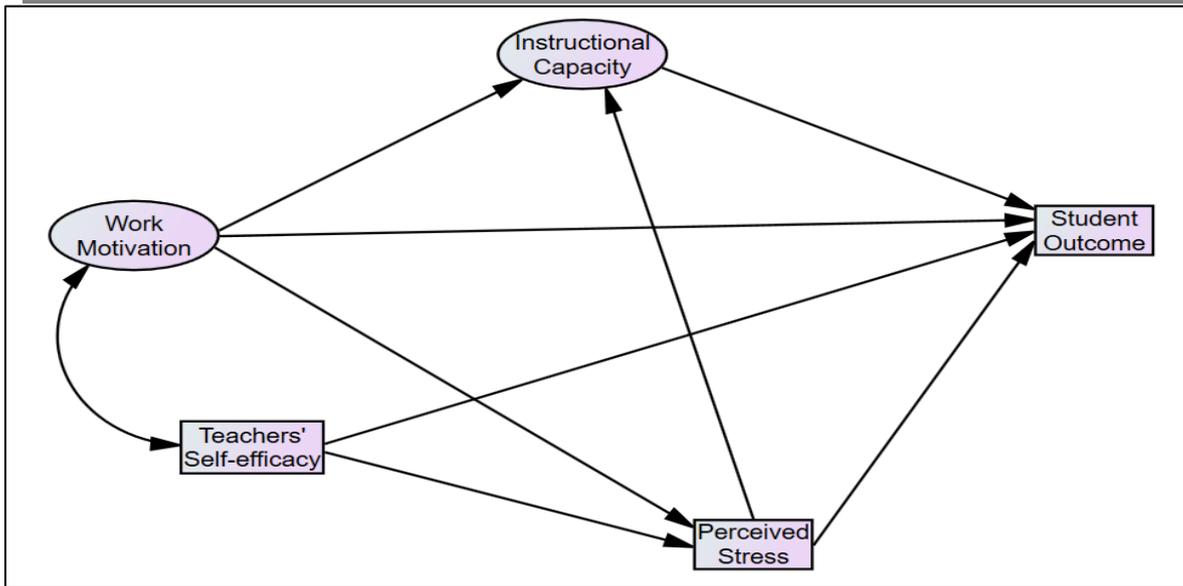


Figure 1. Hypothesized Model

Figure 1 illustrates the hypothesized structural model showing the proposed direct and indirect relationships among teachers’ work motivation, self-efficacy, instructional capacity, perceived stress, and student outcomes. All paths represent theoretically grounded assumptions derived from Social Cognitive Theory, Self-Determination Theory, and the Job Demands–Resources Model.

In light of the MATATAG agenda of the Department of Education, which advocates for strengthened foundational learning and teacher support, there is a pressing need to investigate the complex interplay among teacher-related psychological and instructional variables. More specifically, it is essential to understand how self-efficacy and motivation influence student outcomes directly, and indirectly through instructional capacity and perceived stress, within real-world teaching environments.

To address this gap, this study seeks to examine the structural relationships among teachers’ self-efficacy, work motivation, instructional capacity, perceived stress, and student outcomes using Structural Equation Modeling (SEM). By doing so, the study aims to provide empirical insights that can inform the design of more responsive professional development programs and teacher support systems.

Research Questions

What are the levels of teachers’ work motivation, instructional capacity, perceived stress, self-efficacy, and student outcomes among the respondents?

What is the best-fitting structural model that explains the relationships among teachers’ self-efficacy, work motivation, instructional capacity, perceived stress, and student outcomes?

To what extent does teachers’ work motivation significantly predict:

- a. Instructional capacity?
- b. Perceived stress?
- c. Student outcomes?

To what extent does teachers’ self-efficacy significantly predict:

- d. Instructional capacity?
- e. Perceived stress?
- f. Student outcomes?

To what extent do instructional capacity and perceived stress significantly predict student outcomes?

Do instructional capacity and perceived stress mediate the relationship between:

- g. Work motivation and student outcomes?
- h. Teachers' self-efficacy and student outcomes?

Research Hypotheses

Direct Effects

H1: Teachers' work motivation significantly predicts instructional capacity.

H2: Teachers' work motivation significantly predicts perceived stress.

H3: Teachers' work motivation significantly predicts student outcomes.

H4: Teachers' self-efficacy significantly predicts student outcomes.

H5: Teachers' self-efficacy significantly predict instructional capacity.

H6: Teachers' self-efficacy significantly predict perceived stress.

H7: Instructional capacity significantly predicts student outcomes.

H8: Perceived stress significantly predicts student outcomes.

Indirect (Mediating) Effects

H9: Instructional capacity significantly mediates the relationship between work motivation and student outcomes.

H10: Perceived stress significantly mediates the relationship between work motivation and student outcomes.

H11: Instructional capacity significantly mediate the relationship between teachers' self-efficacy and student outcomes.

H12: Perceived stress significantly mediate the relationship between teachers' self-efficacy and student outcomes.

METHODOLOGY

Research Design

This study employed a quantitative research design using Structural Equation Modeling (SEM) to examine the direct and indirect relationships among work motivation, instructional capacity, perceived stress, and student outcomes. The SEM approach allows for the simultaneous analysis of multiple variables and their interrelationships, making it suitable for testing complex theoretical models with mediating variables.

Participants and Sampling Technique

The respondents of the study are 200 public school teachers, who are actively engaged in classroom teaching. A convenience sampling method is employed, selecting teachers who are readily available and willing to participate during the data collection period. This non-probability sampling technique is appropriate given the time and accessibility constraints, while still providing valuable insights into the relationships among the study variables.

Research Instruments

The study used validated survey instruments to measure each construct:

Work Extrinsic and Intrinsic Motivation Scale (WEIMS) developed by Tremblay et al. (2009). Grounded in Self-Determination Theory, this 18-item tool assesses six dimensions of motivation: intrinsic motivation, integrated regulation, identified regulation, introjected regulation, external regulation, and amotivation. Responses are rated on a 5-point Likert scale ranging from “does not correspond at all” to “corresponds exactly.” The scale has demonstrated strong psychometric properties, including internal consistency coefficients ranging from .64 to .83, and confirmatory factor analysis supports its six-factor structure.

Teachers’ Sense of Efficacy Scale (TSES) - Short Form developed by Tschannen-Moran and Woolfolk Hoy (2001). This 12-item tool measures teachers’ beliefs in their capabilities. Each item is rated on a 9-point Likert scale from “Nothing” to “A Great Deal.” An overall reliability of $\alpha = .90$. The TSES has strong construct validity and is suitable for both in-service and pre-service teachers.

Instructional Capacity Scale developed by Yalçın and Ereş (2018). This 43-item instrument captures teacher perceptions across six key dimensions: instructional management practices, teacher quality, curriculum-material quality and quantity, instructional climate, students’ learning readiness, and financial resources. Items are rated on a 5-point Likert scale from “Not at all” to “Extremely.” The scale has been validated through both exploratory and confirmatory factor analyses, yielding high internal consistency ($\alpha = .84$ to $.94$) and acceptable model fit indices, including RMSEA = .054 and CFI = .98. This tool offers a comprehensive measure of instructional effectiveness from the teacher’s perspective.

Perceived Stress Scale (PSS-10) developed by Cohen and Williamson (1988). This 10-item scale evaluates how unpredictable, uncontrollable, and overloaded respondents perceive their lives, with specific reference to the past month. Items are rated on a 5-point Likert scale from “Never” to “Very Often,” with some items reverse-coded. The PSS-10 is well-established in educational and psychological research and consistently yields Cronbach’s alpha values above .70, indicating reliable measurement of stress perception.

Student Outcomes are based on actual student performance data (grades), aggregated at the classroom level, anchored in DepEd Order No. 8, s. 2015 in evaluating student academic progress attributable to the teacher.

Data Gathering Procedure

Permission to conduct the study is secured from the school administration and relevant authorities. Participants are informed about the study’s objectives, and informed consent are obtained. Survey questionnaires are distributed and collected personally or via secure digital platforms, depending on availability and convenience.

Data Analysis

Data are analyzed using JASP for descriptive statistics, and AMOS for Structural Equation Modeling. The SEM tested both direct and indirect (mediated) paths among variables. Model fit indices such as CFI, TLI, RMSEA, and Chi-square/df are evaluated to determine the goodness of fit.

Limitation of the Study

The use of a cross-sectional research design limits the ability to infer causal relationships among the variables. While Structural Equation Modeling allows for the testing of complex theoretical pathways, longitudinal data would be necessary to establish temporal ordering and causal directionality.

The study relied primarily on self-reported measures for work motivation, self-efficacy, instructional capacity, and perceived stress. Self-report instruments may be subject to social desirability bias or common method variance, potentially inflating observed relationships. Although validated scales were used, future studies may benefit from incorporating classroom observations, administrative records, or multi-informant data.

The sample consisted of public school teachers from a specific Philippine context, which may limit the generalizability of the findings to other educational systems, private institutions, or cultural settings. Cultural norms related to teaching, authority, and stress management may shape how psychological constructs function across contexts.

While student outcomes were based on aggregated academic performance data, non-academic indicators such as engagement, motivation, and socio-emotional development were not examined. Including broader indicators of student success could provide a more comprehensive understanding of teacher impact.

Ethical Considerations

This study upholds the highest standards of research ethics to protect the rights, privacy, and dignity of all participants. Prior to the conduct of the study, a formal request for approval will be submitted to the appropriate ethics review board or school division authorities. Informed consent will be obtained from all teacher participants after a thorough explanation of the study’s objectives, procedures, potential risks, and benefits. Participation will be strictly voluntary, and participants will be assured of their right to withdraw from the study at any point without any negative consequences.

Confidentiality and anonymity are strictly maintained. All survey responses are coded to remove any identifying information, and data are stored securely with access limited to the researcher. Results are reported in aggregate form to ensure that individual responses cannot be traced. The study ensured that the data collection process did not disrupt teaching responsibilities or student learning. Moreover, all instruments used in the study are established, non-invasive self-report questionnaires, thereby minimizing any potential psychological or emotional risks to the participants. The study adheres to the ethical guidelines set forth by the Philippine research community and international standards on human subjects’ research. Specifically, it upholds the principles of respect for persons, beneficence, and justice. Participation was voluntary, and informed consent was obtained from all participants prior to data collection. Participants were fully informed about the purpose of the study, the procedures involved, and their right to withdraw at any point without penalty. Overall, the research was conducted with due regard for ethical integrity and the protection of participants’ rights and well-being.

RESULTS AND DISCUSSION

The following section presents the results of the study in alignment with the stated research questions. Each finding is discussed in the context of the relationships among work motivation, self-efficacy, instructional capacity, perceived stress, and student outcomes.

Problem 1. What are the levels of teachers’ work motivation, instructional capacity, perceived stress, self-efficacy, and student outcomes among the respondents?

Table 1 Descriptive Statistics of study variables

Variables	Mean	Std. Deviation	Skewness	Kurtosis
WM	3.692	1.161	0.309	-0.125
IC	2.171	0.685	0.209	-0.065
PS	1.503	0.560	-0.024	-0.077
TSE	4.984	0.750	-0.056	0.333
SO	2.850	0.906	0.261	-0.002

Note: Work Motivation (WM); Instructional Capacity (IC); Perceived Stress (PS); Teachers’ Self-Efficacy (TSE); Student Outcomes (SO)

Descriptive Statistics

Table 1 presents the descriptive statistics for the observed variables in the study, including Work Motivation (WM), Instructional Capacity (IC), Perceived Stress (PS), Teachers' Self-Efficacy (TSE), and Student Outcomes (SO). The mean values of the variables ranged from 1.503 (PS) to 4.984 (TSE), suggesting that participants reported high levels of self-efficacy and work motivation, while perceived stress was relatively low.

The standard deviation values ranged from 0.560 (PS) to 1.161 (WM), indicating a moderate spread in responses across variables. Notably, Instructional Capacity and Perceived Stress demonstrated lower standard deviations (0.685 and 0.560, respectively), reflecting more consistent responses among participants on these measures.

Regarding normality, skewness values ranged from -0.056 (TSE) to 0.309 (WM), while kurtosis values ranged from -0.125 (WM) to 0.333 (TSE). These values fall within acceptable thresholds for normality, as proposed by Kline (2011), who recommends skewness within ± 3 and kurtosis within ± 7 . Furthermore, the standard errors of skewness and kurtosis were approximately 0.172 and 0.342 , respectively, supporting the stability of these statistics across the sample.

Overall, the distributions of the study variables approximated normality, thereby satisfying key assumptions for conducting parametric statistical analyses, including Structural Equation Modeling (SEM).

Problem 2. What is the best-fitting structural model that explains the relationships among teachers' self-efficacy, work motivation, instructional capacity, perceived stress, and student outcomes?

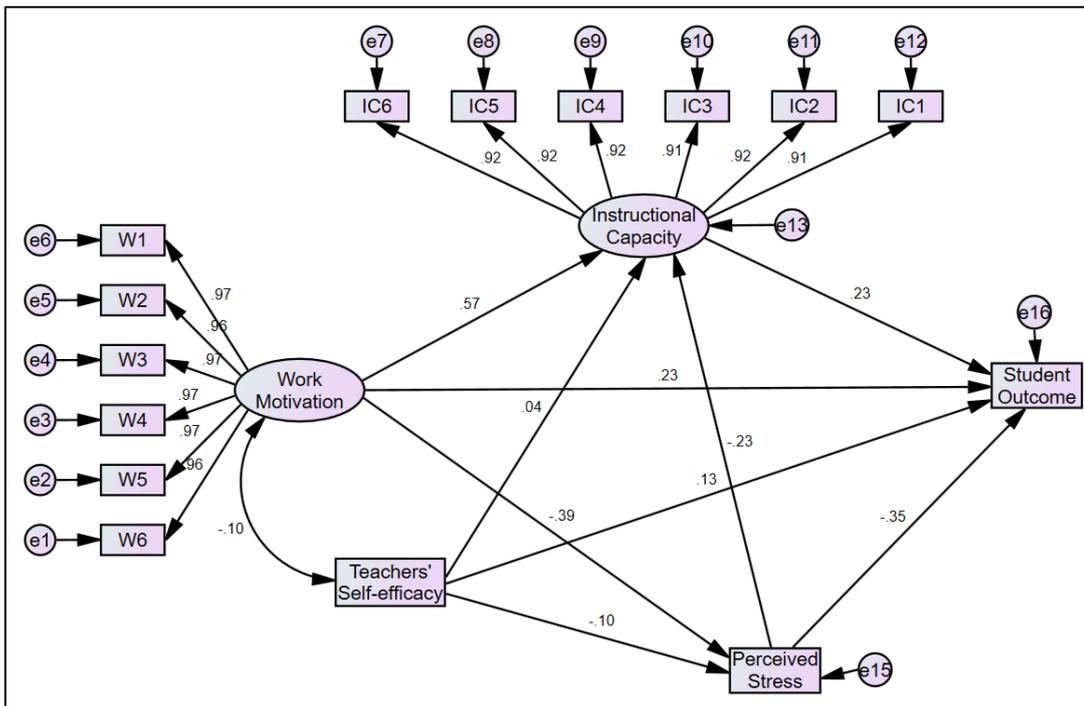


Figure 2. Final Model of the Study

Figure 2 presents the final SEM with standardized path coefficients (β) and corresponding significance levels. Solid lines indicate statistically significant paths ($p < .05$), while dashed lines represent non-significant relationships. The final model demonstrates strong explanatory power, highlighting the central role of work motivation and the mediating effects of instructional capacity and perceived stress on student outcomes.

Final Model

After confirming the good fit of the initial structural model, the final model was evaluated to test the hypothesized relationships among the latent variables: Work Motivation, Instructional Capacity, Perceived Stress, and Student

Outcomes. The analysis was conducted using Structural Equation Modeling (SEM) in AMOS, and standardized path coefficients (β), along with significance levels (p -values), were used to assess each hypothesis.

Table 2 Model Fit Indices

Fit Index	Final Model	Threshold	Interpretation
Chi-square (χ^2)	99.990 ($p=.099$)	$p > .05$	Good fit
Degrees of Freedom (df)	83	-	-
χ^2 /df Ratio	1.205	≤ 3.00	Good fit
RMSEA	0.032	< 0.05	Good fit
CFI	0.996	≥ 0.95	Good fit
TLI	0.995	≥ 0.95	Good fit
IFI	0.996	≥ 0.90	Good fit
NFI	0.976	≥ 0.90	Good fit
GFI	0.939	≥ 0.90	Good fit
AGFI	0.912	≥ 0.90	Good fit
SRMR	0.021	≤ 0.08	Good fit

Source: Kline (2011), Hu and Bentler (1999), and Browne and Cudeck (1993).

Model Fit Indices

The overall fit of the hypothesized structural model as shown on Table 2 was evaluated using multiple fit indices generated from AMOS. The results indicate that the model achieved an excellent fit with the data.

The Chi-square statistic ($\chi^2 = 99.990$, $df = 83$, $p = .099$) was not significant, suggesting no substantial difference between the observed and model-implied covariance matrices. The χ^2 /df ratio was 1.205, which is well below the recommended cutoff of 3.00, indicating excellent model fit.

The Root Mean Square Error of Approximation (RMSEA) was 0.032, supporting a close fit to the data, as values below 0.05 are considered excellent (Browne & Cudeck, 1993). Although the 90% confidence interval and PCLOSE value were not reported, the RMSEA alone indicates a strong approximation of the model to the population.

The Comparative Fit Index (CFI) was 0.996, and the Tucker-Lewis Index (TLI) was 0.995, both exceeding the recommended threshold of 0.95, which reflects an excellent comparative fit relative to a null model (Hu & Bentler, 1999). Additionally, the Incremental Fit Index (IFI) and Normed Fit Index (NFI) were 0.996 and 0.976, respectively, further reinforcing the model's good fit.

Moreover, the Goodness of Fit Index (GFI) and Adjusted GFI (AGFI) were 0.939 and 0.912, respectively, both above the acceptable threshold of 0.90. The Standardized Root Mean Square Residual (SRMR) was 0.021, well below the recommended cutoff of 0.08, indicating minimal discrepancies between the observed and predicted correlations.

Collectively, these model fit indices provide strong empirical support for the adequacy of the hypothesized structural model. As presented in Table 2, the results suggest that the specified relationships among Work Motivation, Instructional Capacity, Perceived Stress, Teachers’ Self-Efficacy, and Student Outcomes are consistent with the observed data.

Problem 3. To what extent does teachers’ work motivation significantly predict:

- a. **Instructional capacity;**
- b. **Perceived stress;**
- c. **Student outcomes?**

Table 3 Direct Effects of teachers’ work motivation

Direct Path	(β)	SE	CR	p-value	Interpretation	Decision
WM → SO	.230	.057	3.187	.001	Significant	H1 supported
WM → IC	.566	.035	9.143	<.001	Significant	H2 supported
WM → PS	-.391	.032	-5.895	<.001	Significant	H3 supported

Note: Significant at $p < .05$ level; Standardized Estimate (β); Standard Error (SE); Critical Ratio (CR)

The results of the Structural Equation Modeling (SEM) are presented on Table 3. The model demonstrates several significant pathways among Work Motivation (WM), Instructional Capacity (IC), Teachers’ Self-Efficacy (TSE), Perceived Stress (PS), and Student Outcomes (SO), which are consistent with recent research conducted not only in the Philippines but also across Asia.

Work Motivation showed strong and statistically significant direct effects on multiple constructs. WM significantly predicted Instructional Capacity ($\beta = 0.566, p < .001$), aligning with Gonzales et al. (2020), who highlighted that a supportive school climate enhances teacher motivation and, in turn, instructional effectiveness. Similarly, Hennyta and Sudibjo (2024) found that organizational support and leadership contribute to increased work motivation and performance, reinforcing this link. WM also positively affected Student Outcomes ($\beta = 0.230, p = .001$), which mirrors findings by Lascuna and Luzano (2023) who demonstrated that teacher personality and motivation significantly influence student learning. Chen et al. (2020) also emphasized that motivated teachers display stronger instructional efficacy, which translates to improved academic outcomes.

The model also revealed that Work Motivation negatively predicted Perceived Stress ($\beta = -0.391, p < .001$), suggesting that motivated teachers experience lower stress levels. This inverse relationship emphasizes the protective role of motivation against burnout, as previously discussed by Gonzales et al. (2020).

Problem 4. To what extent does teachers’ self-efficacy significantly predict:

- a. **Instructional capacity;**
- b. **Perceived stress;**
- c. **Student outcomes?**

Table 4 Direct Effects of teachers’ self-efficacy

Direct Path	(β)	SE	CR	p-value	Interpretation	Decision
TSE → SO	.126	.065	2.352	.019	Significant	H4 supported

TSE → IC	.039	.046	.725	.468	Not Significant	H5 not supported
TSE → PS	-.104	.049	-1.594	.111	Not Significant	H6 not supported

Note: Significant at $p < .05$ level; Standardized Estimate (β); Standard Error (SE); Critical Ratio (CR)

As shown on Table 4, the Teachers’ Self-Efficacy (TSE) had a direct positive effect on Student Outcomes ($\beta = 0.126, p = .019$), supporting the argument made by Burić and Kim (2020) that self-efficacy enhances instructional quality and fosters student motivation. However, TSE did not significantly influence Instructional Capacity ($\beta = 0.039, p = .468$) nor Perceived Stress ($\beta = -0.104, p = .111$). These findings suggest that TSE’s effect on performance may be more direct and not necessarily mediated through other variables. Zakariya and Adegoke (2024) support this nuanced view, noting that while teacher self-efficacy is essential, its influence varies depending on the teaching context and stress levels.

Teachers’ self-efficacy did not significantly predict instructional capacity or perceived stress, nor did it exert indirect effects on student outcomes through these mediators. While self-efficacy demonstrated a significant direct effect on student outcomes, its influence appears to operate independently rather than through structural or affective mechanisms. One plausible explanation is that self-efficacy reflects teachers’ internal beliefs about competence, which may not automatically translate into observable instructional practices unless supported by institutional resources, collaborative environments, or professional development opportunities.

In highly constrained educational contexts such as public schools in the Philippines, systemic factors—such as large class sizes, limited instructional materials, and administrative demands—may restrict teachers’ ability to enact their perceived capabilities. Consequently, even highly self-efficacious teachers may be unable to convert confidence into enhanced instructional capacity or stress reduction. This finding aligns with Zakariya and Adegoke (2024), who argue that the effects of self-efficacy are contingent upon contextual and organizational conditions.

In contrast, work motivation demonstrated both direct and indirect effects, suggesting that motivation functions as a more actionable psychological driver that shapes effort, persistence, and coping strategies. These results underscore the distinction between belief (self-efficacy) and behavioral activation (motivation), reinforcing the need for school systems to pair confidence-building initiatives with structural and motivational supports.

Problem 5. To what extent do instructional capacity and perceived stress significantly predict student outcomes?

Table 5 Direct Effects

Direct Path	(β)	SE	CR	p-value	Interpretation	Decision
IC → SO	.230	.106	3.077	.002	Significant	H7 supported
PS → SO	-.353	.097	-5.911	<.001	Significant	H8 supported

Note: Significant at $p < .05$ level; Standardized Estimate (β); Standard Error (SE); Critical Ratio (CR)

As shown on Table 5, Instructional Capacity also significantly predicted Student Outcomes ($\beta = 0.230, p = .002$), underscoring the importance of building teachers’ instructional skills to enhance student achievement.

Conversely, Perceived Stress had a negative effect on both Student Outcomes ($\beta = -0.353, p < .001$) and Instructional Capacity ($\beta = -0.226, p < .001$). These findings are consistent with studies by Wray et al. (2022), who found that teacher stress undermines self-efficacy and reduces teaching effectiveness, and Pressley (2021), who observed declines in engagement and instructional quality under high stress, especially during the COVID-19 pandemic.

Problem 6. Do instructional capacity and perceived stress mediate the relationship between:

- a. Work motivation and student outcomes;
- b. Teachers’ self-efficacy and student outcomes?

Table 6 Indirect Effects

Mediation Path	Bootstrap Estimates	95% CI		p-value	Interpretation	Decision
		Lower	Upper			
WM → IC → SO	.103	.035	.188	.002	Significant	H9 supported
WM → PS → SO	.109	.062	.166	.001	Significant	H10 supported
TSE → IC → SO	.011	-.019	.051	.507	Not Significant	H11 not supported
TSE → PS → SO	.045	-.011	.105	.105	Not Significant	H12 not supported

Note: Significant at $p < .05$ level; Confidence Interval (CI)

Indirect Effect (Mediation)

To evaluate the indirect effects among the key study variables, a bootstrapping analysis with 2,000 resamples was conducted. Table 6 summarizes the mediation results, including the bootstrap estimates, 95% confidence intervals (CI), and significance values.

The results indicated two significant mediation pathways involving Work Motivation (WM). The indirect effect of WM on Student Outcomes (SO) via Instructional Capacity (IC) was significant ($\beta = 0.103$, 95% CI [0.035, 0.188], $p = .002$). Likewise, the indirect effect of WM on SO via Perceived Stress (PS) was also significant ($\beta = 0.109$, 95% CI [0.062, 0.166], $p = .001$).

These findings suggest that Work Motivation enhances student performance both by increasing instructional capacity and by reducing perceived stress. This dual mediating role reflects the theoretical framework supported by current literature in the Asian educational context. According to Hennyta and Sudibjo (2024), motivated teachers demonstrate improved performance and reduced stress, positively influencing student learning. Likewise, Gonzales et al. (2020) and Meo et al. (2020) affirm that teacher motivation is a significant predictor of classroom engagement and instructional efficacy, ultimately leading to better student outcomes. These studies collectively underscore that fostering motivation among educators is a pivotal strategy for improving both teaching effectiveness and learner success.

In the context of stress management, the significant negative mediation path (WM → PS → SO) is consistent with studies like Graves et al. (2021) and Onieva-Zafra et al. (2020), who emphasized that reducing perceived stress through motivation and support systems can improve academic outcomes. Furthermore, Hamaideh et al. (2024) and Keyserlingk et al. (2021) reinforced that stress detracts from student performance and well-being, validating the finding that stress reduction serves as a crucial mechanism in achieving better educational results.

On the other hand, Teachers’ Self-Efficacy (TSE) did not demonstrate significant indirect effects. The path TSE → IC → SO was not significant ($\beta = 0.011$, 95% CI [-0.019, 0.051], $p = .507$) and the path TSE → PS → SO was also not significant ($\beta = 0.045$, 95% CI [-0.011, 0.105], $p = .105$).

These results suggest that while TSE directly predicts SO, it does not significantly affect SO through either instructional capacity or stress levels. This finding echoes the conclusion of Zakariya and Adegoke (2024), who argue that the influence of self-efficacy is conditional on various contextual variables, such as support systems,

teaching environments, and stress factors. Therefore, while self-efficacy remains a valuable attribute, it may not independently drive broader structural improvements in teaching or learning outcomes without the presence of complementary factors such as motivation and stress mitigation strategies.

CONCLUSION

This study explored the structural relationships among teachers' self-efficacy, work motivation, instructional capacity, perceived stress, and student outcomes using Structural Equation Modeling (SEM). The results revealed that work motivation plays a pivotal role in improving student outcomes, both directly and indirectly, through enhanced instructional capacity and reduced perceived stress. Teachers who are intrinsically motivated not only perform better but also experience lower levels of stress, which in turn contributes positively to learners' academic performance.

While teachers' self-efficacy was found to have a significant direct effect on student outcomes, it did not exhibit significant indirect effects through instructional capacity or stress. This suggests that self-efficacy alone, although important, may not fully translate into improved student outcomes unless supported by contextual and systemic enablers. On the other hand, both instructional capacity and perceived stress demonstrated substantial influence on student outcomes, further reinforcing their roles as critical mediators in the teaching-learning process.

Overall, the findings affirm the value of a holistic framework that integrates psychological and instructional dimensions in understanding how teacher-related factors impact student achievement. These insights underscore the importance of fostering teacher motivation and instructional support while managing stress to create conditions conducive to effective teaching and learning.

RECOMMENDATIONS

The low mean score in instructional capacity highlights the need for focused interventions. Schools should implement regular pedagogical coaching, learning action cell (LAC) sessions, and peer mentoring programs aimed at improving curriculum implementation, classroom management, and teaching strategies. Tailored training must target specific dimensions such as instructional climate, student readiness, and availability of teaching resources.

Although teachers reported high self-efficacy, it did not significantly influence instructional capacity or perceived stress. This suggests a disconnect between belief and practice. School leaders must create enabling conditions—such as collaborative planning, shared leadership, and classroom-based feedback—to help teachers translate their confidence into improved instruction and student learning outcomes.

While perceived stress levels were low, maintaining this requires deliberate action. Schools should institutionalize mental health and wellbeing initiatives, including mindfulness sessions, counseling support, and manageable workloads. These programs are crucial in preventing stress escalation and preserving the positive impact of motivation on both teaching and learning.

Future research may examine demographic variables—such as years of teaching experience, age, or grade level taught—as potential moderators of the relationships identified in this study. For instance, novice teachers may experience stress differently than veteran educators, and the effects of motivation or self-efficacy may vary across career stages.

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