Educazione: Journal of Education and Learning
Vol 03, No 02, 2026 | Page (206-219)
doi: https://doi.org/10.61987/educazione.v3i2.2473

OPEN ACCESS

When Support Is Not Enough: Academic Supervision Style, Academic Support, and Student Stress in Thesis Supervision

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Abstract

Academic stress among final-year students during thesis writing remains a persistent concern in higher education, yet the mechanism linking the supervisory relationship to student stress is still poorly understood. While supervision style and academic support are each assumed to influence stress, few studies have tested academic support as a mediating variable in this relationship. This study aims to analyze the effect of academic supervision style on academic stress and to examine the mediating role of academic support among final-year students. A quantitative survey design was employed, involving 150 final-year students of the Faculty of *Tarbiyah* and Teacher Training selected through simple random sampling. Data were collected using a *Likert*-scale questionnaire and analyzed through Structural Equation Modeling based on Partial Least Squares (SEM-PLS) using *SmartPLS*, with *bootstrapping* to test direct and indirect effects. The results reveal that academic supervision style significantly influences academic support, whereas neither supervision style nor academic support significantly affects academic stress, either directly or through mediation, indicating that student stress is driven primarily by determinants beyond the supervisory relationship. These findings carry important implications: institutions should reposition academic support as a foundation for student autonomy and resilience within a transformative model of supervision, while addressing student stress through complementary interventions that target structural and intrapersonal pressures directly rather than relying on improved supervision alone.

Article History

Received : 14 Feb 2026
Revised : 12 April 2026
Accepted : 21 June 2026

Keywords:

Academic Supervision Style, Academic Support, Academic Stress, Thesis Supervision, Mediation Analysis

How to Cite:

Shaliha, A., Nurviani, R., & Prasetyo, M. A. M. (2026). When Support Is Not Enough: Academic Supervision Style, Academic Support, and Student Stress in Thesis Supervision. *Educazione: Journal of Education and Learning, 3*(2), 206–219.

INTRODUCTION

Academic stress among final-year students is a complex phenomenon shaped by a range of factors, extending from high academic demands to internal characteristics such as perfectionism (Dad & Shaikh, 2022). Academic stress refers to the mental and emotional pressure students experience when they perceive those academic demands, such as completing an undergraduate thesis, exceed the capabilities or resources available to them. Prior research has explained that this stress arises from two principal sources, the burden of the task itself and the way students appraise their situation (Sharma & Gupta, 2023). The demands of thesis writing, including tight deadlines, the complexity of research, and the expectation of a flawless outcome, are inherently heavy (Zulfadhli et al., 2024). The level of perceived stress, however, becomes higher when students also face obstacles within the supervisory relationship, such as a supervisor who is difficult to reach, feedback that is not constructive, or a divergence of expectations between student and supervisor (Neupane Bastola & Hu, 2021). Academic stress, therefore, is not merely a matter of workload but also of how students feel and whether they perceive sufficient support to meet those demands.

Research on academic stress among students, particularly during thesis writing, has been extensive, with much of it concentrating on internal factors such as mental resilience, perfectionist

tendencies, and the inclination to seek academic help (Sung & Thomas, 2025; Zahro & Widyana, 2025). More recent studies have begun to connect the supervisory experience with student well-being, observing that an unclear or poorly structured supervision style is frequently accompanied by higher levels of stress (Dost, 2025). Even so, research that specifically positions academic support from the supervisor as a mediating variable in the relationship between academic supervision style and academic stress remains limited. This is consequential because, in the context of thesis supervision, the support provided by a supervisor is not solely technical but also encompasses emotional dimensions and the conferral of trust upon students. The present study addresses this need by adopting a more complete perspective on the relational dynamics of thesis supervision.

The contemporary literature increasingly identifies the supervisory relationship as a significant source of stress. An uncertain supervision style, characterized by infrequent meetings, non-constructive feedback, and ambiguous expectations, has been found to correlate strongly with elevated depression, anxiety, and stress among students (Nash, 2021). A countervailing finding, however, indicates that students' self-disclosure exerts a stronger influence on academic stress than the mere receipt of emotional support from the supervisor (Chyu & Chen, 2022; Yang et al., 2022). This tension suggests that a sound supervisory relationship depends not only on the support provided but also on open communication and a clear, consistent supervision style (Vähämäki et al., 2021; Wilson & James, 2022). A supportive yet directive approach to supervision, one that offers clarity of feedback while encouraging student autonomy, may therefore constitute a healthier and more effective relational pattern for helping students manage academic stress (Han, 2021). It is precisely this unresolved debate, between support as a direct buffer and support as a contingent relational process, that motivates the examination of an intervening mechanism.

Academic supervision style describes the manner or approach a supervisor adopts in guiding students toward the completion of their thesis, and the literature holds that such styles differ in ways that carry meaningful consequences (Steen & Rose Prasath, 2023). A supportive style is marked by a supervisor who extends emotional attention, respects student autonomy, and remains ready to provide clear and timely academic assistance, thereby fostering a sense of security and confidence (Buirski, 2022). An uncertain style, by contrast, offers inconsistent direction and feedback that leaves students confused and anxious (Kemer et al., 2021; Willis et al., 2024), while an excessively controlling and rigid style may furnish structure yet constrain the space in which students can work (Ampofo & Karatepe, 2025). Supervision style is thus regarded as a primary factor shaping the supervisory experience and influencing how supported, or how pressured, students feel throughout the thesis-writing process.

Academic support from the supervisor, in turn, represents the assistance students perceive during the supervisory process, extending beyond the strictly academic to encompass emotional dimensions and recognition of student capability (Ringo, 2025; Wang & Wang, 2024). Emotional support is reflected in the care, empathy, and encouragement that help alleviate student anxiety (Lynch & Gilbert, 2023); academic assistance takes the form of clear input for revising the thesis, help in overcoming technical obstacles, and guidance through the steps of research (Anin Sari & Ayu Kusumaningrum, 2022); and recognition is expressed through the trust and decision-making latitude a supervisor grants the student (Lenhart et al., 2023). Within this configuration, academic support functions as the mechanism that bridges supervision style and academic stress, since a supportive style is expected to heighten students' perception of the support they receive (Kang et al., 2024). When students feel supported, both emotionally and academically, they tend to approach the demands of the thesis with greater confidence, so that the academic stress they experience may diminish.

Although the direct relationship between supervision style and academic stress has begun to be mapped, the mechanism or pathway that explains this relationship remains largely unexamined. Most studies have tested direct relationships or concentrated on students' internal factors, while academic support as a mediating mechanism that could explain how supervision style influences academic stress has been insufficiently explored in the context of thesis supervision

(Nurkamto et al., 2022). Notably, Ullah et al. (2023) found that emotional support from the supervisor, taken in isolation, did not significantly affect stress, which suggests that its influence may operate indirectly, interacting with other variables such as the supervision style in effect. A gap therefore persists: prior work has largely focused on the direct effect of supervision style on academic stress without interrogating the underlying mechanism, and studies that explicitly position academic support as a mediating variable, particularly among students engaged in thesis writing, remain scarce. The present study responds to this gap by analyzing not only the direct effect of supervision style on academic stress but also the mediating pathway of academic support, understood here as encompassing emotional support, academic assistance, and the granting of autonomy.

Accordingly, this study aims to analyze the effect of academic supervision style on academic stress among final-year students and to examine the role of academic support as a mediating variable, thereby offering a more thorough understanding of the relational dynamics of thesis supervision and its practical implications for reducing student stress. On the basis of the theoretical review and the identified gap, four hypotheses are proposed. First, academic supervision style is hypothesized to have a significant effect on academic stress (H1). Second, academic supervision style is hypothesized to have a significant effect on academic support (H2). Third, academic support is hypothesized to have a significant effect on academic stress (H3). Fourth, academic support is hypothesized to mediate the relationship between academic supervision style and academic stress (H4).

RESEARCH METHOD

This study employed a quantitative approach with a survey design to examine the relationships among the variables and to test the proposed mediation mechanism (Lim, 2025). A quantitative survey was appropriate because the constructs of interest, namely academic supervision style, academic support, and academic stress, are measurable perceptual attributes whose hypothesized causal and mediating relationships can be tested statistically across a representative sample. The target population comprised all students of the Faculty of *Tarbiyah* and Teacher Training (FTIK) at the State Islamic University of *Sultanah Nahrasiyah* Lhokseumawe who were in the process of writing their undergraduate thesis (*skripsi*). Given the practical constraints of the study, the accessible population was delimited to active seventh-semester FTIK students of the 2022 cohort who had been undergoing thesis supervision for at least one month, totaling 222 students across all study programs. The relationships tested in this study are summarized in the research framework, which positions academic support as a mediating variable in the relationship between academic supervision style and academic stress. The conceptual framework underlying the four hypotheses is presented in **Figure 1**.

As illustrated in **Figure 1**, the framework specifies one direct path from academic supervision style to academic stress (H1), a path from academic supervision style to academic support (H2), a path from academic support to academic stress (H3), and an indirect path through which academic support mediates the relationship between academic supervision style and academic stress (H4). This structure makes explicit that the study tests not only direct influences but also the underlying mechanism through which supervisory style may shape student stress.

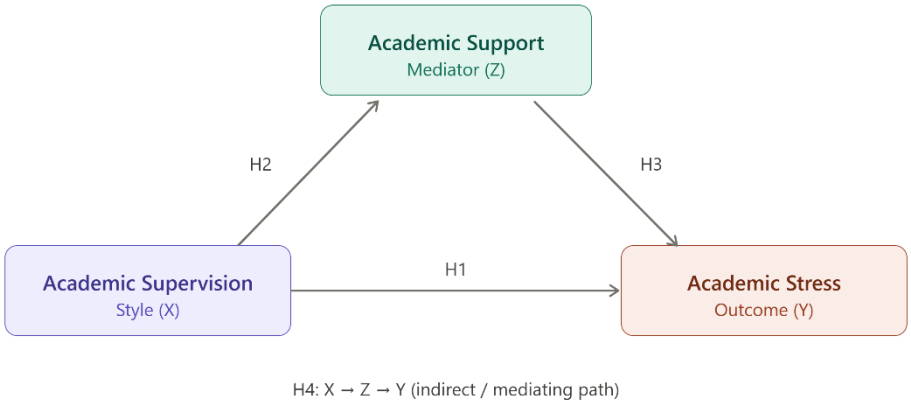

Figure 1. Research Framework
Source: Authors' elaboration, 2025.

The sampling technique was probability sampling through simple random sampling, ensuring that every member of the population had an equal probability of being selected. The sample size was determined using the Slovin formula with a 5 percent margin of error, expressed as follows:

$$n = \frac{N}{1+N(e)^2} = \frac{222}{1+222\,(0.05)^2} = \frac{222}{1+0.555} = \frac{222}{1.555} \approx 143$$

Substituting a population of 222 and a margin of error of 0.05 yielded a minimum sample of 143 respondents. To anticipate potential non-response, the sample was increased to 150 respondents. The participation criteria were that respondents be active seventh-semester FTIK students, be undergoing thesis supervision for at least one month, and be willing to complete the questionnaire. Data were collected online through a Google Form questionnaire distributed to the selected respondents. The research instrument was a questionnaire constructed by adapting measurement scales from prior studies whose validity and reliability had already been established (Ermita et al., 2024). All items were measured on a five-point *Likert* scale ranging from 1 (*Sangat Tidak Setuju* / Strongly Disagree) to 5 (*Sangat Setuju* / Strongly Agree). The variables, their dimensions, the number of items, and the sources from which the scales were adapted are summarized in **Table 1**.

Table 1. Summary of the Research Instrument

Variable	Dimensions / Indicators	Number of Items
Academic Supervision Style (X)	Orientation of the supervisory function; principles of supervision (democratic, cooperative, constructive, humanistic, active); supervisory techniques (feedback, responsiveness)	14
Academic Support (Z)	Emotional support; academic assistance; granting of trust and autonomy	9
Academic Stress (Y)	Academic exhaustion; social pressure; psychological disturbance	13

Source: Authors' elaboration, 2025.

As summarized in **Table 1**, the instrument operationalized each construct through multiple theoretically grounded dimensions, with the academic supervision style scale contextually framed for the thesis-supervision setting. The multidimensional structure of each variable ensures that the constructs are captured comprehensively rather than through a single narrow facet. It should be noted that the item counts reported here reflect the instrument prior to empirical purification; the elimination of items that failed to meet the outer-loading threshold is reported in the Result section.

Data analysis was conducted in two stages. The first stage was descriptive statistical analysis, which aimed to describe the characteristics of the respondents. The second stage was Structural Equation Modeling (SEM) based on Partial Least Squares (PLS), performed using *SmartPLS 4*, to evaluate the measurement model (outer model) and the structural model (inner model). The measurement model was assessed for the validity and reliability of the constructs through outer-loading values, Average Variance Extracted (AVE), composite reliability, and *Cronbach's alpha*, while the structural model was examined through the coefficient of determination (R^2) and the path coefficients. Hypothesis testing was subsequently carried out through a *bootstrapping* procedure to estimate both the direct and the indirect (mediating) effects among the variables.

RESULT AND DISCUSSION

Result

Respondent Characteristics

The respondents in this study comprised 150 final-year students who were actively engaged in undergraduate thesis (*skripsi*) supervision. With respect to gender, the sample was predominantly female, reflecting the broader demographic composition of the Faculty of *Tarbiyah* and Teacher Training. The gender distribution of respondents is presented in **Table 2**.

Table 2. Respondent Characteristics by Gender

Characteristic	Category	Frequency	Percentage
Gender	Male	22	14.7%
	Female	128	85.3%
Total		150	100%

Source: Processed primary data, 2025.

As shown in **Table 2**, female students constituted the overwhelming majority of the sample at 85.3 percent, compared with only 14.7 percent male students. This pronounced gender imbalance is characteristic of teacher-education faculties and should be borne in mind when interpreting the findings, since the supervisory experience reported here is largely articulated from a female student perspective. Beyond gender, the respondents were drawn from the eight study programs operating within the Faculty of *Tarbiyah* and Teacher Training, namely Islamic Education Management (MPI), Islamic Religious Education (PAI), Mathematics Education (TMA), Indonesian Language Education (TBIN), English Language Education (TBI), Arabic Language Education (PBA), Early Childhood Islamic Education (PIAUD), and Madrasah *Ibtidaiyah* Teacher Education (PGMI). The distribution of respondents across these study programs is presented in **Table 3**.

Table 3. Distribution of Respondents by Study Program

Study Program	Frequency	Percentage
PAI	37	24.7%
MPI	33	22.0%
PGMI	23	15.3%
PBA	15	10.0%
TBI	15	10.0%
PIAUD	11	7.3%
TBIN	9	6.0%
TMA	7	4.7%
Total	150	100%

Source: Processed primary data, 2025.

As presented in **Table 3**, the sample was dominated by students from PAI (24.7%), followed by MPI (22.0%) and PGMI (15.3%), while the remaining programs each contributed

smaller proportions. This concentration indicates that the supervisory dynamics captured in this study are weighted toward the larger study programs, where higher student-to-supervisor ratios may shape the supervision experience differently than in the smaller programs.

Measurement Model Assessment (Outer Model)

The research instrument was evaluated through measurement-model (outer-model) analysis in SmartPLS in order to establish the validity and reliability of the constructs prior to structural testing. At the initial stage, *Academic Supervision Style* was measured by 14 indicators, *Academic Support* by 9 indicators, and *Academic Stress* by 13 indicators. Several indicators returned outer-loading values below the established threshold and were therefore removed from the model. The eliminated indicators are presented in **Table 4**.

Table 4. Eliminated Indicators

Variable	Eliminated Indicators
Academic Supervision Style	GSA3, GSA4, GSA10, GSA14
Academic Support	DA4, DA6, DA9
Academic Stress	SAM1, SAM2, SAM3, SAM4, SAM5, SAM6, SAM11, SAM12, SAM13

Source: Processed primary data using SmartPLS, 2025.

As shown in **Table 4**, the purification process was especially substantial for *Academic Stress*, where nine of the original thirteen indicators were discarded, leaving only four. This retention pattern is analytically consequential: a construct that survives on a narrow indicator base measure a comparatively thin slice of the phenomenon, and the heavy attrition foreshadows the weak explanatory performance of *Academic Stress* observed later in the structural model. Following elimination, *Academic Supervision Style* retained 10 indicators, *Academic Support* retained 6 indicators, and *Academic Stress* retained 4 indicators, and the refined model proceeded to convergent-validity assessment. The structural model estimated in SmartPLS, including the retained indicators and the path relationships among the three constructs, is displayed in **Figure 1**.

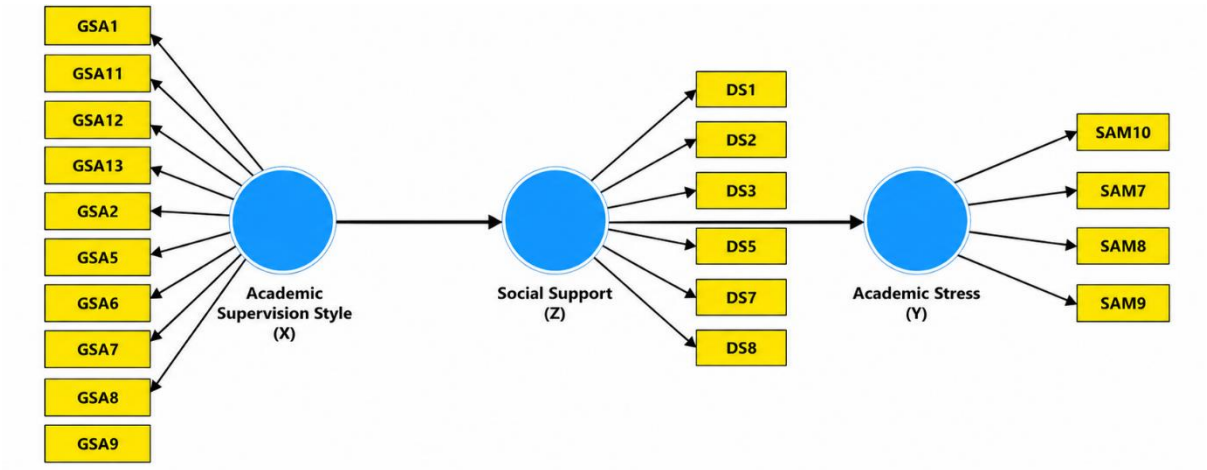

Figure 2. Research Model Estimated in SmartPLS
Source: Processed primary data using SmartPLS, 2025.

Figure 1 depicts the hypothesized mediation structure, in which *Academic Supervision Style* operates on *Academic Stress* both directly and indirectly through *Academic Support*. The diagram makes visually explicit the asymmetry that the statistical results will confirm, namely a strong supervision-to-support pathway alongside markedly weaker pathways leading into *Academic Stress*.

Convergent Validity

Convergent validity was examined through the outer-loading values generated by the PLS Algorithm, with loadings at or above 0.70 indicating that each indicator adequately reflects its underlying construct. The outer loadings of the retained indicators are reported in **Table 5**.

Table 5. Convergent Validity (Outer Loadings)

Indicator	Academic Support (Z)	Academic Supervision Style (X)	Academic Stress (Y)
DA1	0.846		
DA2	0.829		
DA3	0.820		
DA5	0.745		
DA7	0.841		
DA8	0.735		
GSA1		0.755	
GSA2		0.732	
GSA5		0.723	
GSA6		0.850	
GSA7		0.771	
GSA8		0.805	
GSA9		0.810	
GSA11		0.775	
GSA12		0.739	
GSA13		0.738	
SAM7			0.784
SAM8			0.810
SAM9			0.883
SAM10			0.719

Source: Processed primary data using SmartPLS, 2025.

As reported in **Table 5**, all retained indicators exceeded the 0.70 loading threshold, ranging from 0.719 to 0.883, which confirms that every indicator reflects its intended construct with acceptable strength. The highest loadings cluster within *Academic Stress* (notably SAM9 at 0.883) and *Academic Support* (DA1 at 0.846), indicating that the surviving items, though few in the case of stress, are tightly aligned with their constructs and thus satisfy the convergent-validity requirement.

Discriminant Validity

Discriminant validity was assessed through cross-loadings, whereby each indicator should load more strongly on its own construct than on any other construct in the model. The cross-loading matrix is presented in **Table 6**.

Table 6. Discriminant Validity (Cross-Loadings)

Indicator	Academic Support (Z)	Academic Supervision Style (X)	Academic Stress (Y)
DA1	0.846	0.660	-0.063
DA2	0.829	0.687	-0.049
DA3	0.820	0.756	-0.135
DA5	0.745	0.663	-0.079
DA7	0.841	0.741	-0.094
DA8	0.735	0.508	-0.068
GSA1	0.649	0.755	-0.127
GSA2	0.560	0.732	-0.132
GSA5	0.709	0.723	-0.073
GSA6	0.715	0.850	-0.106
GSA7	0.646	0.771	-0.021
GSA8	0.689	0.805	-0.041
GSA9	0.705	0.810	-0.098
GSA11	0.581	0.775	0.024

Indicator	Academic Support (Z)	Academic Supervision Style (X)	Academic Stress (Y)
GSA12	0.551	0.739	-0.074
GSA13	0.638	0.738	-0.047
SAM7	-0.049	-0.045	0.784
SAM8	-0.069	-0.090	0.810
SAM9	-0.119	-0.072	0.883
SAM10	-0.062	-0.083	0.719

Source: Processed primary data using SmartPLS, 2025.

As **Table 6** demonstrates, every indicator loads most strongly on its own construct, satisfying the discriminant-validity criterion. Two patterns nonetheless warrant attention. First, the *Academic Support* and *Academic Supervision Style* indicators exhibit high cross-loadings on one another (for example, GSA6 loads 0.715 on support and DA3 loads 0.756 on supervision), signaling that these two constructs, while statistically distinguishable, are conceptually intertwined. Second, all *Academic Stress* indicators correlate only weakly and negatively with both predictors, the strongest being just -0.135. This near-zero association is the earliest statistical sign that *Academic Stress* is largely decoupled from the supervisory constructs, a pattern that anticipates the non-significant structural paths reported below.

Average Variance Extracted (AVE)

Convergent validity at the construct level was further confirmed through the Average Variance Extracted, where values of 0.50 or above indicate that a construct explains more than half of the variance in its indicators. The AVE values are reported in **Table 7**.

Table 7. Average Variance Extracted (AVE)

Variable	AVE	Criterion	Status
Academic Support (Z)	0.647	≥ 0.50	Valid
Academic Supervision Style (X)	0.594	≥ 0.50	Valid
Academic Stress (Y)	0.642	≥ 0.50	Valid

Source: Processed primary data using SmartPLS, 2025.

As shown in **Table 6**, all three constructs returned AVE values comfortably above the 0.50 benchmark, ranging from 0.594 to 0.647. Each construct therefore accounts for more than 60 percent of the variance in its respective indicators on average, confirming that convergent validity holds at the construct level and that the measurement model is sound on this criterion.

Construct Reliability

Internal-consistency reliability was assessed using both *Cronbach's alpha* and composite reliability, with values of 0.70 or higher indicating reliable measurement. The *Cronbach's alpha* coefficients are reported in **Table 8**, and the composite-reliability coefficients in **Table 9**.

Table 8. *Cronbach's Alpha*

Variable	*Cronbach's Alpha*	Criterion	Status
Academic Support (Z)	0.890	≥ 0.70	Reliable
Academic Supervision Style (X)	0.924	≥ 0.70	Reliable
Academic Stress (Y)	0.823	≥ 0.70	Reliable

Source: Processed primary data using SmartPLS, 2025.

Table 9. Composite Reliability

Variable	Composite Reliability	Criterion	Status
Academic Support (Z)	0.916	≥ 0.70	Reliable
Academic Supervision Style (X)	0.936	≥ 0.70	Reliable
Academic Stress (Y)	0.877	≥ 0.70	Reliable

Source: Processed primary data using SmartPLS, 2025.

As Tables **Table 8** and **Table 9** jointly demonstrate, every construct exceeded the 0.70 threshold on both reliability indices, with *Cronbach's alpha* ranging from 0.823 to 0.924 and composite reliability from 0.877 to 0.936. The convergence of the two indices confirms strong internal consistency across all constructs. It is worth noting that *Academic Stress* attains satisfactory reliability (0.823 and 0.877) despite resting on only four indicators, which establishes that its later weak explanatory performance is a substantive finding about the absence of a relationship rather than an artifact of unreliable measurement.

Structural Model Assessment (Inner Model)

Having established a sound measurement model, the analysis proceeded to the structural (inner) model in order to examine the relationships among the constructs and to test the proposed hypotheses. Structural assessment comprised the coefficient of determination (R^2) and the path-coefficient and hypothesis tests conducted through bootstrapping.

Coefficient of Determination (R^2)

The R^2 value quantifies the proportion of variance in each endogenous construct explained by its predictors. Following the benchmarks of (Hair et al., 2019), R^2 values of 0.75, 0.50, and 0.25 are interpreted as substantial, moderate, and weak, respectively. The R^2 results are presented in **Table 10**.

Table 10. Coefficient of Determination (R^2)

Variable	R-Square	R-Square Adjusted	Category
Academic Support (Z)	0.709	0.707	Moderate
Academic Stress (Y)	0.011	0.004	Weak

Source: Processed primary data using SmartPLS, 2025.

As **Table 10** reveals, the two endogenous constructs display a striking divergence in explanatory power. *Academic Supervision Style* explains 70.9 percent of the variance in *Academic Support*, a moderate-to-substantial result indicating that supervisory style is a powerful determinant of how supported students feel. In sharp contrast, the full model accounts for a mere 1.1 percent of the variance in *Academic Stress*, leaving roughly 99 percent unexplained. This near-zero R^2 is the central empirical signature of the study: the predictors that strongly shape perceived support are virtually irrelevant to students' experienced stress, which points unmistakably toward determinants of academic stress that lie outside the supervisory relationship modeled here.

Path Coefficients and Hypothesis Testing

Path coefficients, *t*-statistics, and *p*-values were obtained through bootstrapping to determine the direction and significance of each hypothesized relationship, applying the conventional decision rule of $t > 1.96$ and $p < 0.05$. The results for the direct effects are presented in **Table 11**.

Table 11. Path Coefficients (Direct Effects)

Path	Original Sample (O)	*t*-Statistic	*p*-Value	Decision
Academic Supervision Style (X) → Academic Stress (Y)	-0.087	0.820	0.412	Not Significant
Academic Supervision Style (X) → Academic Support (Z)	0.842	30.652	0.000	Significant
Academic Support (Z) → Academic Stress (Y)	-0.103	0.822	0.411	Not Significant

Source: Processed primary data using SmartPLS, 2025.

As reported in **Table 11**, the three direct paths yield a consistent and interpretable pattern. The effect of *Academic Supervision Style* on *Academic Stress* is negative but negligible and statistically non-significant (O = -0.087; t = 0.820; p = 0.412), so Hypothesis 1 is rejected; supervisory style does not directly reduce students' academic stress. By contrast, *Academic Supervision Style* exerts a strong, positive, and highly significant effect on *Academic Support* (O = 0.842; t = 30.652; p = 0.000), so Hypothesis 2 is accepted; better supervisory style translates almost directly into greater perceived support, and the exceptionally large t-statistic underscores the robustness of this link. Finally, the effect of *Academic Support* on *Academic Stress* is likewise negative but non-significant (O = -0.103; t = 0.822; p = 0.411), so Hypothesis 3 is rejected; perceived support, on its own, does not directly lower academic stress. Taken together, the direct effects reveal a model in which supervision robustly produces support, yet neither construct meaningfully moves stress.

Specific Indirect Effect (Mediation)

To test the mediating role of *Academic Support*, the specific indirect effect of *Academic Supervision Style* on *Academic Stress* through *Academic Support* was examined via bootstrapping. The result is presented in **Table 12**.

Table 12. Specific Indirect Effect (Mediation)

Indirect Path	Original Sample (O)	*t*-Statistic	*p*-Value	Decision
Academic Supervision Style (X) → Academic Support (Z) → Academic Stress (Y)	-0.087	0.820	0.412	Not Significant

Source: Processed primary data using SmartPLS, 2025.

As **Table 12** indicates, the indirect effect of *Academic Supervision Style* on *Academic Stress* through *Academic Support* is negative and non-significant (O = -0.087; t = 0.820; p = 0.412), so Hypothesis 4 is rejected; *Academic Support* does not mediate the relationship between supervisory style and academic stress. The logic of this outcome is transparent when read against Table 10: although the first leg of the mediation chain is exceptionally strong (X → Z, β = 0.842), the second leg is non-significant (Z → Y, β = -0.103), and a mediation pathway cannot transmit an effect through a link that does not itself carry one. Consequently, the supervisory relationship reaches students' sense of support with great force but stops short of their experienced stress, confirming that the determinants of final-year academic stress reside substantially beyond the supervisory mechanism modeled in this study.

Discussion

The findings of this study converge on a single, theoretically significant pattern: academic supervision style powerfully shapes how supported students feel, yet neither supervision style nor the support it generates meaningfully alters the academic stress students experience during thesis writing. Of the four hypotheses tested, only the path from academic supervision style to academic support was supported, while the paths leading into academic stress, whether direct or mediated, were uniformly non-significant. This configuration is not a null result in the dismissive sense; rather, it redirects theoretical attention away from the supervisory dyad as the presumed engine of student stress and toward determinants that lie beyond it. The discussion that follows interprets each finding in turn before synthesizing their collective meaning.

The strong and highly significant effect of academic supervision style on academic support (H2) constitutes the most robust finding of this study and aligns closely with the existing literature on supervisory relationships. The magnitude of this effect indicates that when supervisors adopt a clear, communicative, and autonomy-respecting approach, students perceive a markedly higher

level of emotional and academic support (Hong-Bo, 2024; Johansen et al., 2023). This result confirms that supervision style operates as a primary antecedent of perceived support, corroborating prior observations that the quality of the supervisory approach determines whether students feel accompanied or abandoned throughout the thesis process (Alavi et al., 2025; Wanyama & Eyamu, 2021). In practical terms, the way a supervisor supervises is almost synonymous, in the student's perception, with the support they feel they receive.

In contrast, the direct effect of academic supervision style on academic stress (H1) was negative but negligible and statistically non-significant, indicating that supervision style alone does not directly determine the level of academic stress students experience. This finding diverges from studies that report a strong correlation between an uncertain supervision style and elevated stress (Doshi et al., 2022; Mavrogalou-Foti et al., 2024), and the divergence is itself instructive. It suggests that the relationship between supervision and stress is neither universal nor mechanical but is likely contingent on contextual and individual factors, such as students' coping strategies, their academic self-efficacy, and the wider pressures surrounding thesis completion. Supervision style, in other words, reaches students' sense of support far more readily than it reaches their internal experience of stress.

The non-significant effect of academic support on academic stress (H3) is perhaps the most theoretically provocative finding, for it challenges the widely held assumption that perceived support functions as a direct buffer against stress. This result, however, resonates with Halawa and Akbar (2025), who likewise found that emotional support from supervisors, taken in isolation, did not significantly reduce student stress. One plausible explanation is that the academic stress of final-year students is driven less by the presence or absence of supervisory support than by structural and intrapersonal pressures, including deadlines, financial concerns, anxiety about the future, and perfectionistic self-demands, that supervisory support is simply not positioned to neutralize. Support may make students feel accompanied without thereby making the underlying stressors disappear.

Consistent with the preceding two findings, the mediating role of academic support (H4) was not supported. The logic of this outcome follows directly from the structure of the model: although the first leg of the mediation chain was exceptionally strong, the second leg, from support to stress, did not carry a significant effect, and a mediating pathway cannot transmit influence through a link that is itself inert. Academic support, therefore, does not function as the mechanism through which supervision style reaches student stress. This finding refines the theoretical expectation set out at the beginning of the study, demonstrating that a strong antecedent relationship does not guarantee a functioning mediation when the downstream link is absent.

Taken together, these results articulate a coherent theoretical message that is more valuable than a set of uniformly confirmed hypotheses would have been. The supervisory relationship is highly effective at producing a sense of support but is largely disconnected from the machinery of academic stress, which appears to be governed by determinants external to the supervisory dyad. The near-zero proportion of variance in academic stress explained by the model is the clearest evidence of this disconnection. Rather than weakening the study, this pattern sharpens its contribution by relocating the problem of student stress: interventions aimed solely at improving supervision, however worthwhile for student well-being in other respects, should not be expected to function as primary instruments for stress reduction.

Beyond these specific implications, the principal contribution of this study lies in what it offers to the discourse on *transformational education and learning*. By demonstrating that the supervisory relationship shapes how supported students feel yet does not, on its own, transform their lived experience of stress, this study reframes the supervisor's role within a transformative paradigm: supervision should be understood not merely as a mechanism for managing affect but as a developmental relationship that cultivates student autonomy, self-direction, and resilience. A transformative model of thesis supervision, accordingly, shifts the goal from shielding students against stress toward empowering them to engage with academic challenges as catalysts for growth,

so that the strong supervision-to-support pathway identified here is harnessed not to eliminate difficulty but to build the self-efficacy through which students transform difficulty into learning. In this way, the study contributes a re-conceptualization of academic support as a foundation for transformative learning rather than a direct buffer against stress, and it invites future research to investigate how supervisory relationships can be designed to foster the autonomy and critical self-engagement that lie at the heart of transformational education.

CONCLUSION

This study set out to analyze the effect of academic supervision style on the academic stress of final-year students and to examine the mediating role of academic support, and its findings yield a clear and theoretically meaningful conclusion: while academic supervision style exerts a strong and significant influence on the academic support students perceive, neither supervision style nor academic support significantly affects academic stress, whether directly or through mediation, indicating that the academic stress experienced during thesis writing is driven primarily by determinants lying beyond the supervisory relationship. Of the four hypotheses tested, only the path from academic supervision style to academic support was supported, while the direct and mediated paths leading into academic stress were uniformly non-significant, demonstrating that a strong antecedent relationship does not, on its own, translate into a functioning mechanism for reducing student stress. These findings invite future research, employing larger and more diverse samples as well as additional variables such as academic self-efficacy and coping strategies, to further illuminate the complex mechanisms underlying academic stress among students completing their thesis.

ACKNOWLEDGMENT

The author would like to express sincere gratitude to the colleagues and academic mentors whose insights and constructive feedback enriched this study, and to all parties who supported the completion of this research.

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