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Social Capital and Community Engagement In Building Educational Resilience: Evidence From Community-Based Learning Programs

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Abstract

Purpose of the study: This study examines how community engagement relates to educational resilience in an Indonesian pesantren-affiliated university, with particular attention to the role of social capital and the position of community-based learning programs. **Methodology**: An explanatory cross-sectional survey collected responses from 152 permanent lecturers at Universitas Darunnajah selected through proportionate stratified random sampling. An 18-item, five-point Likert instrument measured community engagement, social capital, community-based learning programs, and educational resilience. Data were analysed with partial least squares structural equation modelling in R (SEMinR) using 1,000 bootstrap subsamples. **Main Findings**: All four hypothesised paths were significant. Community engagement predicted social capital (β = 0.985) and community-based learning programs (β = 0.986), and was directly associated with educational resilience (β = 0.391). Social capital showed the stronger association with resilience (β = 0.596), and the indirect effect of engagement through social capital (0.587) accounted for about 60% of its total effect. The model explained 96.7% of the variance in resilience. Discriminant validity was not established and collinearity was high, so the estimates indicate direction and relative magnitude rather than precise effect sizes. **Novelty/Originality of this study**: By modelling engagement, social capital, community-based learning, and resilience jointly in faith-based higher education, the study positions social capital as a partial mediator and community-based learning programs as an outcome of engagement rather than an independent input. It extends institutional resilience research beyond disaster-focused settings and specifies the measurement refinements and longitudinal designs needed to test the proposed ordering.

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A. Introduction

Educational institutions no longer operate in a stable environment. Over the past decade they have absorbed a pandemic that closed campuses for long periods, volatile public and private funding, demographic contraction in some regions and rapid expansion in others, accelerating digital disruption of teaching work, and, in several parts of the world, armed conflict and climate-driven displacement. The central question for educational management has consequently shifted from how to make an institution efficient under normal conditions to how to keep it functioning, and help it recover, when conditions are not normal. Educational resilience, once used narrowly

to describe disadvantaged students who outperform expectations, has therefore been rescaled into a property of institutions and systems (Borazon & Chuang, 2023; Qi & Yang, 2024). In higher education, resilience has also been shown to help students overcome barriers to academic engagement (Galve-González et al., 2026). This rescaling is particularly consequential for private Islamic higher education in Indonesia. Institutions of this type are typically embedded in a pesantren ecosystem, depend substantially on community trust and contribution rather than on state allocation, and derive both their legitimacy and much of their material base from the surrounding society (Anwar et al., 2023; Sutomo et al., 2024). For such institutions, the community is not an external stakeholder to be managed but a constitutive part of their capacity to survive.

A substantial body of work already connects these ideas. Research on social capital has established that networks, trust, shared norms, and reciprocity function as a resource that enables collective action and accelerates recovery from shocks (Arafat & Fahmida, 2026; Liu et al., 2022; Watson & Mathew, 2021). Studies of community resilience show that bonding and bridging ties shape adaptive capacity in climate, flood, and disaster contexts (Carmen et al., 2022; Curtis et al., 2024; Koopmann, 2023; Mardiansyah et al., 2024; Tanyanyiwa, 2021), and that community-led arrangements are central to preparedness and recovery (Feldmann-Jensen et al., 2026; Horn et al., 2026). The school–family–community partnership literature has demonstrated that structured engagement fosters equity, belonging, and hope for marginalised learners (Bryan et al., 2026; Edwin et al., 2022; Hands, 2023; Keung & Cheung, 2023; Kour & Bhatia, 2025; Safa, 2025). A third strand documents that community-based learning connects formal curricula to local knowledge and lived problems and, in doing so, strengthens both learners and host communities (Juharyanto et al., 2026; Juwitasari et al., 2026; Littrell et al., 2025; Mayo, 2021; Novrita et al., 2025; Palma et al., 2025). Evidence from conflict-affected and resource-scarce settings further shows that social support and community behaviour sustain educational access and teacher persistence when formal systems fail (No, 2026a, 2026b; Utsumi & Muradi, 2024).

What this literature has not yet produced is an integrated account of how these constructs are ordered. Existing studies are predominantly qualitative, case-based, or bibliometric, and they are concentrated in disaster risk reduction and basic education. Three gaps follow. First, community engagement, social capital, community-based learning programs, and educational resilience are usually examined in pairs, so the field can show that each matters but not how they relate to one another. It remains untested whether engagement raises resilience directly or does so mainly by first accumulating social capital. Second, community-based learning is routinely positioned as a driver of resilience, yet such programs may equally be a downstream institutional expression of engagement that has already occurred, an alternative that has not been modelled. Third, very little of this work has been conducted in faith-based higher education, even though pesantren-affiliated universities are settings in which community ties are dense and the theoretical stakes are therefore high (Ali, 2024; Rofiah et al., 2025). The literature, in short, offers strong evidence of association but little evidence of structure.

This article addresses these gaps by specifying and estimating a single structural model in which community engagement is the exogenous construct, social capital and community-based learning programs are its institutional consequences, and educational resilience is the outcome to which both community engagement and social capital contribute. The purpose is not to re-establish that social capital matters, which is well documented, but to determine its position in the model and to compare the direct route from engagement to resilience with the route that runs through social capital. The study is set in Universitas Darunnajah, a private Islamic university operating within a long-established pesantren, and the unit of analysis is the individual lecturer, who is at once an agent of community engagement, a holder of social capital, an implementer of community-based programs, and a bearer of the institution's adaptive capacity.

Four hypotheses are tested. H1 states that community engagement positively predicts community-based learning programs, which treats such programs as an output of engagement

rather than an independent input. H2 states that community engagement has a direct positive effect on educational resilience. H3 states that community engagement positively predicts social capital, which treats engagement as the means by which relational resources are produced. H4 states that social capital positively predicts educational resilience. Taken together, H3 and H4 imply that part of the effect of engagement on resilience is transmitted through social capital. This indirect effect is examined as a supplementary analysis, and the comparison between the direct route (H2) and the route through social capital forms the analytical core of the study.

B. Methods

Research Design

This study adopted an explanatory quantitative design using a cross-sectional survey, because the research question concerns the direction and relative magnitude of relationships among latent constructs rather than the meanings participants attach to them. A variance-based structural equation model was preferred to a covariance-based one for three reasons. The model is predictive rather than a confirmation of a well-established measurement theory, the constructs are measured reflectively with a modest number of indicators, and the sample, while adequate, is smaller than covariance-based estimation would comfortably require. Partial least squares structural equation modelling (PLS-SEM) is robust under these conditions and is recommended when the objective is to maximise explained variance in a target construct (Hair et al., 2019, 2022; Sarstedt et al., 2021).

Sample and Population

The research was carried out at Universitas Darunnajah, a private Islamic higher education institution operating within an established pesantren environment in Jakarta. The population comprised all permanent lecturers of the institution across its faculties during the odd semester of the 2025/2026 academic year. Respondents were drawn using proportionate stratified random sampling, with faculty of assignment as the stratifying variable, so that each faculty contributed to the sample in proportion to its share of the population. This procedure was adopted because teaching duties, community service load, and exposure to community-based programs differ systematically across faculties, and unstratified selection would have risked over-representing units with the heaviest community service commitments. Of the questionnaires distributed, 152 were returned complete and usable, and this figure constitutes the analytical sample. Under the inverse square root method (Kock & Hadaya, 2018), a sample of 152 is sufficient to detect path coefficients of about 0.20 or larger at the five per cent significance level, and the smallest coefficient estimated in the model (0.391) lies well above that threshold.

Data Collection

Data were collected using a self-administered structured questionnaire comprising a demographic section and eighteen substantive items measured on a five-point Likert scale ranging from strongly disagree to strongly agree. Community engagement was operationalised through five indicators covering participation in community forums, the frequency and depth of institution–community interaction, the involvement of community figures in institutional decisions, the reciprocity of the relationship, and the institution's responsiveness to community needs. Social capital was operationalised through four indicators covering trust, network breadth, shared norms and values, and reciprocal support. Community-based learning programs were operationalised through four indicators covering the integration of community problems into the curriculum, the use of local knowledge as learning material, the involvement of community partners in instruction, and the sustainability of program partnerships. Educational resilience was operationalised through five indicators covering the institution's capacity to maintain educational services under pressure, to mobilise resources during disruption, to adapt its methods, to recover its performance, and to learn from disruption. The items were adapted from established instruments in the social capital, partnership, and educational resilience literature and were reworded to fit the higher education and

pesantren context.

Instrument development proceeded in three stages. The draft instrument was first reviewed by three experts, in educational management, social research methodology, and Islamic higher education governance, who assessed the relevance and representativeness of every item; items judged ambiguous or redundant were revised or removed on the basis of their written comments. The revised instrument was then piloted with thirty lecturers who were not part of the final sample, and item–total correlations and internal consistency coefficients from the pilot were used to finalise the wording. The final instrument was distributed electronically through an institutional survey platform, accompanied by an explanation of the study's purpose and a statement of voluntary participation. Participation was anonymous, no identifying information was collected, informed consent was obtained before the first item, and respondents were free to withdraw at any point.

Data Analysis

Data were analysed with PLS-SEM implemented in the SEMinR package for R, following the standard two-stage sequence. The measurement model was assessed first through indicator outer loadings, internal consistency reliability using Cronbach's alpha and composite reliability, convergent validity using average variance extracted (AVE), and discriminant validity using both the Fornell–Larcker criterion and the heterotrait–monotrait ratio of correlations (HTMT) (Fornell & Larcker, 1981; Franke & Sarstedt, 2019; Henseler et al., 2015). The structural model was then assessed through the variance inflation factor (VIF) to check collinearity, the coefficient of determination (R^2) to establish explanatory power, and the f^2 statistic to establish the effect size of each predictor. Because PLS-SEM is non-parametric, the significance of the path coefficients was established through bootstrapping with 1,000 subsamples, from which standard deviations, t-statistics, p-values, and percentile confidence intervals were derived. A path was treated as significant where the t-statistic exceeded 1.96 and the confidence interval excluded zero. The indirect effect of community engagement on educational resilience through social capital was computed as the product of the two constituent path coefficients, and its significance was approximated with the Sobel test using the bootstrap standard deviations of those paths. Common method variance, which can arise whenever predictor and criterion measures are obtained from the same respondents at the same time, was addressed procedurally through anonymity and the separation of construct blocks in the questionnaire (Kock, 2015); because procedural remedies cannot rule it out, its possible contribution is considered when interpreting the results.

C. Result and Discussion

Result

Table 1 reports the internal consistency reliability of the four constructs. Cronbach's alpha ranges from 0.8610 to 0.9132 and composite reliability from 0.9058 to 0.9375, all above the 0.70 threshold and within the range that Hair et al. (2019) classify as very good. Educational resilience and community engagement record the highest coefficients, indicating that respondents interpreted the items forming these two constructs consistently. None of the coefficients reaches 0.95, the level beyond which redundancy among items would be suspected, so each construct is measured reliably without its indicators being near duplicates.

Table 1. Reliability Testing

Variable	Cronbach's Alpha	Composite Reliability	Description
Community Engagement	0.9110	0.9339	Very good
Social Capital	0.8610	0.9058	Very good
Community-Based Learning Programs	0.8834	0.9198	Very good
Educational Resilience	0.9132	0.9375	Very good

Note. Composite reliability computed from the outer loadings in Table 2.

Table 2 reports the outer loadings of the eighteen indicators. Seventeen indicators load above the 0.70 criterion, ranging from 0.7830 to 0.9420, which means each shares more than half of its variance with its assigned construct. The single exception is the second indicator of educational resilience, which loads at 0.6907. Under the decision rule of Hair et al. (2019), an indicator loading between 0.40 and 0.70 should be removed only if removal raises composite reliability or AVE above their thresholds. Because both criteria were already satisfied with the indicator retained, it was kept to preserve the content coverage of the construct. AVE ranged from 0.706 for social capital to 0.753 for educational resilience, exceeding the 0.50 benchmark for every construct and confirming convergent validity.

Table 2. Convergent Validity: Outer Loadings and Average Variance Extracted

Variable	Indicator	Outer Loading	AVE
Community Engagement	CE1	0.8644	0.739
	CE2	0.7830	
	CE3	0.8644	
	CE4	0.8583	
	CE5	0.9226	
Social Capital	SC1	0.8544	0.706
	SC2	0.8633	
	SC3	0.7931	
	SC4	0.8495	
Community-Based Learning Programs	CBL1	0.8208	0.742
	CBL2	0.8547	
	CBL3	0.8518	
	CBL4	0.9149	
Educational Resilience	ER1	0.9420	0.753
	ER2	0.6907	
	ER3	0.7901	
	ER4	0.9420	
	ER5	0.9420	

Tables 3 and 4 report the assessment of discriminant validity. The pattern is the same under both procedures. Inter-construct correlations range from 0.9503 to 0.9860 and exceed the square root of the AVE of the constructs concerned, and every HTMT ratio exceeds 1, ranging from 1.0590 to 1.1119, well above the conservative 0.85 and liberal 0.90 thresholds (Franke & Sarstedt, 2019; Henseler et al., 2015). Under these decision rules, the four constructs are not empirically distinguishable in this sample, even though each is measured reliably and with adequate convergent validity. This result is treated as substantive and is carried into the discussion and the limitations. Two explanations are plausible. Respondents may experience engagement, relational resources, programs, and resilience as facets of a single organisational reality, which is consistent with the dense religious and sociocultural networks that characterise pesantren (Sutomo et al., 2024). Shared method variance arising from single-source, self-reported data may also have inflated the correlations. Either way, the structural estimates below should be read as indicating direction and relative magnitude rather than precise effect sizes.

Table 3. Discriminant Validity: Fornell–Larcker Criterion

Variable	CE	SC	CBLP	ER
Community Engagement	0.8597			
Social Capital	0.9854	0.8405		
Community-Based Learning Programs	0.9860	0.9601	0.8612	
Educational Resilience	0.9780	0.9810	0.9503	0.8676

Table 4. Discriminant Validity: Heterotrait–Monotrait Ratio (HTMT)

Variable	CE	SC	CBLP	ER
Community Engagement				
Social Capital	1.1119			
Community-Based Learning Programs	1.0997	1.0991		
Educational Resilience	1.0714	1.1094	1.0590	

Note. CE = community engagement; SC = social capital; CBLP = community-based learning programs; ER = educational resilience.

Table 5 reports the explanatory power of the model and the effect size of each predictor. The model accounts for 97.22 per cent of the variance in community-based learning programs, 97.11 per cent in social capital, and 96.68 per cent in educational resilience. The adjusted coefficients are almost identical, indicating that explanatory power is not an artefact of the number of predictors, and all three values fall in the substantial category. The effect sizes show a marked asymmetry. Community engagement has very large effects on social capital and community-based learning programs, far beyond the 0.35 threshold for a large effect. For educational resilience, the direct effect of community engagement is small to medium ($f^2 = 0.1563$), while the effect of social capital is medium ($f^2 = 0.2848$), so social capital contributes almost twice the unique explanatory weight of direct engagement. The VIF for the two predictors of educational resilience reaches 34.6, well above the threshold of 5. This is the structural counterpart of the discriminant validity pattern reported above and is addressed in the limitations.

Table 5. Explanatory Power and Effect Size

Endogenous Construct	R^2	R^2 Adj.	Status	Predictor (f^2)
Social Capital	0.9711	0.9709	Substantial	CE = 33.5953
Community-Based Learning Programs	0.9722	0.9721	Substantial	CE = 35.0307
Educational Resilience	0.9668	0.9663	Substantial	CE = 0.1563; SC = 0.2848

Figure 1 presents the estimated structural model, showing the standardised path coefficients, the outer loadings of each indicator, and the R^2 of each endogenous construct.

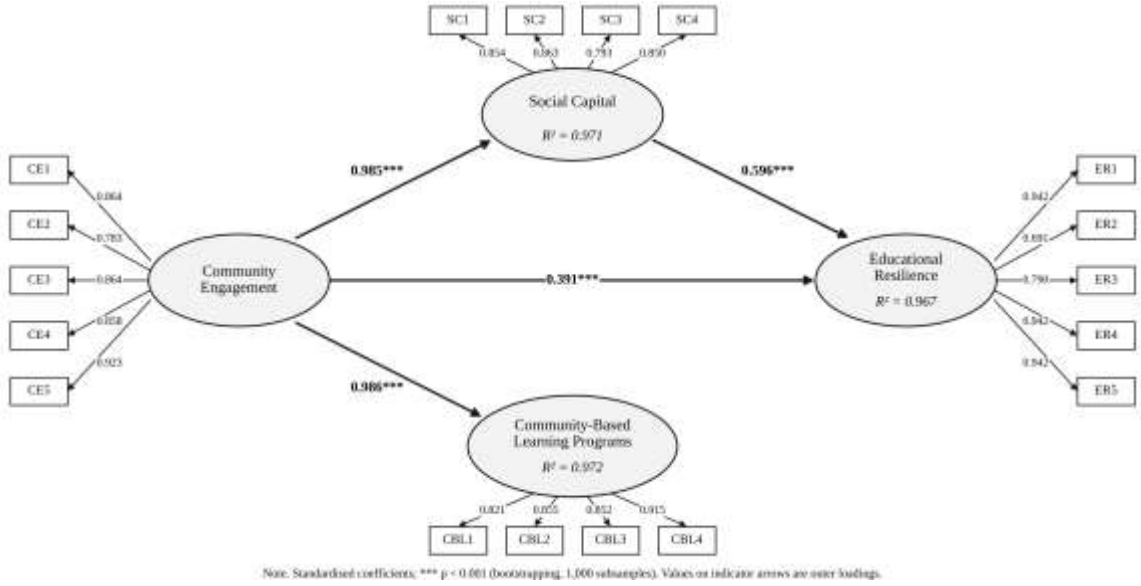

Figure 1. Structural Model Testing

Table 6 reports the results of hypothesis testing. All four hypothesised paths are significant at the 0.1 per cent level, with t-statistics far exceeding 1.96 and confidence intervals that exclude zero. Community engagement predicts community-based learning programs (β = 0.9860) and social capital (β = 0.9854), both with very small standard deviations. The two paths to educational resilience are of a different order: social capital contributes 0.5960 and community engagement 0.3907, and the standard deviations of both are about 0.10, an order of magnitude larger than those of the first two paths. The path from social capital to educational resilience is therefore roughly one and a half times the magnitude of the direct path from community engagement, which is consistent with the effect sizes in Table 5 and with Figure 1.

Table 6. Results of Hypothesis Testing

H	Path	β	SD	t	p	Decision
H1	Community Engagement → Community-Based Learning Programs	0.9860	0.0027	361.6987	< 0.001	Supported
H2	Community Engagement → Educational Resilience	0.3907	0.1008	3.8751	< 0.001	Supported
H3	Community Engagement → Social Capital	0.9854	0.0017	585.5395	< 0.001	Supported
H4	Social Capital → Educational Resilience	0.5960	0.1012	5.8874	< 0.001	Supported

Table 7 reports the supplementary analysis of the indirect effect. The indirect effect of community engagement on educational resilience through social capital (0.9854 × 0.5960 = 0.5873) is significant (z = 5.889, p < 0.001). Together with the direct effect of 0.3907, it yields a total effect of 0.9780, and the variance accounted for (VAF) by the indirect path is 60.1 per cent. Following Hair et al. (2022), a VAF between 20 and 80 per cent indicates partial mediation: social capital transmits the larger part, but not all, of the association between engagement and resilience.

Table 7. Direct, Indirect, and Total Effects of Community Engagement on Educational Resilience

Effect	Estimate	SE	z / t	p
Direct (CE → ER)	0.3907	0.1008	3.875	< 0.001
Indirect (CE → SC → ER)	0.5873	0.0997	5.889	< 0.001
Total effect	0.9780			
VAF (indirect / total)	60.1%			

Note. Indirect effect = product of the CE → SC and SC → ER coefficients; SE and z from the Sobel test using bootstrap standard deviations. VAF = variance accounted for.

Discussion

Community Engagement as the Origin of Community-Based Learning Programs

The first hypothesis concerned whether community-based learning programs depend on community engagement. The path from engagement to these programs is the strongest in the model ($\beta = 0.986$; $f^2 = 35.03$). In this institution, the presence, breadth, and sustainability of community-based learning therefore track closely how deeply the university is already engaged with its surrounding community, rather than operating as a programmatic choice made independently of that engagement.

This pattern qualifies the prevailing framing in the literature. Community-based learning is usually presented as an intervention that generates community relationships: Mayo (2021) treats it as a means of building collective capacity, Palma et al. (2025) as a vehicle for integrating local and scientific knowledge in disaster risk management, Juwitasari et al. (2026) as a platform for co-creating resilience through university–school networks, and Novrita et al. (2025) as a condition for sustaining non-formal education in Aceh. The present data fit the reverse ordering better, in which such programs are the institutional expression of a relationship that already exists. This reading agrees with Juharyanto et al. (2026), who describe life-based learning projects as presupposing an established school–community interface, and with Hands (2023), who places programmatic collaboration at the end of a longer relational sequence. Because the design is cross-sectional, a reciprocal relationship cannot be excluded. The managerial implication is nonetheless clear: launching community-based learning without first investing in engagement is unlikely to deliver the intended benefits.

The Direct Contribution of Community Engagement to Educational Resilience

The second hypothesis is supported, as engagement is directly associated with educational resilience ($\beta = 0.391$; $t = 3.875$). Part of the contribution of engagement therefore does not pass through social capital. A plausible explanation lies in the material and informational resources that engagement makes available at the moment of disruption, such as access to alternative facilities, volunteer labour, and timely information about local conditions.

The magnitude of this direct path is moderate, and its effect size ($f^2 = 0.156$) is small to medium. This qualifies a stronger claim found in the partnership literature. Bryan et al. (2026) and Safa (2025) present school–family–community partnership as directly generative of resilience, justice, and hope, and Utsumi and Muradi (2024) link the maintenance of educational access in pre-Taliban Afghanistan to community behaviour. The present result does not contradict these accounts but locates them more precisely, since direct engagement accounts for a meaningful but minority share of the unique variance in resilience. Frankel et al. (2026), in their landscape analysis of community engagement and outreach cores, likewise emphasise capacity building, that is, the relational and organisational infrastructure that engagement leaves behind, as the channel through which engagement produces impact.

Community Engagement as the Generative Mechanism of Social Capital

The third hypothesis is also supported. The path from engagement to social capital (β = 0.985; SD = 0.0017) yields the largest t-statistic in the model, and engagement accounts for 97 per cent of the variance in social capital. In this setting, social capital behaves less like a fixed cultural endowment and more like a resource that is continuously renewed through engagement practice. The size of this coefficient also reflects the very high correlation between the two constructs, an issue taken up in the limitations.

This is where the findings speak most directly to social capital theory. The classical formulations of Coleman (1988), Putnam (2000), and Nahapiet and Ghoshal (1998) treat social capital as a resource embedded in social structure, and much later work has examined what social capital does rather than how it is produced (Arafat & Fahmida, 2026; Watson & Mathew, 2021). Research on community resilience has begun to examine its formation more directly: Liu et al. (2022) and Carmen et al. (2022) treat social capital as something communities actively build, Curtis et al. (2024) and Koopmann (2023) document the practices through which it accumulates, and Ali et al. (2023) show that it also forms through digitally mediated interaction. The present finding extends this line of work to faith-based higher education, where the density of the pesantren network might lead one to expect social capital to be largely given. Even in this high-trust religious setting, relational resources appear to depend on continuing engagement, which is consistent with Sutomo et al. (2024) on the role of religious and sociocultural networks in enhancing, rather than merely possessing, social capital in pesantren.

Social Capital as the Principal Pathway to Educational Resilience

The fourth hypothesis is supported, with social capital showing the stronger association with resilience (β = 0.596; t = 5.887; f^2 = 0.285). Its coefficient is about one and a half times that of the direct engagement path, and its unique explanatory weight is nearly double. The supplementary analysis adds that the indirect effect of engagement through social capital represents about 60 per cent of the total effect, indicating partial mediation. The principal route from engagement to resilience therefore appears to run through the accumulation of trust, networks, shared norms, and reciprocal obligation.

This ordering gives quantitative form to a proposition that the resilience literature has largely asserted rather than tested. Mardiansyah et al. (2024), mapping the field bibliometrically, identify social capital as a dominant explanatory construct in resilience research without specifying its position in a causal chain, while Tanyanyiwa (2021), Carmen et al. (2022), and Horn et al. (2026) describe local networks as the basis of adaptive capacity and community-led recovery. In educational settings the evidence has been more fragmentary. Rachmawati et al. (2021) reported a correlation between social support and academic resilience among adolescents, Qi and Yang (2024) found that family, school, and community resilience jointly predict student resilience, and No (2026a, 2026b) showed that community and peer support sustain student engagement and teacher resilience in conflict-affected Myanmar. Castro Torres et al. (2023), also using PLS-SEM, found that bonding social capital and socio-emotional support sequentially mediate the effect of social capital investment on academic stress, a structure close to the one estimated here. The present study extends that logic from the individual to the institutional level and responds to the fragmentation that Borazon and Chuang (2023) identify as a central weakness of educational resilience research, in which determinants have accumulated without being ordered.

Theoretical Implication: Engagement-Generated Social Capital as a Resilience Mechanism

Taken together, the results support a refinement of how social capital theory is applied in educational management. The conventional application treats social capital as an asset that institutions possess in varying degrees and that predicts favourable outcomes. The evidence here is more consistent with a sequential formulation in which engagement is the practice, social capital is

the resource that practice generates, and resilience is the capacity that resource supports. On this account, social capital may be better understood as a flow than a stock, so that a single measurement captures the current residue of engagement practice rather than a fixed endowment. Longitudinal data are needed to confirm this interpretation.

A second implication concerns community-based learning. In this model such programs are an outcome of engagement and were not specified as predictors of resilience. This does not make them unimportant; it repositions them as the visible institutional signature of engagement and therefore as a plausible indicator of engagement intensity rather than a lever that can be pulled independently. The distinction matters for practice, because funding community-based programs without investing in engagement is unlikely to produce resilience, whereas investing in engagement can be expected to generate such programs as a by-product. Mbambo-Mkhwanazi (2026), reporting on school–community partnerships in rural primary schools, Golding et al. (2020), examining community learning through adversity in rural Australia, and Littrell et al. (2025), describing a youth resilience education program built on place and community engagement, all describe program formation as following relationship formation, which supports this repositioning.

A third implication is contextual. The pesantren-affiliated university is a setting in which the boundary between institution and community is unusually permeable, and the extreme inter-construct correlations in Table 3 may partly reflect that permeability. In such institutions, engagement, relational resources, programs, and resilience may not be experienced as separate domains. Ali (2024) and Anwar et al. (2023), examining community-based economic development and pesantren-based microfinance respectively, describe a comparable fusion of institutional and communal spheres. The theoretical caution that follows is that models developed in secular educational systems with clear institutional boundaries may need reformulation, possibly as a higher-order construct specification, before being applied to faith-based institutions of this kind.

D. Conclusion

This study examined how community engagement relates to educational resilience in a pesantren-affiliated university and where social capital sits in that relationship. PLS-SEM estimates based on responses from 152 lecturers at Universitas Darunnajah supported all four hypotheses. Community engagement strongly predicted community-based learning programs and social capital, and was directly associated with educational resilience at moderate strength. Social capital showed a stronger association with resilience than direct engagement, about one and a half times larger in coefficient and nearly double in unique explanatory weight, and the indirect effect through social capital accounted for about 60 per cent of the total effect of engagement. The model explained 96.7 per cent of the variance in educational resilience.

The main conclusion is that community engagement appears to strengthen institutional resilience chiefly by building social capital, and only secondarily through its direct contribution. For educational management, this suggests that institutions seeking to withstand disruption should invest in practices that build trust, networks, shared norms, and reciprocity, and should treat community-based learning programs as evidence that such relationships exist rather than as a stand-alone instrument for producing them. The study contributes a tested structural ordering of constructs that earlier work had mostly examined in pairs, and it extends that ordering to faith-based higher education.

Several limitations qualify these conclusions. First, discriminant validity was not established: every HTMT ratio exceeded 1 and the VIF for the predictors of educational resilience reached 34.6. The estimates should therefore be read as indicating direction and relative magnitude rather than precise parameter values, and future studies should refine item wording to separate the constructs or test a higher-order specification in which they form dimensions of a single second-order construct. Second, the cross-sectional, single-institution design limits causal inference and generalisation, so the proposed sequence is an ordering consistent with the data

rather than a demonstrated temporal process; longitudinal and multi-institution designs across Islamic higher education are needed to test it. Third, all measures were self-reported by lecturers at one point in time, so common method variance may have inflated the inter-construct correlations. Objective indicators of resilience, such as enrolment stability, financial continuity, or documented recovery time after disruption, together with data from community partners, would strengthen the evidence. Finally, the indirect effect was tested with a Sobel approximation; a percentile bootstrap confidence interval for the specific indirect effect would provide a more robust test.

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AI Usage Declaration

The authors acknowledge the use of AI-assisted tools, including ChatGPT (OpenAI), Claude (Anthropic), and Grammarly, solely for language editing, grammatical correction, spelling, punctuation, and improving the clarity and readability of the manuscript. These tools were not used to generate or alter the research data, analysis, findings, or scientific conclusions. The authors reviewed and verified all AI-assisted revisions and take full responsibility for the accuracy, originality, integrity, and final content of the manuscript.

Author Contribution Statement

Mukhlisin: conceptualisation, methodology, project administration, and writing of the original draft. Idham: investigation, data curation, and writing (review and editing). Nanang Lidwan: formal analysis, software, and visualisation. Zohaib Hassan Sain: validation and writing (review and editing). All authors read and approved the final version of the manuscript.

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