Influence of access and efficiency on MPhil education students' supervision: The mediating role of supervisory quality

Regina Mawusi Nugba[1]
Emmanuel Frimpong Asante[2]

[1]regina.nugba@ucc.edu.gh
[2]asantefrimpong94@gmail.com

[1]https://orcid.org/0000-0002-3537-645X
[2]https://orcid.org/0000-0003-3195-7334

[1,2] University of Cape Coast, Ghana

Recommended Reference: Nugba, R. M., & Asante, E. F. (2026). Influence of access and efficiency on MPhil education students' supervision: The mediating role of supervisory quality. African Quarterly Social Science Review, 3(4), 820–834. https://doi.org/10.51867/AQSSR.3.4.66

ABSTRACT

This study examined the impact of access and efficiency on the supervision of MPhil Education students at the University of Cape Coast (UCC). With quality as a mediating variable. Social Cognitive Career Theory (SCCT) and Social Exchange Theory (SET) anchored on this study as its theoretical perspective. This study's foundation was built on a positivist paradigm, a quantitative approach, and a cross-sectional survey design. Data were collected from 123 postgraduate students through adapted instruments measuring Access (AC), Quality (QU), Efficiency (EF), and Supervision (SN). PLS SEM was employed to test hypothesised relationships. Results discovered moderate levels across all constructs. Access had a small positive effect on efficiency ($\beta = 0.222$, $p = .006$) but no direct effect on supervision, and efficiency did not affect supervision either. Quality was the only significant direct predictor of supervision ($\beta = 0.886$, $p < .001$). Access reduced quality sharply ($\beta = -0.786$, $p < .001$), so quality fully mediated the effect of access on supervision, and that indirect effect was negative ($\beta = -0.696$). The model explained 54.5% of the variance in supervision. These findings suggest that widening access without matching supervisory capacity may weaken the relational quality on which good supervision depends, although overlap among access, quality and efficiency means the paths should be read cautiously. Departments expanding access should monitor supervisory quality through anonymous student feedback, review supervisor workloads, train supervisors in feedback and relationship building, and avoid treating turnaround time as the main measure of good supervision.

Keywords: Access, Efficiency, Postgraduate, Supervision, Students, Quality

I. INTRODUCTION

The essential factor of progress and completion in postgraduate research degrees is the quality of supervisory engagement (van Rooij et al., 2021). Within Master of Philosophy (MPhil) programmes, effective supervision constitutes a dedicated pedagogical relationship critical for guiding novices through the complexities of independent research, fostering methodological competence, and developing scholarly identity (Bastalich, 2017; Pyhältö et al., 2015). Irrespective of its recognised significance, timely completion rates for research master's degrees remain a significant challenge globally, with many candidates experiencing delays that can lead to attrition (Jiranek, 2010; Sverdlik et al., 2018). The dual concepts of supervisory AC, the dependable availability and proactive engagement of the supervisor, and supervisory EF, characterised by structured, timely, and actionable feedback, are consistently highlighted as central to candidate momentum (Ali et al., 2016; Lovitts, 2008). However, the precise trails linking these factors to outcomes are not clearly articulated in the literature, suggesting a more complex, mediated relationship.

Beyond these direct practical components, the perceived QU of the supervisory connection is increasingly recognised as a pivotal mediating variable. This quality is operationalised as a relational construct encompassing clear communication of expectations, mutual respect, intellectual support, and a collaborative alliance that builds candidate confidence and autonomy (Guerin & Green, 2015). This conceptual framing suggests that mere access to a supervisor and procedurally efficient interactions are deficient; their positive impact is fundamentally realised by filtering them through a high-quality, productive working relationship. Empirical studies underscore that relational quality is a stronger predictor of candidate satisfaction and progress than structural factors alone (Cornér et al., 2017; van Rooij et al., 2021). In the Ghanaian context, where MPhil programmes are a key component of research training, internal reviews often

Licensed Under Creative Commons Attribution (CC BY-NC)

note extended completion times, with supervisory issues frequently cited (Turyamureeba, 2025; Yelkpieri et al., 2025A; University of Cape Coast [UCC] School of Graduate Studies, 2022). Yet, the specific mediating function of relationship quality in translating supervisory access and efficiency into completion outcomes remains under-explored in this setting.

The modern-day MPhil supervision landscape is tense with systemic pressures, including high supervisor-to-student ratios, increasing administrative loads, and competing research and teaching demands (Bastalich, 2017). These pressures can directly hinder a supervisor's ability to be consistently accessible and to provide efficient, in-depth feedback, thereby eroding the potential for developing a high-quality supervisory partnership (Jiranek, 2010; Sverdlik et al., 2018). These challenges are often amplified in institutions with limited resources for keen research mentoring, making the investigation of mediating pathways not just academically relevant but practically urgent (Cekiso et al., 2019; Mpofu & Madlela, 2024). Comprehensively, how AC and EF work through the mechanism of relationship QU to influence SN is therefore critical for designing effective supervisory training, supportive institutional policies, and targeted candidate interventions.

This study intends to address this gap by empirically investigating the influence of supervisory AC and EF on MPhil student completion, with specific attention to the mediating role of supervisory re; relationship QU. To determine whether and how the quality of the supervisory partnership mediates the connection between a student's access to their supervisor, the efficiency of supervisory processes, and their likelihood of timely and successful programme completion is what the study seeks. By employing a mediation framework, this study proposes to clarify the deeper relational processes that underpin effective MPhil supervision, contributing to more sophisticated theoretical models and to practical strategies for enhancing supervisory practice and student outcomes.

1.1 Research Objectives

i. Assess the level of access MPhil Education students at UCC have to their assigned supervisors.
ii. measure the efficiency of supervisors in supporting MPhil Education students' research progress.
iii. analyse the success rate of MPhil Education students in completing their studies within the expected timeframe.
iv. Assess the level of supervisory feedback quality on the scholarly rigor of students' research
v. Determine the effect of Ac on SN
vi. Establish the effect of EF on SN
vii. Determine the effect of AC on EF
viii. Establish the mediation role of QU between AC and EF on SN

II. LITERATURE REVIEW

2.1 Theoretical Review

This study used two theoretical perspectives Social Cognitive Theory (SCCT) and Social Exchange Theory (SET) as a lens for examining how access and efficiency influence MPhil students' completion through supervisory quality. The Social Cognitive Career Theory (SCCT) by Lent (2013) highlights how personal attributes, environmental factors, and behavioral patterns interact dynamically to shape academic and career development trajectories. This theory is particularly pertinent for understanding supervision's effect on completion, as it explains how students' research self-efficacy beliefs, outcome expectations, and personal goals influence their persistence and ultimate quality in completing their theses. SCCT illuminates how supervisory access and efficiency shape students' research self-efficacy and completion expectations, suggesting that adequate access to supervisors and efficient supervisory processes not only provide technical research guidance but also build students' assurance in their competence to complete successfully and help them develop realistic expectations about achieving research milestones. The theory further elucidates how supervisory quality, operationalized as progressive breakthrough achievement and satisfaction with the supervisory relationship, mediates the effects of access and efficiency on completion by strengthening students' belief in their research competence and reinforcing positive outcome potentials.

Also, Social Exchange Theory, originating with Blau (1964) and Emerson (1976) and consolidated for contemporary study by Cropanzano and Mitchell (2005), holds that sustained relationships are built through sequences of reciprocal exchange governed by the norm of reciprocity. Parties invest resources, time, attention, expertise, effort and evaluate the relationship by the perceived balance between what they contribute and what they receive.

The MPhil supervisory dyad is a clear instance of such an exchange. The student invests effort, drafts and responsiveness; the supervisor invests availability, expertise and substantive feedback. SET therefore identifies exactly what the quality construct in this study measures: not the frequency of supervisory contact but the perceived reciprocity of the relationship, whether the student's investment is met by commensurate supervisory investment. This is why quality, and not access or efficiency, is theorised as the construct with a direct bearing on how students evaluate supervision.

Licensed Under Creative Commons Attribution (CC BY-NC)

SET also explains the two paradoxical findings the model tests for. First, it clarifies the capacity-dilution mechanism behind the access–quality path. Supervisory attention is a finite resource. When access is broadened without expanding that resource, the supervisor's investment per student falls even as the number of contacts rises. Under SET, students would register this as a breach of reciprocity: they encounter their supervisor more often, but each encounter carries less invested attention, and perceived relational quality falls. Second, relationships that students experience as high in quality will therefore tend to be experienced as slower, so a negative quality–efficiency path is what SET would predict rather than an aberration. The two theories operate at different levels and are complementary rather than competing. SCCT is a cognitive-appraisal theory: it specifies the form of the model, predicting that contextual supports act on outcomes through the student's appraisal, and thus that the model must be mediated rather than direct. SET is a relational theory: it specifies the content of the mediator, identifying perceived reciprocity within the supervisory dyad as the appraisal that matters, and supplying the resource-allocation logic that explains why access and quality may be inversely related under capacity constraint.

Read together, the two frameworks yield the model tested in this study: access and efficiency are contextual affordances with limited direct effect on perceived supervision (SCCT); supervisory quality, understood as perceived reciprocity in the supervisory relationship, is the mechanism through which those affordances acquire their value (SET); and where institutional capacity is constrained, expanding access dilutes the supervisor's investment per student and therefore erodes the very mechanism on which perceived supervision depends (SET, within SCCT's support–barrier distinction). This integration is what allows the study to treat the negative access–quality path not as a measurement artefact but as a theoretically anticipated outcome of massification under fixed supervisory capacity.

2.2 Empirical Review

2.2.1 Assess the level of access MPhil Education students at UCC have to their assigned supervisors.

Access to supervisors is pivotal to supervision in postgraduate programmes, yet a high student-to-supervisor ratio has problematized access. Amankwah et al. (2017) found that in Ghanaian universities, MPhil students habitually cited supervisor accessibility as a key concern, with high student-to-supervisor ratios limiting individualized contact. This brings into line with global findings that physical accessibility is insufficient; the quality of access matters. Guerin et al. (2015) confirmed that structured access, characterized by arranged meetings, clear communication protocols, and responsive communication channels, significantly heightened candidate progress and satisfaction. However, Asare-Bediako and Kwarteng (2021) identified that while policies for supervisory meetings exist, their implementation is often inconsistent, leading to varied student experiences. This suggests that the level of access at UCC is likely moderate and heterogeneous, contingent upon departmental practices, supervisor workload, and individual supervisory styles.

2.2.2 Measure the efficiency of supervisors in supporting MPhil Education students' research progress.

Supervisory efficiency entails evaluating the timelines, constructiveness, and the feedback and guidance that goes beyond interventions that drive the research momentum. According to Asare-Bediako and Kwarteng (2021), delayed feedback is a principal contributor to prolonged MPhil completion times at UCC. In the same way, Cekiso et al. (2019) reported that South African postgraduate students professed inefficiency when feedback was vague, deterring their ability to proceed. However, Avan Rooij et al. (2021) emphasized that efficient supervision is characterized by structured, goal-oriented meetings and the provision of resources at critical stages.

2.2.3 Analyse the success rate of MPhil Education students in completing their studies within the expected timeframe

Success rate is seen to be timely completion, systematic strengths, and weaknesses in postgraduate education. However, in the Ghanaian context, MPhil programmes face a great challenge with extended completion times. For instance, Institutional reports from the UCC School of Graduate Studies (2022) have specified concerns regarding completion rates, attributing delays partly to supervisory and resource challenges. Likewise, Selesho and Mashau (2014) found that only about half of research master's students in a South African study completed on time, with supervision quality being a primary differentiator. The success rate is a multifaceted outcome. Amankwah et al. (2017) identified that beyond supervision, factors like funding, research training adequacy, and students' own employment obligations significantly influence completion.

2.2.4 Assess the level of supervisory feedback quality on the scholarly rigor of students' research

The quality of supervisory feedback plays a major role in developing the scholarly rigor of postgraduate research. In the Ghanaian context, Dei (2017) found that University of Ghana students frequently have less guidance on deep academic writing and methodological rigor, suggesting a potential gap in feedback quality. This is supported by Brew et al. (2016), who noted that many supervisors, while content experts, may lack pedagogical training in providing formative feedback that builds research competence. Conversely, Ndebele (2014) established that feedback employing

Licensed Under Creative Commons Attribution (CC BY-NC)

multiple modalities, written comments combined with dialogic sessions, was more successful in raising the analytical quality of student work.

2.2.5 Determine the effect of access on supervision

To determine the effect of access on supervision explains whether availability directly translates to perceived supervision sufficiency and effectiveness. According to Spronken-Smith et al. (2018), consistent supervisor access in Australian universities correlated strongly with higher completion rates and satisfaction; this direct effect may be conditional. Also, Mainhard et al. (2009) suggested that access offers the necessary condition for supervision but does not guarantee its quality; a supervisor can be accessible yet pedagogically ineffective. In Ghana, Asare-Bediako and Kwarteng's (2021) findings imply that access alone, if not structured and meaningful, may not significantly improve supervision outcomes.

2.2.6 Establish the effect of efficiency on supervision

To establish the effect of efficiency on supervision, examine whether streamlined, timely processes enhance the overall supervision experience. According to van Rooij et al. (2021), efficient practices, timely feedback, and clear deadlines reduce student anxiety and help maintain project momentum, thereby positively influencing perceptions of supervision. Conversely, Blackmore (2016) and Lynch (2015) contend that managerialist burdens for efficiency can wear away the time and reflective space needed for deep intellectual mentorship, potentially leading to supervision that is administratively smooth but pedagogically shallow.

2.2.7 Determine the effect of access on efficiency

Determining the effect of access (AC) on efficiency (EF) explores whether improved availability streamlines supervisory processes. Theoretically, better access to supervisors, resources, and administrative channels should facilitate more efficient interactions. Empirical research provides some support for this. Guerin et al. (2015) found that structured access protocols, including scheduled meetings and agreed-upon communication channels, reduced delays and made supervisory processes more predictable and efficient. Furthermore, in contexts where access includes digital resources and platforms, efficiency in feedback loops and resource sharing can be enhanced (Bachwayo et al., 2023). However, this positive effect may have diminishing returns or even reverse in situations of resource dilution. If increased student access is not matched with increased supervisory capacity, it can lead to rushed interactions and generic feedback, a form of inefficiency disguised as availability. Therefore, the effect of AC on EF is likely positive and significant up to a point, contingent upon the capacity of the supervisory system to absorb and effectively utilize the increased access without compromising the depth of engagement.

2.2.8 Establish the mediation role of quality between access and efficiency on supervision

To establish the mediation role of quality explores the hypothesis that the influence of access and efficiency on supervision is not direct, but primarily channeled through the perceived quality of the supervisory relationship. According to Cornér et al. (2017), the quality of the supervisory relationship mediated the impact of structural support (including access) on doctoral student outcomes. Similarly, de Kleijn et al. (2012) confirmed that students' insights into relationship quality were a stronger predictor of satisfaction than procedural factors alone. This suggests that Access and Efficiency are antecedent conditions: access provides opportunity, and efficiency provides structure, but their ultimate value for supervision is determined by how they are experienced within the relational dyad.

III. METHODOLOGY

3.1 Research Design

The positivist paradigm with a quantitative approach served as the study's foundation and was established on a cross-sectional survey design. The cross-sectional survey was appropriate because the study sought to measure the strength and direction of relationships among four latent constructs at a single point in time rather than to track change over time or to establish temporal precedence (Barbie, 2022; Asante et al., 2025).

3.2 Study Area

The study was conducted at the University of Cape Coast (UCC), a public university in the Central Region of Ghana that runs a large research-based postgraduate programme. UCC was selected because its MPhil programmes are research-intensive, are supervised under a mix of individual and co-supervision arrangements, and have experienced documented pressure on completion timelines.

Licensed Under Creative Commons Attribution (CC BY-NC)

3.3 Population and Sampling Procedure

The target population comprised all MPhil students in the Department of Arts Education and the Department of Business and Social Sciences who had completed coursework, research methods and ethics training and were engaged in thesis writing at the time of data collection. Because the population was small and fully enumerable, a census was used rather than a sample: all 123 eligible students were included, which removes sampling error and makes the findings fully representative of the accessible population. No sampling technique was therefore applied, and no sample-size calculation was required. All 123 questionnaires distributed were completed and returned, yielding a 100 per cent response rate. Table 1 presents the demographic characteristics of the respondents.

Table 1

Demographic Characteristics of UCC MPhil Education Students s

Variable	Subscale	No.	%
Gender	Male	54	43.9
	Female	69	56.1
Age	20-25 years	3	2.4
	26-30yrs	35	28.5
	31yrs and above	85	69.1
Years of Being in the Institution	2years	22	17.9
	3years	37	30.1
	4years	64	52.0
Level	850	123	100
Type of supervision model	Individual supervision	54	43.9
	Co-supervision	69	56.1
	Team supervision	0	0
Supervision Mode	Face-to-face only	87	70.7
	Virtual only	2	1.6
	Hybrid(both)	34	27.6
Total		**123**	**100.0**

Table 1 presents demographic characteristics. It contained 54 (43.9%) males and 69 (56.1%) females. Most respondents (85, 69.1%) were 31years and above. Regarding years of being at the institution, 64 (52.0%) had been there for 4years, 37 (30.1%) had been in the institution for 3years, and 22 (17.9%) for 2years. All students were at level 850. For supervision type, 69 (56.1%) had a Co-supervision, 54 (43.9%) had individual supervision. For supervision mode, 87 (70.7%) had face-to-face, 34 (27.6%) had hybrid, and 2 (1.6%) had a virtual-only supervision.

3.4 Data Collection Instrument

Data were collected using a structured, self-administered questionnaire in five sections: demographic characteristics, Access (AC), Efficiency (EF), Quality (QU) and Supervision (SN). Items were adapted from established instruments and reworded to fit the MPhil supervision context at UCC.Access was measured with 17 items covering programme access, resource access and faculty access. The scale was researcher-developed for this study, with item content informed by Orton et al.'s (2020) validated 17-item measure of perceptions of access to higher education programmes, which establishes access as a multi-dimensional construct spanning institutional, resource and staff-related dimensions. Items were reworded to address postgraduate research supervision rather than admission, reviewed for content validity by two academics experienced in postgraduate supervision, and pilot-tested prior to administration.

Efficiency was measured with 21 items adapted from the SERVQUAL instrument (Parasuraman et al., 1988), covering reliability, responsiveness and process efficiency. Quality and Supervision were measured with items adapted from the Postgraduate Research Experience Questionnaire (PREQ), developed and validated for the Australian national benchmarking programme by Marsh et al. (2002). The PREQ comprises 28 items rated on a five-point agreement scale and organised into scales measuring supervision, intellectual climate, skill development, infrastructure, thesis examination, and goals and expectations, together with a single overall satisfaction item. Items drawn from the supervision, intellectual climate, skill development, infrastructure and overall satisfaction scales were adapted and expanded for the Quality construct (37 items), while items addressing supervision development, relationship quality and supervision outcomes were adapted for the Supervision construct (14 items). Because the PREQ is administered to graduates after degree completion, wording was adjusted to the present tense for currently enrolled students, following the approach taken in the Student Research Experience Questionnaire, a PREQ derivative validated for use with enrolled

Licensed Under Creative Commons Attribution (CC BY-NC)

research students (Ginns et al., 2009). All items were rated on a five-point Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree.

The instrument was pilot-tested with 30 MPhil students from a comparable department who were excluded from the main study. Pilot reliability coefficients were acceptable for all scales (AC α = .85; EF α = .72; QU α = .70; SN α = .79). Reliability was re-established on the main dataset and is reported in Table 2. Item purification. Of the 89 items administered, 21 were retained in the final measurement model. Items were deleted iteratively where outer loadings fell below 0.60 and deletion improved composite reliability and average variance extracted without compromising content coverage, following Hair et al. (2019).

3.5 Data Analysis Procedures

Data were coded, cleaned and organised using SPSS version 27. Descriptive statistics (frequencies, percentages, means and standard deviations) were used to profile respondents and to address objective (a). Mean scores were interpreted as 1.00–2.60 (low), 2.61–3.40 (moderate) and 3.41–5.00 (high). Partial least squares structural equation modelling (PLS-SEM) was used to address objectives (b) to (g). PLS-SEM was selected because the study is prediction-oriented, the model contains a mediating construct and a relatively complex path structure, and the sample size (N = 123) is modest relative to the number of parameters, conditions under which PLS-SEM is preferred over covariance-based SEM (Hair et al., 2019). Analysis followed the standard two-stage procedure. The measurement model was assessed through indicator loadings, Cronbach's alpha, composite reliability (rho_a and rho_c), average variance extracted (AVE), the Fornell–Larcker criterion and the heterotrait–monotrait (HTMT) ratio. The structural model was then assessed through collinearity diagnostics, path coefficients, effect sizes (f^2), coefficient of determination (R^2) and predictive relevance, using bootstrapping with 5,000 resamples and bias-corrected 95% confidence intervals.

Mediation was tested by examining the significance of the specific indirect effects rather than by inferring mediation from the pattern of direct paths. Indirect effects were computed within the same bootstrap procedure, and the type of mediation was classified according to the joint significance of the indirect and direct effects.

Table 2

students' AC, SU, EF, and QU

Constructs	Items administered	M	SD	Items retained	M	SD	Level
students' level of Access	17	3.00	0.42	5	3.0	1.3	Moderate
The quality of supervisory feedback QU rate	37	2.90	0.18	8	3.0	1.3	Moderate
Students sufficiency of supervision	14	3.03	0.25	5	3.1	1.3	Moderate
Students level of Efficiency	21	3.10	0.33	4	2.9	1.3	Moderate

Note. The first M and SD are for all items administered; the second are for the items retained in the PLS-SEM model. Interpretation: 1.00–2.60 = low, 2.61–3.40 = moderate, 3.41–5.00 = high. N = 123.

On the full scales, the means were 3.00 for access, 2.90 for efficiency, 3.03 for quality and 3.10 for supervision, all in the moderate band. The standard deviations on the full scales are small (0.18 to 0.42) because each score averages many items. Scores on the retained items vary more (*SD* between 0.82 and 1.19), and they give a better sense of how far students differed from one another. On that basis the means were 2.88 for access, 3.30 for efficiency, 3.00 for quality and 3.36 for supervision, still moderate. Students placed all four aspects near the middle of the scale. This answers Objectives 1 to 3: access, efficiency and quality were each moderate.

A moderate level of access is in line with what Amponsah et al. (2026) and Turyamureeba (2025) describe, where access to supervisors and resources exists but is uneven. Moderate efficiency scores are also plausible given the reports of slow feedback in Ghana and Eswatini (Amponsah et al., 2026; Mpofu & Madlela, 2024). A moderate quality rating means students were neither clearly satisfied nor clearly dissatisfied with the relationship. These are averages, though. A mean near 3.00 can hide a split between students with very good and very poor experiences, and this study cannot say which is the case.

3.6 Ethical Considerations

Ethical clearance was obtained from the Institutional Review Board of the University of Cape Coast (UCC/IRB/CES/577/2025). An introductory letter was obtained from the Department of Business and Social Sciences. Respondents were informed of the purpose of the study, told that participation was voluntary and that they could withdraw at any point without penalty, and assured of anonymity and confidentiality. Written informed consent was

Licensed Under Creative Commons Attribution (CC BY-NC)

obtained from every respondent before administration. No identifying information was collected, and data were stored securely and used solely for the purposes of this study.

3.6.1 Measurement Model

The model's measurement for the inconsistencies was explored using construct reliability, convergent, and discriminant validity tests to see each variable's measure after the data were collected. Indicator loadings of 0.7 are considered acceptable (Hair et al., 2019). The Average Variance Extracted (AVE) values for each construct exceed the 0.50 threshold (Hair et al., 2019), indicating adequate convergent validity. The Cronbach's alpha for all constructs showed a significant reliability with the values ranging from .720 to .86, which goes beyond the minimum threshold of 0.70 (Nunnally & Bernstein, 1994; Hair et al., 2017). Also, the composite reliability (CR) values ranged from .823 to .898, surpassing the recommended 0.70 benchmark (Hair et al., 2019). The AVE values for all constructs advanced 0.50, confirming adequate convergent validity (Fornell & Larcker, 1981). All indicator loadings exceeded or approached the acceptable threshold, with most surpassing 0.70, demonstrating strong relationships between indicators and their respective constructs; However, two loadings, RESP3 (0.556) and SOI5 (0.555), were below 0.60. We kept them because both were significant and the composite reliability and AVE for their constructs were above the thresholds with them in the model (Hair et al., 2019). The Quality construct, despite having a slightly lower AVE of .518, still demonstrates acceptable convergent validity as it approaches the 0.50 threshold and is supported by strong composite reliability metrics (Fornell & Larcker, 1981). Table 3 shows the PLS algorithm results.

Table 3

Construct Reliability and Validity

	Loadings	**VIF$_{OM}$**	**A**	**CR (rho_a)**	**CR (rho_c)**	**AVE**
AC			.856	.865	.898	.640
FA3	.817					
FA4	.728					
PA2	.889					
PA5	.684					
PROG.ACCESS	.862					
EF			.720	.760	.823	.542
PE3	.806					
REL4	.808					
RESP3	.556					
RESP4	.749					
QU			.866	.868	.895	.518
SD5	.644					
SD1	.680					
SD2	.738					
SD3	.776					
SD4	.686					
SD7	.779					
SUP6	.762					
SUP3	.679					
SN			.791	.835	.856	.548
SDRQ4	.848					
SDRQ5	.766					
SDRQ6	.822					
SDRQ7	.671					
SOI5	.555					

Licensed Under Creative Commons Attribution (CC BY-NC)

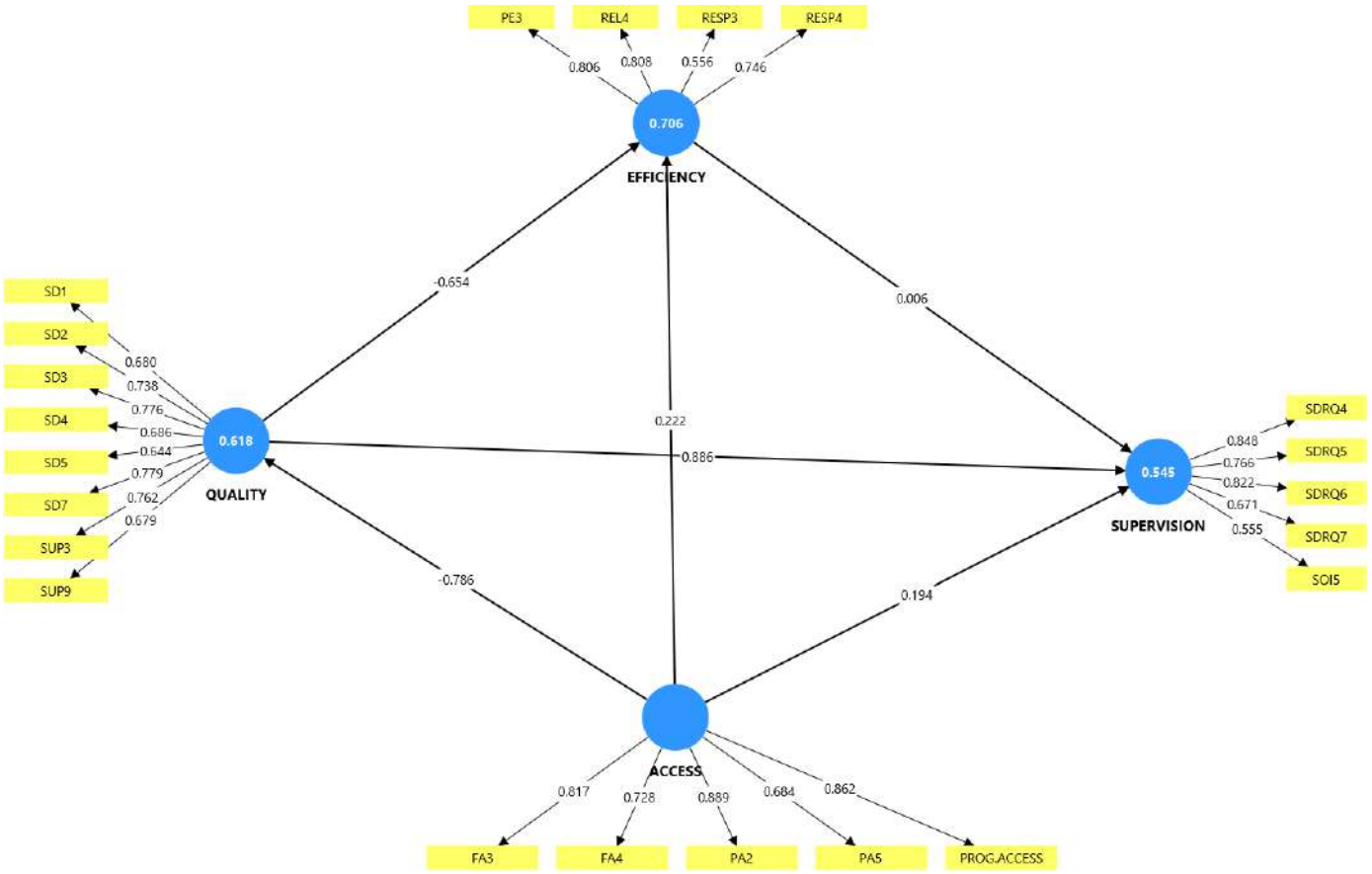


Figure 1
Construct validity and Reliability

3.6.2 Discriminant Validity

The extent to which constructs in a model are distinct from each other is the discriminant validity. The HTMT ratios ranged from 0.658 to 0.900, with most values below the conservative threshold of 0.90, confirming discriminant validity (Henseler et al., 2015). The Fornell-Larcker criterion was satisfied, as the square root of AVE for each construct (shown in bold on the diagonal) exceeded all its correlations with other constructs. This confirms that each construct shares more variance with its own indicators than with other constructs in the model, supporting discriminant validity (Fornell & Larcker, 1981; Hair et al., 2019). The notably high HTMT ratios between EF-QU (0.900) and AC-QU (0.899) suggest strong theoretical relationships between these constructs while still maintaining acceptable discriminant validity thresholds (Henseler et al., 2015). See Table 4 and Table 5 for further details.

Table 4
HTMT Ratio

Constructs	**AC**	**EF**	**QU**	**SN**
AC				
EF	0.891			
QU	0.899	0.900		
SN	0.622	0.692	0.832	

Table 5
Results of FORNEELL LACKER Criterion for Discriminant Validity

	AC	EF	QU	SN
AC	0.800			
EF	0.736	0.736		
QU	-0.786	-0.829	0.720	
SN	-0.498	-0.585	0.728	0.741

Note. Diagonal values (square root of AVE) are on the diagonal; off-diagonal values are latent variable correlations.

Licensed Under Creative Commons Attribution (CC BY-NC)

In practice this means access, efficiency and quality overlap more than we would like. We keep the model, because the reliability and convergent validity results are acceptable and the overlap is what the theory would lead us to expect between related aspects of the same relationship. But we hold the size of the paths among these three constructs loosely, and we return to this in the limitations.

IV. FINDINGS & DISCUSSION

4.1 Structural Model Assessment and Hypothesis Testing

Using bootstrapping with 5,000 resamples to assess path significance and effect size aids in the evaluation of the structural model (Table 6), with the results discovering mixed support for the hypothesized correlations.

Table 6

Hypothesis testing results for the structural model

Path	B	SD	T	*P*	2.5%	97.5%	f^2	Decision
AC -> EF	0.222	0.080	2.771	0.006	0.055	0.374	0.064	Accept
AC -> QU	-0.786	0.035	22.517	0.000	-0.851	-0.715	1.618	Accept
AC -> SN	0.194	0.127	1.531	0.126	-0.045	0.447	0.030	Reject
EF -> SN	0.006	0.106	0.057	0.954	-0.200	0.214	0.000	Reject
QU -> EF	-0.654	0.066	9.957	0.000	-0.792	-0.530	0.556	Accept
QU -> SN	0.886	0.146	6.082	0.000	0.613	1.183	0.423	Accept

Note. β = standardised path coefficient; SD = bootstrap standard deviation; t is reported as an absolute value; CI = bootstrap 95% confidence interval. Decisions use the p value, the interval and the direction expected in Section 2.4. Effect sizes: $f^2 \geq 0.02$ small, ≥ 0.15 medium, ≥ 0.35 large.

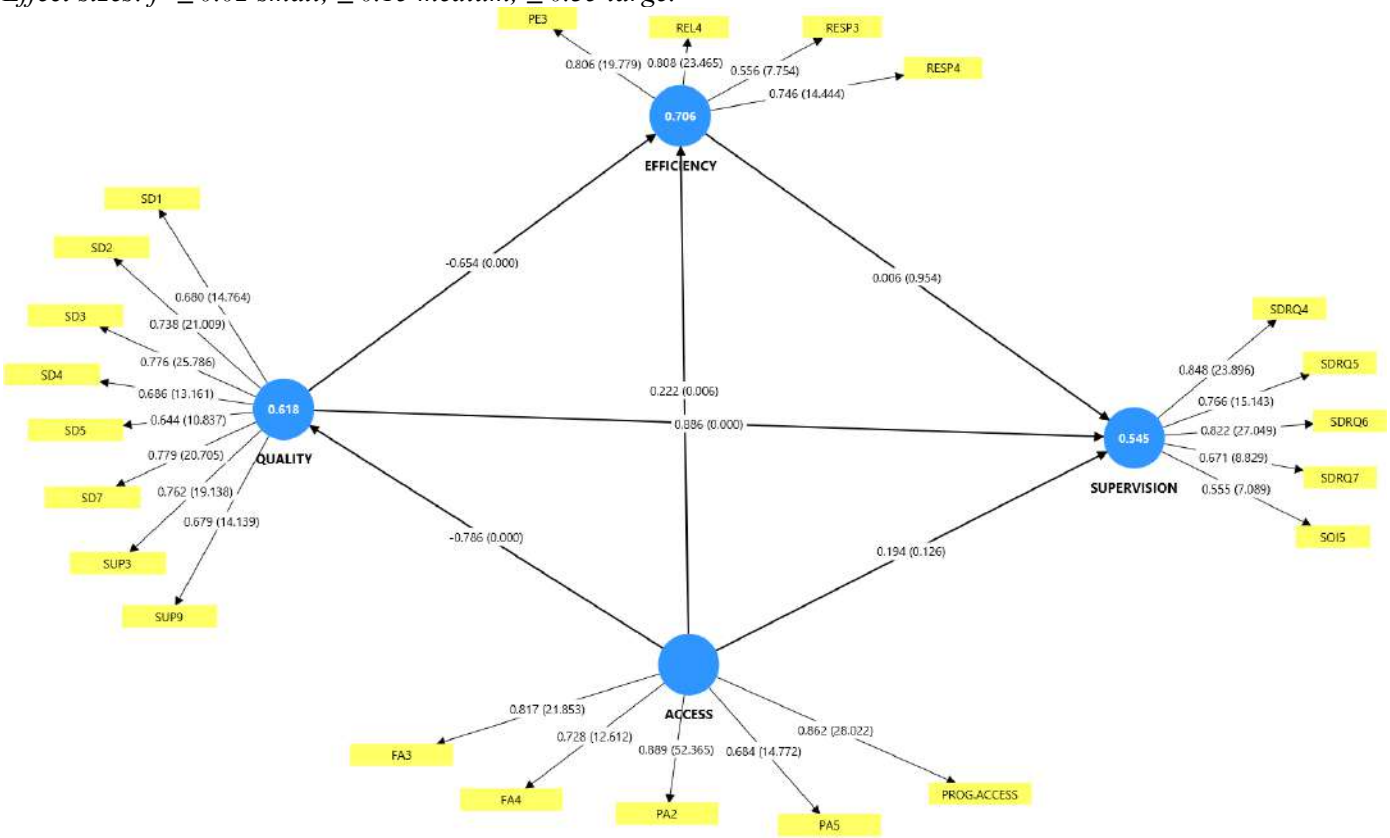


Figure 2

Bootstrapping results of the PLS-SEM

4.1.1 Effect of access on supervision

Access had no significant direct effect on supervision (β = 0.194, *t* = 1.531, *p* = .126, 95% CI [−0.045, 0.447]), and the effect size was negligible (f^2 = 0.030). H1 was not supported. Students who reported better access did not, on that basis alone, report better supervision once quality and efficiency were in the model. This fits the SCCT view that contextual supports work through students' appraisals, and it agrees with the caution in Section 2.2.4. Cornér et al. (2017)

Licensed Under Creative Commons Attribution (CC BY-NC)

showed that too little supervision is costly, but that is different from showing that more contact lifts perceived supervision directly. What our result adds is that, in this sample, the effect of access on supervision runs through quality, which Section 4.4 tests.

4.1.2 Effect of efficiency on supervision

Efficiency also had no effect on supervision (β = 0.006, t = 0.057, p = .954, f^2 = 0.000). H2 was not supported. Students in Ali et al. (2016) and Mpofu and Madlela (2024) valued timely feedback, so we expected a positive effect. The result does not say that timeliness is unimportant. It says that once the quality of the relationship is accounted for, efficiency adds nothing to how students rate their supervision. Efficiency and quality are strongly related in these data (correlation −.829), so the two may share much of the variance that would otherwise be credited to efficiency. Whatever the reason, speed on its own was not what students associated with good supervision here.

4.1.3 Effect of access on efficiency

Access had a positive and significant effect on efficiency (β = 0.222, t = 2.771, p = .006, 95% CI [0.055, 0.374]). H3 was supported. The effect size was small (f^2 = 0.064), so the direct effect is real but modest. This agrees with the picture in Amponsah et al. (2026), where poor access to resources and slow processes appear together. The direct effect is only part of the story, though. Adding the indirect effect through quality (0.514) gives a total effect of 0.736, which equals the correlation between the two constructs.

4.1.4 Paths involving quality

Quality was the centre of the model. Access had a strong negative effect on quality (β = −0.786, t = 22.517, p < .001, f^2 = 1.618), so H4 was supported in the direction we predicted. Quality had a negative effect on efficiency (β = −0.654, t = 9.957, p < .001, f^2 = 0.556), supporting H5, and a strong positive effect on supervision (β = 0.886, t = 6.082, p < .001, f^2 = 0.423), supporting H6. Quality was the only construct with a significant direct effect on supervision, and the effect was large.

The negative access–quality path is the result that needs the most care. Under SET it is what capacity dilution would produce: more contacts, less attention per student, a weaker sense of reciprocity. Amponsah et al. (2026) report high supervisor workloads and limited research support in a Ghanaian public university, which is consistent with a capacity story, and Atuahene and Owusu-Ansah (2013) document the expansion of tertiary access in Ghana. But we did not measure supervisor workloads or student–supervisor ratios, so we cannot test the mechanism itself. There are also other explanations we cannot rule out. The HTMT and Fornell–Larcker results show that access, quality and efficiency overlap, and an effect of −0.786 is very large for perceptions data. Quality and supervision were also both adapted from the same source instrument, so some of the 0.886 path may reflect shared content instead of a true effect. The negative quality–efficiency path can be read in a similar two-sided way. It may be that students who see their supervision as close and demanding also see it as slower, as SET would suggest, or it may reflect the overlap between the two scales.

4.1.5 Mediating role of quality

Table 7 gives the specific indirect effects. Quality fully mediated the effect of access on supervision. The indirect effect through quality was −0.696 (95% CI [−0.971, −0.473], p < .001), while the direct effect was not significant. Following Zhao et al. (2010), this is indirect-only mediation, and H7 was supported. The indirect effect is the product of the negative path from access to quality (−0.786) and the positive path from quality to supervision (0.886). Access therefore affects supervision only through quality, and the effect is negative. Because the direct effect is small and positive (0.194) and the indirect effect is large and negative, the total effect of access on supervision is −0.498 (95% CI [−0.646, −0.343]).

Table 7

Specific indirect effects and mediation type

Indirect path	β	SD	*t*	*p*	95% CI	Mediation type
AC → QU → SN	−0.696	0.127	5.497	< .001	[−0.971, −0.473]	Indirect-only (full)
AC → QU → EF	0.514	0.057	8.991	< .001	[0.414, 0.642]	Complementary (partial)
AC → QU → EF → SN	0.003	0.055	0.056	.955	[−0.110, 0.104]	None

The effect of access on efficiency was partly mediated by quality. The indirect effect (0.514, 95% CI [0.414, 0.642]) and the direct effect (0.222) are both positive and significant, which is complementary (partial) mediation, so H8 was supported. The indirect effect is positive only because two negative paths multiply: access lowers quality and lower quality goes with higher efficiency. That is a statistical result, and it should not be read as saying that lowering quality would improve efficiency.

Licensed Under Creative Commons Attribution (CC BY-NC)

4.1.6 Explanatory and predictive power

Table 8 gives R^2 and predictive accuracy. Access and quality together explained 70.6% of the variance in efficiency (adjusted R^2 = .701). Access alone explained 61.8% of the variance in quality (adjusted R^2 = .615). Access, efficiency and quality together explained 54.5% of the variance in supervision (adjusted R^2 = .533). Against the benchmarks of Hair et al. (2019), all three are moderate, with efficiency close to the substantial band. Q^2predict was .532 for efficiency and .609 for quality, both large, and .233 for supervision, which is small. The model therefore predicts efficiency and quality well but supervision only modestly, even though its R^2 for supervision is respectable. Access is exogenous and has no R^2 or Q^2.

Table 8

Explanatory and predictive power

Construct	R^2	Adjusted R^2	Q^2predict	RMSE	MAE	Interpretation
Efficiency (EF)	.706	.701	.532	0.694	0.567	R^2 moderate; Q^2 large
Quality (QU)	.618	.615	.609	0.635	0.526	R^2 moderate; Q^2 large
Supervision (SN)	.545	.533	.233	0.888	0.680	R^2 moderate; Q^2 small

Note. Benchmarks: R^2 .25 weak, .50 moderate, .75 substantial; Q^2predict > 0 small, > .25 medium, > .50 large (Hair et al., 2019). RMSE and MAE are in indicator units and were not compared with a linear-model benchmark.

4.2 Discussion

The current research has involved the investigation on the relationship between equity, efficiency, quality and supervision in molding the education experiences of MPhil students in the University of Cape Coast. The results support the assumption that these constructs act in complex and contradictory ways when used in graduate education settings. Precisely, the paper reveals that access is hypothetically correlated to efficiency with regard to educational provision. This assumes that learners that have greater access to programmes, resources, and faculty have relatively smooth learning processes. As a result, better access can lead to a streamlined administration process, better communication channels, and more responsive institutions, which in turn will increase the efficiency of their operations (Kuh et al., 2010; Tinto, 2017).

The other important discovery is that perception of access and quality have a strong negative correlation. The implication of this finding is that higher access has a strong negative effect on quality by reducing resources through dilution and straining capacity. The statistical data supports the anxieties of previous academic hypotheses that the excessive growth without the corresponding increase of resources undermines the quality of education in African institutions of higher learning (Teferra, 2014; Tilak, 2015). Furthermore, the high-quality impact on efficiency in a negative way supports theoretical positions that focus on the tensions between quality and efficiency. This result proves that the emphasis on the thorough review, strict criteria, and careful evaluation procedures inevitably slow down the educational process and stand in the way of streamlining it with efficiency (Blackmore, 2016; Lynch, 2015). On the other hand, the institutions that seek rapid efficiency benefits may compromise the time-consuming academic development pathways of quality graduate education and affect students with poor intellectual involvement and methodological rigor (Boud and Molloy, 2013).

The establishment of sustainable graduate education systems in Ghana has been a key issue of interest to stakeholders who have had to strike a balance between conflicting demands of increased accessibility, operational economy and quality. The results of the present research give positive contribution to the comprehension of some of the most significant contradictions akin to these institutional priorities. Following the research, it is possible to conclude that access-quality paradox is one of the most problematic issues with implications to graduate education sustainability. This stance is supported by the fact that the study revealed that the expansion of access is closely correlated with the quality erosion when it is not preceded by proper development of resources. The bigger the institutions increase enrolment but do not increase faculty staff, investment in infrastructure and distribution of resources accordingly, the worse the quality of perceptions of students becomes. The literature also shows that those students who have lower quality of experience are not as likely to acquire the scholarly competencies and research skills that will result in successful graduate outcomes. Therefore, on this basis, quality educational settings that are positive in nature offer the basis on which intellectual growth, academic success, and professional readiness are achieved (Pascarella and Terenzini, 2005). The results of the present study are consistent with the past academic disclosures regarding the issues of massification in developing worlds, which aligns with the literature proving the existence of systemic stresses resulting in the lack of educational efficiency in all universities of Africa because of the rate of enrollment exceeding capacity building efforts (Altbach etal., 2010; Marginson, 2016).

Licensed Under Creative Commons Attribution (CC BY-NC)

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

MPhil Education students at UCC rated access, efficiency, quality and supervision as moderate. Access improved efficiency modestly and had no direct effect on supervision. Efficiency did not affect supervision. Quality was the strongest predictor of supervision ($\beta = 0.886$) and carried the whole effect of access on supervision, and that effect was negative: in this sample, students who reported more access reported lower quality, and lower quality went with lower perceived supervision. Quality also partly carried the effect of access on efficiency. The model explained 54.5% of the variance in supervision. These conclusions rest on a model in which discriminant validity among access, quality and efficiency was only partly supported. The direction of the results is consistent with the theory we started from, but the size of the access–quality and quality–efficiency paths may be overstated.

5.2 Recommendations

The results of the current study indicate the urgent need of institutions of higher learning and policy makers to rethink, in a radical sense, the approach used to broaden access on graduate level education. A capacity informs expansion approach, which posts great importance to quality protection through coordinated resource building is highly recommended instead of unsustainable expansions that grow by force (Altbach et al., 2010). The policy makers and stake holders should consider setting clear limits of limits of access and quality and should create limits of the highest sustainable levels of enrolment within the limits of present resource envelopes. Reformations process in universities should avoid being based on efficiency which favors quick throughput but not the substantive learning but should protect the time-consuming quality processes necessary in scholarly growth (Boud and Molloy, 2013).

Institutions must embrace holistic programs that target quality improvement taking into consideration that quality improvement in supervision is a by-product of quality commitment on a broader systemic basis instead of interventions that only target supervision. Their implementation and effective use can result in the creation of sustainable graduate education systems that can balance access needs and quality protection, which will play a significant role in improving higher education in Ghana and similar developing situations (Pifer and Baker, 2016; Tight, 2020).

On the strength of the findings, we again recommend that the Departments that widen access to supervisors should track the quality of the supervisory relationship at the same time, for example through regular anonymous student feedback. In this study, more access did not bring higher perceived quality. Also, Supervisor training should cover feedback and the working relationship with students, as well as research content. Mpofu and Madlela (2024) also recommended training for supervisors. Likewise, Turnaround time should not be the main measure of good supervision. Efficiency had no effect on supervision once quality was accounted for. Furthermore, Departments should look at supervisor workloads when they plan for access, since heavy workloads are one of the barriers described by Amponsah et al. (2026). To add up, where co-supervision is used, as it was for 56.1% of respondents, co-supervisors should agree how they will give feedback, so that students do not receive conflicting comments (Guerin & Green, 2015).

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Funding Declaration

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

REFERENCES

Ali, P. A., Watson, R., & Dhingra, K. (2016). Postgraduate research students' and their supervisors' attitudes towards supervision. *International Journal of Doctoral Studies, 11*, 227–241. https://doi.org/10.28945/3541

Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2009). *Trends in global higher education: Tracking an academic revolution*. UNESCO.

Amankwah, F., Asamoah, M. K., & Ofori, E. G. (2017). Challenges of postgraduate research supervision in a Ghanaian university. *Journal of Education and Practice, 8*(15), 40–48.

Amponsah, K. D., Mensah, R. O., & Oteng, B. (2026). Demystifying postgraduate research delays: Perceptions of graduate students in a selected public university. *Policy Reviews in Higher Education, 10*(1), 155–179. https://doi.org/10.1080/23322969.2025.2590059

Asante, E. F., Adu, B. Y., & Woode, I. (2025). Sacred verses screen: Can religiosity buffer digital distress and delay discounting? *Science Mundi, 5*(2), 366–379. https://doi.org/10.51867/scimundi.5.2.35

Licensed Under Creative Commons Attribution (CC BY-NC)

Asare-Bediako, F., & Kwarteng, J. A. (2021). Factors influencing timely completion of Master of Philosophy theses in a Ghanaian university. *Journal of Further and Higher Education, 45*, 1203–1217. https://doi.org/10.1080/0309877X.2021.1876210

Atuahene, F., & Owusu-Ansah, A. (2013). A descriptive assessment of higher education access, participation, equity, and disparity in Ghana. *SAGE Open, 3*(3), 1–16.

Babbie, E. R. (2022). *The practice of social research* (15th ed.). Cengage Learning.

Bachwayo, P., Dube, C., & Moyo, G. (2023). Leveraging digital platforms for postgraduate research supervision in resource-constrained universities. *International Journal of Educational Technology in Higher Education, 20*(1), Article 12. https://doi.org/10.1186/s41239-023-00384-8

Balfour, R. J., & Pilly, G. (2011). Post-graduate supervision practices in South African universities in the era of democracy and educational change, 1994–2004. *South African Journal of Higher Education, 25*(2), 358–371.

Bastalich, W. (2017). Content and context in knowledge production: A critical review of doctoral supervision literature. *Studies in Higher Education, 42*(7), 1145–1157. https://doi.org/10.1080/03075079.2015.1079702

Blackmore, J. (2016). The carelessness of entrepreneurial universities in a world risk society: A feminist reflection on the impact of economic rationalism on universities. In *Corporate university* (pp. 16–32). Routledge.

Blau, P. M. (1964). *Exchange and power in social life*. Wiley.

Boud, D., & Molloy, E. (2013). Rethinking models of feedback for learning: The challenge of design. *Assessment & Evaluation in Higher Education, 38*(6), 698–712. https://doi.org/10.1080/02602938.2012.691462

Cekiso, M., Tshotsho, B., Masha, R., & Saziwa, T. (2019). Supervision experiences of postgraduate research students at one South African higher education institution. *South African Journal of Higher Education, 33*(3), 8–25. https://doi.org/10.20853/33-3-2913

Cloete, N., Mouton, J., & Sheppard, C. (2016). *Doctoral education in South Africa.* African Minds. https://doi.org/10.47622/9781928331001

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Cornér, S., Löfström, E., & Pyhältö, K. (2017). The relationships between doctoral students' perceptions of supervision and burnout. *International Journal of Doctoral Studies, 12*, 91–106. https://doi.org/10.28945/3754

Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management, 31*(6), 874–900. https://doi.org/10.1177/0149206305279602

de Kleijn, R. A. M., Mainhard, M. T., Meijer, P. C., Pilot, A., & Brekelmans, M. (2012). Master's thesis supervision: Relations between perceptions of the supervisor–student relationship, final grade, perceived supervisor contribution to learning and student satisfaction. *Studies in Higher Education, 37*(8), 925–939. https://doi.org/10.1080/03075079.2011.556717

Devenish, R., Dyer, S., Jefferson, T., Lord, L., van Leeuwen, S., & Fazakerley, V. (2009). Peer to peer support: The disappearing work in the doctoral student experience. *Higher Education Research & Development, 28*(1), 59–70. https://doi.org/10.1080/07294360802444362

Emerson, R. M. (1976). Social exchange theory. *Annual Review of Sociology, 2*, 335–362. https://doi.org/10.1146/annurev.so.02.080176.002003

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50. https://doi.org/10.1177/002224378101800104

Gardner, S. K. (2010). Contrasting the socialization experiences of doctoral students in high- and low-completing departments: A qualitative analysis of disciplinary contexts at one institution. *The Journal of Higher Education, 81*(1), 61–81. https://doi.org/10.1080/00221546.2010.11772607

Ginns, P., Marsh, H. W., Behnia, M., Cheng, J. H. S., & Scalas, L. F. (2009). Using postgraduate students' evaluations of research experience to benchmark departments and faculties: Issues and challenges. *British Journal of Educational Psychology, 79*(3), 577–598.

Guerin, C., & Green, I. (2015). 'They're the bosses': Feedback in team supervision. *Journal of Further and Higher Education, 39*(3), 320–335. https://doi.org/10.1080/0309877X.2013.831039

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Havenga, Y., & Sengane, M. L. (2018). Challenges experienced by postgraduate nursing students at a South African university. *Health SA Gesondheid, 23*, Article a1107. https://doi.org/10.4102/hsag.v23i0.1107

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Jiranek, V. (2010). Potential predictors of timely completion among dissertation research students at an Australian faculty of sciences. *International Journal of Doctoral Studies, 5*, 1–13. https://doi.org/10.28945/709

Licensed Under Creative Commons Attribution (CC BY-NC)

Kuh, G. D., Kinzie, J., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2010). *Piecing together the student success puzzle: Research, propositions, and recommendations*. Wiley.

Lechuga, V. M. (2011). Faculty-graduate student mentoring relationships: Mentors' perceived roles and responsibilities. *Higher Education, 62*(6), 757–771.

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior, 45*(1), 79–122. https://doi.org/10.1006/jvbe.1994.1027

Lessing, A. C., & Schulze, S. (2003). Postgraduate supervision: Students' and supervisors' perceptions. *Acta Academica, 35*(3), 161–184.

Lovitts, B. E. (2008). The transition to independent research: Who makes it, who doesn't, and why. *The Journal of Higher Education, 79*(3), 296–325. https://doi.org/10.1080/00221546.2008.11772100

Lynch, K. (2015). Control by numbers: New managerialism and ranking in higher education. *Critical Studies in Education, 56*(2), 190–207. https://doi.org/10.1080/17508487.2014.949811

Mackinnon, J. (2013). Work-based learning: A leadership perspective. *Higher Education, Skills and Work-Based Learning, 3*(1), 16–28. https://doi.org/10.1108/20423891311294948

Mainhard, T., van der Rijst, R., van Tartwijk, J., & Wubbels, T. (2009). A model for the supervisor–doctoral student relationship. *Higher Education, 58*(3), 359–373. https://doi.org/10.1007/s10734-009-9199-8

Maluleka, J. R., & Ngoepe, M. (2019). An analysis of the throughput rate of doctoral students in LIS schools in South Africa, 2005–2015. *Mousaion: South African Journal of Information Studies, 36*(3). https://doi.org/10.25159/2663-659X/3710

Manyike, T. V. (2017). Postgraduate supervision at an open distance e-learning institution in South Africa. *South African Journal of Education, 37*(2), Article 1354. https://doi.org/10.15700/saje.v37n2a1354

Marginson, S. (2016). The worldwide trend to high participation higher education: Dynamics of social stratification in inclusive systems. *Higher Education, 72*(4), 413–434. https://doi.org/10.1007/s10734-016-0016-x

Marsh, H. W., Rowe, K. J., & Martin, A. (2002). PhD students' evaluations of research supervision: Issues, complexities, and challenges in a nationwide Australian experiment in benchmarking universities. *The Journal of Higher Education, 73*(3), 313–348. https://doi.org/10.1080/00221546.2002.11777148

McAlpine, L., & Norton, J. (2006). Reframing our approach to doctoral programs: An integrative framework for action and research. *Higher Education Research & Development, 25*, 3–17. https://doi.org/10.1080/07294360500453012

McCallin, A., & Nayar, S. (2012). Postgraduate research supervision: A critical review of current practice. *Teaching in Higher Education, 17*(1), 63–74. https://doi.org/10.1080/13562517.2011.590979

Mpofu, P., & Madlela, B. (2024). An inquiry into experiences of supervisors and supervisees in conducting research supervision in higher education institutions in Eswatini. *E-Journal of Humanities, Arts and Social Sciences, 5*(8), 1454–1473. https://doi.org/10.38159/ehass.2024582

Neumann, R. (2005). Doctoral differences: Professional doctorates and PhDs compared. *Journal of Higher Education Policy and Management, 27*(2), 173–188.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.

Orton, P. M., Essack, S., Nokes, K. M., & Brysiewicz, P. (2020). Creating an instrument to measure perceptions about access to health-related higher education programmes in South Africa. *South African Journal of Higher Education, 34*(6), 185–200. https://doi.org/10.20853/34-6-3446

Overall, N. C., & Deane, K. L. (2021). When and why do mentors become more disengaged? Excessive reliance, mentor exhaustion, and the moderating role of conscientiousness. *Journal of Vocational Behavior, 131*, Article 103653. https://doi.org/10.1016/j.jvb.2021.103653

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing, 64*(1), 12–40.

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research* (Vol. 2). Jossey-Bass.

Pifer, M. J., & Baker, V. L. (2016). Stage-based challenges and strategies for support in doctoral education: A practical guide for students, faculty members, and program administrators. *International Journal of Doctoral Studies, 11*, 15–34. https://doi.org/10.28945/3341

Pyhältö, K., Vekkaila, J., & Keskinen, J. (2015). Fit matters in the supervisory relationship: Doctoral students' and supervisors' perceptions about the supervisory activities. *Innovations in Education and Teaching International, 52*(1), 4–16. https://doi.org/10.1080/14703297.2014.981836

Selesho, J. M., & Mashau, P. (2014). A critical analysis of postgraduate throughput rate: A case of a South African university. *The Anthropologist, 18*(2), 363–371.

Licensed Under Creative Commons Attribution (CC BY-NC)

Spronken-Smith, R., Cameron, C., & Quigg, R. (2018). Factors contributing to high PhD completion rates: A case study in a research-intensive university in New Zealand. *Assessment & Evaluation in Higher Education, 43*(1), 94–109. https://doi.org/10.1080/02602938.2017.1298715

Sverdlik, A., Hall, N. C., McAlpine, L., & Hubbard, K. (2018). The PhD experience: A review of the factors influencing doctoral students' completion, achievement, and well-being. *International Journal of Doctoral Studies, 13*, 361–388. https://doi.org/10.28945/4113

Teferra, D. (2014). Charting African higher education: Perspectives at a glance. *International Journal of African Higher Education, 1*(1), 9–21. https://doi.org/10.6017/ijahe.v1i1.5642

Tight, M. (2020). *Theory application in higher education research: The case of communities of practice*. Springer.

Tikkanen, L., Pyhältö, K., Bujacz, A., & Nieminen, J. (2021). Study engagement and burnout of the PhD candidates in medicine: A person-centered approach. *Frontiers in Psychology, 12*, Article 727746. https://doi.org/10.3389/fpsyg.2021.727746

Tilak, J. B. (2015). Global trends in funding higher education. *International Higher Education, 42*, 5–6.

Tinto, V. (2017). Through the eyes of students. *Journal of College Student Retention: Research, Theory & Practice, 19*(3), 254–269. https://doi.org/10.1177/1521025115621917

Turyamureeba, R. (2025). Research student supervision in Uganda: Myths, realities and conceptual tensions. *East African Journal of Education Studies, 8*(2), 309–325. https://doi.org/10.37284/eajes.8.2.2969

University of Cape Coast School of Graduate Studies. (2022). *Annual report on postgraduate programmes*.

van Rooij, E., Fokkens-Bruinsma, M., & Jansen, E. (2021). Factors that influence PhD candidates' success: The importance of PhD project characteristics. *Studies in Continuing Education, 43*(1), 48–67. https://doi.org/10.1080/0158037X.2019.1652158

Webber, K. L., Krylow, R. B., & Zhang, Q. (2013). Does involvement really matter? Indicators of college student success and satisfaction. *Journal of College Student Development, 54*(6), 591–611.

Wingfield, B. D. (2011). Can we improve postgraduate degree throughput rates? *South African Journal of Science, 107*(11/12), Article 967. https://doi.org/10.4102/sajs.v107i11/12.967

Yelkpieri, D., Acquah, A., Tamanja, E. M. J., & Dzikunu, C. K. (2025). Students' level of satisfaction of postgraduate thesis supervision at the University of Education, Winneba. *International Journal of Social Science, Humanity and Management Research, 4*(2), 298–307. https://doi.org/10.58806/ijsshmr.2025.v4i2n15

Licensed Under Creative Commons Attribution (CC BY-NC)