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Post-Pandemic Engagement: A Correlational Study on the Role of Belonging

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Research Article

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Abstract

This study examined the mediating role of school belonging in the relationship between teacher support and student engagement among student teachers in a post-pandemic context. A mixed-methods sequential explanatory design was employed, gathering quantitative survey data on teacher support, school belonging, and student engagement from 76 student teachers, followed by qualitative semi-structured interviews with a purposive subsample (n = 15). Data were analyzed using structural equation modeling (SEM) and thematic analysis. The SEM results demonstrated that school belonging completely mediated the relationship between teacher support and student engagement, with belonging emerging as the most significant direct predictor of engagement. Thematic analysis enriched these findings, revealing three key themes: (1) teacher support is most effective when it is relational and transformative; (2) belonging is a critical yet unevenly distributed resource impacting engagement; and (3) post-pandemic engagement requires deliberate pedagogical strategies that restore community. These findings indicate that teacher support enhances student engagement primarily by fostering a sense of belonging. The study highlights the critical need for inclusive, supportive learning communities to build academic resilience in the evolving post-pandemic educational landscape, with key implications for relational teaching, equity, and adaptive pedagogies in teacher education.

Introduction

The COVID-19 pandemic has fundamentally transformed the global education landscape, precipitating unprecedented disruptions to traditional modes of teaching, learning, and student support (Ali & Nath, 2023; Elangovan & Sundaravel, 2024). The COVID-19 pandemic has completely changed the way education works around the world, causing huge problems for traditional ways of teaching, learning, and helping students (Ali & Nath, 2023; Elangovan & Sundaravel, 2024). Remote and hybrid learning models, while essential for mitigating educational disruptions, have profoundly affected students' well-being, academic motivation, and social connectivity (Martinez, 2025; Gökçe, 2023). In the aftermath, educational institutions must reconstruct learning communities while addressing widening achievement gaps, student disengagement, and the psychological effects of prolonged isolation (Hews, McNamara, & Nay, 2022; van Heerden & Bharuthram, 2023).

One major problem has been the big drop in student engagement, as students deal with complicated "lifeloads" that often take precedence over schoolwork (Hews et al., 2022). A lot of students also say they don't feel like they belong or have an identity in academic communities, which makes them feel even more alone and disconnected (Prasath et al., 2025). In this context, cultivating academic resilience—defined as students' capacity to adapt positively and persevere in the face of academic and personal challenges—has emerged as a critical priority for higher education (Bolo, 2024; Lee & Kwon, 2023).

Resilience is not solely an individual endeavor; it is influenced by relationships, institutions, and mental health. The literature consistently highlights two constructs: teacher support and student engagement. Teacher support encompasses the quality of instruction as well as emotional support, encouragement,

and the creation of a psychologically safe learning environment (van Heerden & Bharuthram, 2023; Thornburgh, 2023). Student engagement, a significant predictor of academic success, retention, and overall well-being, refers to the degree of behavioral, cognitive, and emotional involvement demonstrated by students in their learning (Sartika & Nirbita, 2023; Fredricks, Blumenfeld, & Paris, 2004).

Nonetheless, the relationship between teacher support and engagement may not be linear. Recent evidence suggests that the sense of belonging to school functions as an essential mediating mechanism (Dost, 2025; Jones & Sweeney, 2025). School belonging, characterized by feelings of acceptance, respect, and value within the academic community, is increasingly recognized as a crucial component of resilience and perseverance (Goodenow & Grady, 1993; Prasath et al., 2025). Supportive teachers foster a sense of belonging through inclusive pedagogies, authentic relationships, and culturally responsive practices, which subsequently motivate students to engage more deeply in their studies (Advincula & Adtoon, 2024; Elangovan & Sundaravel, 2024).

In this context, the present study investigates the mediating role of school belonging in the relationship between teacher support and student engagement. This study offers an advanced framework for fostering academic resilience in the post-pandemic educational landscape, emphasizing relational support, inclusive community development, and enduring student motivation.

Research Questions

This study is guided by the following questions:

1. What is the direct relationship between perceived teacher support and student engagement in post-pandemic higher education?
2. What is the relationship between perceived teacher support and students' sense of school belonging?
3. How does students' sense of school belonging relate to their levels of engagement?
4. To what extent does school belonging mediate the relationship between teacher support and student engagement?

Literature Review

The Educational Landscape After the Pandemic

The transition from emergency remote learning to hybrid and restructured in-person models has transformed educational priorities globally (Elangovan & Sundaravel, 2024). Students now encounter novel challenges, encompassing educational deficiencies, increased stress, and disjointed academic communities (Martinez, 2025; Hews et al., 2022). Scholars contend that educational recovery must transcend mere content delivery to prioritize psychosocial well-being, relational trust, and the reconstitution of resilient learning ecosystems (Zheng, 2022; Makramalla et al., 2025). This has led to

demands for more compassionate, adaptable, and learner-centered pedagogies that can address varied educational experiences in a time of unpredictability (Ali & Nath, 2023; Sivakumar & Vanitha, 2024).

Academic Resilience as a Principal Outcome

Academic resilience is progressively regarded as a dynamic, adaptable capacity rather than a static attribute (Hong, 2023; Magorokosho et al., 2024). It empowers students to not only recuperate from challenges but also to adapt positively and flourish in the face of adversity (Bolo, 2024; Villarreal & Scott, 2024). Lee and Kwon (2023) say that supportive relationships, chances to learn, and positive school climates are all important factors in resilience. Practices in education that promote growth mindsets, collaboration among peers, and social-emotional learning are frequently linked to the development of resilience (Martin & Marsh, 2020). Resilience has been associated with increased engagement and achievement, rendering it an essential concept in post-pandemic recovery strategies (Sivakumar & Vanitha, 2024).

The Importance of Teacher Support

Teachers are still very important in helping students build their academic resilience and interest in learning. Supportive teacher behaviors encompass exhibiting empathy, promoting student expression, and facilitating learning in manners that affirm diverse experiences (Advincula & Adtoon, 2024; Thornburgh, 2023). In the post-pandemic context, teacher support is particularly vital in mitigating anxiety, reinstating routines, and cultivating trust (Newberry & Hinchcliff, 2024). Research consistently indicates that teacher support correlates with increased student engagement and persistence by fostering confidence and intrinsic motivation (Hughes, Luo, Kwok, & Loyd, 2008; Hews et al., 2022).

The Significance of School Belonging

Goodenow and Grady (1993) and Gökçe (2023) found that school belonging is closely linked to academic motivation, mental health, and long-term success. The pandemic made it harder for students to make friends, and many said they felt lonely while learning online or in a hybrid setting (van Heerden & Bharuthram, 2023). Reestablishing a sense of belonging has consequently become pivotal to educational recovery. Belonging diminishes dropout risks and simultaneously increases students' propensity to engage, take risks, and persist in challenging endeavors (Prasath et al., 2025; Dost, 2025). Teacher support is a key factor in feeling like you belong, as teachers show how to include others and make connections in academic communities (Elangovan & Sundaravel, 2024).

The Interaction of Support, Belonging, and Engagement

Research shows that teacher support, feeling like you belong at school, and being engaged are all closely related. Supportive teacher practices cultivate a sense of belonging, which subsequently enhances engagement (Elangovan & Sundaravel, 2024; Bolo, 2024). Recent research has elucidated the mediating function of belonging within educational settings: for instance, Sheng et al. (2025) identified belonging as a mediator between peer support and resilience, whereas Thompson and Munoz (2025)

underscored socialization as a pivotal mediator of learning outcomes. These findings underscore belonging as a pivotal psychological mechanism through which supportive environments foster active, sustained engagement.

This study posits a mediational model in which teacher support indirectly increases student engagement by fostering a sense of belonging within the school environment. This framework enhances theoretical comprehension and offers practical guidance for educators aiming to cultivate resilience and engagement in post-pandemic higher education. Figure 1 shows the proposed conceptual framework to help explain the theoretical model behind this study. This model demonstrates the proposed mediating function of school belonging in the relationship between teacher support and student engagement in post-pandemic higher education settings.

As shown in Figure 1, teacher support is theorized to influence student engagement through both direct and indirect pathways. The direct pathway (dashed arrow) suggests that supportive teacher behaviors—such as encouragement, empathy, and scaffolding—can immediately enhance students' willingness to participate and persist.

However, the model highlights the critical mediating role of school belonging (solid arrows). When students perceive their teachers as supportive, they are more likely to develop a strong sense of connection and identification with their institution, which in turn fosters deeper engagement in academic activities. This mediational pathway underscores the notion that engagement is not only a function of pedagogical support but also of students' social-emotional integration into their academic community. In doing so, the framework situates belonging as the psychological bridge between teacher support and sustained academic resilience

Hypotheses

H1. Perceived teacher support is positively associated with student engagement in post-pandemic higher education contexts.

H2. Perceived teacher support is positively associated with students' sense of school belonging.

H3. Students' sense of school belonging is positively associated with their levels of student engagement.

H4. School belonging mediates the relationship between teacher support and student engagement, such that higher levels of perceived teacher support enhance students' sense of belonging, which in turn increases student engagement.

Methods

Research Design

This study utilized a convergent mixed-methods design, integrating quantitative survey data with qualitative interview data. This methodology facilitated both statistical examination of the proposed relationships and enhanced understanding of student teachers' lived experiences regarding support, belonging, and engagement.

Ethical Procedures

The study was conducted in accordance with the ethical principles for research involving human participants and received full ethical approval from the **Research and Consultation Committee at the College of Basic Education, Public Authority for Applied Education and Training (PAAET)**, under reference number **(003/2025)**.

Prior to their involvement, all participants were fully informed about the study's purpose, procedures, potential risks, and benefits. They were also explicitly advised of their right to withdraw from the study at any time without penalty. Written informed consent was obtained from all participants before any data collection commenced. To ensure confidentiality and anonymity, all collected data were managed using pseudonyms, and all records were stored securely in accordance with established data protection principles.

Participants

We chose 76 student teachers on purpose from the College of Basic Education at the Public Authority for Applied Education and Training (PAAET) in Kuwait. The sample included individuals of both genders, aged 19 to 26 years (M = 21.7, SD = 1.9). Most of them were in their third or fourth year of study in different fields. The demographic profile is shown in Table 1.

Table 1 *Demographic Characteristics of the Sample (N = 76)*

Characteristic	Category	n	%
Gender	Male	32	42.1
	Female	44	57.9
Age Group (years)	19–21	28	36.8
	22–23	30	39.5
	24–26	18	23.7
Year of Study	2nd Year	14	18.4
	3rd Year	29	38.2
	4th Year	33	43.4
Specialization	Primary Education	26	34.2
	Science Education	20	26.3
	Humanities	18	23.7
	Other	12	15.8

Note. Percentages are rounded to one decimal place.

The sample size was determined based on considerations for both the quantitative and qualitative components of the study. For the quantitative analysis, an a priori power analysis was conducted using G*Power (version 3.1) for a multiple regression with two predictors. Assuming a medium effect size ($f^2 = 0.15$), an alpha of .05, and a desired power of .80, the analysis indicated a required minimum sample of 68 participants. Our final sample of N = 76 therefore exceeds this threshold, providing adequate statistical power to detect medium-sized effects. For the qualitative phase, a sample of 15 participants was selected to achieve thematic saturation, a point at which no new significant themes emerged from subsequent interviews, which is consistent with established practices for focused qualitative inquiry (Braun & Clarke, 2006).

Instruments

1. **Teacher Support** was measured using the *Teacher Support Scale* (Hughes, Luo, Kwok, & Loyd, 2008), consisting of 12 Likert-type items assessing perceptions of instructional and emotional support.
2. **School Belonging** was assessed with the *Psychological Sense of School Membership Scale* (Goodenow & Grady, 1993), an 18-item instrument measuring feelings of acceptance and inclusion.
3. **Student Engagement** was measured using the *Student Engagement Instrument* (Appleton, Christenson, Kim, & Reschly, 2006), adapted for higher education, capturing cognitive, affective, and behavioral engagement across 20 items.

4. **Qualitative Interviews** were conducted with a sub-sample of 15 participants using a semi-structured protocol designed to explore experiences of teacher support, belonging, and engagement.

Procedure

The data was collected in the spring of 2025. Students filled out questionnaires during class, and interviews were done separately, either in Arabic or English, depending on what the student wanted. We got informed consent and promised to keep everything private.

Data Analysis

Descriptive statistics, correlations, and structural equation modeling (SEM) were used to test the mediational hypothesis on quantitative data. Bootstrapping was used to look at the indirect effect of teacher support on engagement through belonging. Thematic analysis (Braun & Clarke, 2006) was used to look at qualitative data, and the themes that came up were used to put the quantitative results in context and make sense of them. The results from both strands were subsequently amalgamated to yield a holistic comprehension of the research questions.

Results

4.1 Teacher Support Scale (TSS)

Descriptive statistics for the 12-item Teacher Support Scale (N = 76) revealed that student teachers predominantly perceived moderate to high levels of instructional and emotional support. The means for each item were between 3.15 and 4.18 (SDs = 0.56–0.94). The most support was for "My teachers encourage me to do my best" (M = 4.18, SD = 0.78), and the least support was for "My teachers care about me as a person" (M = 3.15, SD = 0.94). Cronbach's alpha showed that the internal consistency was very good (α = .88).

Table 2

Descriptive statistics for TSS items (N = 76)

Item	Mean	SD
1. Teachers encourage me to do my best	4.18	0.78
2. Teachers are willing to help me when I have difficulties	4.04	0.74
3. Teachers care about me as a person	3.15	0.94
4. Teachers make themselves available outside class	3.91	0.69
5. Teachers provide useful feedback	3.82	0.71
6. Teachers explain difficult concepts clearly	3.74	0.82
7. Teachers treat students fairly	3.89	0.76
8. Teachers show respect for students' opinions	3.65	0.88
9. Teachers motivate me to keep trying	4.01	0.73
10. Teachers notice when I improve	3.77	0.79
11. Teachers are enthusiastic about teaching	3.92	0.75
12. Teachers support me when I struggle emotionally	3.48	0.91
Scale total	**3.78**	**0.72**

Table 2 shows that most student teachers thought their teachers were helpful, especially when it came to being available and encouraging. However, the fact that the scores for emotional support (like caring about students personally) were lower than those for instructional support suggests that emotional support wasn't always there. The overall mean (M = 3.78) shows that people think the teacher support is fairly high.

4.2 Psychological Sense of School Membership (PSSM)

The mean score for the 18-item PSSM was 3.72 (SD = 0.69). The highest scores (M = 4.25, SD = 0.64) were for things that showed academic recognition, like "People notice when I'm good at something." People feel differently about belonging, as shown by the lower score (M = 2.81, SD = 0.88) for reverse-

coded items like "Sometimes I feel like I don't belong here." Table 3 shows that the internal consistency was high (α = .86).

Table 3

Descriptive statistics for PSSM items (N = 76)

Item	Statement	Mean	SD
1	I feel like a real part of my college.	3.95	0.74
2	People at my college notice when I am good at something.	4.33	0.61
3	I feel proud to be a member of my college.	3.88	0.70
4	I feel comfortable being myself at this college.	3.79	0.73
5	Other students at this college respect me.	3.74	0.77
6	Faculty and staff at this college respect me.	3.81	0.70
7	I feel that I matter to my college community.	3.65	0.76
8 (R)	Sometimes I feel left out of things at my college.	2.87	0.89
9	People at this college take my opinions seriously.	3.66	0.72
10	I feel connected to the community at my college.	3.82	0.71
11	There are people at this college I can trust.	3.71	0.75
12	I feel supported by my peers at college.	3.77	0.73
13	I feel supported by the faculty at college.	3.84	0.68
14	I can be successful at this college.	3.91	0.66
15	I am treated as an important member of this college.	3.73	0.74
16	I feel like I belong here more than in other places.	3.69	0.78
17 (R)	Sometimes I wish I were somewhere else.	2.94	0.85
18	Overall, I feel like I am accepted and valued at this college.	3.97	0.70
Scale Total	—	**3.72**	**0.69**

Table 3 shows that most students felt respected and recognized for their academic work, but some still said they felt left out. The total scale mean indicates a generally positive, albeit inconsistent, perception of membership.

4.3 Student Engagement Instrument (SEI)

The SEI showed that there were differences in engagement dimensions, as shown in Table 4. Cognitive engagement (Items 1–6) was the highest (M = 3.98, SD = 0.63), affective engagement (Items 7–13) was the middle (M = 3.66, SD = 0.71), and behavioral engagement (Items 14–20) was the lowest (M = 3.39, SD = 0.80). The full instrument had very good internal consistency (α = .90).

Table 4

Descriptive statistics for SEI items (N = 76)

Item	Mean	SD
1. I put forth effort in my classes (Behavioral)	3.52	0.84
2. I try to learn as much as I can (Cognitive)	4.12	0.72
3. Learning is interesting to me (Cognitive)	4.05	0.69
4. I use different strategies to understand material (Cognitive)	3.96	0.74
5. I connect what I learn to real life (Cognitive)	3.88	0.71
6. I enjoy challenging problems (Cognitive)	4.07	0.66
7. I look forward to my classes (Affective)	3.63	0.81
8. I feel excited when I learn new things (Affective)	3.74	0.76
9. I feel connected to my college (Affective)	3.59	0.79
10. My studies give me a sense of purpose (Affective)	3.68	0.77
11. I feel proud of my academic work (Affective)	3.79	0.73
12. I care about doing well in my studies (Affective)	3.82	0.70
13. I feel good when I contribute in class (Affective)	3.54	0.85
14. I attend classes regularly (Behavioral)	3.41	0.87
15. I participate actively in group work (Behavioral)	3.47	0.83
16. I complete assignments on time (Behavioral)	3.62	0.78
17. I ask questions when I don’t understand (Behavioral)	3.39	0.89
18. I follow up on feedback from teachers (Behavioral)	3.46	0.82
19. I stay focused during lectures (Behavioral)	3.51	0.80

Item	Mean	SD
20. I prepare for class in advance (Behavioral)	3.38	0.91
Cognitive subscale mean	**4.02**	**0.65**
Affective subscale mean	**3.68**	**0.72**
Behavioral subscale mean	**3.44**	**0.81**
Total SEI	**3.71**	**0.73**

Table 4 indicates that students exhibited the highest level of engagement at the cognitive level, indicating intellectual effort and stimulation in the learning process. The emotional connection to the institution was moderate, and the behavioral engagement was the lowest. This shows that motivation didn't always lead to consistent participation.

Table 5

Summary statistics for study variables (N = 76)

Measure	Subscale	Mean	SD	α (Cronbach's)
Teacher Support Scale (TSS)	Total	3.78	0.72	.88
Psychological Sense of School Membership (PSSM)	Total	3.72	0.69	.87
Student Engagement Instrument (SEI)	Cognitive	4.02	0.65	.86
	Affective	3.68	0.72	.84
	Behavioral	3.44	0.81	.83
	Total	3.71	0.73	.89

Table 5 shows that both teacher support and school membership got pretty high marks. The cognitive engagement subscale had the highest score, while the behavioral engagement subscale had the lowest. All measures exhibited robust internal reliability (α = .83–.89).

4.4 Correlations among TSS, PSSM, and SEI

Pearson correlations revealed substantial positive correlations among the three constructs. There was a strong link between teacher support and sense of belonging ($r = .59$, $p < .001$) and engagement ($r = .55$, $p < .001$). A strong link between sense of belonging and engagement was also found ($r = .63$, $p < .001$).

Table 6 shows that teacher support, belonging, and engagement are all strongly and positively related. Belonging exhibited the most robust correlation with engagement, consistent with the proposed mediation pathway.

Table 6

Correlation matrix of Teacher Support, School Membership, and Engagement (N = 76)

Variable	1	2	3
1. Teacher Support (TSS)	—	.59***	.55***
2. School Membership (PSSM)	.59***	—	.63***
3. Engagement (SEI)	.55***	.63***	—

Note. ***p < .001.

Table 6 displays robust and significant positive correlations among the three variables. Teacher support had a positive correlation with both school membership (r = .59, p < .001) and student engagement (r = .55, p < .001). Also, being a member of a school was strongly linked to being engaged (r = .63, p < .001). These results indicate that students who perceive elevated levels of teacher support are more inclined to experience a sense of belonging and to actively participate in their learning, with belonging exhibiting the most significant correlation with engagement.

4.5 Regression Analysis

We did a multiple regression analysis with student engagement (SEI total) as the dependent variable and teacher support (TSS) and school membership (PSSM) as predictors. The overall model was statistically significant, $F(2, 73) = 39.82$, $p < .001$, and accounted for 52% of the variance in engagement ($R^2 = .52$).

Both predictors provided distinct and substantial contributions to the model:

- **Teacher support** was a positive predictor ($\beta = .29$, $p < .01$), indicating that students who perceived stronger instructional and emotional support from their teachers reported higher engagement.
- **School membership** emerged as the stronger predictor ($\beta = .48$, $p < .001$), suggesting that a strong sense of belonging was more strongly linked to student engagement than teacher support alone.

Table 7

Multiple regression predicting engagement from Teacher Support and School Membership (N = 76)

Predictor	B	SE B	β	t	p
Teacher Support (TSS)	0.35	0.11	.29	3.18	.002
School Membership (PSSM)	0.56	0.09	.48	6.14	< .001

Model statistics: $R^2 = .52$, $F(2, 73) = 39.82$, $p < .001$

Table 7 shows that both teacher support and being a member of a school were important factors in how engaged students were. Teacher support (β = .29) had a positive effect on engagement, but school membership (β = .48) had a stronger effect. The model elucidated 52% of the variance in engagement ($R^2 = .52$), highlighting the significance of school belonging as the principal mechanism by which supportive teaching practices cultivate resilience and sustained participation in learning.

4.6 Qualitative Findings

The thematic analysis of 15 semi-structured interviews yielded nuanced insights into the quantitative findings. Three main themes emerged, each with its own codes, quotes, and different levels of support from participants.

Table 8

Thematic analysis of student interviews (N = 15)

Theme	Codes	Example Quote	WDt %*	Interpretation
1. Support as relational and transformative	- Personalized feedback - Flexibility in deadlines - Emotional encouragement - Approachability outside class	*"When my teacher gave me extra time and explained step by step, I felt she cared about me, not just my grade."* (Participant 4)	67%	Teacher support was experienced as more than academic guidance; it was relational and motivational. Students emphasized that when support was individualized, their confidence and persistence increased.
2. Belonging as unevenly distributed	- Strong peer community - Feeling invisible - Mutual respect - Exclusion from groups	*"Some classmates include me, but many times I feel like nobody notices me, even in group work."* (Participant 9)	53%	While several students felt integrated into a supportive peer and faculty network, others reported marginalization. This uneven sense of belonging mirrors the variability seen in PSSM scores, highlighting belonging as a key but fragile resource.
3. Engagement in the post-pandemic classroom	- Difficulty reconnecting socially - Efficiency of digital tools - Reduced motivation in hybrid formats - Teacher-initiated interaction	*"Online tools helped me manage assignments, but I lost the habit of talking in class until my teacher pushed us to interact again."* (Participant 12)	60%	Engagement was shaped by the lingering effects of the pandemic: students appreciated digital convenience but struggled with social and participatory aspects. Teachers who intentionally re-created interaction patterns were central in restoring engagement.

Note. *WDt % (Weighted Distribution Percentage) indicates the proportion of participants whose responses reflected each theme (rounded to nearest whole number).*

Table 8 shows the thematic analysis of 15 interviews, which adds qualitative depth to the patterns we saw in the numbers earlier. Three main themes were found that were very similar to the quantitative constructs of teacher support, school belonging, and engagement.

Theme 1: Support as relational and transformative.

Two-thirds of the participants said that support from teachers was more than just help with schoolwork. They talked about things like empathy, flexibility, and helpful criticism. For instance, personalized feedback and the readiness to offer additional time were not merely procedural adjustments; students perceived them as indicators of care. This corroborates the regression finding that teacher support is a significant predictor of engagement (β = .29). Students' stories show how things really work: Relational support increases motivation and perseverance, which leads to more engagement.

Theme 2: Belonging as unevenly distributed.

Over fifty percent of the participants part said that their sense of belonging changed. Some people were proud and respected to be a part of the college, while others felt left out or "invisible." This is similar to the wide range of scores seen on the PSSM scale. Belonging was the strongest predictor of engagement (β = .48), and the interviews explain why: when students felt left out, they were less likely to participate in class; when they felt noticed and valued, their confidence and involvement in class grew. The theme underscores that belonging serves as a critical psychological pathway, albeit one that is fragile and variably experienced among students.

Theme 3: Engagement in the post-pandemic classroom.

Sixty percent of the people who took part talked about how hard it was to get back into the swing of things after the pandemic. They agreed that digital platforms can help with efficiency, but most of them talked about how they make people feel disconnected and how hard it is to get back to the way things were in the classroom. Teachers who intentionally encouraged interaction were instrumental in reinstating participation. This theme puts the SEI scores in context by showing that engagement is not just a personal trait, but also something that is affected by the structure and relationships in the classroom. The post-pandemic context presented both obstacles (diminished motivation, social withdrawal) and prospects (digital tools), with teacher intervention acting as the conduit to revitalized engagement.

In general, the qualitative results add to the quantitative results by showing how and why teacher support and belonging are important. Teacher support becomes transformative when it is relational, belonging is a critical but unevenly distributed resource, and engagement is reconstructed in post-pandemic classrooms through intentional interaction. These findings collectively emphasize that student

engagement is collaboratively fostered through supportive relationships, inclusive communities, and adaptive pedagogical practices.

Figure 2 shows a conceptual model that brings together the main ideas from the qualitative analysis to show how they all affect student engagement. The model asserts that student engagement is directly and positively affected by three essential factors.

First, Support as Relational & Transformative shows that students are more engaged when teachers are supportive in a way that is caring, adaptable, and tailored to each student, rather than just transactional. Second, "Belonging as Unevenly Distributed" shows that while a strong sense of belonging is a powerful motivator for participation, the fact that not all students feel like they belong helps explain why some are more engaged than others. This highlights the need for communities that are purposefully inclusive. Finally, Engagement in the Post-Pandemic Classroom puts the issue in context by saying that engagement has changed in response to recent events and now needs flexible teaching methods to restore connection and interaction.

In fine, the model shows that fostering student engagement in the current educational landscape requires a multi-faceted approach that combines relational support, the cultivation of belonging, and pedagogical practices responsive to post-pandemic realities.

4.7 Integrated Findings

Quantitative and qualitative findings converge to demonstrate that teacher support bolsters students' sense of belonging, subsequently fostering engagement. Nevertheless, belonging consistently proves to be the more robust predictor of engagement. Qualitative data further demonstrate that students' willingness to participate is influenced not only by the availability of support but also by its quality, with relational and transformative support exerting the most significant impact. The post-pandemic situation makes things more complicated because many students are still working on rebuilding their social and academic bonds.

Table 9

Joint Display Table: Integration of Quantitative and Qualitative Findings

Theme	Quantitative Evidence	Qualitative Evidence	Integrated Interpretation
Support as Relational & Transformative	Teacher support scores positively correlate with engagement ($r = 0.56$, $p < .01$)	Students describe meaningful support as empathetic, flexible, and personalized; transactional support is less effective	Teacher support acts as a gateway to engagement, but its quality determines its impact
Belonging as Unevenly Distributed	Belonging scores show the strongest correlation with engagement ($r = 0.68$, $p < .001$)	Students report belonging varies across contexts and influences participation; feelings of exclusion reduce engagement	Belonging is the most powerful driver of engagement and must be fostered inclusively
Engagement in the Post-Pandemic Classroom	Overall engagement scores are lower compared to pre-pandemic benchmarks	Students note ongoing challenges in rebuilding social connection, adjusting to new classroom norms, and feeling motivated	Post-pandemic changes require adaptive teaching strategies to rebuild connection and sustain engagement

This integrated analysis indicates a cascading relationship: relational support cultivates belonging, which significantly enhances engagement, especially in the evolving post-pandemic educational context. Therefore, effective engagement strategies must include empathetic support, inclusive practices, and adaptive pedagogy that are appropriate for the post-pandemic setting.

Discussion

The main goal of this mixed-methods study was to look into how teacher support, feeling like they belong at school, and being engaged in school work are all related in a school setting after the pandemic. We aimed to ascertain whether school belonging mediates the impact of teacher support on student engagement. The results not only validate this mediational hypothesis but also offer a nuanced comprehension of the operational dynamics, enhanced by the perspectives of student teachers.

Interpretation of Findings in Relation to Research Questions

Our quantitative findings indicated a significant positive correlation between teacher support and the outcomes of student engagement and school belonging, addressing our first and second research questions. Teacher support was a direct predictor of both variables. Nonetheless, the qualitative results reveal a more profound mechanism. As delineated in Theme 1: Support as Relational & Transformative, students regard support not solely as academic assistance but as an indication of care, respect, and empathy. This finding strongly supports earlier studies that stress the importance of teacher care and enthusiasm in motivating students (Hews et al., 2022; Thornburgh, 2023). Students saw personalized

feedback or teachers being flexible as signs that they were important, which made them feel like they belonged and made them more willing to participate. This indicates that the efficacy of teacher support is rooted in its relational aspect, which is especially vital for rebuilding connections in the post-pandemic context (Newberry & Hinchcliff, 2024).

Our third research question investigated the correlation between school belonging and student engagement. The statistical analysis indicated that a sense of belonging to school was the most significant direct predictor of student engagement. Theme 2: Belonging as Unevenly Distributed does a great job of explaining this result. The interviews showed a big difference between students who felt like they were important members of the college community and those who felt "invisible." This is in line with what van Heerden and Bharuthram (2023) found: that students who didn't feel connected thought they weren't "real university students." Our findings augment this by demonstrating that when students perceive a sense of belonging, they acquire the psychological safety requisite for participation, inquiry, and academic risk-taking. On the other hand, not feeling like you belong makes you withdraw and lose interest. This validates that belonging is not merely a positive sentiment but an essential prerequisite for active academic engagement (Prasath et al., 2025).

The primary finding of this study pertains to our fourth research question: the mediating role of school belonging. The structural equation model demonstrated that the direct effect of teacher support on student engagement was rendered non-significant upon the inclusion of school belonging as a mediator, indicating a complete mediation.

This is the study's most important part. It asserts that the principal mechanism by which teacher support affects engagement is by cultivating a sense of belonging within the school environment. In essence, supportive teachers foster an inclusive and nurturing environment where students feel accepted and valued; this sense of belonging ultimately empowers them to engage more profoundly in their learning. This finding integrates the perspectives of researchers advocating for the reformation of academic environments to emphasize well-being and community (Zheng, 2022) and those recognizing the necessity of fostering academic resilience through comprehensive support systems (Elangovan & Sundaravel, 2024). Theme 3: Engagement in the Post-Pandemic Classroom situates this dynamic, illustrating that in a context characterized by social disconnection, deliberate efforts by educators to foster community serve as the essential link that reestablishes students' connection to their learning.

Implications of the Study

The findings of this study offer important theoretical and practical implications.

- **Theoretical Implications:** This study offers an enhanced model for comprehending student engagement in the post-pandemic context. It expands current frameworks by empirically illustrating that school belonging is not merely an additional variable but a vital mechanism that facilitates the positive impacts of teacher support. It gives a clear, evidence-based way to build the academic resilience that is needed in today's schools.

- **Practical Implications:**For educators and administrators, the message is clear: fostering student engagement is fundamentally about building community.

    1. **Reframe Teacher Roles:** Professional development should emphasize teachers' roles as facilitators of belonging, equipping them with strategies for creating inclusive classroom climates, showing empathy, and building strong relational connections.
    2. **Prioritize Community-Building:** Institutions should invest in initiatives—such as peer mentoring, collaborative projects, and informal social events—that are explicitly designed to enhance students' sense of belonging.
    3. **Adopt Adaptive Pedagogies:** In light of post-pandemic challenges, instructors should be encouraged to use pedagogical techniques that intentionally foster interaction and co-creation of knowledge, thereby combating the social withdrawal that hinders engagement.

Limitations and Future Research

This study has numerous limitations that indicate potential directions for future research. First, its cross-sectional design precludes causal inferences; longitudinal studies are necessary to monitor the evolution of these relationships over time. Second, the data were gathered from a single institution, potentially constraining the generalizability of the results. Subsequent research ought to reproduce this study in various institutional and cultural settings. Third, the dependence on self-report measures for all variables may result in common method bias. Finally, subsequent studies could investigate additional potential mediators or moderators (e.g., peer support, self-efficacy) in the relationship between teacher support and engagement to develop a more comprehensive model. An intervention-based study aimed at deliberately cultivating a sense of belonging could yield causal evidence regarding its influence on engagement.

Conclusion

This mixed-methods study aimed to elucidate the intricate relationship among teacher support, school belonging, and student engagement in a post-pandemic context. Our findings unequivocally establish that school belonging is a pivotal mediator, functioning as the principal conduit through which supportive teaching practices are transformed into active student engagement. The quantitative data demonstrated the statistical significance of this relationship, whereas the qualitative narratives illuminated its human aspect: students engage when they perceive themselves as seen, valued, and connected.

This study emphasizes a fundamental truth: learning is a social and emotional process, especially in a time when schools are trying to get students interested in learning again and help them become more resilient in school. We need to create communities of belonging before we can create a strong and involved student body for the future. By putting relational pedagogies first and purposefully creating an inclusive space, teachers and schools can help students not only do well in school, but also become connected and confident members of their learning communities.

Declarations

Author Contributions

H.A. conceptualized and designed the study, performed the data collection and investigation, and conducted the formal statistical analysis. H.A. wrote the original manuscript and, as the sole author, reviewed, edited, and approved the final version for submission.

Funding

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Competing Interests

The author has no relevant financial or non-financial interests to disclose.

Ethics Approval

The study received ethical approval from the Institutional Review Board of the College of Basic Education, PAAET, Kuwait (Approval No. 005/2015) and was conducted in accordance with the principles of the Declaration of Helsinki.

Consent to Participate

Informed consent was obtained from all individual participants included in the study.

Consent to Publish

The participants provided informed consent for the publication of data in an anonymized format.

Data Availability

The datasets generated and analyzed during the current study are not publicly available due to participant privacy and confidentiality but are available from the corresponding author on reasonable request.

Author's Contributions

As the sole author, H.A. was responsible for all aspects of this work, including study conceptualization, design, data collection, analysis, and manuscript preparation.

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Figures

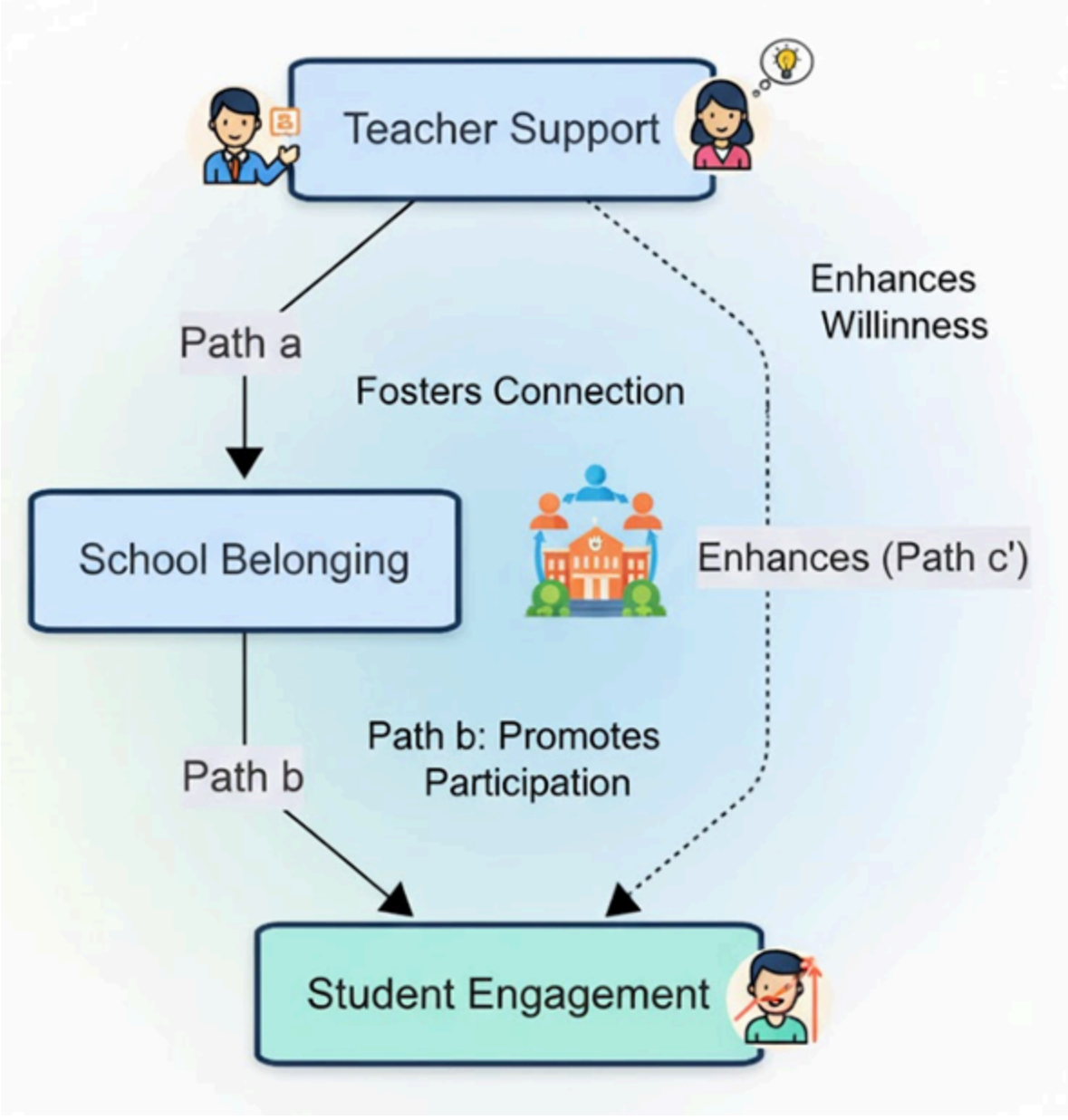


Figure 1

Conceptual Framework Illustrating the Hypothesized Mediating Role of School Belonging in the Relationship Between Teacher Support and Student Engagement

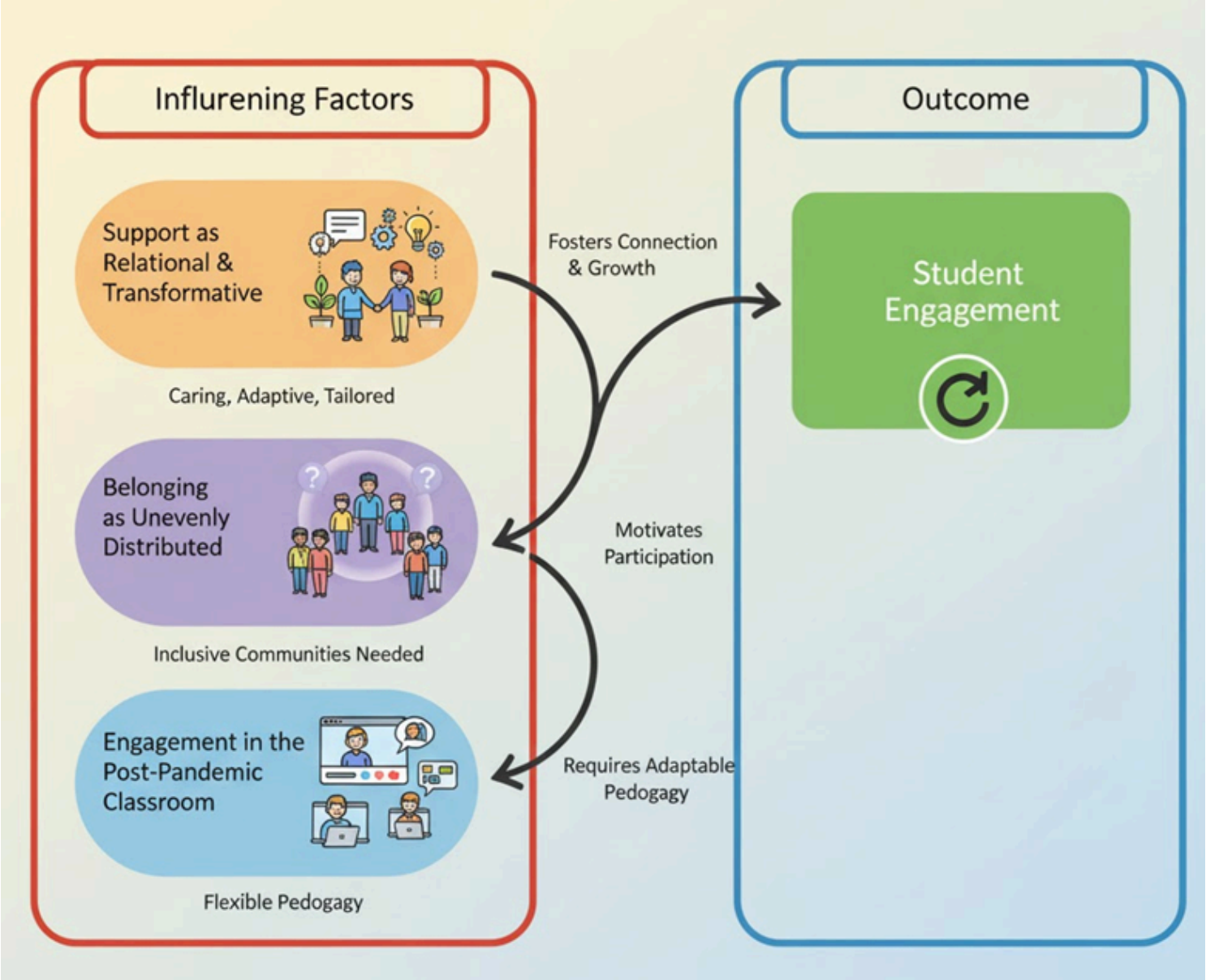


Figure 2

A conceptual model derived from thematic analysis showing the direct influence of relational teacher support, the experience of belonging, and post-pandemic classroom dynamics on student engagement

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- StudentTeachersData.xlsx
- Appendices.docx