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Exploring the Impact of Academic Psychological Capital Resources on Student Engagement at Undergraduate Level: The Mediating Role of Faculty Support

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Students' engagement in academic activities is the major dominating factor for their academic success along with their educational institution because disengaged students are more likely to have behavioral issues, suffer academically, and drop out. To create a conducive learning environment, it is indispensable to understand the nature of student participation in tertiary education. The current study was initiated to explore the level of students' engagement in higher education and the influence of students' socio-demographic factors and individual academic psychological capital resources including academic self-efficacy and resilience on students' engagement. It also intended to examine the direct and mediating role of faculty support in prior relationships. A structured questionnaire was developed to collect data. 242 undergrad students sampled from a renowned private University in Dhaka city of Bangladesh. In conjunction with other statistical techniques, to investigate the direct correlation of academic self-efficacy, academic resilience, and teachers' support with students' engagement as well as the mediation impact, structural equation modelling was primarily used with SmartPLS software. According to the study, faculty support and educational psychological capital resources were favourably associated with students' engagement. Furthermore, the study also revealed that the relationship between academic self-efficacy and resilience with the students' engagement was partially mediated by faculty support. The study offered a number of recommendations for emphasizing the psychological aspects of students' academic well-being as well as the assistance provided by teachers, both of which unquestionably stimulate students and improve their academic success.

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Introduction

The education sector has been under constant change as new ideas, philosophies and technologies make it one of the most dynamic sectors in the world. The educationists, philosophers and psychologists are always on the lookout for effective learning systems that enable better human resources. The interest for a better learning practice has come not only from the academics but the relevant industries as well. The development in this sector is well observed in the developed countries in contrast to the developing countries. In our case of Bangladesh, where the education system is still under a lot of analysis (Chowdhury & Sarkar, 2018), adjustments and changes make it a plausible case for research. With many factors that can contribute to the betterment of the educational system, the significance of students' academic psychological factors has been identified in numerous studies. In the context of Bangladesh, we find it research-worthy to take a deep dive into the impact of students' academic psychological capital resources on their learning participation, especially at the undergraduate level.

In a fast-paced world, the need for quality and relevant education is one of the most sought-after services for students and stakeholders. Much attention has been put forth on the development of trendy curricula and teaching techniques from elementary to higher educational institutions. For attaining higher students' success, academic researchers and psychologists are having more interest in students' psychological and behavioural engagement in various study settings. Universities are putting major effort into producing quality graduates than other competing institutes for a better placement in the job market (Ahmed et al., 2018). Eventually, the role of teachers, supervisors, and mentors has been found to be prominent in numerous research studies (Ahmed et al., 2017; Wilks et al., 2010). Likewise, studies have shown that individual psychological well-being elements such as academic self-efficacy and resilience have a significant role in the academic setting (Patrick et al., 1997; A. Ryan et al., 1997). Yet if we narrow our focus to student participation in particular, research has shown that instructors' assistance is of exceptional value and has a direct impact on how much students participate (Klem & Connell, 2004). Yet, since studies at the tertiary level are more concerned with the individuals' efforts of the students, the majority of learning occurs via individual formative assessments (Ahmed et al., 2018).

As per Phillips and Pugh (2010), university studies are distinct from other recent degree programs that are now being made available by higher education institutions. They diverge dramatically from typical graduate and undergraduate programs in a broad variety of key areas. Bayram and Bilgel (2008) state that the courses taken at the higher education level require a large amount of autonomous work and dedication from the student. The writers also underline how important it is for students enrolled in higher education to have the ability to work independently in order to strengthen their sense of connection to their coursework and, as a consequence, achieve outstanding achievements in their coursework (Bayram & Bilgel, 2008). Students in higher education need to make an effort to show how they are prepared to put in the work that is required to be successful academically, and this self-effort is a key part of that demonstration (Mozammel et al., 2018).

It is apparent from many of the relevant studies that point out the uniqueness of the university education where the students are deemed to be more independent in their expected work delivery. As stated by Han (2005), higher education provides little support and assistance which makes it complex to administer by the students (Han, 2005). That is why much depends on the program planning, execution and context of the university and the relevant attention that it requires from the students which are highly varied in different institutions and thus making it

arduous for the researchers to generalize the outcomes. Studies have shown that when people are committed to their job, they bring their whole selves to it. This is what researchers call "engagement" which involves high energy, vigor and dedication (Schaufeli et al., 2002). Research confirms what common sense suggests: people who like and are good at what they do are more productive than those who don't.

Furthermore, several studies have emphasized the dominant role of teachers' support and academic psychological capital (Resilience or Efficacy) on individual behaviors and academic outcomes (Ahmed et al., 2017). Due to its association with the successful completion of academic tasks and adaptation to the demands of academic life, the concept of academic resilience has received growing attention from the educational community over the last several decades. The importance of research on resilience is highlighted by a shift in mental health policy to include the promotion of positive mental health as a preventative measure (WHO, 2005) and an understanding of resilience and coping as one of eight positive mental health groupings (Parkinson, 2008). Resilience, according to Abiola and Udofia (2011), is linked to better health, happiness, and performance in the face of adversity (Abiola & Udofia, 2011). Although the "meaning" of resilience and what it implies (about the person) is intuitively understood, there is still no agreement on how to define psychological resilience, either philosophically or operationally, so that it can be measured (Cassidy, 2015). It seems that resilient students are able to persevere through challenging academic circumstances, keep their motivation strong, and achieve excellent results despite the challenges they face. Academic resilience and class participation have been studied extensively and shown to have a favorable and strong association. Students who rely on their own assets, such as academic resilience, are more likely to put forth significant effort when completing academic assignments, to maintain high levels of motivation and engagement throughout the learning process, and to outperform their peers in terms of overall academic performance (Romano et al., 2021).

In the age of globalization, the education industry is becoming more and more dynamic. In terms of higher education, the University Grants Commission (UGC) of Bangladesh estimates that by the end of the next decade (2016–2026), there may be 4.6 million students engaged in tertiary level education, up from the current 3.2 million students. Universities work hard to prepare their graduates for the challenges of the twenty-first century, and students' involvement in academic activities is a major determining factor in acquiring the knowledge, skills, and academic success necessary to succeed in lifelong learning as well as personal development and job-related competencies. Previous studies of different countries work with students' engagement and examined different psychological factors and teachers' support that affect engagement. However, in Bangladesh, such studies have not been performed yet where students' psychological capital resources (Academic self-resilience and academic self-efficacy) are considered. Unlike the prior studies, the current study concentrated on multiple psychological factors of the students as well as their perception regarding teachers' support to understand the importance of the students' psychological well-being to enhance participation in learning. The present study also focused on the indirect effect of faculty support not only on the relationship between academic self-efficacy and students' engagement but also on the association between academic self-resilience and students' participation in the classroom.

Literature Review

Academic self-efficacy

A person's self-efficacy is their belief in their own ability to achieve desired results (Bandura, 1995). Beliefs in one's own effectiveness are sculpted and created when a person analyses or assesses the results of one's work in a particular endeavour, thus it's important to look at the environments in which such ideas are nurtured. These perspectives allow us to see how different people think, feel, act, and are self-motivated, and hence provide light on why some succeed academically while others struggle. Comprehensive research found a modest correlation between self-efficacy and academic success among college students. Some of the most important mediating and moderating aspects in this connection were found to be students' ability to regulate their own efforts, their use of deep processing processes, and their focus on achieving specific goals (Honicke & Broadbent, 2016).

Several studies emphasize taking care of the students' self-efficacy as it is proven that it has a remarkable contribution to boost up students' motivation and active participation in class. The literature also suggests that the more efficacious behaviour, the more nursing students and Ph.D. students achieve their academic goals (Ahmed et al., 2017). The present study focuses on how students believe in themselves academically and how it affects their study habits is something they reflect on.

H1: There is an association between academic self-efficacy and student's engagement.

Academic resilience

One definition of resilience is "the capacity of a person or group to successfully adjust to adversity and emerge stronger on the other side"(Masten, 2016). Similar to emotional resilience, intellectual resilience is defined as the capacity to recover quickly from adversity and maintain progress in the face of ongoing challenges (Martin & Marsh, 2006; Romano et al., 2019). Some writers have focused on academic resilience as a distinguishing feature of pupils who have experienced great adversity, such as from disadvantaged socioeconomic situations or catastrophic life experiences (Agasisti et al., 2018; Lindström, 2001). Despite this, further research has shown that academic resilience is a key quality recognized in all students who endure extreme adversities along their academic route (Ayala & Manzano, 2018; Martin, 2007). Students who are resilient refuse to give up while any adverse situation arises in their academic life that results in a successful academic history. It has been shown that this trait is a strong predictor of various favourable outcomes, including satisfaction with school and class involvement (Martin & Marsh, 2006, 2009; Reeve & Jang, 2006; Romano et al., 2021).

Different scholars work on this students' psychology and its contribution to students' academic participation. For high school level, students encounter difficulties while studying which result in exam fear and anxiety that largely affect their academic performance (Martin & Marsh, 2008). Accordingly, at the tertiary level, students are burdened by the bundle of submission deadlines, exams and projects. These may generate stress and hardship which adversely affect their expected performance in class. Previous study suggest that the academically resilient students effectively overcome these difficulties and engage in their study to meet the learning achievement (Vaez & L Laflamme, 2008). Similarly, many studies focus on Ph.D. as it is different from the conventional degree program. The Ph.D. students used to extensively engage in research and development in a particular area and the study concluded that psychological capital resources, like resilience, have a significant impact to boost their motivation, energy,

and engagement in research (Ahmed et al., 2017). However, the current study wants to explore how academic resilience helps to foster undergrad students' vigor, energy, and participation in learning.

H2: There is an association between academic resilience and student's engagement

Faculty support

Teachers are crucial in the classroom since they are the ones who really impart information, provide training, and get pupils ready for their studies. Teachers were valued more than either parents or peers in terms of offering practical assistance and informational support, but not in terms of nurturing closeness, or appreciation (Wentzel et al., 2016). Because of this, the quality of the teacher-student connection is a crucial mechanism through which students' learning environments enrich their states and capabilities. To "provide support and instrumental aid to improve student learning and well-being," teacher support is defined as "the amount to which students feel their instructors regard and desire to create personal connections with them" (A. M. Ryan & Patrick, 2001). Evidence from recent meta-analyses shows that teachers' actions have a significant influence on students' ability to learn and operate, regardless of grade (Chong et al., 2018; Cornelius-White, 2007; Roorda et al., 2011).

Researchers have shown that teachers' pedagogical strategies and other student-support initiatives are strong predictors of students' achievement and motivation in the classroom. Faculty who employs active and participatory learning strategies and intellectually challenge students, as revealed by major multi-institutional research by Umbach and Wawrzynski (2005), have a greater impact on their students' motivation and engagement in the classroom (Umbach & Wawrzynski, 2005). A good attitude and affective intimacy to an institution, as well as better academic achievement, have been linked to faculty support, including gestures of caring and respect (LaMastro, 2001; Torregosa et al., 2016). However, this study focuses on how faculty support directly works as the fostering agent to accelerate undergrad students' learning motivation and participation.

H3: There is an association between faculty support and student's engagement.

Along with the direct effect of faculty support, previous studies also explored that for university and doctoral students, the facilitation from the faculty members increase student engagement even more through improving the students' psychological capital, e.g., academic efficacy and academic resilience (Ahmed et al., 2017, 2018). Some research works with adolescent and find that kids who are resilient perceive their teachers as providing more emotional support, which can encourage them to participate more actively in the educational environment (Romano et al., 2021). However, the present study concentrates on undergrad students to investigate the mediation effect of faculty support on the relationship between undergrad students' psychological capital (e.g., academic self-efficacy, academic resilience) and students' involvement in learning.

H4: A mediating effect of faculty support exists on the relationship between academic efficacy and students' engagement.

H5: A mediating effect of faculty support exists on the relationship between academic resilience and students' engagement.



Student Engagement

Traditional models of student engagement see it as a meta-construct made up of three basic factors: emotional investment, active participation in class, and intellectual (Appleton et al., 2006; Lawson & Lawson, 2013). Affective engagement, which draws on the research of experts like Finn (1989) and Fredricks, Blumenfeld, and Paris (2004), focuses on a student's sense of community and rapport at school. The term "behavioral engagement" is used to define the fundamental actions that makeup school and class attendance. The cognitively engaged student demonstrates self-control, sees learning as valuable, and sets personal learning objectives (Chong et al., 2018; Finn, 1989; Fredricks et al., 2004).

In its broadest sense, engagement is an emotional and cognitive state that is characterized by vivacity, immersion, and commitment (Christenson et al., 2012). According to Lamborn et al. (1992), student engagement is the "psychological participation and investment" of a student in obtaining knowledge and competence (Lamborn et al., 1992).

Student participation may have positive effects on a wide range of outcomes, including learning (Carini et al., 2006), accomplishment and marks (Akey, 2007; Kuh et al., 2008), and student engagement (Skinner & Belmont, 1993). Some study has been done to determine how university students' research quality may be boosted (Waldinger, 2010) and how students' motivation can be increased in regard to projects. However, there is a lack of information on what could increase students' involvement or how it can be increased (Ahmed et al., 2017). Yet, how interest in higher education might be fostered is mostly unexplored. As a result, there are compelling reasons to investigate ways to boost student involvement at the university level, as was done in the current research.

Methodology

The present study follows the cross-sectional and self-administered survey procedure to collect quantitative data to examine the students' academic engagement.

Study Group

A structured questionnaire was developed in Google Forms to gather relevant information. Using the convenience sampling method, a total of 242 undergrad students of all streams were recruited from a renowned private university in Dhaka city of Bangladesh as the sample. Among these respondents, 173 (71%) were male and 69 (29%) were female students out of which three-fourth of the students were in the age group of 21-24 years. The rationale behind using private universities for this study is that; in the Annual Report 2020 of the University Grants Commission (UGC), Bangladesh, the teacher-student ratio of 50 public universities was 1:83, whereas the teacher-student ratio of 107 private universities in Bangladesh was 1:22. This gap between private and public universities in teacher-student ratio is critical to determining the perceived faculty and psychological support that can be augmented by the students. As the gap in the ratio is significant in favor of private universities, we deem it essential that the samples be selected from private universities. Moreover, another study carried out by Kalam and Mahonta in 2017 investigated the service gap in higher education between public and private universities. Among the five dimensions including; tangibility, reliability, empathy, assurance, and responsiveness, where responsiveness is studied: 1. Carefulness for the students, 2. Availability of personnel, 3. Addressing student's complaint, 4. Teachers' response to students' requests. The result of the study showed students' perception of responsiveness was significantly higher for private universities than public universities (Kalam

& Mahonta, 2017). Prior to gathering data from research participants, permission was obtained, and assurances were offered respecting the anonymity of the data collection method.

Data Collection Tools

In total 32 questions were developed to assess the concerned academic psychological capital, faculty support and students' academic engagement. Various examined and validated scales were employed to measure different factors of students' engagement.

A widely used and modified student version of the 9 scale Utrecht University engagement scale (UWES-9S) was used to gauge student engagement (SE) which measures students' dynamism (SE1, SE2 and SE5) (e.g., I feel capable and energized when I'm studying or attending class), devotion (SE3, SE4 and SE7) (e.g., I am motivated by my education), and absorption (SE6 and SE8) (e.g., I am intensely involved in my studies) (Ahmed et al., 2017, 2018; Balducci et al., 2017; Loscalzo & Giannini, 2019; Mozammel et al., 2018; Schaufeli et al., 2002, 2006). 5 questions on the students' perception regarding their self-academic-efficacy (AE1-AE5) (e.g., If I do not give up, I can finish practically all of the assignments in class) were adapted from Patterns for adaptive learning scales (PALS) (Ahmed et al., 2018; "Goals, Goal Struct. Patterns Adapt. Learn." 2014; Midgley et al., 2000; Mozammel et al., 2018). Accordingly, to measure the students' insight into their own academic resilience, ARS-6 was used (AR1-AR6) (e.g., I believe I have the mental fortitude to take on tests) (Martin & Marsh, 2006). Lastly, to comprehend the significance of faculty support to enhance learning, 7 items were used, which boldly convey the students' perception in this regard (FS1-FS7) (e.g., My teacher is open to having conversations with me outside of the class to talk about topics that are significant and interesting to me) (Wilson et al., 2020). Notably, All items were scored on a five-point rating scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) where a higher score implied a greater prevalence of all constructs.

Data Analytic Plan

The analytic strategy was designed by separating into three statistical techniques- Univariate technique, bivariate technique and structural Equation modeling for assessing the hypothesized relationship among the latent variables (Benitez et al., 2020; Hair J F. et al., 2017; J F Hair et al., 2018). The Former two were performed using SPSS software and Smart PLS was deployed to run the structural equation model (Ringle, Wende, & Becker, 2015; Ringle & Sinkovics, 2004). At first, descriptive statistics were conducted for all demographic profiles (Table 1) and the overall continuous descriptive statistics of the latent variables using mean were calculated for each (Table 2). Later on, dichotomous analysis was meant to track the relationship between student participation and other demographic factors (such as gender and age) (Table 3 & Table 4). The structural equation model was performed in two segments- Measurement Model Assessment or outer model assessment and Structural equation model assessment or inner model assessment (J Henseler et al., 2009). The first segment included the assessment of Indicator Reliability, Convergent Reliability, Internal Consistency and Discriminant validity (J Henseler et al., 2009). Upon checking the essential criterion, a reliable and valid outer model estimation permitted the next step which is the evaluation of the structural path of some hypothesized relationship among study constructs estimating structural path coefficients and their statistical significance (Hair J F. et al., 2017; Joe F. Hair et al., 2014; J Henseler et al., 2009). The entire analytical plan is shown in Figure 1.

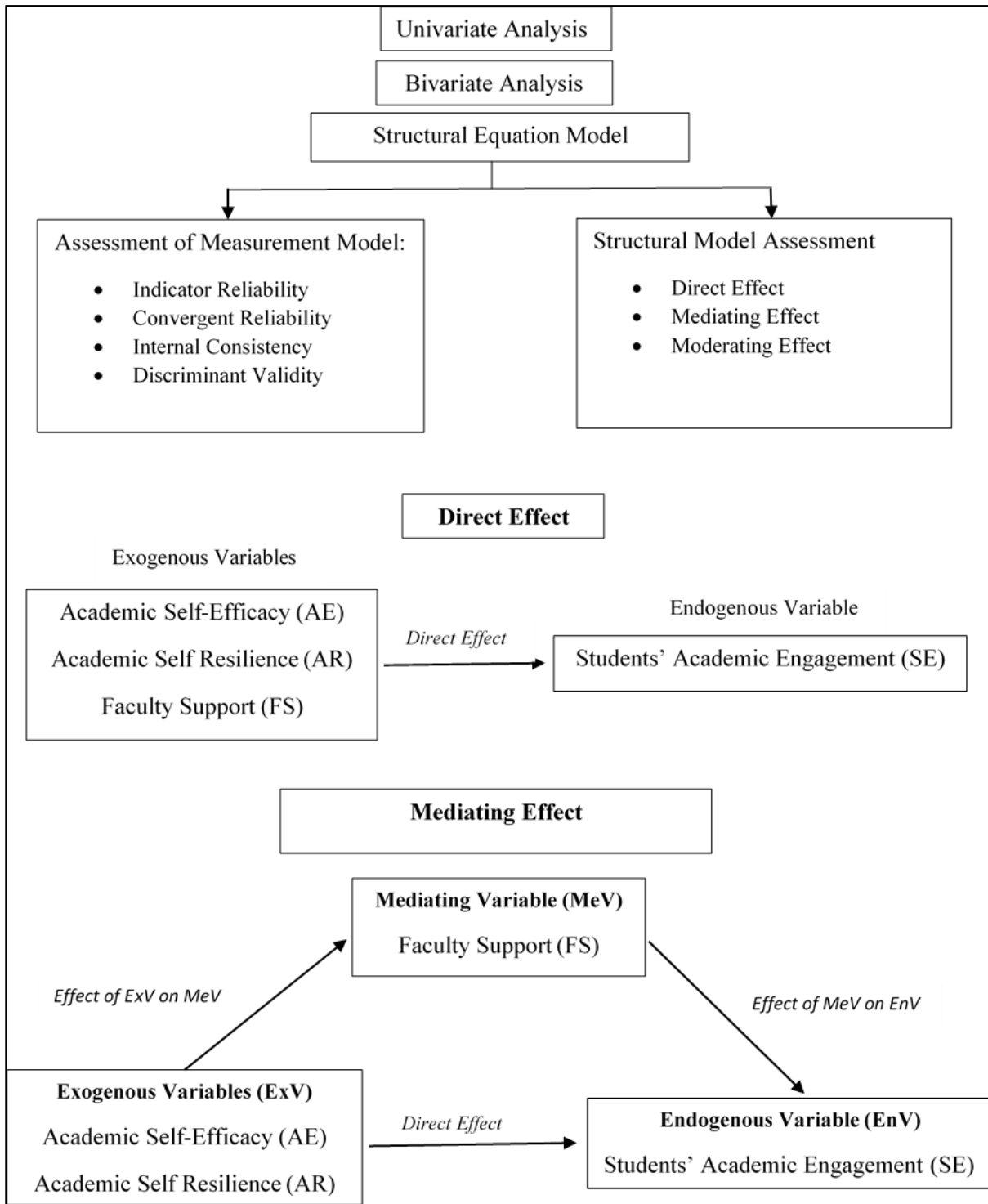


Figure 1. Entire Data Analytic Plan

Results

Preliminary analysis

The descriptive statistics of all the demographic characteristics were displayed in Table 1. The total sample was comprised of 71% male and 29% female students out of which three fourth of the students were in the age group 21-24 years and the majority of the respondents

live in the capital city single (61%). In the participants group, majority of the respondents were from the faculty of Science and engineering (46%). The study also showed that there is no discernible variation in the mean scores of the academic involvement of the male & female respondents (Table 3). Accordingly, same result was exhibited for different age groups of the respondents (Table 4).

Table 1. Descriptive Statistics of the Components of Demography Profiles

Items	Categories	Frequency	Percentage
Gender	Male	173	71%
	Female	69	29%
Age	18-20	28	12%
	21-24	182	75%
	25-29	31	13%
	30 and above	1	0%
Education Stream	Arts and Social Sciences (English, JMC, Sociology)	50	21%
	Science and Engineering (CSE, EEE, TE)	111	46%
	Bachelor of Business Administration (BBA)	81	33%
Level of Education	1st year	66	27%
	2nd year	25	10%
	3rd year	80	33%
	4th year	71	29%
Residence	In Dhaka	147	61%
	Outside Dhaka	95	39%
Monthly family income	Below 40,000	164	68%
	41,000-70,000	54	22%
	71,000-1,00,000	18	7%
	More than 1,00,000	6	2%

Table 2. Overall Descriptive Statistics of the Variable

Variable	Mean	Std. Deviation
MSAE	3.7711	0.783
MSAR	3.5771	0.953
MSFS	3.7072	0.960
MSSE	3.5108	0.893

Note: MSAE: Mean score of Academic Efficacy; MSAR: Mean score of Academic Resilience; MSFS: Mean score of Faculty Support; MSSE: Mean score of Students' Engagement



Table 3. Output of independent t Test

Gender	N	Mean	Std. Dev.	T-Cal	T-Crit	Df	P-Value	Decision
MSSE	Male	173	3.50	0.890	0.179	1.98	0.858	May not reject H ₀
	Female	69	3.53	0.907				

Note: MSSE: Mean score of Students' Engagement

Table 4. Analysis of Variance (ANOVA)

		Sum of Squares	Df	Mean Square	F	Sig.
MSSE	Between Groups	3.260	3	1.087	1.368	.253
	Within Groups	189.102	238	.795		
Total		192.362	241			

Note: MSSE: Mean score of Students' Engagement

Assessment of Measurement Model

Prior to assessing the hypothesized relationships among the latent variables, the reliability and validity were checked off the measurement model. In assessing the reliability of each indicator, some experts acclaimed that the model is considered more reliable if the values of outer loadings are 0.7 or more (Hair J F. et al., 2017). We eliminate the indicators SE1 and SE5 of the students' engagement construct due to lower reliability which resulted in a slight increase of loadings of existing indicators and also the convergent reliability (Figure 2 and Table 5) (Hanafiah, 2020; J Henseler et al., 2009).

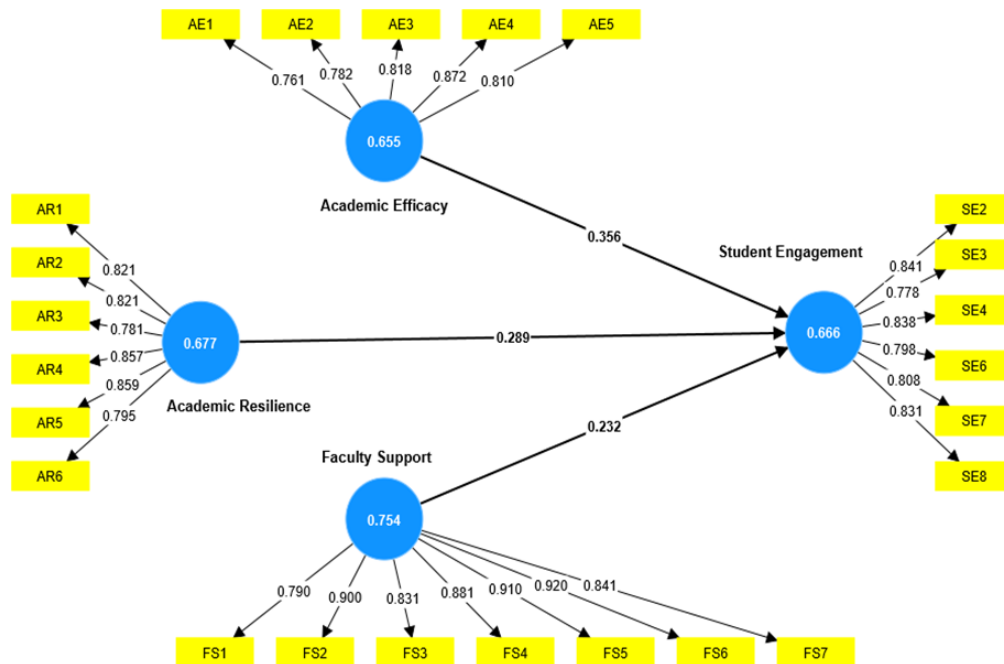


Figure 2. Outer loadings after eliminating the indicators of lower reliability

Accordingly, the composite reliability was checked for examining the internal consistency which must be above its threshold value of 0.7 (Bagozzi et al., 1988; Joseph F. Hair et al.,

2013). In the present study, the composite reliability values of all the variables were between 0.88 and 0.95 which were considered satisfactory (Hair et al., 2018).

For the assessment of validity, two validity subtypes are usually examined: convergent validity and discriminant validity. The commonly used approach, average variance extracted (AVE), was used to assess the convergent validity that quantifies the degree to which the indicators of a certain construct measure the same latent variable (Fornell & Cha, 1981). According to Fornell and Larcker Criterion, to examine the validity, the value of AVE matched with the suggested cutoff value. From table 5, it can be noticed that the values of AVE of all the constructs were higher than 0.5 (0.66-0.75) which assurance the convergent validity of the model (Benitez et al., 2020; Chin, 1998; Hair et al., 2018).

Table 5. Loading, AVE and Composite Reliability

Construct	Item	Loading ^a	AVE ^b	CR ^c	Cronbach's alpha ^d
Academic Efficacy	AE1	0.761	0.655	0.876	0.868
	AE2	0.782			
	AE3	0.818			
	AE4	0.872			
	AE5	0.81			
Academic Resilience	AR1	0.821	0.677	0.907	0.904
	AR2	0.821			
	AR3	0.781			
	AR4	0.857			
	AR5	0.859			
	AR6	0.795			
Student Engagement	SE1	0.758	0.666	0.90	0.899
	SE2	0.841			
	SE3	0.778			
	SE4	0.838			
	SE6	0.798			
	SE7	0.808			
	SE8	0.831			
	SE5	0.758			
Faculty Support	FS1	0.79	0.754	0.95	0.945
	FS2	0.9			
	FS3	0.831			
	FS4	0.881			
	FS5	0.91			
	FS6	0.92			
	FS7	0.841			

Note: Item removed: Indicator items are below 0.7: SE1 and SE5

Meanwhile, to guarantee the discriminant validity, Fornell and Larcker (Fornell & Cha, 1981) and Chin's criteria (Chin, 1998), both approaches were used where the former one examined the validity at the construct level and the later one measured at the indicators level (Hanafiah, 2020). In order to confirm the discriminant validity, Fornell and Larcker forwarded that the AVE for each construct must be greater than the squared correlation of any other construct. Whereas



Chin suggested that the model ensured the discriminant validity as the cross-loadings or the correlation of the indicators was higher with the respective construct rather than other latent variables. Implementing the two steps techniques, the present study met the criteria of discriminant validity a (Table 6 and Table 7). To sum up, all the values of table 5 and table 7 ensured a reliable and valid measurement model to proceed in the next steps (Hair et al., 2018).

Table 6. Discriminant Validity (Fornell and Larcker Criterion)

	Academic Efficacy	Academic Resilience	Faculty Support	Student Engagement
Academic Efficacy	0.809			
Academic Resilience	0.641	0.823		
Faculty Support	0.469	0.578	0.869	
Student Engagement	0.65	0.651	0.566	0.816

Note: Bold face scores represent square root of AVE of every latent

Table 7. Indicator Item Cross loading (Chins’ Criterion)

	Academic Efficacy	Academic Resilience	Faculty Support	Student Engagement
AE1	0.761	0.486	0.375	0.478
AE2	0.782	0.479	0.301	0.469
AE3	0.818	0.469	0.346	0.487
AE4	0.872	0.566	0.404	0.566
AE5	0.81	0.574	0.452	0.608
AR1	0.53	0.821	0.495	0.582
AR2	0.465	0.821	0.491	0.529
AR3	0.493	0.781	0.378	0.502
AR4	0.595	0.857	0.495	0.579
AR5	0.543	0.859	0.484	0.528
AR6	0.53	0.795	0.506	0.484
FS1	0.399	0.457	0.79	0.441
FS2	0.462	0.52	0.9	0.528
FS3	0.311	0.417	0.831	0.399
FS4	0.39	0.508	0.881	0.46
FS5	0.422	0.517	0.91	0.519
FS6	0.429	0.549	0.92	0.521
FS7	0.418	0.526	0.841	0.545
SE2	0.558	0.522	0.442	0.841
SE3	0.532	0.511	0.44	0.778
SE4	0.543	0.549	0.468	0.838
SE6	0.513	0.547	0.491	0.798
SE7	0.485	0.506	0.493	0.808
SE8	0.551	0.552	0.44	0.831

Assessment of Structural Equation Model

Following the successful assessment of the measurement model, the next step is the evaluation of the structural path model. The essential criteria for assessing the path model, the coefficient of determination (R2) of the endogenous latent variable was found 0.78, which is substantial to move forward for the evaluation of structural path coefficients of the relationship



among the study constructs (Chin, 1998; J Henseler et al., 2009). According to the claim of various practitioners, the process of evaluation of hypothesized relationships, at first, the present study assessed the hypothesized path model of direct effect (H1, H2, and H3) and indirect mediational and moderating effect in the later on (Götz et al., 2010; Hair J F. et al., 2013, 2017; J Henseler et al., 2009; Jorg Henseler & Fassott, 2010; Sarstedt et al., 2022). The target of the current study was to investigate how student participation is influenced by faculty support and academic psychological capital resources. Additionally, the study also examined the mediating and moderating effects of faculty support on student participation. Here we have used the bootstrapping analysis to evaluate these hypothesized relationships.

Assessing the direct relationships

Table 8 and figure 3 illustrated the outcomes of the direct effect of path modelling. The path supported H1 ensuring the positive and statistically significant effect of the students' academic efficacy on students' engagement ($\beta=0.353$, $t_{0.05}=5.525 > 1.96$ and $P\text{-value} < 0.05$). Thus higher self-efficacy in our students is associated with higher student engagement. Accordingly, for H2, the result revealed that the students' academic self-resilience has a significant and positive impact on the students' engagement ($\beta= 0.292$, $t_{0.05}=3.969 > 1.96$ and $P\text{-value} < 0.05$). It implied that the more the students are self-resilient, the more they are academically involved. The study also made an effort to look at the connection between students' engagement and teachers' assistance which was explained by hypothesis H3. The bootstrapping results also indicated a considerable positive contribution from teachers to fostering student involvement ($\beta=0.233$, $t_{0.05}=4.297 > 1.96$ and $P\text{-value} < 0.05$). According to this finding, students are more engaged in their academic work when they perceive their teachers to be offering them more support.

Table 8. Summary of hypothesis (H1, H2 and H3) (Direct effect)

		Beta	Standard deviation	T statistics	P values	Decision
H1	AE -> SE	0.353	0.064	5.525	0.000	Supported
H2	AR -> SE	0.292	0.073	3.969	0.000	Supported
H3	FS -> SE	0.233	0.054	4.297	0.000	Supported

Note: AE: Academic Efficacy; AR: Academic Resilience; FS: Faculty Support; SE: Students' Engagement

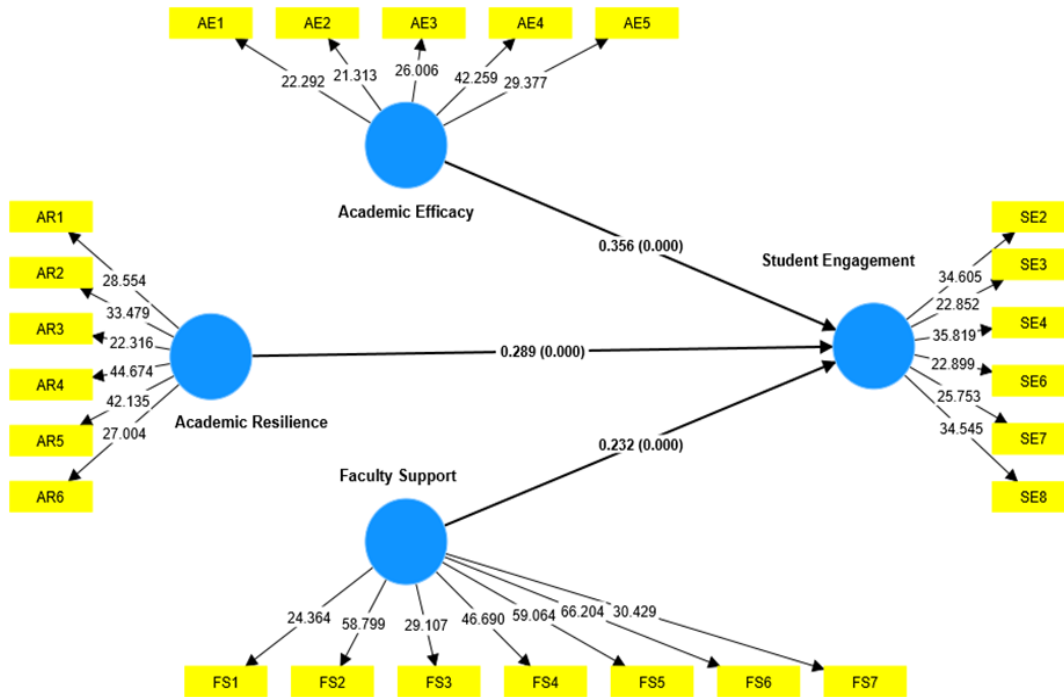


Figure 3. Structural model-direct effect

Assessing the mediation role of faculty support on the relationship between academic efficacy and students’ engagement

Controlling the effect of age and gender of the respondents on the entire model, the present study considered the following hypothesized relationships to reach the ultimate conclusion on the mediation effect of faculty Support the on the relationship between academic efficacy and students’ engagement,

- (1) the effect of academic self-efficacy (AE) on perceived faculty support (FS)
- (2) the effect of perceived faculty support (FS) on school engagement (SE) and
- (3) the direct, indirect and total effect of academic self-efficacy (AE) on school engagement (SE).

All the effects had been tested at level of a significance $\alpha=0.01$. Results of the structural mediation model are shown in Table 9 and Figure 4.

Table 9. Summary of Hypothesis (H4) (Indirect effect)

Hypo-thesis	Relation	Beta	Standard deviation	T statistics	P values	Decision
	AE -> FS	0.471	0.057	8.262	0.000	
	FS -> SE	0.334	0.052	6.395	0.000	
	AE -> SE	0.494	0.054	9.084	0.000	
H4	AE -> FS -> SE	0.157	0.033	4.728	0.000	Supported

Note: AE: Academic Efficacy; AR: Academic Resilience; FS: Faculty Support; SE: Students’ Engagement

The bootstrapping result showed a positive and statistically significant association of students’ academic self-efficacy with the support that they get from the faculty members ($\beta= 0.471$ and P- value < 0.01) and students’ academic self-efficacy with students’ participation in the study

($\beta = 0.494$ and $P\text{-value} < 0.01$). It inferred that the students who have a higher belief in their ability to achieve an expected academic outcome, also get higher support from their teachers and have greater academic participation. Additionally, there is a positive and significant relationship between teacher support and student participation ($\beta = 0.334$ and $P\text{-value} < 0.01$). Thus, greater perceived support from teachers is associated with higher levels of student involvement. Likewise, in the path of academic self-efficacy-perceive faculty support-students, academic engagement was showing significant positive output results ($\beta = 0.157$ and $P\text{-value} < 0.01$).

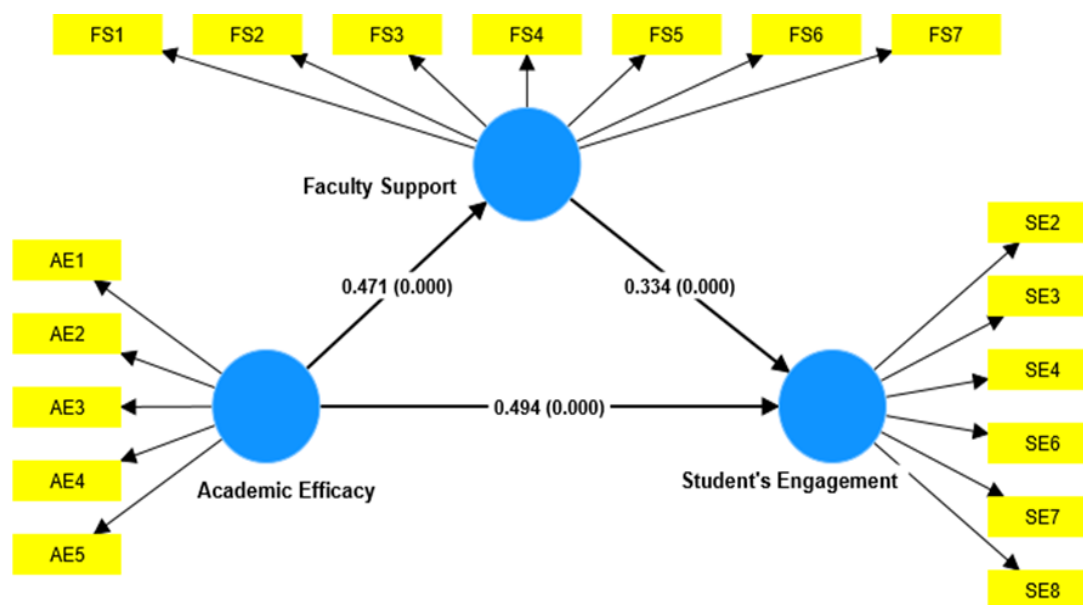


Figure 4. Mediation effect of faculty support on the relationship between academic efficacy and students' engagement

According to the assessments of evaluating the overall effect ($\beta = 0.651$ and $P\text{-value} > 0.01$), direct effect ($\beta = 0.494$ and $P\text{-value} < 0.01$), and indirect impacts ($\beta = 0.157$ and $P\text{-value} < 0.01$) of academic resilience on school involvement, perceptions of teachers' emotional support may partially moderate this link (Table 10). Therefore, greater academic efficacy supports greater perceived support from teachers, which raises levels of school involvement.

Table 10. Direct, Indirect and Total effect of academic self-efficacy on students' engagement

Effect	Beta	P values
Direct (AE -> FS)	0.494	0.000
Indirect (AE -> FS -> SE)	0.157	0.000
Total	0.651	0.000

Assessing the mediation effect of faculty support on the relationship between academic resilience and students' engagement

Continuing the mediation testing analysis, at this stage, the mediating effect of faculty support had been assessed on the relationship of academic self-resilience on students' academic engagement. Accordingly, this hypothesized path was analyzed by estimating the following effects.



- (1) the effect of academic self-resilience (AR) on perceived faculty support (FS)
- (2) the effect of perceived faculty support (FS) on school engagement (SE) and
- (3) the direct, indirect and total impacts of academic self-resilience (AR) on school engagement (SE).

The results are shown in Table 11 and figure 5.

Table 11. Summary of hypothesis (H5) (Indirect effect)

Hypothesis	Relationship	Beta	Standard deviation	T statistics	P values	Decision
	AR -> FS	0.579	0.049	11.786	0.000	
	FS -> SE	0.285	0.063	4.496	0.000	
	AR -> SE	0.486	0.068	7.125	0.000	
H5	AR -> FS -> SE	0.165	0.04	4.077	0.000	Supported

Note: AE: Academic Efficacy; AR: Academic Resilience; FS: Faculty Support; SE: Students' Engagement

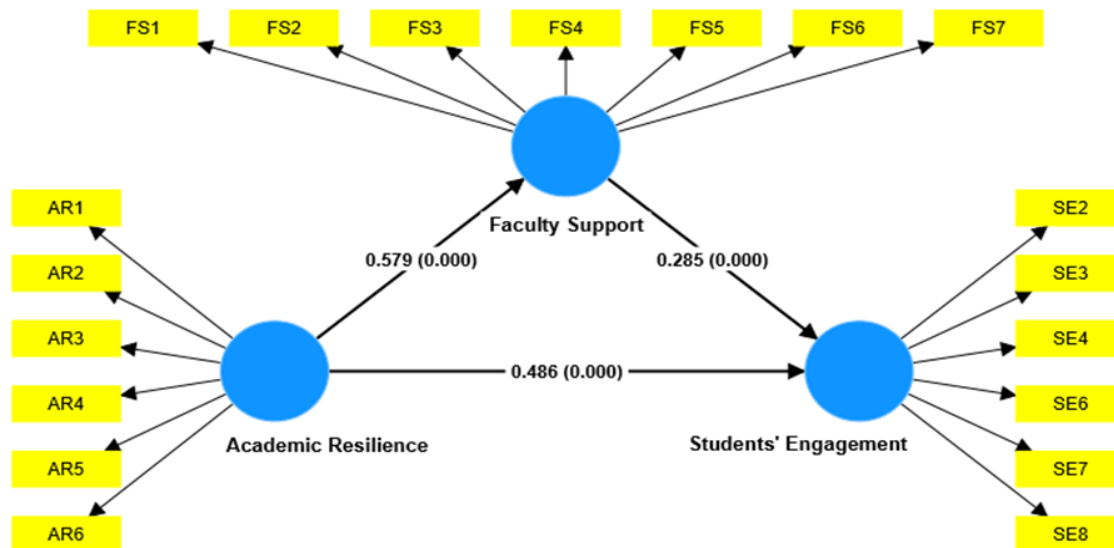


Figure 5. Mediation effect of faculty support on the relationship between academic resilience and students' engagement

The positive and significant direct path effect of academic self-resilience on academic participation implies the higher ability to handle academic stress and face challenges in difficult situations work as a catalyst to make the students more involved in education ($\beta=0.486$ and P-value > 0.01). Also, the result shows that faculty support was successfully partially intervening in the relationship between academic resilience and students' engagement ($\beta=0.165$ and P-value > 0.01). The above results permitted the significant mediating effect of faculty support on the relationship between academic resilience and students' engagement (Table 12). Thus, higher levels of school involvement result from more perceived teacher support, which is supported by increased academic resilience.

Table 12. Direct, Indirect and Total effect of academic self-efficacy on students' engagement

Effect	Beta	P values
Direct (AR -> FS)	0.486	0.000
Indirect (AR -> FS -> SE)	0.165	0.000
Total	0.651	0.000

Discussion

The current study pursued to examine the internal association among students' academic self-efficacy, self-resilience, perceived teachers' support and students' academic engagement. In parallel, it also aimed to investigate how academic self-efficacy acts on students' engagement if the faculty support works as transit in that way. Accordingly, whether students' self-resilience is connected to their active classroom learning through their perception to get support from their professors. While investigating the faculty's mediating role, additionally, we sought to comprehend the nature of the connections between teacher support and academic self-efficacy and resilience in the classroom.

Similar to the current study, a considerable number of researchers explored that the high academic psychological capital (e.g., Self-efficacy, self-resilience) has a positive impact on students' academic engagement and performance that triggers the improvement of learning quality and individuals' academic success (Muca et al., 2023; Saleem et al., 2022; Saleh About Elyazied et al., 2022).

Depth of the result discussion, the present study supported the association between students' self-efficacy and their participation in the academic discipline (H1). The earlier studies also permitted the relationship as the students with the higher belief in achieving expected academic outcomes tend to have a higher dedication to participate in class content (e.g., Ahmed et al., 2018; Lane & Lane, 2001)). Bresó et al., (2011) also mentioned in their survey that while encountering challenging and critical situations, self-efficacious students come up with immediate alternative strategies by influencing their cognitive and emotional processes to effectively deal with those situations.

Supporting hypothesis H2, the present study concluded that the ability to effectively manage stress, remain motivated, and persist even in the face of adversity or difficulty enhances the level of attentiveness, commitment, and enthusiasm. According to Martin and Marsh's (2006) path analyses, academic resilience accelerates the improvement of three additional educational and psychological outcomes: enjoyment of school, active participation in class, and overall self-confidence. Some prior studies also reached the same conclusion that resilience is positively correlated with students' academic engagement (e.g., Borman et al., 2001; McMillan & Reed, 1994; Mozammel et al., 2018)).

Accordingly, faculty support, an important latent variable in the present study, positively accelerates the students' involvement in the learning process. This finding matches the explanation made by Fati et al. (2019). They enlightened the transformative function of the faculty members' support and direction. It might inspire pupils to become more engaged in class and start believing in themselves to bear academic challenges and attain expected results. The positive relationship between perceived faculty support and academic engagement was also confirmed by some other researchers (e.g. (Loscalzo & Giannini, 2019; Reeve & Jang, 2006; Wilson et al., 2020; Salanova et al., 2010))



Through the process of assessing the indirect effect of faculty support, at first, the study found that students' academic self-efficacy has a positive impact on teachers' support. Teachers support more who have the ability to understand and successfully complete tasks, courses, and tests. Our results further corroborated Hypothesis 4 by showing that the relationship between academic self-efficacy and school engagement was largely mediated by perceived teachers' support. Prior research on the mediatory effect of teacher support on student involvement yielded the same findings (e.g. (Ansong et al., 2017, Xanthopoulou et al., 2008)). This study convinces us to accept that academic self-efficacy is one of the prerequisites of academic engagement, however, academic support also plays a role in mediating this link. Self-efficacy thereby heightens academic support, which has increased engagement (Bakker, 2014; Robayo-Tamayo et al., 2020).

Moreover, it found that resilient students get more support from their teachers due to their enthusiastic behavior in learning which had been found while exploring the mediating effect of faculty support on the relationship between academic self-resilience and engagement. Our findings further supported Hypothesis H5 by demonstrating that perceived emotional support from teachers served as a major mediator in the link between academic self-resilience and school involvement. Several studies concluded that a positive association exists between academic resilience and higher perceived teachers' support, which raises the level of academic engagement (e.g., Romano et al., 2021, Robayo-Tamayo et al., 2020)). According to a previous study, self-resilient students consider the teachers' support as the catalyst of their academic engagement and achievement (McMillan & Reed, 1994). Some studies demonstrated that students with high resilience pleasantly involve themselves in school activities and thus develop a favourable relationship with the faculty members, which boosts their academic engagement (Martin et al., 2015). Specifically, it demonstrated that students who are academically resilient typically exhibit better levels of engagement in their studies while dealing with academic pressures because they perceive higher support from their professors.

However, in contrast, a bunch of previous studies found the mediating effect of these individual psychological capitals while exploring the teachers' capacity to motivate students in learning and students' learning achievement (e.g. (Li et al., 2020; Mateos & Fern, 2021)). So far as we are reviewed the literature, in Bangladesh, the area is quite unexplored. Nevertheless, very few studies have explored if or how students' perceptions of professors' support may affect the relationship between academic psychological resources (Academic self-efficacy and Academic self-resilience) and school involvement.

Conclusion and Recommendation

In the context of Bangladesh, The current findings offer insight into the underlying mechanisms that encourage students with strong academic psychological capitals (Academic self-efficacy and academic self-resilience) to take an active role in their learning environments. Our findings also confirmed prior findings by highlighting the significance of both contextual (Academic self-efficacy and academic self-resilience) and personal resources (Faculty support) in promoting student engagement (Borman et al., 2001; Reeve et al., 2020; Romano et al., 2021). Additionally, the study also confirms the findings of prior conducted in different countries, teachers' emotional and academic support work as the catalyst to enhance the impact of the academic psychological capital on students' engagement (McMillan & Reed, 1994; Reeve & Jang, 2006; Robayo-Tamayo et al., 2020; Romano et al., 2021). Several suggestions could be forwarded for future implications from this study. In order to encourage student participation and enhance their productivity, our findings highlight the significance of fostering individual psychological characteristics e.g., self-efficacy and resilience in the educational

environment. Moreover, a number of authors have demonstrated how efficacy and resilience-based interventions can improve students' well-being (e.g., Bresó et al., 2011; Romano et al., 2021; Schunk & Ertmer, 2000; Teuber et al., 2021). In this context, the role of educational institutes in improving students' academic self-efficacy and self-resilience is twofold. Firstly, educational institutes should provide an environment that fosters self-confidence and encourages students to take risks and challenge themselves. This could involve creating an encouraging and supportive learning environment, providing a varied range of activities, and offering individualized support. Secondly, educational institutes should focus on building students' skills and knowledge and teaching them how to develop effective strategies to manage stress and other difficulties. Training programs on stress management, time management, set realistic goals and effective problem-solving techniques could be initiated. Additionally, the psycho-concealing unit should be made mandatory in each University will provide support to the student in managing exam stress and improving their self-confidence.

Furthermore, one of the prominent catalysts to improve students' participation in class is the teachers' consistent feedback and recognition to students, which results in building self-efficacy and resilience. Different studies have also permitted the direct and indirect of teachers support in fostering the students' eagerness to study (McDonald Connor et al., 2005; Reeve et al., 2020; Wilson et al., 2020). Professional development is a key factor in improving teacher support for students' academic engagement. Educational institutes can provide teachers with the necessary training and resources to help them develop effective strategies for engaging students in the learning process.

This may include strategies for increasing student motivation and building positive relationships between teachers and students. Open communication between teachers and students is essential for increasing student engagement and academic success. Educational institutes should create an environment that encourages and facilitates this type of communication. Collaborative learning can help increase student engagement and academic success. The policymakers should give a major concentrate on the mental health of the teachers, which is the most negligible issue in the present context, as the well-being of teachers at work and their mental health have a strong impact on the well-being of their students.

Despite the fact that in Bangladesh, hardly any study relevant to this study can be found. Nevertheless, there is further scope to work in this study. The present work has been done on the concept of a cross-sectional study that involved participants from private universities covering all available disciplines. Rather a longitudinal study plan could be employed to monitor the long-term impact of academic psychological resources on university student's engagement. A comparison could be conducted between private and public university students to see whether the impact of individual psychological resources and faculty support on students' participation operates as the present study underlined. Furthermore, future studies could work with other academic psychological resources, e.g., optimism, self-esteem and disruptive or cheating behavior to see the association with the students' engagement.

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References

- Abiola, T., & Udofia, O. (2011). Psychometric assessment of the Wagnild and Young's resilience scale in Kano, Nigeria. *BMC Research Notes*, 4. <https://doi.org/10.1186/1756-0500-4-509>
- Agasisti, T., Avvisati, F., Borgonovi, F., & Longobardi, S. (2018). Academic resilience: WHAT SCHOOLS AND COUNTRIES DO TO HELP DISADVANTAGED STUDENTS SUCCEED IN PISA. *OECD Education Working Papers, No. 167*, OECD Publishing, Paris., 167.
- Ahmed, U., Umrani, W. A., Pahi, M. H., Mir, S., & Shah, M. (2017). *Engaging Ph . D . Students : Investigating the Role of Supervisor Support and Psychological Capital in a Mediated Model*. 10(2), 283–306. <https://doi.org/10.22059/ijms.2017.220219.672364>
- Ahmed, U., Umrani, W. A., Qureshi, M. A., & Samad, A. (2018). Examining the links between teachers support, academic efficacy, academic resilience, and student engagement in Bahrain. *International Journal of ADVANCED AND APPLIED SCIENCES*, 5(9), 39–46. <https://doi.org/10.21833/ijaas.2018.09.008>
- Akey, T. (2007). Using Positive Student Engagement to Increase Student Achievement. *Center for Comprehensive School Reform and Improvement Newsletter*, 1–14. http://libproxy.library.wmich.edu/login?url=https://search.proquest.com/docview/62046584?accountid=15099%0Ahttps://primo-pmtna01.hosted.exlibrisgroup.com/openurl/01WMU/01WMU?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:book&genre=unknown&sid=ProQ
- Alva, S. A. (1991). Academic Invulnerability Among Mexican-American Students: The Importance of Protective Resources and Appraisals. *Hispanic Journal of Behavioral Sciences*, 13(1), 18–34. <https://doi.org/10.1177/07399863910131002>
- Ansong, D., Okumu, M., Bowen, G. L., Walker, A. M., & Eisensmith, S. R. (2017). *Evidence from Ghana*. 54(October 2016), 2016–2018.
- Appleton, J. J., Christenson, S. L., Kim, D., & Reschly, A. L. (2006). Measuring cognitive and psychological engagement: Validation of the Student Engagement Instrument. *Journal of School Psychology*, 44(5), 427–445. <https://doi.org/10.1016/j.jsp.2006.04.002>
- Ayala, J. C., & Manzano, G. (2018). Academic performance of first-year university students: the influence of resilience and engagement. *Higher Education Research and Development*, 37(7), 1321–1335. <https://doi.org/10.1080/07294360.2018.1502258>
- Bagozzi, R., science, Y. Y.-J. of the academy of marketing, & 1988, undefined. (n.d.). On the evaluation of structural equation models. *Springer*. Retrieved February 11, 2023, from <https://link.springer.com/article/10.1007/BF02723327>
- Bakker, A. B. (2014). Daily fluctuations in work engagement: An overview and current directions. *European Psychologist*, 19(4), 227–236. <https://doi.org/10.1027/1016-9040/a000160>
- Balducci, C., Avanzi, L., Consiglio, C., Fraccaroli, F., & Schaufeli, W. (2017). A Cross-National Study on the Psychometric Quality of the Italian Version of the Dutch Work Addiction Scale (DUWAS). 33(6), 422–428. <https://doi.org/10.1027/1015-5759/a000300>
- Bandura, A. (1995). Exercise of personal and collective efficacy in changing societies. NY: Cambridge University Press. http://tecfaetu.unige.ch/etu-mal/tt/wall-e/gosetto0/bases/mooc_motivation/ressources_motivations/auto_efficacite_bandura2.pdf#page=18

- Bayram, N., & Bilgel, N. (2008). The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. *Social Psychiatry and Psychiatric Epidemiology*, 667–672. <https://doi.org/10.1007/s00127-008-0345-x>
- Benitez, J., Henseler, J., Castillo, A., & Schuberth, F. (2020). How to perform and report an impactful analysis using partial least squares: Guidelines for confirmatory and explanatory IS research. *Information and Management*, 57(2), 103168. <https://doi.org/10.1016/j.im.2019.05.003>
- Borman, G., Borman, G., Rachuba, L., & Rachuba, L. (2001). Academic success among poor and minority students: An analysis of competing models of school effects. In *Center for Research on the Education of Students Placed At Risk* (Vol. 52).
- Bresó, E., Schaufeli, W. B., & Salanova, M. (2011). Can a self-efficacy-based intervention decrease burnout, increase engagement, and enhance performance? A quasi-experimental study. *Higher Education*, 61(4), 339–355. <https://doi.org/10.1007/s10734-010-9334-6>
- Carini, R. M., Kuh, G. D., & Klein, S. P. (2006). Student engagement and student learning: Testing the linkages. *Research in Higher Education*, 47(1), 1–32. <https://doi.org/10.1007/s11162-005-8150-9>
- Cassidy, S. (2015). Resilience building in students: The role of academic self-efficacy. *Frontiers in Psychology*, 6(NOV), 1–14. <https://doi.org/10.3389/fpsyg.2015.01781>
- Chin, W. W. (1998). The partial least squares approach to structural equation modelling. In Marcoulides G. A. (Ed.). In *Modern Methods for Business Research* (Vol. 295, Issue 2).
- Chong, W. H., Liem, G. A. D., Huan, V. S., Kit, P. L., & Ang, R. P. (2018). Student perceptions of self-efficacy and teacher support for learning in fostering youth competencies: Roles of affective and cognitive engagement. *Journal of Adolescence*, 68(July), 1–11. <https://doi.org/10.1016/j.adolescence.2018.07.002>
- Chowdhury, R., & Sarkar, M. (2018). Education in Bangladesh: Changing contexts and emerging realities. *Education in the Asia-Pacific Region*, 44(October), 1–18. https://doi.org/10.1007/978-981-13-0708-9_1
- Christenson, S. L., Wylie, C., & Reschly, A. L. (2012). Handbook of Research on Student Engagement. In *Handbook of Research on Student Engagement* (Issue November). <https://doi.org/10.1007/978-1-4614-2018-7>
- Cornelius-White, J. (2007). Learner-centered teacher-student relationships are effective: A meta-analysis. *Review of Educational Research*, 77(1), 113–143. <https://doi.org/10.3102/003465430298563>
- Fati, M., Ahmed, U., Ali Umrani, W., & Zaman, F. (2019). Academic press and student engagement: Can academic psychological capital intervene? Test of a Mediated Model on Business Graduates. *International Journal of Higher Education*, 8(3), 134-147.
- Finn, J. D. (1989). Withdrawing from School. *Review of Educational Research*, 59(2), 117–142.
- Fornell, C., & Cha, J. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Sage Publications Sage CA: Los Angeles, CA*. https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=C.+Fornell%2C+J.+Cha%2C+Partial+least+squares%2C+Adv.+Methods+Market.+Res.+407+%281%29+%281994%29+52-78.&btnG=
- Fredricks, J., Blumenfeld, P., & Paris, A. (2004). School Engagement : Potential of the Concept, State of the Evidence Authors (s): Jennifer A . Fredricks , Phyllis C . Blumenfeld and Alison H . Paris Published by : American Educational Research Association Stable



- URL : <http://www.jstor.org/stable/3516>. *Review of Educational Research*, 74(1), 59–109.
- Goals, Goal Structures, and Patterns of Adaptive Learning. (2014). *Goals, Goal Structures, and Patterns of Adaptive Learning*. <https://doi.org/10.4324/9781410602152/GOALS-GOAL-STRUCTURES-PATTERNS-ADAPTIVE-LEARNING-CAROL-MIDGLEY>
- Götz, O., Liehr-Gobbers, K., & Krafft, M. (2010). The evaluation of structural equation models and hypothesis testing. Principles of marketing research. In *Handbook of Partial Least Squares*.
- Hair J F., J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107. <https://doi.org/10.1504/ijmda.2017.10008574>
- Hair J F., J. F., Ringle, C., Planning, M. S.-L. range, & 2013, U. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Papers.Ssrn.Com*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2233795
- Hair, J F, Risher, J. J., Sarstedt, M., & Ringle, C. M. (2018). The Results of PLS-SEM Article information. *European Business Review*, 31(1), 2–24.
- Hair, Joe F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Hair, Joseph F., Ringle, C. M., & Sarstedt, M. (2013). Partial Least Squares Structural Equation Modeling: Rigorous Applications, Better Results and Higher Acceptance. *Long Range Planning*, 46(1–2), 1–12. <https://doi.org/10.1016/j.lrp.2013.01.001>
- Han, K. S. (2005). Self Efficacy, Health Promoting Behaviors, and Symptoms of Stress among University Students. *Journal of Korean Academy of Nursing*, 35(3), 585–592.
- Hanafiah, M. H. (2020). Formative Vs. Reflective Measurement Model: Guidelines for Structural Equation Modeling Research. *International Journal of Analysis and Applications*, 18(5), 876–889. <https://doi.org/10.28924/2291-8639-18-2020-876>
- Henseler, J, Ringle, C., to, R. S.-N. challenges, & 2009, undefined. (2009). The use of partial least squares path modeling in international marketing. *Emerald.Com*, 20, 277–319. [https://doi.org/10.1108/S1474-7979\(2009\)0000020014](https://doi.org/10.1108/S1474-7979(2009)0000020014)
- Henseler, Jorg, & Fassott, G. (2010). Testing moderating effects in PLS path models: An illustration of available procedures. In Handbook of partial least squares. In *Handbook of Partial Least Squares*.
- Honicke, T., & Broadbent, J. (2016). The influence of academic self-efficacy on academic performance: A systematic review. *Educational Research Review, Elsevier*, 17, 63–84. <https://doi.org/10.1016/j.edurev.2015.11.002>
- Kalam, A., Mahonta, H. C., Mohammad, H., & Science, D. (2017). Measuring Service Gap of Higher Education in Bangladesh : A comparative study between Public University and Private University, *IOSR Journal of Business and Management, Volume 19, Issue 11, 49-55*, <https://doi.org/10.9790/487X-1907044955>
- Klem, A. M., & Connell, J. P. (2004). Relationships Matter : Linking Teacher Support to Student Engagement and Achievement. *Journal of School Health*, 74(7), 27–34.
- Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *Journal of Higher Education*, 79(5), 540–563. <https://doi.org/10.1353/jhe.0.0019>

- LaMastro, V. (2001). Influence of perceived institutional and faculty support on college students' attitudes and behavioral intentions. *Psychological Reports*, 88(2), 567–580. <https://doi.org/10.2466/PRO.2001.88.2.567>
- Lamborn, S., Newmann, F., & Wehlage, G. (1992). The Significance and Sources of Student Engagement. In: Newmann FM (Ed.), *Student engagement and achievement in American secondary schools*. In *Teachers College Press, New York, USA*. (Issue 7). <https://doi.org/10.4324/9780203012543-16>
- Lane, J., & Lane, A. (2001). Self-efficacy and academic performance. *Social Behavior and Personality*, 29(7), 787–798. <https://doi.org/10.2224/sbp.2001.29.7.687>
- Lawson, M. A., & Lawson, H. A. (2013). New Conceptual Frameworks for Student Engagement Research, Policy, and Practice. *Review of Educational Research*, 83(3), 432–479. <https://doi.org/10.3102/0034654313480891>
- Li, W., Gao, W., & Sha, J. (2020). *Perceived Teacher Autonomy Support and School Engagement of Tibetan Students in Elementary and Middle Schools : Mediating Effect of Self-Efficacy and Academic Emotions*. 11(January), 1–9. <https://doi.org/10.3389/fpsyg.2020.00050>
- Lindström, B. (2001). The meaning of resilience. *International Journal of Adolescent Medicine and Health*, 13(1), 7–12. <https://doi.org/10.1515/IJAMH.2001.13.1.7>
- Loscalzo, Y., & Giannini, M. (2019). Study Engagement in Italian University Students : A Confirmatory Factor Analysis of the Utrecht Work Engagement Scale — Student Version. *Social Indicators Research*, 142(2), 845–854. <https://doi.org/10.1007/s11205-018-1943-y>
- Martin, A. J. (2007). Examining a multidimensional model of student motivation and engagement using a construct validation approach. *British Journal of Educational Psychology*, 77(2), 413–440. <https://doi.org/10.1348/000709906X118036>
- Martin, A. J., & Marsh, H. W. (2006). Academic resilience and its psychological and educational correlates: A construct validity approach. *Psychology in the Schools*, 43(3), 267–281. <https://doi.org/10.1002/pits.20149>
- Martin, A. J., & Marsh, H. W. (2008). Academic buoyancy: Towards an understanding of students' everyday academic resilience. *Journal of School Psychology*, 46(1), 53–83. <https://doi.org/10.1016/j.jsp.2007.01.002>
- Martin, A. J., & Marsh, H. W. (2009). Academic resilience and academic buoyancy: Multidimensional and hierarchical conceptual framing of causes, correlates and cognate constructs. *Oxford Review of Education*, 35(3), 353–370. <https://doi.org/10.1080/03054980902934639>
- Martin, J. J., Byrd, B., Watts, M. L., & Dent, M. (2015). Gritty, hardy, and resilient: Predictors of sport engagement and life satisfaction in wheelchair basketball players. *Journal of Clinical Sport Psychology*, 9(4), 345–359. <https://doi.org/10.1123/jcsp.2015-0015>
- Masten, A. S. (2016). Resilience in developing systems: the promise of integrated approaches. *European Journal of Developmental Psychology*, 13(3), 297–312. <https://doi.org/10.1080/17405629.2016.1147344>
- Mateos, N. E., & Fern, A. (2021). *School Climate and Perceived Academic Performance : Direct or Resilience-Mediated Relationship ?*
- McDonald Connor, C., Son, S. H., Hindman, A. H., & Morrison, F. J. (2005). Teacher qualifications, classroom practices, family characteristics, and preschool experience: Complex effects on first graders' vocabulary and early reading outcomes. *Journal of School Psychology*, 43(4), 343–375. <https://doi.org/10.1016/j.jsp.2005.06.001>



- McMillan, J. H., & Reed, D. F. (1994). At-Risk Students and Resiliency: Factors Contributing to Academic Success. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 67(3), 137–140. <https://doi.org/10.1080/00098655.1994.9956043>
- Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., Gheen, M., Kaplan, A., Kumar, R., Middleton, M. J., Nelson, J., & Roeser, R. (2000). Manual for the Patterns of Adaptive Learning Sciences (PALS). *Pals*, 734–763.
- Mozammel, S., Ahmed, U., Slade, H., & Zaman, F. (2018). Digging deep in students' engagement in Bahrain: Contributions from academic self-efficacy and academic resilience. *International Journal of Management and Business Research*, 8(1), 136–147.
- Muca, E., Molino, M., Ghislieri, C., Baratta, M., Odore, R., Bergero, D., & Valle, E. (2023). Relationships between psychological characteristics, academic fit and engagement with academic performance in veterinary medical students. *BMC Veterinary Research*, 19(1), 1–9. <https://doi.org/10.1186/s12917-023-03695-0>
- Patrick, H., Hicks, L., & Ryan, A. (1997). Relations of Perceived Social Efficacy and Social Goal Pursuit to Self-Efficacy for Academic Work. *The Journal of Early Adolescence*.
- Phillips, Estelle & Pugh, Derek. (2000). *How To Get a PhD: A Handbook for Students and Their Supervisors*. Third Edition. Open University Press
- Reeve, J., Cheon, S. H., & Yu, T. H. (2020). An autonomy-supportive intervention to develop students' resilience by boosting agentic engagement. *International Journal of Behavioral Development*, 44(4), 325–338. <https://doi.org/10.1177/0165025420911103>
- Reeve, J., & Jang, H. (2006). What teachers say and do to support students' autonomy during a learning activity. *Journal of Educational Psychology*, 98(1), 209–218. <https://doi.org/10.1037/0022-0663.98.1.209>
- Ringle, Wende, & Becker, 2015 - Google Scholar. (n.d.). Retrieved February 8, 2023, from https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Ringle%2C+Wende%2C+%26+Becker%2C+2015&btnG=
- Ringle, C. M., & Sinkovics, R. R. (2004). *THE USE OF PARTIAL LEAST SQUARES PATH MODELING IN INTERNATIONAL MARKETING*. 20(2009), 277–319. [https://doi.org/10.1108/S1474-7979\(2009\)0000020014](https://doi.org/10.1108/S1474-7979(2009)0000020014)
- Robayo-Tamayo, M., Blanco-Donoso, L. M., Román, F. J., Carmona-Cobo, I., Moreno-Jiménez, B., & Garrosa, E. (2020). Academic engagement: A diary study on the mediating role of academic support. *Learning and Individual Differences*, 80(April 2019), 101887. <https://doi.org/10.1016/j.lindif.2020.101887>
- Romano, L., Angelini, G., Consiglio, P., & Fiorilli, C. (2021). Academic resilience and engagement in high school students: The mediating role of perceived teacher emotional support. *European Journal of Investigation in Health, Psychology and Education*, 11(2), 334–344. <https://doi.org/10.3390/ejihpe11020025>
- Romano, L., Buonomo, I., Callea, A., & Fiorilli, C. (2019). Alexithymia in Young people's academic career: The mediating role of anxiety and resilience. *Journal of Genetic Psychology*, 180(4–5), 157–169. <https://doi.org/10.1080/00221325.2019.1620675>
- Roorda, D. L., Koomen, H. M. Y., Spilt, J. L., & Oort, F. J. (2011). The influence of affective teacher-student relationships on students' school engagement and achievement: A meta-analytic approach. *Review of Educational Research*, 81(4), 493–529. <https://doi.org/10.3102/0034654311421793>
- Ryan, A. M., & Patrick, H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal*, 38(2), 437–460. <https://doi.org/10.3102/00028312038002437>

- Ryan, A., Patrick, H., & Hicks, L. (1997). Why Do Some Students Avoid Asking for Help ? An Examination of the Interplay Among Students ' Academic Efficacy , Teachers ' Social-Emotional Role , and the Classroom Goal Structure. *The Journal of Early Adolescence*, 90(3), 528–535.
- Salanova, M., Schaufeli, W., Martínez, I., & Bresó, E. (2010). How obstacles and facilitators predict academic performance: The mediating role of study burnout and engagement. *Anxiety, stress & coping*, 23(1), 53-70.
- Saleem, M. S., Isha, A. S. N., Awan, M. I., Yusop, Y. B., & Naji, G. M. A. (2022). Fostering Academic Engagement in Post-graduate Students: Assessing the Role of Positive Emotions, Positive Psychology, and Stress. *Frontiers in Psychology*, 13(August). <https://doi.org/10.3389/fpsyg.2022.920395>
- Saleh Abou Elyazied, L., Mahmoud, R., & Mohamed, S. (2022). Influence of Psychological Capital on Nursing Students Engagement. *Egyptian Journal of Health Care*, 13(2), 488–498. <https://doi.org/10.21608/ejhc.2022.231192>
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2022). Partial Least Squares Structural Equation Modeling. *Handbook of Market Research*, 587–632. https://doi.org/10.1007/978-3-319-57413-4_15
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). *Educational and Psychological Measurement*. <https://doi.org/10.1177/0013164405282471>
- Schaufeli, W. B., Martínez, I. M., Pinto, A. M., Salanova, M., & Bakker, A. B. (2002). BURNOUT AND ENGAGEMENT IN UNIVERSITY STUDENTS A Cross-National Study. *Journal of Cross-Cultural Psychology*. <https://doi.org/10.1177/0022022102033005003>
- Schunk, D. H., & Ertmer, P. A. (2000). Self-regulation and academic learning: Self-efficacy enhancing interventions. *Handbook of Self-Regulation*, 631–649. <http://www.sciencedirect.com/science/article/pii/B9780121098902500482>
- Skinner, E. A., & Belmont, M. J. (1993). Motivation in the Classroom: Reciprocal Effects of Teacher Behavior and Student Engagement Across the School Year. *Journal of Educational Psychology*, 85(4), 571–581. <https://doi.org/10.1037/0022-0663.85.4.571>
- Teuber, Z., Nussbeck, F. W., & Wild, E. (2021). The Bright Side of Grit in Burnout-Prevention: Exploring Grit in the Context of Demands-Resources Model among Chinese High School Students. *Child Psychiatry and Human Development*, 52(3), 464–476. <https://doi.org/10.1007/s10578-020-01031-3>
- Torregosa, M. B., Antonius Ynalvez, M., Morin, K. H., Torregosa RN FNP-BC Assistant Professor, M. B., Antonius Ynalvez Associate Professor, M., & Morin RN FAAN Professor Emerita, K. H. (2016). Perceptions matter: faculty caring, campus racial climate and academic performance. *Wiley Online Library*, 72(4), 864–877. <https://doi.org/10.1111/jan.12877>
- Umbach, P. D., & Wawrzynski, M. R. (2005). Faculty do matter: The role of college faculty in student learning and engagement. *Research in Higher Education*, 46(2), 153–184. <https://doi.org/10.1007/S11162-004-1598-1>
- Vaez, M., & L Laflamme. (2008). *Experienced stress , psychological symptoms , self-rated health and academic achievement : A longitudinal study of Swedish university students. January 2008*. <https://doi.org/10.2224/sbp.2008.36.2.183>
- Waldinger, F. (2010). Quality matters: The expulsion of professors and the consequences for PhD student outcomes in Nazi Germany. *Journal of Political Economy*, 118(4), 787–831. <https://doi.org/10.1086/655976>

- Wang, M. C., Haertel, G. D., & Walberg, H. J. (1994). Educational resilience in inner cities. In *Educational Resilience in Inner-city America: Challenges and Prospects*, eds M. C. Wang and E. W. Gordon (Hillsdale, NJ: Erlbaum).
- Waxman, H. C., Gray, J. P., & Padron, Y. N. (2003). Review of Research on Educational Resilience. Research Report. *Eric*, 11, 1–28.
- Wentzel, K. R., Miele, D. B., Schunk, D. H., & Dibenedetto, M. K. (2016). Handbook of Motivation at School. *Handbook of Motivation at School*. <https://doi.org/10.4324/9781315773384>
- Wilks, S. E., Spivey, C. A., Wilks, S. E., & Spivey, C. A. (2010). Social Work Education : The Resilience in Undergraduate Social Work Students : Social Support and Adjustment to Academic Stress Resilience in Undergraduate Social Work Students : Social Support and Adjustment to Academic Stress 1. *Social Work Education: The International Journal*, December 2014, 37–41. <https://doi.org/10.1080/02615470902912243>
- Wilson, D. M., Summers, L., & Wright, J. (2020). Faculty support and student engagement in undergraduate engineering. *Journal of Research in Innovative Teaching & Learning*, 13(1), 83–101. <https://doi.org/10.1108/jrit-02-2020-0011>
- Xanthopoulou, D., Baker, A. B., Heuven, E., Demerouti, E., & Schaufeli, W. B. (2008). Working in the sky: A diary study on work engagement among flight attendants. *Journal of occupational health psychology*, 13(4), 345.