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Positive Academic Emotions and Academic Achievement: The Role of Academic Psychological Capital

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Abstract:
Academic achievement and academic psychology have been paid much attention to and studied by educational managers and psychologists for the past few years. A survey of 613 university students in Vietnam used a pre-designed questionnaire to investigate the relationship between positive academic emotions, psychological capital, and achievement. In this study, academic psychological capital is viewed as a high-ordered construct composed of four components: self-efficacy, hope, resilience, and optimism. The formative measurement model is used to assess this construct. This study uses both qualitative and quantitative research methods. The in-depth interview method is used in qualitative research to gain a deeper understanding of the relationship amongst concepts and complete the interview questionnaire. The Partial Least Squares Structural Equation Model (PLS-SEM) is utilized for quantitative research. The research findings indicate certain relations between these concepts. Positive academic emotions, in particular, have a positive impact on academic psychological capital and academic achievement. Academic psychosocial capital also has a positive relationship with academic achievement. In addition to the direct effects mentioned above, the study discovers that academic psychological capital plays a mediating role in the impact of positive academic emotions on academic achievement. This study also offers some managerial implications to the research problems to improve university students' achievement.

Keywords: positive academic emotions, academic achievement, academic psychological capital, higher education.

积极的学术情绪和学术成就：学术心理资本的作用

摘要:
近年来，学业成就和学业心理学一直受到教育管理者和心理学家的重视和研究。一项针对越南 613 名大学生的调查使用预先设计的问卷调查了积极的学业情绪、心理资本和成就之间的关系。在这项研究中，学术心理资本被视为由四个组成部分组成的高阶结构：自我效能、希望、复原力和乐观。形成性测量模型用于

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评估该结构。本研究采用定性和定量研究方法。深度访谈法用于定性研究，以更深入地了解概念之间的关系并完成访谈问卷。偏最小二乘结构方程模型 (PLS-扫描电镜) 用于定量研究。研究结果表明了这些概念之间的某些关系。尤其是积极的学业情绪对学业心理资本和学业成绩有正向影响。学业心理社会资本也与学业成就呈正相关。除上述直接影响外，研究还发现，学业心理资本在积极学业情绪对学业成就的影响中起中介作用。本研究还为提高大学生成绩的研究问题提供了一些管理启示。

关键词: 积极的学业情绪； 学业成就、学业心理资本、高等教育。

1. Introduction

In recent years, Vietnam's socio-economic development has imposed new requirements on higher education to keep up with the globalization trend. Students, the country's young intellectual class, represent and decide the country's future; as a result, their efforts and accomplishments at university are critical to themselves personally, as well as to their families and society.

The academic achievement criterion reflects the quality of their university studies and research. The mastery of knowledge and ability in practicing exercises, tests, and exams and the scores from these assessments are frequently used to assess students' own learning capability. The school assesses students' learning quality based on their knowledge, skills, and attitudes. Potential employers typically assess candidates' learning quality based on their ability to complete assigned tasks and adaptability to new environments. However, these evaluation criteria are more difficult to quantify and concretize than the average academic score (GPA). As a result, GPA is used as one major scale to assess student achievement.

High academic achievement is a reward that helps students get better jobs and earn more money after graduation. On the other hand, GPA is applied to screen candidates for recruitment, scholarship programs, and promotion. Most employers or organizations use GPA as a criterion in screening applicants in preliminary rounds before allowing them to advance to other important rounds. Academic achievement also significantly impacts career success (Rudakov & Roshchin, 2019), as income is earned while working (Tebaldi et al., 2017). As a result, academic achievement is important for students, universities, and many other organizations. It is essential to understand the factors that influence students' academic achievement to devise solutions for improvement.

Given that a psychological resource helps improve employees' job performance (Nguyen & Ngo, 2020), psychological capital is developed to provide numerous benefits (increased work efficiency) and aid in establishing competitive advantage. The positive influence of psychological capital on job performance is referred to as a psychological capital theory. Initially, the concept and theory of psychological capital were only addressed in the workplace context. However, research on psychological capital in the various learning environment is gaining traction, and psychological capital is referred to as academic psychological capital. Academic psychological capital is also critical in the context of the learning environment and it has a statistically significant positive effect on academic achievement (Datu et al., 2018).

Positive emotions are short-term, multisystem responses to changes in how people assess or interpret their current situation (Fredrickson, 2013). The Broaden-Build theory deals with how positive emotions broaden awareness and aid in developing personal resources (Fredrickson, 1998). Positive emotions have also been shown to impact personal performance and academic achievement.

Based on the practical problems and theoretical issues mentioned above, this study was conducted in higher education in Vietnam to understand the relationship between academic psychological capital, positive academic emotions, and academic achievement. It also evaluated the mediating role of academic psychological capital in the relationship between positive academic emotions and academic achievement.

2. Literature Review

2.1. Academic Psychological Capital

Economic capital is defined as "What do you have?", human capital is defined as "What do you know?", and social capital is defined as "Who do you know?". On the other hand, psychological capital is concerned with "Who you are capable of becoming?" in the future as you advance. It goes beyond social and human capital to obtain a competitive edge by investing in individuals' future roles. Psychological capital has a positive impact on human nature, and it assists individuals to achieve high levels of performance at work. According to Luthans, Youssef, and Avolio (2015), psychological capital (PsyCap) is a state of positive psychological development expressed by an individual through: (a) self-efficacy; (b) optimism; (c) hope; and (d) resilience.

In this study, the concept of academic psychological capital retains the content and characteristics of the psychological capital concept proposed by Luthans et al. (2015). However, it is applied in the context of the learning environment. In other words, psychological capital is a state of positive psychological development of an individual in a learning environment that includes the four abovementioned components.

Self-efficacy: According to Luthans et al. (2015), people who are confident in producing desired results

have the following five important characteristics: (i) they set their own high goals for themselves and enjoy taking on difficult tasks; (ii) they welcome challenges and thrive on overcoming them to develop themselves to a higher level; (iii) they are passionate people; (iv) they make the necessary efforts to achieve the established goals; and (v) they act persistently when confronting with challenges.

Hope is defined as a state of positive motivation that results from the interaction between successful goal orientation and rigorous goal-attainment execution. Furthermore, hope is described as a mental or cognitive condition in which an individual may set realistic goals and/or expectations while simultaneously dealing with the obstacles that come with them. Later, the individual achieves these goals by self-directed resolve, energy, and awareness of internal control (F. Luthans et al., 2015).

Optimism is described as one's own assessment of positive and negative events in one's life. In other words, optimists believe that positive things happen from within themselves throughout time and in many various facets of their lives. Negative events do not occur on their own, they only last for a limited period of time, and they are only regarded as distinct adversities.

Resilience: According to Luthans et al. (2015), valuable capitals include perseverance, flexible thinking, self-directed adaptation, the initiative in handling work and learning, and continuous improvement. This contributes to the employee's persistence in the workplace by allowing for more objectivity in assessing and recognizing the job and the organization they belong to.

2.2. Positive Academic Emotions

Emotions are unsustainable social positions developed due to an individual's judgment of a particular scenario. Emotions are regarded as passions rather than acts. Positive and negative emotions are the two broad categories of an individual's emotions (Fredrickson, 1998, 2013). Positive and negative reactions to the environment are the most fundamental responses of any organism. Positive emotions – negative emotions in human behavior are frequently described as the primary dimension that includes all human emotions.

Positive emotions are human responses to changes in how they interpret or evaluate their current situation that is brief and multisystemic (Fredrickson, 2013). People will experience positive emotions when their multisystem response to the current situation is one of the good prospects or good fortune. Positive emotions have received increasing attention in organizational science, with more researchers diving into novel techniques and methodologies for analyzing them (Diener et al., 2020). Positive emotions, then, open the mind while also nourishing resource growth through incremental broaden-and-build processes (Fredrickson & Joiner, 2018). Positive emotions, in other words, are necessary for human behavior and adaptation because they assist people in visualizing their goals and obstacles and in opening their minds to ponder and solve problems.

Positive emotions in education are studied within the scope of this research. Positive academic emotions, in particular, are positive emotions associated with university students' academic activities, carrying the full connotation of the concept of positive emotions. According to Fredrickson and Joiner (2018)'s concept of positive emotions, positive academic emotions can be seen as brief, multisystem student responses to changes in learning and their assessment of their current learning situation.

2.3. Broaden – Build Theory

Fredrickson (1998) asserted that the existing models of emotions are incompatible with positive emotions. Fredrickson (1998) proposed a new model - an extended and built model to describe the form and characteristics of positive emotions. Broaden-Build Theory asserts that mild everyday happy feelings broaden people's awareness and build personal resources that contribute to their overall emotional and physical well-being (Fredrickson & Joiner, 2018).

Figure 1 depicts the content of positive emotions according to Broaden-Build Theory.

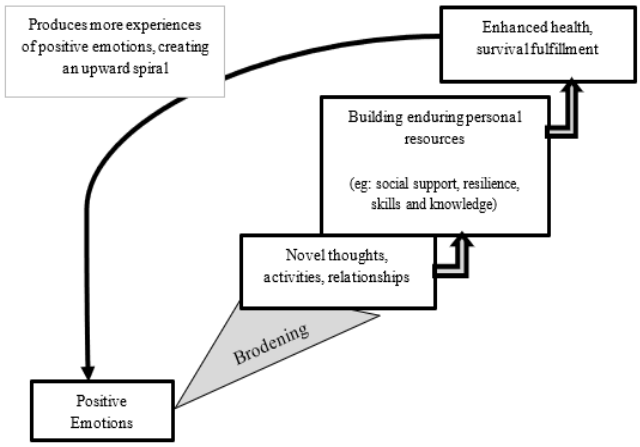

Figure 1. Broaden-build theory

Accordingly, positive emotions create three effects: broadening, building, and transforming, respectively. Positive emotions broaden an individual's range of thoughts and actions at first, assisting in developing more flexible response tendencies. Positive emotions (joy, care, contentment, and love) share the feature of expanding an individual's portfolio of fleeting thoughts - actions and the characteristic of building personal resources (physical resources, intellectual resources, and social resources). They can outlast transient emotions (Fredrickson, 1998). The second effect is that experiencing a positive emotion (joy, interest, contentment, or love) increases one's long-term personal resources in other emotional contexts and states (Fredrickson, 1998). In other words, thought-action collection broadening (as a result of the first impact) accumulates long-term personal resources for an individual. These resources can manifest themselves

in a variety of emotional states. The third impact has been creating sustainable personal resources that will aid in the transformation of people for the better. They become more creative, knowledgeable, resilient, socially integrated, and healthier in particular (Fredrickson, 2013). As a result, their lives become more positive, and they continue to have more positive emotional experiences.

In this study, the Broaden-Build Theory of positive emotions is used as the grounded theory to assess the impact of positive emotions on other human resources, specifically psychological capital and academic achievement (Fredrickson, 1998).

2.4. Positive Academic Emotions, Academic Psychological Capital, and Academic Achievement

Psychological capital is a term that relates to human nature, a favorable psychological condition during one's own development, and a positive personal resource (Carmona-Halty et al., 2019; Luthans & Youssef-Morgan, 2017; Luthans et al., 2015). In the Broaden-Build Theory of positive emotions by Fredrickson (1998), positive emotions not only help build personal resources (second impact) but also help people transform for the better (third impact). The third effect of positive emotions is to help people achieve better results in their daily activities, including learning activities.

The Broaden-Build Theory is used in this study to explain the positive impact of positive academic emotions on academic psychological capital and academic achievement. As a result, the following hypotheses are proposed:

H_1: Positive academic emotions have a positive impact on academic achievement.

H_2: Positive academic emotions have a positive impact on academic psychological capital.

Self-efficacy is associated with effort, effectiveness, perseverance in the face of adversity, effective problem solving, and the ability to control problems. When a person is confident that he or she will solve a problem or achieve a goal, he or she performs better. In a learning context, this means that learners who are confident in their own abilities have a strong belief that they can control their academic achievement and successfully solve problems or challenges in the learning process.

Hope can be defined as a person's determination to reach a specific objective in their life. Hope is an important factor in learners' success during the learning process. Hopeful learners believe that they are competent enough to devise the best solution to a learning problem and even create new methods to replace the original methods that have failed to achieve the learning objectives. Indeed, one of the variables that can help predict a student's grade point average is his optimism. A high level of goal-directed effort is an important characteristic of hopeful learners. Thus, they are constantly coming up with new ways to achieve their learning objectives. Therefore, learners who have more hope perform academically better.

Numerous researches determined that optimism and individual performance correlate positively in the workplace. The same is true in education. Learners are motivated to strive for higher academic results in the future when they believe that all learning activities are under their control and that their actions will determine their academic achievement. Optimism and happiness have a positive relationship. Optimistic learners and pessimistic learners react differently to changes in their learning activities. Optimists are constantly confronted with obstacles, but they keep their resolve and pursue their goals.

Finally, a person's ability to bounce back from hardship is defined as their resilience. The adaptability to difficulties and failures is referred to as resilience. Resilient learners can easily adapt to difficulties that arise during the learning process, and they also have a positive perception or attitude in the face of the difficulties. Therefore, they can withstand and overcome those challenges to achieve positive learning outcomes. Resilience in psychological capital considers adversity and failure as risk factors and challenging opportunities for growth and success (Luthans et al., 2015).

Based on the evidence presented above, it is possible to conclude that learners' self-efficacy, hope, optimism, and resilience positively impact their academic achievement. Luthans et al. (2015) contend that psychological capital, a concept derived from the aforementioned components, is a higher core structure related to an individual's acquisition and development.

Previous research in the work environment context has led to the conclusion that the relationship between psychological capital and job performance is much stronger than its four components (Nolzen, 2018). Compared to persons with lower psychological capital, individuals with greater psychological capital have more resources to attain their goals. As a result, persons with higher levels of psychological capital frequently outperform their peers. In addition, empirical research in the learning context has revealed a positive relationship between academic psychosocial capital and academic achievement (Carmona-Halty et al., 2019). As a result, the following hypothesis is proposed in the study:

H3: Academic psychosocial capital has a positive impact on academic achievement.

Understanding the role of academic psychosocial capital as a mediator in the relationship between positive academic emotions and academic achievement is also an important research goal. Based on the three research hypotheses presented above, the fourth hypothesis about the mediating role of academic psychosocial capital is proposed below.

H4: Positive academic emotions positively impact academic achievement through the mediating role of learning psychosocial capital.

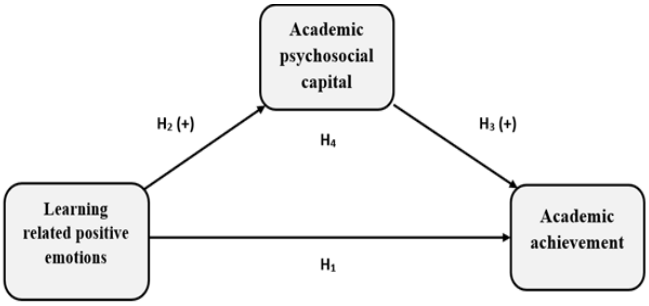

Figure 2. The proposed research model

3. Materials/Methods

3.1. Measures

The PCQ-24 version was used to assess psychosocial capital in the academic field. There were 24 observed variables used to measure four components of psychological capital: self-efficacy, hope, optimism, and resilience. Each psychological capital component above is measured by six items. To fit the research concept, the study incorporates two items from the study by Nguyễn and Ngô (2018) for each component: hope, optimism, and resilience.

Positive academic emotions were assessed using JAWS (Job-related Affective Well-being Scale), a shortened version designed by Basińska, Gruszczyńska, and Schaufeli (2014). The study only used six items from this scale is the positive emotional component to conduct the research. All items are presented on a five-point Likert scale, "1-Totally disagree", "2-Disagree", "3-Neutral ", "4-Agree", and "5- Totally agree."

Academic achievement was determined by the student's GPA (Grade Point Average) over the previous three semesters prior to data collection.

3.2. Sample and Procedure

This study employs both qualitative and quantitative research methods. The data was gathered through the usage of a survey questionnaire. The qualitative research method is used to adjust and complete the scale to fit the academic context in Vietnam. In both pilot tests and formal research, the quantitative research method is operated.

An interview with eight people was conducted as part of the qualitative research, including two educational administrators, three faculty members with five years or more of teaching experience at university, and three near graduate students. According to the qualitative research findings, the questionnaire's concepts have been revised, and one item in the positive academic emotions scale has been added. The survey questionnaire was then edited and used for quantitative research in the following step.

The quantitative research was conducted in two stages. This study conducted direct interviews with 50 students in the pilot test to assess scale reliability using the Cronbach's Alpha coefficient. The pilot test results eliminated two observed variables of the *Hope* component that had a corrected item-total correlation of less than 0.3. In the second step, an official survey was undertaken.

The study data gathered comprises both primary and secondary data. The content of responses to a pre-designed questionnaire of interviewers is referred to as primary data. The interviewees' grade point average is secondary data. A stratified sampling method was used when gathering primary data for the study. The number of interviews in each faculty is decided by the ratio of this faculty's students to the total number of students studying economics.

A total of 721 replies were recorded in the official survey. There were 613 valid responses, and all data were included for analysis.

4. Results

4.1. Descriptive Statistics

In April and May 2021, 613 students with an average age of 20.42 are interviewed for research purposes. Table 1 displays the information gathered from the interviewees. The study only surveyed students in their second year and above to ensure that students participating in the survey had a GPA in the previous three semesters up to the time of data collection. The average GPA of interviewees is 2.73 out of 4, with a maximum GPA of 3.83 out of 4.

Table 1. The description of samples

		N = 613	
		Frequency	**Percentage (%)**
Gender	Male	108	17.6
	Female	505	82.4
Ethnic groups	Kinh	594	96.9
	Others	19	3.1
Majors	Accounting and Auditing	131	21.4
	Economics & Public Management	159	25.9
	Business Administration	211	34.4
	Finance – Banking	112	18.3
School year	2nd	233	38
	3rd	225	36.7
	4th	155	25.3

Statistical results show that students who took the survey are quite confident in their own abilities, with the mean value of items on the Self-efficacy scale being greater than 3. Students were least confident when exchanging information with their lecturers (mean value of SE6 = 3.16) and most confident when contacting classmates to discuss learning barriers (mean value of SE5 = 3.85).

Table 2. The description of observed variables

Scale	**Number of variables**	**Min.**	**Max.**	**Mean**
SE	6	1	5	3.16 – 3.85
HO	6	1	5	2.95 – 3.77
OP	8	1	5	2.96 – 3.94
RE	8	1	5	3.07 – 3.75
PE	7	1	5	3.01 – 3.56

Besides, students were optimistic about their learning. When the mean value of HO4 is 2.95, students who self-assess themselves do not achieve much academic success. They do, however, believe that there are solutions to all learning difficulties (the HO3 has the highest mean value on the scale, 3.77). As a result, students taking the survey set high academic success goals for themselves, and they self-assess that they have not met those goals. However, they expressed much optimism about their ability to overcome obstacles and achieve their desired learning goals.

Students reported feeling quite optimistic about their learning. Most of them view learning failures positively when they consider them to be lessons learned that will help them learn better in the future, as evidenced by the highest mean value of OP7 (3.94). Furthermore, they could express their learning optimism as reality optimism when most of them believed they could not avoid learning errors (with the OP2 variable having the lowest value of 2.96).

With all items on the Resilience scale achieving an average value of 3 or higher, the survey participants rated themselves as quite resilient in their learning. They frequently attempt to reduce learning difficulties in various ways (mean value of RE5 = 3.75). However, with the RE2 having the lowest mean value of 3.07, the students find themselves tough when solving multiple learning difficulties simultaneously.

Students have generally had quite positive academic emotions when the mean values are all greater than 3. They believe that learning is the most encouraging factor to help them be stronger yet least relaxed (the mean value PE5 of 3.01).

4.2. Estimation of Relationship between Constructs

The study used the two-stage approach proposed by Chin, Marcolin, and Newsted (2003) to analyze the relationship between positive academic emotions (PE), academic psychological capital (PsyCap), and student academic achievement (AA).

At Stage 1, the research calculates the reasonable values of the low-ordered latent variables (SE, HO, OP, RE) that comprise the high-ordered construct (PsyCap). The obtained results are used as input for the estimation in Stage 2.

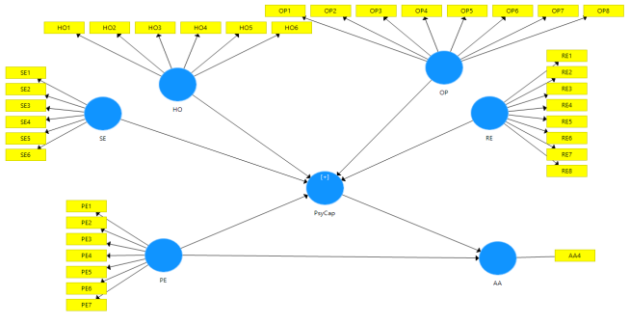

Figure 3. PLS-SEM model in Stage 1

In the first estimation, the AVE values of SE, HO, OP, RE scales are 0.416, 0.453, 0.366, 0.420 < 0.5, respectively. Therefore, the SE5, HO3, OP1, RE5, which have λi < 0.7, are eliminated (Hair Jr et al., 2016). After that, the SE4, SE6, OP2, OP7, RE4, RE8 in the second estimation and the OP3 in the third estimation are eliminated (λi < 0.7). Finally, the AVE values of all scales SE, HO, OP, RE are 0.605, 0.504, 0.521, 0.503 > 0.5, respectively. Composite Reliability (CR) values are also in the range of $0.7 \leq CR \leq 0.9$. Thus, the scale has achieved reliability and convergent validity. The outer-loading values are greater than cross-loading values and the HTMT index < 0.85, so this measurement model achieves accuracy in terms of discriminant validity.

In Stage 2, both measurement model assessment and structural model assessment are conducted.

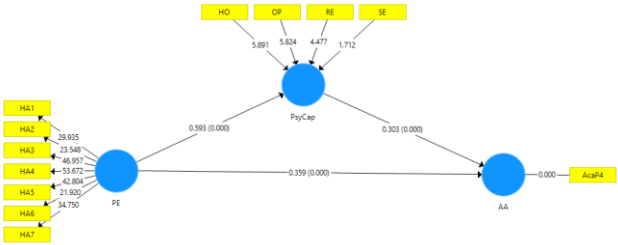

Figure 4. The result of the path model

Firstly, the study only assesses the measurement model via the PE's reliability and convergent validity since the academic achievement scale is a single-indicator scale (AA4), and the academic psychological capital scale has the form of a structural measurement model. The estimation results, such as outer-loading values of all PE scale's indicators are more than 0.7, CR = 0.906, AVE = 0.580, help the study conclude that construct PE met the reliability and convergent validity. The study conducts the structural model assessment with the procedure recommended by Hair Jr et al. (2016).

The study evaluates the degree of multicollinearity to check the correlation between the constructs. All VIF values in the inner model between the constructs are equal to 1.543 < 3, so multicollinearity does not occur (Hair et al., 2019).

Next, through the assessment of R^2 value, this study found that PE and PsyCap explained 35% of AA when $R^2 = 0.350$; and PE explained 35.2% of the PsyCap when $R^2 = 0.352$. Based on the suggestion of Henseler, Ringle, and Sinkovics (2009), because the R^2 values are in the range of $25\% < R^2 < 50\%$, the impact of the input variables on the dependent variable is moderate.

Table 3. The result of direct, indirect, and total effects

Effect		B (Original Sample)	B (Sample Mean)	Std. Deviation	T-Statistics	P-Values
Direct	PE→AA	0.360	0.359	0.038	9.427	0.000*
	PE→PsyCap	0.593	0.596	0.033	17.884	0.000*
	PsyCap→AA	0.303	0.305	0.041	7.419	0.000*
Indirect	PE→PsyCap →AA	0.180	0.181	0.027	6.781	0.000*
Total	PE→AA	0.539	0.540	0.029	18.487	0.000*

* $p < 0.001$

The result shows that PE is the most explanatory factor for Psycap (with $f^2 = 0.543$), meanwhile, with f^2 values of 0.092 and 0.129, respectively ($0.02 < f^2 < 0.15$), both Psycap and PE play a small role in

explaining AA. Via blindfolding procedure with omission distance is 7, the structural model is evaluated as having predictive power with all $Q^2 > 0$.

The direct impact of PE on AA and PE on Psycap and Psycap on AA are statistically significant at a 1% significance level when p-value = 0.000 < 0.001. The regression coefficients (β) are 0.360, 0.593, and 0.303, respectively, proving that the relationships between the above concepts are all positive relationships.

5. Discussion

The research hypotheses H1, H2, and H3 are accepted according to the above results. These results support the Broaden-Build Theory. This means that students with more positive academic emotional experiences will have higher academic performance and higher academic psychological capital. Thanks to the positive academic emotions, students are broadened with the range of thoughts and actions to be more flexible in their reaction to various circumstances in the learning process. Students with a higher level of positive academic emotions have more personal resources such as physical, intellectual, and social resources that help change themselves better.

Provided that students will have a higher level of academic psychological capital and higher GPA. Indeed, students devoted to their studies always state that earning great academic results allows them to be proud of their peers, family, and society. It is an extra incentive for students to work hard in their studies. Thanks to these special efforts, students' academic performance will be increased. Psychological capital possesses the property of being malleable and developable, so when people widen their thinking range and action, the psychological capital is also changed and developed positively. This is also relevant in the context of student learning. The results obtained from a statistically positive relationship of the positive academic emotions with student's academic achievement are on the contrary to that of the previous studies by Carmona-Halty et al. (2019), Carmona–Halty, et al., (2018), Slåtten et al., (2021). Meanwhile, the research results on the relationship between positive academic emotions and academic psychological capital are similar to the previous study by Zhun, Schooler, Yong, and Mingda (2018). Besides, the positive relationship between academic psychological capital and students' academic achievement is statistically significant. This is in similarity to the results of many previous studies such as Adil et al., (2020); Carmona-Halty et al. (2018, 2019), Datu et al. (2018), Gautam and Pradhan (2018), Nambudiri et al., (2020); Slåtten et al. (2021); Soleimani and Dhghni (2017). According to this result, students with a higher level of academic psychological capital tend to get higher academic achievement, namely a higher GPA.

Next, the study evaluates the mediating role of Psycap in the relationship between PE and AA. With β = 0.180 and p-value = 0.000 < 0.001, the study concludes that PE has a positive effect on AA through the mediating role of Psycap and this relationship is statistically significant at a 1% significance level.

Finally, when evaluating the total impact of PE on AA, this study obtained a regression coefficient β = 0.539 with p-value = 0.000 < 0.001. PE has a statistically significant impact at a 1% significance level on AA with a total impact of 0.539. The impact of PE on AA increased from 0.360 to 0.539 through the mediating role of Psycap. In other words, academic psychosocial capital acts as a complementary mediation variable in the impact of positive academic emotions on academic achievement. In short, hypothesis H4 is supported. This result is similar to previous results by Carmona-Halty et al. (2018; 2019), Slåtten et al. (2021).

These obtained research findings include similarities and dissimilarities with previous studies. In particular, the result obtained in this study on the impact of positive academic emotions on academic achievement differs from those found in studies of Carmona-Halty et al. (2019); Carmona–Halty et al. (2018); Slåtten et al. (2021). However, the relation between positive academic emotions and academic psychological capital is consistent with an earlier study by Zhun et al. (2018). Moreover, the result of this study and the investigations of Adil et al. (2020); Carmona-Halty et al. (2019); Carmona–Halty et al. (2018), Datu et al. (2018), Gautam and Pradhan (2018), Nambudiri et al. (2020); Slåtten et al. (2021); Soleimani and Dhghni (2017) on the relationship between psychological capital and learning outcomes are comparable. These findings provide empirical support for the theory of Broaden - Build, proposed by Fredrickson (1998). This explains why learners who have a greater number of positive academic emotional experiences will have a higher level of academic achievement and psychological capital. Additionally, people with a higher amount of academic psychological capital exhibit a larger inclination for academic achievement, as assessed by their GPA.

6. Conclusion

This study was conducted in Vietnam with a sample of 613 economic undergraduate students. This study estimated the relationship between positive academic emotions, academic psychological capital, and academic achievement using Partial Least Squares Structural Equation Modeling (PLS-SEM). Academic psychological capital is a higher-order concept composed of four elements: self-efficacy, hope, optimism, and resilience.

According to the research findings in higher education in Vietnam, there are statistically significant positive relationships between positive academic emotions, academic achievement, and academic psychological capital. Academic psychological capital also serves as a mediator between positive academic emotions and academic achievement.

The concept of psychological capital is mostly researched in the workplace. There has been very little research on psychological capital in the academic context. This circumstance is analogous in studying academic achievement from a psychological viewpoint via academic psychological capital. This research has contributed to the growth of evidence on the relationships between positive academic emotions, academic psychological capital, and academic achievement. Some differences in this study include using a stratified sampling method in collecting research data and the PLS-SEM method of estimating the relationships between the abovementioned concepts. However, research limitations are limiting the interviewee's disciplinary traits or just evaluating the mediating function of academic psychological capital in the relationship between positive academic emotions and academic achievement.

The following are some recommendations from the study to help improve students' positive academic emotions, psychological capital, and academic achievement:

According to research, teachers play an important role in enhancing students' learning-related positive emotional experiences. This study advocates for lecturers to address students' basic psychological needs. Lecturers can demonstrate an interest in their students' learning by guiding them in developing appropriate learning goals and plans and encouraging students to self-study/research new and/or in-depth knowledge. Lecturers may also be appropriately compensated. The lecturer is expected to consider classroom climate, teaching methods, and learning content factors to create positive emotional experiences for students.

Furthermore, the study advises that activities to generate psychological capital be incorporated in the curriculum in which students participate. Many previous studies on psychological capital have recommended that focused micro training interventions can be used to increase the level of psychological capital most appropriately. As a result, this study suggests that this intervention can be implemented during the student's studies. Students' self-efficacy, hope, optimism, and resilience should be assessed regularly as evidence to have short training sessions with 2-3 hours duration to enhance students' psychological capital.

7. Limitations and Further Study

First, the study's sample only consists of students majoring in economics, and it is advisable to include students from many other disciplines in future research. Second, the current study only examines the effect of psychological capital on academic achievement; it is better to look into other factors such as stress and job opportunities in future research. Finally, this study examines the role of psychological capital as a mediator in the relationship between positive academic emotions and academic achievement. The moderating role of this factor should be mentioned in future studies.

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Authors' Contributions

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- Data Analysis: Trung Thanh Ngo, Huu Thanh Vu.
- Methodology: Trung Thanh Ngo, Huu Thanh Vu.
- Supervision: Trung Thanh Ngo.
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