

# The Influence of College Students' Psychological Capital on Study Engagement

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## Abstract

In order to explore the relationship between psychological capital and study engagement, as well as the role of positive emotion in it, we conducted a questionnaire survey. Participants were 211 (64 men, 147 women) students volunteers from Qingdao University. According to correlation analysis, we found that psychological capital had a positive impact on study engagement ( $r = 0.54, p < 0.01$ ). According to structural equation modeling (SME), we found that positive emotion can be used as the mediator between psychological capital and study engagement. High psychological capital brought more positive emotional experiences, which improved the level of study engagement.

## Keywords

Psychological Capital, Study Engagement, Positive Emotion, Mediating Effect

## 1. Background and Hypothesis

### 1.1. Introduction

In today's society, most college students are facing various challenges, such as unstable economy, market competition and high technology. In order to meet these challenges, it is necessary to improve college students' professional performance by improving their psychological capital and study engagement (Feldman, Davidson, & Margalit, 2014). Due to the imperfection of education system in China, students devote most of their energy in high school to cope with the College Entrance Examination. After entering college, the requirement of self-study is reduced. In addition, the low requirements of Chinese universities on students lead to the low participation of students in class. Most college students begin to learn professional courses until the final examination. It is

common to see the phenomenon of skipping classes, and students' study engagement is low. However, when facing postgraduate entrance examination and looking for jobs, they felt so regretful that they had failed to learn professional knowledge well in university, which led to frustration. Students with high study engagement have lasting, positive and complete emotion and cognitive states associated with learning, research and employment. Individuals with high level of study engagement are willing to pay more efforts in learning. They can overcome difficulties and setbacks and feel the meaning and happiness brought by learning in their hearts. Studies show that study engagement can effectively predict students' academic performance and subjective well-being (Fu & Zhang, 2010). Therefore, higher study engagement plays an important role in the success of college students in the stage of higher education.

However, a review of previous studies shows that the factors influencing study engagement are divided into individual factors and environmental factors, among which the individual factors are mainly demographic variables and individual characteristic variables, which are usually immutable or difficult to develop. With the gradual rise of the research on positive psychology and positive organizational behavior, psychological capital, a state-like construct that conforms to the criteria of developable, measurable and performance-oriented positive organizational behavior, has attracted extensive attention (Jafri, 2013). At present, researches on psychological capital are mostly carried out with organizational employees as samples, and some studies show that psychological capital has a significant positive impact on employee performance. Through literature review, foreign studies have been conducted on college students, and some studies show that psychological capital has a significant positive impact on college students' learning performance. Therefore, a total of 211 students from universities and colleges were selected as samples to explore the influence of psychological capital on students' study investment through questionnaire survey.

Through in-depth analysis, the reason for the low study engagement of contemporary college students may be the problem of emotional regulation during learning. The positive emotion is the human joyful feeling, which has the initiation function to the individual cognition. Looking at the essence through the phenomenon, some college students' low study engagement may be due to their negative emotional perception of learning. Therefore, this study intends to explore the mechanism of the relationship between psychological capital and study engagement.

## 1.2. Psychological Capital

Psychological capital is regarded as the development of an individual's positive psychological state, which is composed of four dimensions: self-efficacy, positivity, hope and resilience. Psychological capital was developed by Luthans and his collaborators by studying organizational behavior (Luthans, Youssef, & Avolio, 2007). Self-efficacy means that an individual is confident enough to take neces-

sary efforts to face challenging work; positivity is an individual's positive attribution to present and future success; Hope means to be hopeful about your goals; Resilience refers to the ability to persist and adjust to achieve success when encountering difficulties and setbacks (Luthans et al., 2007). Psychological capital is regarded as a core psychological element beyond human capital and social capital, which is a psychological resource to promote personal growth and performance improvement.

The study on psychological capital mainly focuses on the research on enterprise and organizational behavior. A large number of studies show that psychological capital has a very significant relationship with the attitude, behavior and Job performance of managers and employees. Through previous studies, the analysis of psychological capital at the individual level has a significant positive impact on job performance. In recent years, some researchers have begun to study group and organizational phenomena and apply multilevel or cross-level analysis (Luthans et al., 2010).

Studies have begun to explore the effects of various core psychological structures (such as hope, self-efficacy, positivity and resilience) on students' academic performance. In the last decade, a large number of studies have begun to focus on the relationship between psychological capital and students' learning performance. The level of psychological capital can affect whether college students expect to study or not. There is some research evidence that psychological capital can indeed influence students' learning, including academic performance (Luthans, Luthans, & Jensen, 2012), creativity, positive style of doing things, study engagement (Siu et al., 2013). These studies were consistent in college students and employees in organizations.

### 1.3. Study Engagement

Study engagement is a concept proposed after job engagement. Kahn (1990) defined job engagement as "organizational members control themselves to integrate themselves with work roles". In Kahn's opinion, ego and job role are actually in a process of dynamic and mutual transformation: when job engagement is high, individuals will put their energy into self-employment and show self-expression in roles. On the contrary, when the job engagement is low, individuals will pull themselves out of the job role to avoid creating the performance required by the job role and may have the intention to leave. Job engagement is regarded as a psychological state related with positivity, pleasant and work state. It includes vigor, dedication and absorption (Schaufeli & Bakker, 2004). Vitality refers to the willingness of individuals to invest energy and time in learning; Dedication refers to the strong sense of meaning and enthusiasm that an individual feel when learning; Concentration refers to the ability to concentrate and learn without being distracted by other things.

Schaufeli believes that job engagement can predict job performance. Similarly, Study engagement is seen as a predictor of academic success. Academic burnout

has a negative impact on students' academic performance, which was first discovered by psychological researchers. Compared with learning burnout, Study engagement is a completely opposite learning state. Some studies show that study engagement does not only mean that students are proud of themselves, but also that improve their real ability. These students have a higher Grade Point Averages (GPAs) in the test and achieve academic success. Recent research has tended to focus on study engagement as an important criterion for assessing academic quality and student development. When students begin to learn, it is very important to be engaged in study. In recent studies, students with high self-efficacy, high hopes for their future, and positive attributions to events showed the highest levels of study engagement (Siu et al., 2013).

#### 1.4. Psychological Capital and Study Engagement

Previous studies have shown that employees with high psychological capital have higher job engagement and are more likely to have higher job satisfaction and effective organizational commitment (Schuckert, Kim, Paek, & Lee, 2018; Boamah & Laschinger, 2016; Avey, Luthans, Smith, & Palmer, 2010). Therefore, psychological capital has a significant positive impact on employees' job performance. Some education researchers believe that psychological capital plays an important role in students' studies.

All dimensions of psychological capital (self-efficacy, positive, hope and resilience) are related to students' academic performance at the individual level (Luthans, Luthans, & Jensen, 2012; Gilman, Dooley, & Florell, 2006). At the individual level, study engagement is a very important part of a student's academic performance. There is a large amount of evidence that all dimensions of psychological capital have a positive impact on students' study engagement (Meyers et al., 2015).

#### 1.5. Positive Emotion

Positive emotion refers to the emotion accompanied by pleasure feeling produced by the stimulation inside and outside the body. Positive emotion can activate the general tendency of action, has started for cognitive and extension effect, the construction of the resources of the individual, (Guo & Wang, 2007). In recent years, positive emotion has been attached great importance in the research of emotional psychology abroad, and some important theoretical and empirical studies have been conducted, especially Fredrickson extension and the construction of the positive emotion theory (the Broaden-and-Build Theory of Positive emotion). The theory holds that some kinds of positive emotion such as pleasure, satisfaction and interest can expand an individual's thinking sequence and cognitive range. In laboratory tasks, individuals with positive emotion are more creative, solve problems more efficiently, and make more detailed and careful decisions (Vanno, Kaemkate, & Wongwanich, 2014). Therefore, we can speculate that individuals under positive emotion have higher study engagement.

Based on the above evidence, the hypothesis of this study is that: 1) Psychological capital has a predictive effect on study engagement; 2) Positive emotion

acts as a mediator in the mechanism of psychological capital's effect on study engagement. And we used SPSS16.0 for correlation analysis to verify hypothesis 1. We also used AMOS 21.0 to construct the Structural Equation Modeling (SME) to investigate the relationship among positive emotion, psychological capital and study engagement for hypothesis 2.

## 2. Method

### 2.1. Sample

Participants were 211 (64 men, 147 women) student volunteers from Qingdao University. Among them, there were 100 students majoring in psychology (47%), 36 students majoring in physical education (17%), 34 students majoring in primary school education (16%), 27 students majoring in pre-school education (11%), and 14 students majoring in education technology (6%). Participants were ranged in family monthly income from 1000 to 6000 yuan.

### 2.2. Measures

**Psychological Capital.** We measured this variable using the Psychological Capital Questionnaire (PCQ), which included 26 items (Zhang, Zhang, & Dong, 2010). Responses to this questionnaire were based on a six-point rating scale, anchored from (1) strongly disagree to (6) strongly agree. The questionnaire was made up of four factors, namely self-efficacy, resilience, hope and optimism (Ke, Sun, & Li, 2009). The internal consistency alpha coefficient of the four factors was 0.864, 0.861, 0.808 and 0.792, and the total internal consistency alpha coefficient of the scale was 0.868, which showed that the reliability and validity were good.

**Positive emotion.** We measured this variable using the Positive and Negative Affect Schedule (PANAS), which included 18 items. Responses to this scale were based on a five-point rating scale, anchored from (1) strongly disagree to (5) strongly agree. The questionnaire was made up of two factors, positive emotion and negative emotion. But we only use the items of positive emotion factor. The internal consistency alpha coefficient of positive emotion items was 0.925, which showed that the reliability and validity were good.

**Study engagement.** We measured this variable using the job engagement scale (UWES), which included 17 items. Responses to this scale were based on a five-point rating scale, anchored from (1) strongly disagree to (5) strongly agree. The questionnaire was made up of three factors, namely energy, dedication and concentration. The internal consistency alpha coefficient of the three factors was 0.801, 0.806 and 0.846, and the total internal consistency alpha coefficient of the scale was 0.917, which showed that the reliability and validity were good.

**Control variables.** This study controlled for personal characteristics that might influence students' psychological capital, study engagement and positive emotion, including students' gender, major, grade and monthly family income. Among them, gender, major and grade are classified variables, and family income status is a continuous variable.

## 2.3. Statistical Analysis

SPSS 16.0 and AMOS 21.0 software were used for data analysis in this study. SPSS 16.0 was used to fundamental analysis, AMOS 21.0 was used to construct the structural equation modeling (SEM) to investigate the relationship among positive emotion, psychological capital and study engagement.

The statistical analyses include: 1) Reliability analysis; 2) Confirmatory Factor Analysis (CFA); 3) Descriptive statistics; 4) Univariate ANOVA and independent sample t test; 5) Correlation analysis; 6) Structural Equation Modeling (SEM).

## 3. Results

### 3.1. Reliability Analysis

First, we analyzed the reliability of three scales, and the results were shown in **Table 1**.

In **Table 1**, Cronbach's Alpha reliability coefficient of each scale reached a good level above 0.85, and the Cronbach's Alpha of each factor reached an acceptable level above 0.7. It showed that the reliability of the three scales was good.

### 3.2. Confirmatory Factor Analysis (CFA)

Using AMOS 22.0, we performed Confirmatory Factor Analysis (CFA) of Psychological Capital Questionnaire (PCQ) and the Job Engagement scale (UWES) to determine whether their validity was good. The first step in using confirmatory factor analysis was to select the model, and we compared the unrestrictive model with restrictive model, the results were shown in **Table 2**.

In **Table 2**, the degree of freedom (df) of unrestricted model was 27, the chi-square value ( $\chi^2$ ) was 95.298 ( $p < 0.001$ ), the degree of freedom of restricted model was 28,  $\chi^2$  was 285.234 ( $p < 0.001$ ). The degree of freedom difference between two models was 1, the  $\chi^2$  difference was 189.936 ( $p < 0.001$ ), which

**Table 1.** Reliability Statistics.

	N	Cronbach's Alpha	Factor	N	Cronbach's Alpha
Psychological capital (PCQ)	26	0.868	Self-efficacy	7	0.864
			Resilience	7	0.861
			Hope	6	0.808
			Optimism	6	0.792
Study engagement (UWES)	17	0.917	Energy	6	0.801
			Dedication	5	0.806
			Concentration	6	0.846
Positive emotion (PANAS)	9	0.925			

**Table 2.** Comparison of unrestricted model and restriction model.

Model	df	$\chi^2$	<i>p</i>
Unrestricted model	27	95.298	<0.001
Restricted model	28	285.234	<0.001
Difference between two models	1	189.936	<0.001

showed that there was a significant difference between unrestricted model and restricted model. Compared with restricted model, the  $\chi^2$  of the unrestricted model was smaller, which meant model fitting was better under unrestricted model, so we finally chose the unrestricted model.

In Confirmatory Factor Analysis,  $\chi^2/\text{df}$ , TLI (Tucker-Lewi index), GFI (goodness-of-fit index) and RMSEA (root-mean-square error of approximation) indexes were used as the model indicators. And the fitting criteria for each index were determined as follows:  $\chi^2/\text{df} \leq 3$ , TLI, GFI  $\geq 0.80$ , and the closer it was to one, the better validity was. RMSEA  $\leq 0.10$ , and the closer it is to zero, the better validity was. The results were shown in **Table 3**.

As shown in **Table 3**, the indexes of the three scales were in line with the standard, which showed that the model was fit well and the validity of the scales was very high.

### 3.3. Descriptive Statistics

The mean values (M) and standard deviations (SD) of all the research variables and control variables in this study were shown in **Table 4**.

### 3.4. Differences of Demographic Variables

Univariate ANOVA and independent sample t test were used to test whether there were significant differences in the variables at different levels of demographic variables.

#### 3.4.1. Gender Differences

We used independent sample t test to explore the gender differences in Psychological capital, Study engagement, and Positive emotion. The results were shown in **Table 5**.

In **Table 5**, there were no significant differences between men and women in terms of psychological capital, study engagement and positive emotion ( $p > 0.05$ ).

#### 3.4.2. Differences in Family Economic Status

We used univariate ANOVA to explore the family economic status differences in Psychological capital, Study engagement, and Positive emotion. The results were shown in **Table 6**.

In **Table 6**, the results showed that there was a significant family economic status difference in psychological capital ( $F = 2.41$ ,  $p < 0.05$ ). There was no significant family economic status difference in study engagement and positive emotion ( $p > 0.05$ ). It illustrated that family economic status had a positive impact

**Table 3.** Confirmatory Factor Analysis (CFA) results.

	$\chi^2$	df	$\chi^2/df$	TLI	GFI	RMSEA
Psychological capital (PCQ)	577.032	293	1.969	0.833	0.823	0.068
Study engagement (UWES)	307.929	116	2.655	0.865	0.855	0.08
Positive emotion (PANAS)	178.632	27	2.616	0.844	0.84	0.09

**Table 4.** Descriptive statistics.

Variables	Gender	Grade	Major	Family economic status	Psychological capital	Study engagement	Positive emotion
M	1.71	2.11	2.2	3.93	3.56	3.14	3.44
SD	0.46	0.87	1.42	1.12	0.81	0.72	0.81

**Table 5.** independent sample T test of gender.

Variables	Gender	M	SD	t	p
Psychological capital	Male	3.54	0.54	-0.42	>0.05
	Female	3.57	0.50		
Study engagement	Male	3.14	0.79	0.10	>0.05
	Female	3.13	0.69		
Positive emotion	Male	3.60	0.77	1.95	>0.05
	Female	3.36	0.82		

**Table 6.** Univariate ANOVA of Family Economic Status.

Variables	Family Economic Status	M	SD	F
Psychological capital	Under 1000	3.41	0.71	2.41 <sup>*</sup>
	1000 - 2000	3.3	0.81	
	2000 - 4000	3.48	0.47	
	4000 - 6000	3.53	0.45	
	Above 6000	3.67	0.48	
Study engagement	Under 1000	3.06	1.05	0.70
	1000 - 2000	2.89	0.55	
	2000 - 4000	3.25	0.59	
	4000 - 6000	3.10	0.72	
	Above 6000	3.14	0.77	
Positive emotion	Under 1000	3.48	0.67	1.00
	1000 - 2000	3.24	0.97	
	2000 - 4000	3.40	0.78	
	4000 - 6000	3.32	0.88	
	Above 6000	3.56	0.81	

\*Correlation is significant at the 0.05 level (2-tailed).



on psychological capital. Students with high household income also scored high on psychological capital.

### 3.5. Correlation Analysis

The correlation coefficients of all the research variables and control variables in this study were shown in **Table 7**.

According to **Table 7**, there was a significant positive correlation between psychological capital and study engagement ( $r = 0.54$ ,  $p < 0.01$ ). It illustrated that psychological capital had a positive impact on study engagement. Psychological capital had a predictive effect on study engagement, which proved that hypothesis 1 can be accepted.

There was a significant positive correlation between psychological capital and positive emotion ( $r = 0.58$ ,  $p < 0.01$ ), and there is a significant positive correlation between positive emotion and study engagement ( $r = 0.39$ ,  $p < 0.01$ ). It illustrated that there was a correlation among positive emotion, psychological capital and study engagement, which laid the foundation for hypothesis 2. Positive emotion might act as a mediator in the mechanism of psychological capital's effect on study engagement.

### 3.6. Structural Equation Modeling (SME)

In the structural equation model, the independent variable was psychological capital, the dependent variable was study engagement, the mediator was positive emotion. The results were shown in **Table 8**.

In **Table 8**, the results showed that  $\chi^2/df < 3$ , GFI  $> 0.8$ , RMSEA  $< 0.1$ , which indicated that the hypothetical model did fit with the sample data. Therefore, positive emotion can be used as the mediator between psychological capital and study engagement, which illustrated that hypothesis 2 was acceptable. To facilitate understanding of the relationship among variables, we made a simple schematic, as shown in **Figure 1**. High psychological capital brought more positive emotional experiences, which improved the level of study engagement.

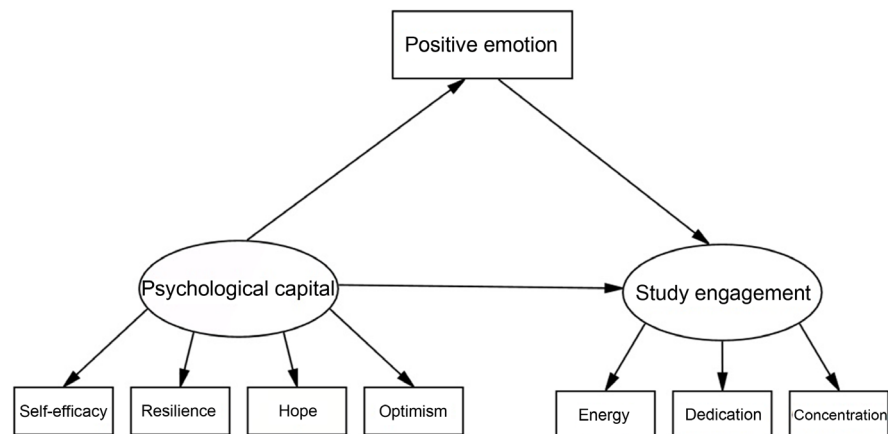
**Table 7.** Correlation analysis.

	Gender	Grade	Major	Family economic status	Psychological capital	Study engagement	Positive emotion
Gender	1						
Grade	-0.1	1					
Major	0.18**	-0.34*	1				
Family economic status	0.21**	0.05	0.04	1			
Psychological capital	0.03	-0.06	0.08	0.70**	1		
Study engagement	-0.01	0.05	-0.05	0.02	0.54**	1	
Positive emotion	-0.13	0.08	-0.16*	0.08	0.58**	0.39**	1

\*Correlation is significant at the 0.05 level (2-tailed); \*\*Correlation is significant at the 0.05 level (2-tailed).

**Table 8.** Structural Equation Modeling (SME).

	df	$\chi^2$	p	$\chi^2/\text{df}$	GFI	RMSEA
hypothetical model	18	53.505	<0.001	2.973	0.943	0.097

**Figure 1.** Research Hypothesis.

## 4. Discussion

Using reliability analysis and Confirmatory Factor Analysis (CFA), we found that three scales were excellent in reliability and validity, and they were suitable for students in China.

Using univariate ANOVA, we found that family economic status had a positive impact on psychological capital. Students with high household income also scored high on psychological capital. The possible reason for this was that wealth brought confidence to people. Another possible reason was that the higher family economic status indicated the higher educational level of parents. Such parents were more willing to adopt good parenting methods to cultivate children's positive qualities, so their children had higher psychological capital.

Using correlation analysis, we found that psychological capital had a positive impact on study engagement. Psychological capital had a predictive effect on study engagement, and hypothesis 1 can be accepted. We also found that there was a correlation among positive emotion, psychological capital and study engagement, which laid the foundation for hypothesis 2. Positive emotion might act as a mediator in the mechanism of psychological capital's effect on study engagement. Using structural equation modeling (SME), we found that positive emotion can be used as the mediator between psychological capital and study engagement, which illustrated that hypothesis 2 was acceptable. High psychological capital brought more positive emotional experiences, which improved the level of study engagement.

Our research results were consistent with the theoretical expectations, but there were still limitations to our research. First, our research sample size was not large, there might be random error. Second, all participants in our study were students from Qingdao University, and the results might not be universal.

In the subsequent study, we will expand the sample size and extend the sample source to other universities in China.

## 5. Conclusion

With the popularity of Positive Psychology, researches on psychological capital have been carried at home and abroad (Luthans, Avolio, Walumbwa, & Li, 2005). However, most of the empirical studies have focused on enterprise, and found that psychological capital has a significance impact on job burnout and job performance. Since 2014, some studies at home and abroad have started to use college students as subjects to explore the relationship between college students' psychological capital and learning performance. Studies have found that psychological capital plays a significant role in promoting college students' learning performance. This research expanded the applicability of psychological capital research from enterprise employees to college students. On the other hand, this study added positive emotion and found that positive emotion can be used as the mediator between psychological capital and study engagement. High psychological capital brought more positive emotional experiences, which improved the level of study engagement.

In China, a large number of college students gave up their requirements on themselves after entering the university. They did not engage in their study seriously, skipped classes in daily life, and did not treat their professional classes seriously. They always found that they were lack of professional knowledge when they had to get employed. This research found that it can improve college students' study engagement by developing their psychological capital. In order to strengthen students' learning effect, higher education institution can take students' psychological capital into consideration, so as to improve students' study engagement and achieve the purpose of cultivating talents.

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## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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