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Psychological Capital in Chengdu Primary School Students

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Abstract

Motivated by students being too stressful in school, this study examines whether psychological capital predicts the stress level, psychological wellbeing and engagement level of students, and exhibits a mediating role for the three antecedent factors, namely school atmosphere, parental support and student relationship and support. Chengdu public primary schools' students (n=397) completed the surveys. Use of structural equation model (SEM) tool shows supports for the concepts proposed. Furthermore, stress level is also a significant predictor of psychological wellbeing, which in turn, explains student engagements. Students' socio-demographic profiles, represented by gender, school year, to whom the students live with, whether in rural or urban areas, and child state (one child, or having sister and brother), also play significant role in the phenomenon investigated. The findings indicate the benefit of psychological capital in an academic, primary-school context. Implications of these findings are discussed.

Keywords: *Psychological capital, stress, psychological wellbeing, student engagement, China.*

1. Introduction

1.1 Background & Rationale

Better education usually means better jobs, and education institutions mostly put their priorities on imparting knowledge and skills and nurturing the attitudes of students (Stafford et al., 1984). Many theories have provided insights in students' education such as human capital theory (Becker, 1994), but rarely researchers and practitioners target the psychological aspect of human capital. In fact, evidences are abundant that students possessing psychological capital, manifested for instance as psychological safety, feel more secure than without, and have the confidence in overcoming environmental constraints, can better develop careers (Cannon and Edmondson, 2001).

The psychological capital is important as people are live nowadays in an environment that is in constant change, known to capture characteristics of “VUCA” (Volatility, Uncertainty, Complexity, and Ambiguity, Watt, Javidi and Normore, 2016). Similarly, to a person’s psychology, success often depends on the logic of agile configuration of businesses (Clegg, Voss, and Chen, 2019). Thus, psychological states of people can be considered as an essential root cause or source of agility or resilience that the transformative needs of the world urgently need. This study focuses on primary students to understand the psychological states of students, and provide also a theoretical validation on how psychological capital can significantly influence student’s psychological well-being, perceived stresses and engagement. Though at an exploratory level at the present time, this study aims to fill a gap in relation to knowing their psychological capital. It is hoped that this study can encourage a great sensitivity among educators concerning the importance of building psychological capital as a key part of the curriculum in primary school schools, by focusing on Chengdu as an empirical example.

1.2 Objectives

Specifically, the research objectives of this study next presented.

The first research objective is to use interview a sample of primary school students in Chengdu, province, China, to identify the factors which can significantly affect their psychological capital of the students. In-depth interviews are means to obtain richer data than is possible by other means, and thus gain a deeper understanding of the subject at hand, and, at the same time, provide relevant information concerning the items which will form part of the questionnaire. This should lead to strong theory validation. When the interviewees share common understandings, which is characteristics of theoretical sampling and saturation in convergent interviewing, a more robust base for theory construction can be made possible. Also, it can also guide a stronger and more relevant literature review, including questionnaire design (Rao and Perry, 2003).

Research objective two is to validate the factors driving psychological capital, and also in turn, explain how a significant level of psychological capital can have an influence in reducing students’ stress, improving their well-being, and contributing to a higher level of student engagement.

Student engagement is a critical dependent variable in this present study. Its relationship to psychological capital is “a positive work-related state of fulfilment” (Schaufeli et al., 2002). Thus, it fits into the notion of positive psychology which aims to maximize work productivity through self-efficacy, optimism, hope and resilience (Luthans, 2002). Given Chinese culture which supports intensive learning and school competition, student engagement is a one which most parents and teachers would look for. It refers to meaningful student involvement throughout the learning experience (Mphahlele and Makokotlela, 2021).

2. Literature Review

Globally, especially under the influence of COVID-19 pandemic, students face a great deal of negative psychological impact such as stresses and burnout (Ye et al., 2022), which can negatively influence life satisfaction and psychological well-being

(Labrague, 2021). An essential remedy to negative stresses is via positive psychology influences in the lives of students (Wang et al., 2014) with a specific focus on developing a psychological state of mind (Sebora, 2017). Research is still in an emergent state for understanding students' psychological capital. Allen, Johnson and Myszka (2022) studied undergraduate nursing students' psychological capital in a simulation program which trains students to practice patient care in a safe, constructed environment. The simulation environment was meant to simulate the pressures of the external environment in order to understand the role played by psychological capital in the simulated context. In doing so, Johnson and Myszka (2022) were able to design appropriate pedagogies and curriculum to expand students' knowledge, skills and abilities to deal with the needed environment and job roles.

Due to the urgency and significant value of psychological well-being and capital, many researchers continue to identify and validate both the antecedent factors and the consequential aspects. Lukas (2021) identified a positive association between physical activity on psychological well-being of students. Ye et al. (2022) examined the action-oriented side of positive psychology, namely psychological flexibility which captures "the ability to accept one's present situation, even challenging situations, without avoidance" (p. 3). Labrague (2021) identified stress as an essential antecedent factor to the development of psychological well-being. In this present study, interviews with primary students in Chengdu provided a guideline for the three antecedent factors, namely school atmosphere, parental support, and student relationships and support. As stress was a variable often expressed by the students being interviewed, both stress and psychological well-being are considered as the dependent variables mediated through psychological capital. This study considers student engagement as another dependent variable as student learning competition is a relative norm in China's culture.

In short, this study proposes six hypotheses for empirical validation:

H1: Social atmosphere is a significant predictor of psychological capital.

H2: Parental support is a significant predictor of psychological capital.

H3: Student relationship and support is a significant predictor of psychological capital.

H4: Psychological capital plays a significant mediator between the three antecedent variables (school atmosphere, parental support and student relationship and support) and stress level.

H5: Psychological capital plays a significant mediator between the three antecedent variables (school atmosphere, parental support and student relationship and support) and psychological well-being.

H6: Psychological capital plays a significant mediator between the three antecedent variables (school atmosphere, parental support and student relationship and support) and student engagement.

The conceptual model is shown in Figure 1, which integrates the six proposed hypotheses.

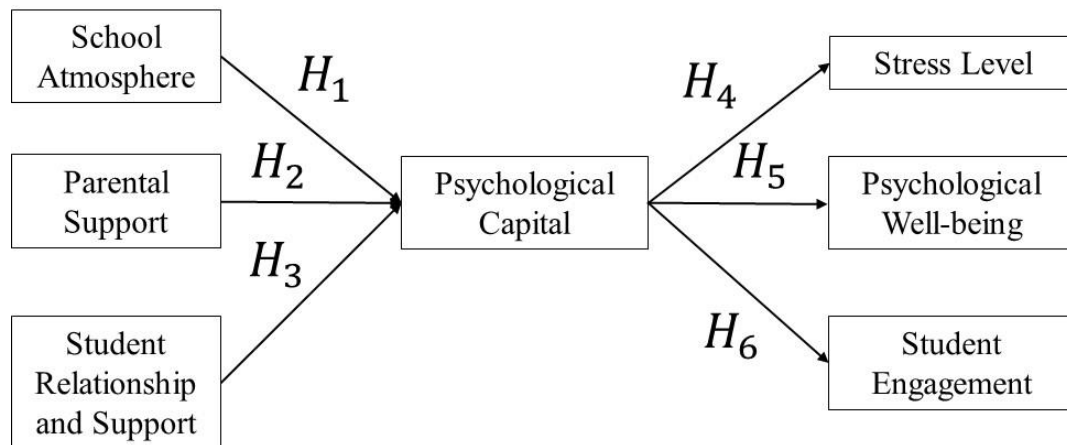


Figure 1. The Conceptual Model

Self-efficacy is an essential aspect of psychological capital, which is generally a domain-specific belief about one's capabilities to act on or perform specific behaviors (Bandura, 1997; Matteucci and Soncini, 2021), such as student learning.

2.1 Hypotheses H1, H2, and H3

Essential themes of positive psychology explicitly focus on studying and understanding people's well-being, productivity, optimal functioning and in realizing one's full potential (Seligman et al., 2005). Numerous researchers like Luthans, Youssef and Avolio (2007) and Huang and Wang (2021), have made attempts to establish a social climate linkage to the formation of psychological capital. According to Seligman et al. (2005), psychological capital has only truly taken off over the past 20 years. To understand how significantly important is the term psychological capital, researchers have explored and examined the various antecedent factors that explain psychological capital and made attempts to show relevant consequences (Bernerth and Anguinis, 2016; Hobfoll, 2002).

Using interviews with the sampled primary students in Chengdu, the three antecedent variables, namely, school atmosphere, parental support, and student relationship and support, fit appropriately into social climate notion which is, by definition in alignment with the meaning of psychological capital. Relevant social climate variables such as relating to collaboration, student relations, school resources were discussed in Jonson et al. (2007), and Huang and Wang (2021).

As an implication, H1, H2 and H3 can also be described as laying out a relationship between social capital and positive psychological capital. Similar types of relationships have also been studied by Noel and Finocchio (2022).

2.2 Hypothesis H4, H5, H6

Hypothesis H6 is a basis and reflection of student's productivity. According to Goldsmith, Veum and Darity (2007), positive psychological capital encompasses "those features of personality psychologists believe contribute to an individual's productivity" (p. 815). Specifically, the productive work, as manifested in student

engagement, is "a positive work-related state of fulfilment" (Schaufeli et al., 2002), and thus, fits into the notion of positive psychology which aims to maximize work productivity through self-efficacy, optimism, hope and resilience (Luthans, 2002).

In addition, realizing the stress factor as a barrier to productivity, Li et al. (2021) also examines and confirms the roles of psychological capital in reducing occupational stress. A similar finding, but in terms of technostress faced by the undergraduate students, is also described in Abbas et al. (2020). Accordingly, wellbeing of students can be achieved, as stated in Hypothesis H5, and stress level reduced, as noted in H4. Having tested some 258 undergraduate students, Poots and Cassidy (2020) confirm a positive relationship between psychological capital and students' wellbeing.

3. Method

This study began by interviewing a sample group of primary school students in Chengdu, the purpose of which was to find out psychological factors for which students are concerned. A structured interview was developed which took into account the reluctance which young students have with in engaging in active participation and not experienced in an interview situation. Also, their worries about long phrases. The structured interview was used only as a thematic guideline. Prior to the interviews a search was made of the relevant literature regarding which psychological issues are likely to be the most relevant. The following questions were used:

- Are you satisfied with the current states of your studies? Any particular mental state, health situation at this moment, and any actions taken?
- How do you feel about your family situation? Any suggestions. How do you think about your parents' model, and how they support you?
- How do you like your friends in class and your teachers? Any issues encountered in school that may influence you emotionally, and how did you deal with them?
- Additional: How did you do on extracurricular activities, and what do you like besides studying.

Following the student interviews, it was then possible to design the questionnaires (see the Appendix). Thus, the present research used a mixed method for data collection, which can be effective when one method can connect to the results of another. This can

contribute not only to assisting in the design of the questionnaire, but also to explaining the phenomena under study (Gibson, 2012).

3.1 Questionnaire Design

To gain a robustly valid and reliable base for designing the questionnaire, the constructs were adapted from the widely validated instruments by Cohen (1988), Ephrem (2019), Ye et al. (2022), and Lukas (2021).

3.1.1 Perceived stress scale:

- In the last month, how often have you been upset because of something that happened unexpectedly.
- In the last month, how often have you felt that you were unable to control the important things in your life.
- In the last month, how often you felt nervous and stressed?
- In the last month, how often have you found that you could not cope with all the things that you had to do?

The scales used for the perceived stress scale were (1) very frequently, (2) occasionally, (3) rarely, (4) very rarely, and, (5) never.

3.1.2 The psychological capital's questionnaire design adapts and modifies Ephrem (2019) and Luthans et al. (2006), which has four dimensions, namely self-efficacy, optimism, hope, and resilience:

- Self-efficacy – I feel confident in my study; I feel confident presenting my ideas in class; I feel I can handle any learning issues; I feel I can handle any social issues.
- Optimism – I always look on the bright side of things regarding my student life; Right now, I see myself as being quite successful in my student life; In my student life and learning, things always work out the way I want them to; When things are uncertain for me, I usually expect the best; I am optimistic about what will happen to me in the future after my school journey.
- Hope – Right now, I can list the most important goals for my life in just a few minutes; I am motivated to achieve my goals in life; I can think of many ways to reach my current studying goals; If I should find myself in a jam in achieving my goals in study, I could think of many ways to get out of it.
- Resilience – I can always manage the difficulties I encounter in my student life; I can get through difficult times during my study; When I have had a setback in my study, I did quickly recover from it; If something can go wrong with me in my study, it will not affect me so much; I can persist in the face of any adversity; I can react quickly to unexpected environmental change.

By embracing the four dimensions or subscales, namely efficacy, hope, optimism and resilience, the psychological capital was measured as a second-order construct (Li et al., 2021).

The study adapted the concepts of various researchers such as Ye et al. (2022), Lukas (2021) for student relationships and social support, and design using the following antecedent variables:

- Student relationship and support – I feel a strong emotional bond with many friends in my school; there is someone I could talk to about my study in my school; there are friends in my school I can count on for my study.
- Parental support – I have a strong support from my parent in giving me freedom to make decision; I have a strong support from my parent when I faced difficulties in study; My parent is always on my side when I need them.
- School atmosphere – The school environment is favorable to my study; I feel caring relationship among each student in school; I feel caring relationship from the teachers.
- Psychological well-being – I always feel happy and not depressed; I don't feel lonely; I enjoy my life, both in study and social.

For student engagement, this study adapted the instrument design of Lam et al. (2014) which has three dimensions, namely cognitive, affective and behavioral.

- Cognitive Engagement –I review my notes regularly during study; If any doubts arise during my study, I will find more information; I will always try to understand the logics of what the teacher teach in class.
- Affective Engagement – My school is a place where I feel energetic; My school is a place where I make friends easily; My school is a place where I feel my life is more satisfying.
- Behavioral Engagement– I would never skip classes; I am supportive of my classmates; I would help friends in their study.

3.2 Quantitative Data Analysis

In quantitative data analysis, first, this study ensured that the measurements are reliable, and also showed evidence that each variable was different from each other, discriminant validity, and that the questionnaire items measured the variable in a valid way, convergent validity (Hair et al., 2006). The structural equation model (SEM) analysis was carried out to determine if the six hypotheses could be accepted.

3.3 Sampling

The Appendix shows a total of 43 observable (measured) items, which, for SEM analysis, a minimum sample size of $43 \times 5 = 215$ is required, but best at $43 \times 10 = 430$ (Hair et al., 2006). Nevertheless, using simple normalized formula for a statistics

variable, suppose we desire a 95% confidence level and $\pm 5\%$ precision, the resulting sample size yields 385, as demonstrated in Equation 1, where p and q for socio-demographic variables, such as gender, or with one child or sister and brother being distributed equally:

$$n = \frac{Z^2 pq}{e^2} = \frac{(1.96)^2 (0.5)(0.5)}{(0.05)^2} = 385 \quad (1)$$

The students of Chengdu public primary schools were approached for both interviews and questionnaire-based surveys. For in-depth interviews, seven students from different classes and genders from different areas of the public primary schools in Chengdu participated in a Christmas party on December 24th, 2021. After the dinner and having good fun, the interviews were held. With the permission of the students, the interviews were recorded, and subsequently transcribed for analysis. Short phrases of the responses from the primary students were accepted as everyone was in a relaxed mood. The phrases could be adjusted into longer versions.

For the questionnaire-based survey, the website (wenjuan.com) network was used to distribute to public primary schools in Chengdu, China, during the period April 25 to May 1, 2022.

4. Results

This section presents the results of both quantitative and qualitative data. First, qualitative data analysis looked for themes which identified three factors that this research assumed were driving the psychological capital of the students. The quantitative data analysis aimed mainly to validate the proposed theoretical framework.

4.1 Qualitative Data Analysis

The results of the interviews were extracted from analyzing the interview scripts for themes that interrelate to the psychological states of the students such as stress, happiness, joyful state in life. Three common factors emerge from the interviews to have various impacts on them such as motivation in studying (i.e., student engagement) and life, stress level, emotion, and so on. The three factors are (1) the teacher's actions and responsibility, and school atmosphere, (2) the student peers' supports, and (3) the support and relationship with their parents.

The following captures the phrases of their responses in the extracts expressed by the students, followed by a short synthesis which would be used in the next quantitative phase of research:

"I dislike my teachers, and the teachers at schools will punish me hard. I feel a boring atmosphere in school; I mean very routine sets of activities: homework, examination and attending classes. In a way, tell you frankly teacher, it makes me less motivated to want to work harder" (Student One) – Apparently, this student conveys how the school atmosphere, represented a major part by the teachers, can significantly

influence their psychological states and correspondingly, induce the levels of their motivation and engagement in studying, such as homework.

“I feel stressful from my mother. I know she cares about me, but she always punished me, especially when she tutored on my school assignment and I was not able to answer. There was also a case when she noticed I had a quarrel with a student in school, and I was not telling her the reason of the quarrel, and then, she taught I was not paying attention to her, and that was another time I was beaten by my mother. This makes me feel stressed and have less confidence.” (Student One) – The sharing

connotes that parental role does have significant impact on the efficacy level of the student, which is a state of psychological capital (Ephrem, 2019; Luthans et al., 2006).

“I hate the school environment; Students litter around, paint and draw on school walls and toilets, and do not maintain a discipline in showing care to others. The dirty environment distracts me from paying attention to my study.” (Student Two). The school environment is indeed a factor that has a significant impact on student attention and engagement ability.

“I do not like my school, though it does not impact much on my spirit of studying and health. But, tell teacher frankly, many time I rather be sick and not attended classes” (Student four). An apparent relationship between school atmosphere and student engagement is seen in this student’s sharing.

“My mother never beat me, very well education. She is currently pursuing her PhD study, and I see her constantly working hard on her thesis. She always educates me, with loads of western education materials as well. I gain confidence, and start to know many things. I know I am capable to deal with anything arise in my life and study.” (Student Four). This student exhibits a strong psychological capital that arises from the influence of parental support, such as in aspect of self-efficacy, optimism, and resilience (see Cohen, 1988).

“I treasured my study abroad. The education load is too intense for me here in China; every day, we have many homework and examinations. I request to my parent to allow me to study my secondary and senior high schools abroad, but they rejected my request. I feel stressed.” (Student Four). Clearly, school environment in terms of learning load can have positive or negative impact on students’ learning motivation and the stress level.

“I every think of suicide. I saw from my mobile of one student suicided because the parent did not allow to use mobile. Our school actually has mental counseling services, but after the assessment, the counsellor never told us how to resolve our mental issue. I still feel diseased inside” (Student Six). Indeed, factors mentioned so far by other students, including this student six, shows a direct impact on the psychological well-being state of the students.

The seven students share common acknowledgement of the factors, such as the punishing behaviors of parents, shown not only in student one as noted above, but also in student three (“My mom always punish me, and only for ten minutes on mobile phone on Monday to Saturday. I think it is no meaning doing so. A bit stressful in this sense, and actually causes me to see things not in bright side”). Obviously, a resilience aspect of psychological capital is also obvious. Students three and five expressed also the dirty environment in schools and the stressed and routine examinations, which makes the students tired (“I feel tired of the constant examinations in schools, and the toilet very crowded, dirty, and messy; really make me stressed sometimes” – Student Three, “Our school toilet is very congested and canteen is noisy; these few things I dislike about the school. Nevertheless, I like the green compound of the school, but very little entertainment area for us to relax; they should know we already very stressed in our studying” – Student Five).

Upon asking the seven students whether they notice their classmates are having similar experiences, they nodded, agreeing that many share what they experienced.

Apart from the negative experiences, there are also some positive aspects in the students’ sharing, as shown below:

“I love my father. He always shares something of value and interesting to me, so as to allow me to gain more knowledge. Many times, he realized my workload in assignments. When I finished my assignments, he brought me to outside, such as to the community areas, supermarkets, and also occasionally, allowed me to play game in shopping arcade. I feel happiness and this gives me the strength to be myself and to face up to challenges.” (Student Two). This student’s positive experiences with the parent leads to a positive perception of psychological capital in the domain of self-efficacy and resilience to stand up to challenges.

“I was always tutored in my mathematics teacher’s home during primary one to four. I love and feel very happy particularly with friends that support each other during tutoring.” Obviously, the support of student-peers provides a stimulating factor to influence the state of happiness and self-efficacy level.

4.2 Quantitative Data Analysis

This study received 397 valid returns: males 54.9%, female 45.1%, quite equally distributed between only child (50.1%) and with sister and brother (49.9%); years one to three (49.4%) and years four to six, 50.6%. Most of the students lived in rural area, 82.6%, and urban, only 17.4%. The majority of the students stay with both parents, 73%, with a single parent, 23.4%, and with a grandparent, 3.5%.

Validity and reliability of the measurements were performed. Table 1 shows the reliabilities of the four domains of psychological capital at 0.67 (the least), 0.862, 0.862, 0.909, respectively for self-efficacy, optimism, hope and resilience, leading to Cronbach’s alpha of psychological capital at 0.917, which is more than the 0.7-0.8 thresholds, and the total variance explained by self-efficacy, optimism, hope and resilience at 0.81, which was more than the 0.50 threshold. The loading factors for each

item are 0.7 or above, beyond threshold of 0.50. Thus, the measurements for psychological capital were reliable, and have a strong convergent validity base.

Table 1: Reliability and Convergent Validity Base for Psychological Capital Measurement

Variables	Loading for Each Measurement Item (See Appendix)	TVE for Respective Domain of Psychological Capital	Alpha	Alpha for Psychological Capital	TVE for Psychological Capital
Self-efficacy	SE1 0.73 SE2 0.85 SE3 0.74	0.61	0.67	0.917	0.81
Optimism	O1 0.8 O2 0.82 O3 0.79 O4 0.76 O5 0.83	0.64	0.862		
Hope	H1 0.81 H2 0.83 H3 0.88 H4 0.84	0.71	0.862		
Resilience	R1 0.87 R2 0.86 R3 0.83 R4 0.76 R5 0.84 R6 0.82	0.69	0.909		

Student engagement measurements, as shown in Table 2, also exhibit strong reliability and convergent validity.

Table 2: Reliability and Convergent Validity Base for Student Engagement Measurement

Variables	Loading for Each Measurement Item (See Appendix)	TVE for Respective Domain of Psychological Capital	Alpha	Alpha for Psychological Capital	TVE for Psychological Capital
Cognitive Engagement	CE1 0.868 CE2 0.891 CE3 0.846	0.75	0.836	0.89	0.745
Affective Engagement	AE1 0.898 AE2 0.909 AE3 0.926	0.83	0.89		
Behavioral Engagement	BE1 0.818 BE2 0.892 BE3 0.860	0.73	0.816		

The reliability and convergent validity base of other variables, unitary (one dimension) in nature, are presented in Table 3, on the following page.

Table 3: Reliability and Convergent Validity Base for the Unitary Variables

Variables	Loading for Each Measurement Item	Total Variance Explained	Cronbach Alpha
Student relationship and support	SRS1 0.885 SRS2 0.911 SRS3 0.886	0.799	0.875
Parental support	PS1 0.88 PS2 0.92 PS3 0.89	0.805	0.878
School atmosphere	SA1 0.901 SA2 0.913 SA3 0.890	0.810	0.885
Psychological well-being	PWB1 0.871 PWB2 0.905 PWB3 0.894	0.792	0.869
Perceived stress scale	PSS1 0.79 PSS2 0.83 PSS3 0.84 PSS4 0.83	0.68	0.845

Furthermore, Table 4 shows evidence of discriminant validity for the measurements of variables, which is reflected by the square root of total variance explained in the diagonal terms in value more than the cross-correlations.

Table 4: Discriminant Validity

	TVE	V1	V2	V3	V4	V5	V6	V7
V1	0.799	0.89						
V2	0.805	0.67	0.90					
V3	0.81	0.71	0.79	0.90				
V4	0.81	0.65	0.54	0.56	0.90			
V5	0.792	0.69	0.75	0.79	0.63	0.89		
V6	0.68	0.41	0.41	0.43	0.49	0.49	0.82	
V7	0.89	0.71	0.70	0.77	0.77	0.78	0.48	0.94

Correlation is significant at 0.01 level (2-tailed), and the diagonal term is square root of TVE

A strong base for reliability, convergent and discriminant validity is needed for inferential statistics analysis (Tan, 2022), and Tables 1 to 4 have shown that the base is strong.

Prior to the structural equation model (SEM) analysis, the comparative analyses of the students' socio-demographic variables were performed using t-test and ANOVA test, based on Sig. 0.05 threshold level. Results are given in Table 5.

Table 5: T-Test and ANOVA Test, and Sample Profiles

	No.	Per cents	V1	V2	V3	V4	V5	V6	V7
Male	218	54.9	3.75	4.01	3.99	3.33	3.9	3.22	3.24
Female	179	45.1	3.88	4.14	4.13	4.56	4.07	3.33	3.88
t			-1.7	-1.58	-1.8	-1.7	-2.2	-1.18	-1.99
Sig. (2-tailed)			0.089	0.114	0.069	0.091	0.028	0.237	0.047
Only Child	199	50.1	3.91	4.17	4.13	3.45	4.06	3.31	3.86
With Sister and Brother	198	49.9	3.71	3.96	3.97	3.32	3.88	3.23	3.75
t			2.66	2.65	2.2	1.85	2.38	0.79	1.61
Sig. (2-tailed)			0.008	0.008	0.028	0.064	0.017	0.43	0.1
1-3 Year	196	49.4	3.79	4.05	4.05	3.32	3.94	3.23	3.78
4-6 Year	201	50.6	3.83	4.08	4.06	3.45	4.01	3.3	3.83
t			-0.58	-0.29	-0.03	-1.86	-0.88	-0.7	-0.73
Sig. (2-tailed)			0.56	0.76	0.99	0.06	0.37	0.48	0.46
Urban	328	82.6	3.84	4.12	4.07	3.38	4.01	3.3	3.82
Rural	69	17.4	3.69	3.8	3.96	3.42	3.81	3.11	3.72
t			1.4	3.1	1.15	-0.36	1.94	1.5	1.17
Sig. (2-tailed)			0.15	0.002	0.25	0.71	0.05	0.13	0.24
With Single Parent	93	23.4	3.74	3.92	3.98	3.38	3.91	3.28	3.75
With Mom and Dad	290	73	3.85	4.15	4.1	3.4	4.02	3.28	3.84
With Grandparent	14	3.5	3.35	3.35	3.5	3.28	3.45	3.03	3.51
F			3.34	9.33	4.85	0.2	4.26	0.44	1.97
Sig.			0.036	0.000	0.008	0.817	0.015	0.643	0.14

Note: V1 = Student relationships and support. V2 = Parental support. V3 = School atmosphere. V4 = Psychological capital. V5 = Psychological wellbeing. V6 = Perceived stress level. V7 = Student engagement.

With respect to gender, female students show higher levels of student relationship and support, parental support, have more positive psychological wellbeing scores and higher level of student engagements, than their male counterparts. The “only child” category shows a similar trend, and also a higher psychological capital level (at Sig. 0.064, slightly beyond the 0.05 Sig. level threshold). Psychological capital was slightly higher for primary students when they moved from years one to three, and, from years four to six.

Students whose families live in rural area show more favorable perceptions of the theoretical variables, with significant differences in parental support and psychological wellbeing. Students staying with parents show more favorable responses to each of the variables, with notable significance in student relationships and support, parental support, school atmosphere, and psychological wellbeing.

Figure 2 shows the structural equation modeling (SEM) analysis. It reveals not only a strong support for the six hypotheses, but reveals additional insights as follows:

First, psychological capital exhibits a significant mediation role between the three antecedent factors (social atmosphere, parental support, and student relationship and support). Stress level, psychological wellbeing, and student engagement benefited. Second, stress level also has a direct influence on psychological wellbeing, which, in turn, explains higher levels of student engagement.

The SEM statistics met the threshold requirements for NFI, RFI, IFI, TLI near 1.0 (more than 0.90), and RMSEA at 0.066 (below 0.07 threshold): NFI = 0.924, RFI = 0.908, IFI = 0.940, and TLI = 0.940.

Additionally, Chi-square is at 2.735, P = 0.000. Fig. 2 presents the SEM results, and the factor loadings of the observable items align with the values presented in Tables 1 to 3 by use of exploratory factor analysis (EFA).

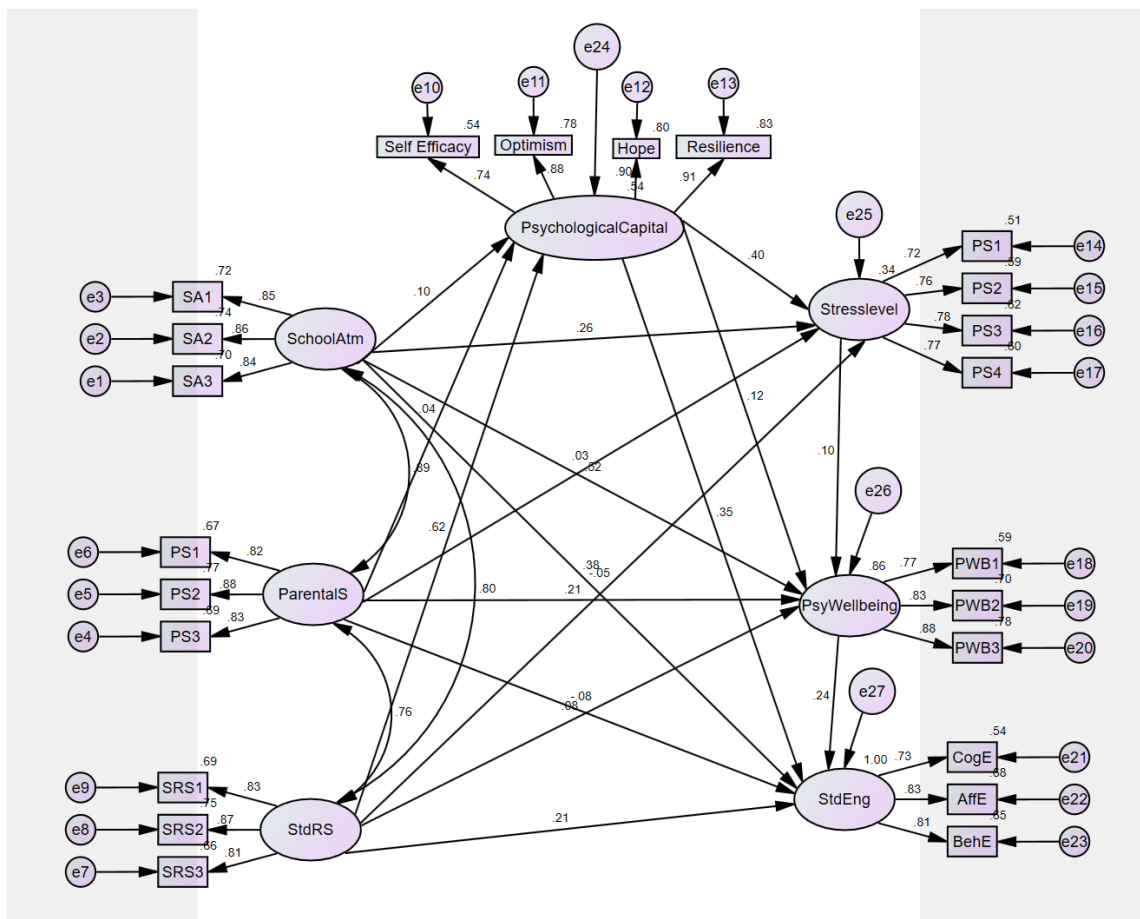


Figure 2. The Structural Equation Model (SEM) for the Conceptual Model

5. Conclusion and Discussion

Qualitative data will be discussed first, followed by the discussions of the quantitative data results.

5.1 Qualitative Themes

The interviewing sessions with the primary school students helped provide the theoretical structure which was built on the factors which explain the arising levels of resilience, optimism and self-efficacy of the students, as well as their stress levels, psychological well-being, and engagement. The theoretical structure is as follows:

Antecedent Factors → Psychological Capital → Stress level, psychological wellbeing, and student engagement.

The theoretical framework which grew out of the student interviews is supported by the conceptual framework developed from the literature review, and provided a base for the questionnaire items design. They best reflect and aligns with the actual experiences of the students. The significance of psychological capital is explained in the discipline of positive psychology (Wang et al., 2014). The literature which was reviewed earlier discusses the existence of psychological capital in terms of self-efficacy, optimism, hope and resilience. “Hope” was not a term which came from the interviews. Nevertheless, “hope” was incorporated in the questionnaire design to describe a dimension of psychological capital. These four elements thus reflect the psychological capital of the students, and research has confirmed these four elements as essential psychological resources which students can draw upon and which influences their sense of well-being (Nimmi et al., 2022).

As many students revealed, the factors of school atmosphere (i.e., teacher attention, assignment level, discipline of students, quality of the facilities), student’s peers’ support and relationships, and parental supports, can lead the students to feel happy, less stressful, more confident in their studies and in their social life, and motivated to engage more actively in their studies. The confidence affects the self-efficacy dimension of psychological capital (Ephrem et al., 2019). Vilanueva-Flores et al. (2021) associate self-efficacy to perceived behavioral control, and thus, can easily motivate the students in many areas such as entrepreneurial intention.

5.2 Quantitative Results Discussions

Though the theoretical concepts and the hypotheses were supported, the socio-demographics of the students do play significant role. Students living in rural areas, staying with both parents, and with one child only, the females, and in 4-6 primary years, show significantly more favorable to the three antecedent factors (student relationship and support, parental support, and school atmosphere), psychological capital, and the three consequences represented by psychological wellbeing, perceived stress level, and student engagement.

On the theoretical side, the use of structural equation model (SEM) analysis supports not only the direct effects of social atmosphere (H1), parental support (H2),

and student relationship and support (H3) on psychological capital, but the additional causal linkages between the antecedent factors and the consequences supports the significant mediating effects of psychological capital:

H1: Social atmosphere is a significant predictor of psychological capital.

H2: Parental support is a significant predictor of psychological capital.

H3: Student relationship and support is a significant predictor of psychological capital.

The mediation strength is reflected by the following path coefficients:

H4: Psychological capital plays a significant mediator between the three antecedent variables (school atmosphere, parental support and student relationship and support) and stress level, evidenced by psychological capital → stress level (at 0.40), versus school atmosphere → stress level (at 0.26), parental support → (stress level) at 0.03, and student relationship and support → stress level (-0.05, not significant).

H5: Psychological capital plays a significant mediator between the three antecedent variables (school atmosphere, parental support and student relationship and support) and psychological well-being, as evidenced by psychological capital → psychological wellbeing (at path coefficient 0.12) versus school atmosphere → psychological wellbeing (at 0.12), parental support → psychological wellbeing (at 0.21), and student relationship and support → psychological wellbeing (at 0.08).

H6: Psychological capital plays a significant mediator between the three antecedent variables (school atmosphere, parental support and student relationship and support) and student engagement, as evidenced by psychological capital → student engagement (at 0.35), versus school atmosphere → student engagement (at 0.38), parental support → student engagement (at -0.08, not significant), and student relationship and support → student engagement (at 0.21).

Many researchers show a direct influence of psychological capital on student intention on various activities such as entrepreneurial intention (Ephrem et al., 2019), and knowledge transfer (Pletsch and da Silva Zonatto, 2018), but with the additional antecedent factors considered in this study, the mediating role of psychological capital becomes obvious.

5.3 Implications

First, the school administrators and the teachers and, perhaps the parents, too, should realize that students' socio-demographic differences play an important role. For instance, the students staying in rural areas and with both parents show a more favorable affinity to the variables studied as compared to those who live in urban areas and staying with a single parent and/or grandparent. Nevertheless, the exact reasons are not known, and further research could use in-depth interviews with students and parents of different socio-demographic categories.

On the theoretical aspect, this study indicates a strong mediating role which psychological capital plays between the antecedent factors and the perceived stress scale, psychological wellbeing, and student engagement. Furthermore, stress level is also a significant predictor of psychological wellbeing, which, in turn, explain the level of student engagement.

5.4 Conclusion

This study first used interviews to generate a rich understanding of the three factors that have shown the ability to influence students' self-efficacy and resilience ability, and also stress level, psychological wellbeing, and student engagement. The interviews exhibit convergence in the themes that are also shared with the literature and provides

a strong base to guide questionnaire design. This permits a better fit with the life and feeling of the students. This research subjected the measurements to rigorous validity and reliability assessments. The structural equation model (SEM) analysis addressed the research objective, and showed that psychological capital is an essential mediator in influencing the relationship among the three determinants (student relationship and support, parental support, and school atmosphere), as well as the three consequences (psychological wellbeing, perceived stress level, and student engagement level).

In addition, the perceived stress level is a strong predictor of psychological wellbeing. Psychological wellbeing is equally essential in explaining the level of student engagement. The study also shows the significant roles of students' socio-demographics profiles in explaining the states of psychological capital, its antecedents and consequences.

5.5 Limitation

Due to resource constraints, such as time and data collection challenges during COVID 19, the questionnaire design employed simplicity but at the same time fulfilled the exploratory goal of the research. Thus, variables such as burnout, which is a prolonged state of emotional, physical and mental exhaustion (Malach-Pines, 2020) was excluded. There were unforeseen challenges faced in the interviewing process involving primary school students, as students, in general, respond better to short phrases and were not familiar with interview experiences that typically demand long phrases of responses. Thus, the interviews could only obtain general feelings in order to learn about the psychological states of the students.

This study collected data from only public primary schools, and thus caution should be used in applying the results to children in private school contexts, as well as other regions in China. Teacher relationships and school environments, may be quite different. By noticing the self-efficacy domain of psychological capital, which shares the implication of Ajzen's (1991) perceived behavioral control variable, it can be inferred that psychological capital is a significant predictor to student motivation and intentions to perform in various activities, such as student engagement.

5.6 Further Research

Further research could adapt additional theories, such as job demands-resources model (JD-R), by examining how the balance between the demand for performance and the available resources can influence psychological capital, qualities of life, and academic performance.

6. References

Abbas, A., Eliyana, A., Ekowati, D., Saud, M., Raza, A., & Wardani, R. (2020). Data set on coping strategies in the digital age: the role of psychological well-being and social capital

- among university students in Java Timor, Surabaya, Indonesia. *Data in Brief*, 105583. Doi: 10.1016/j.dib.2020.105583.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Allen, M.L., Johnson, A., & Myszka, M. (2022). Examining psychological capital in nursing students participating in a health literacy renal simulation. *Teaching and Learning in Nursing*, 17, 55-60. Doi: 10.1016/j.teln.2021.08.004.
- Bandura, A. (1997). *Self-efficacy: the exercise of control*. W.H. Freeman and Company.
- Barratt, J., & Duran, F. (2021). Does psychological capital and social support impact engagement and burnout in online distance learning students? *The Internet and Higher Education*, 51, 100821. Doi: 10.1016/j.iheduc.2021.100821.
- Becker, G.S. (1994). *Human capital revisited in human capital: a theoretical and empirical analysis with special reference to education*. The University of Chicago Press.
- Bermerth, J., & Aguinis, H. (2016). A critical review and best-practice recommendations for control variable usage. *Personnel Psychology*, 69, 229-283.
- Cannon, M.D., & Edmonson, A.C. (2001). Confronting failure: antecedents and consequences of shared beliefs about failure in organizational work groups. *Journal of Organizational Behavior*, 22(2), 161-177.
- Clegg, L.J., Voss, H., & Chen, L. (2019). Can VUCA help us generate new theory within international business? In R.V. Tulder, A. Verbeke, & B. Jankowska (Eds.). *International business in a VUCA world: the changing role of states and firms (Progress in international research, Vol. 14, pp. 55-66)*, Bingley: Emerald Publishing Limited.
- Cohen, S. (1998). Perceived stress in a probability sample of the United States. In S. Spacapan, & S. Oskamp (Eds.). *The social psychology of health* (pp. 31-67). Sage Publications, Inc.
- Ephrem, A.N. (2019). Perceived social norms, psychological capital and entrepreneurial intention among undergraduate students in Bukavu. *Education + Training*, 61(7/8), 963-983. Doi: 10.11108/ET-10-2018-0212.
- Johnson, B., Stevens, J.J., & Zvoch, K. (2007). Teachers' perceptions of school climate: a validity study of scores from the revised school level environment questionnaire. *Educational and Psychological Measurement*, 67(5), 833-844.
- Gibson, K. (2012). Chapter 10 two (or more) feet are better than one: mixed methods research in sport and physical culture. In K. Young, & M. Atkinson (Eds.). *Qualitative research on sport and physical culture (research in the sociology of sport, Vol. 6, pp. 213-232)*. Bingley: Emerald Group Publishing Limited. Doi: 10.1108/S1476-2854(2012)0000006013.
- Goldsmith, A.H., Veum, J.R., & Darity, W. (2007). The impact of psychological and human capital on wages. *Economic Inquiry*, 35, 815-829. Doi: 10.1111/j.1465-7296.1997.tb01966.x.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., & Tatham, R.L. (2006). *Multivariate data analysis*. Upper Saddle River, New Jersey: Pearson Education.
- Hobfoll, S. (2002). Social and psychological resources and adaptation. *Review of General Psychology*, 6, 307-324.

- Huang, X., & Wang, C. (2021). Factors affecting teachers' informal workplace learning: the effects of school climate and psychological capital. *Teaching and Teacher Education*, 103, 103363. Doi: 10.1016/j.tate.2021.103363.
- Labrague, L. (2021). *Nurse Education in Practice*, 56, 103182. Doi: j.nepr.2021.103182.
- Lam, S.F., Jimerson, S., Kikas, E., Cefai, C., Veiga, F.H., Nelson, B., Hatzichristou, C., Polychroni, F., Basnett, J., Duck, R., Farrell, P., Liu, Y., Basnett, J., Duck, R., Farrell, P., Nelson, B., & Zollneritsch, J. (2014). Understanding and measuring student engagement in school: the results of an international study from 12 countries. *School of Psychology Quarterly*, 29, 213-232.
- Li, Z., Yu, Z., Huang, S., Zhou, J., & Gu, R. (2021). The effects of psychological capital, social capital, and human capital on hotel employees' occupational stress and turnover intention. *International Journal of Hospitality Management*, 98, 103046. Doi: 10.1016/j.ijhm.2021.103046.
- Lukas, A. (2021). The impact of physical activity on psychological well-being and perceived health status during coronavirus pandemic in university students. *Journal of King Saud University – Science*, 33, 101531. Doi: 10.1016/j.jksus.2021.101531.
- Luthans, F. (2002). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior*, 23(6), 695-706.
- Luthans, F., Avey, J., Avolio, B., Norman, S., & Combs, G. (2006). Psychological capital development toward a micro-intervention. *Journal of Organizational Behavior*, 27(3), 387-393.
- Luthans, F., Youssef, C.M., & Avolio, B.J. (2007). *Psychological capital: developing the human competitive edge*. Oxford: Oxford University.
- Malach-Pines, A. (2005). The burnout measure, short version. *International Journal of Stress Management*, 12(1), 78-88. Doi: 10.1037/1072-5245.12.1.78.
- Matteucci, M.C., & Soncini, A. (2021). Self-efficacy and psychological well-being in a sample of Italian university students with and without specific learning disorder. *Research in Developmental Disabilities*, 110, 103858. 10.1016/j.ridd.2021.103858.
- Mphahlele, R.S.S., & Makokotlela, M.V. (2021). Reflecting on the theory of transactional distance in addressing barriers to student engagement in open distance learning. In K. Hoffman, & P. Blessinger (Eds.). *International perspectives in online instruction (innovations in higher education teaching and learning, Vol. 40, pp. 113-124)*. Bingley: Emerald Publishing Limited.
- Nimmi, P.M., Binoy, A.K., Joseph, G., & Suma, R. (2022). Significance of developing spirituality among management students: discerning the impact on psychological resources and wellbeing. *Journal of Applied Research in Higher Education*, 14(1), 317-331. Doi: 10.1108/JARHE-10-2020-0372.
- Noel, T.K., & Finocchio, B. (2022). Using theories of human, social, structural, and positive psychological capital to explore the attribution of former public school practitioners. *International Journal of Educational Resear Open*, 3, 100112. Doi: 10.1016/j.ijedro.2021.100112.

- Pletsch, C.S., & da Silva Zonatto, V.C. (2018). Evidence of the effects of psychological capital on the transfer of knowledge from accounting students to business organizations. *Journal of Knowledge Management*, 22(8), 1826-1843. Doi: 10.1108/JKM-04-2018-0270.
- Poots, A., & Cassidy, T. (2020). Academic expectation, self-compassion, psychological capital, social support and student wellbeing. *International Journal of Educational Research*, 99, 101506. Doi: 10.1016/j.ijer.2019.101506.
- Rao, S., & Perry, C. (2003). Convergent interviewing to build a theory in under-researched areas: principles and an example investigation of internet usage in inter-firm relationships. *Qualitative Market Research: An International Journal*, 6(4), 236-247. Doi: 10.1108/13522750310495328.
- Schaufeli, W.B., Salanova, M., Gozalez-Roma, V., & Bakker, A.B. (2002). The measurement of engagement and burnout: a two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3, 71-92.
- Sebora, T.C. (2011). Psychological capital and the entrepreneurial intention of college students. ResearchGate. The University of Nebraska at Lincoln.
- Seligman, M.E.P., Steen, T.A., Park, N., & Peterson, C. (2005). Positive psychology progress: empirical validation of interventions. *American Psychology*, 60, pp. 410-421.
- Stafford, K.L., Lundstedt, S.B., & Lynn, A.D.Jr. (1984). Social and economic factors affecting participation in higher education. *The Journal of Higher Education*, 55(5), 590-608.
- Tan, C.C. (2022). A Buddhist-spirituality base for artificial intelligence applications through conscious subjects. *ASEAN Journal of Religious and Cultural Research*, 5(2), pp. 1-10.
- Villanueva-Flores, M., Diaz-Fernandez, M., Hernandez-Roque, D., & van Engen, M. (2021). Psychological capital and entrepreneurship: gender differences. *Gender in Management: An International Journal*, 36(3), 410-429. Doi 10.1108/GM-07-2020-0231.
- Wang, X., Zheng, Q., & Cao, X. (2014). Psychological capital: a new perspective for psychological health education management of public schools. *Journal of Public Personnel Management*, 43(3), 371-383.
- Watt, S.R., Javidi, M., & Normore, A.H. (2016). Increasing darkness: combining toxic leadership and volatility, uncertainty, complexity, and ambiguity (VUCA). In *the dark side of leadership: identifying and overcoming unethical practice in organizations (Advances in Educational Administration, Vol. 26, pp. 195-206)*, Bingley: Emerald Group Publishing Limited.
- Wu, F., Chen, G., & Xiang, S. (2021). Does psychological safety at school affect psychological capital at work? Evidence from part-time MBA students. *Nankai Business Review International*. Doi: 10.1108/NBRI-08-2021-0056.
- Ye, B., Chen, X., Zhang, Y., & Yang, Q. (2022). Psychological flexibility and COVID-19 burnout in Chinese college students: a moderated mediation model. *Journal of Contextual Behavioral Science*, Doi: 10.1016/j.jcbs.2022.04.003.

7. Appendix: Survey Questionnaires

General Information

Please mark “X” on the relevancy.

Gender:

Male Female

School:

Grade 1-3 Grade 4-6

Currently I live in:

Rural area Urban area

Family:

stay with single parent stay with parents stay with grandparents

only child have brothers or sisters

For the following sections, please mark “X” in the box that best fits you: 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree.

1. *Psychological Capital*

Variable	Questions	1	2	3	4	5
Self-Efficacy	SE1. I feel confident presenting my ideas in class.					
	SE2. I feel I can handle any learning issues.					
	SE3. I feel I can handle any social issues.					
Optimism	O1. I always look on the bright side of things regarding my student life.					
	O2. Right now I see myself as being quite successful in my student life.					
	O3. In my student life and learning, things always work out the way I want them to.					
	O4. When things are uncertain for me, I usually expect the best.					
	O5. I am optimistic about what will happen to me in the future after my school journey.					
Hope	H1. Right now, I can list the most important goals for my life in just a few minutes.					
	H2. I am motivated to achieve my goals in life.					
	H3. I can think of many ways to reach my current studying goals.					

	H4. If I should find myself in a jam in achieving my goals in study, I could think of many ways to get out of it.					
Resilience	R1. I can always manage the difficulties I encounter in my student life.					
	R2. I can get through difficult times during my study.					
	R3. When I have had a setback in my study, I did quickly recover from it.					
	R4. If something can go wrong with me in my study, it will not affect me so much.					
	R5. I can persist in the face of any adversity.					
	R6. I can react quickly to unexpected environmental change.					

Student Engagement

Variable	Questions	1	2	3	4	5
Cognitive Engagement	CE1. I review my notes regularly during study.					
	CE2. If any doubts arise during my study, I will find more information.					
	CE3. I will always try to understand the logics of what the teacher teach in class.					
Affective Engagement	AE1. My school is a place where I feel energetic.					
	AE2. My school is a place where I make friends easily.					
	AE3. My school is a place where I feel my life is more satisfying.					
Behavioral Engagement	BE1. I would never skip classes.					
	BE2. I am supportive of my classmates.					
	BE3. I would help friends in their study.					

Other Variables:

Variable	Questions	1	2	3	4	5
Student relationship and support	SRS1. I feel a strong emotional bond with many friends in my school.					
	SRS2. There is someone I could talk to about my study in my school.					
	SRS3. There are friends in my school I can count on for my study.					
Parental support	PS1. I have a strong support from my parents in giving me freedom to make decision.					
	PS2. I have a strong support from my parents when I faced difficulties in study.					

	PS3. My parents are always on my side when I need them.					
School atmosphere	SA1. The school environment is favorable to my study.					
	SA2. I feel a caring relationship among each student in school.					
	SA3. I feel a caring relationship from the teachers.					
Psychological well-being	PWB1. I always feel happy and not depressed					
	PWB2. I don't feel lonely.					
	PWB3. I enjoy my life, both at school and social					

2. *Perceived Stress Scale:*

The response scales used are (1) very frequently, (2) occasionally, (3) rarely, (4) very rarely, (5) never.

Variable	Questions	1	2	3	4	5
Perceived stress Scale	PSS1. In the last month, how often have you been upset because of something that happened unexpectedly?					
	PSS2. In the last month, how often have you felt that you were unable to control the important things in your life?					
	PSS3. In the last month, how often you felt nervous and stressed?					
	PSS4. In the last month, how often have you found that you could not cope with all the things that you had to do?					