Original Article

Relationship between Psychological Capital and Study Strategies of Upper Secondary School in Bangkok

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Objective: 1) To study the relationship between psychological capital and study strategies and 2) to find the components of psychological capital that can predict study strategies of upper secondary school students in Bangkok.

Materials and Methods: The samples consisted of 453 upper secondary school students who were studying in coeducational high schools from Santiratwittayalai School, Chinorotwittayalai School, Sarawittaya School, and Yannawate Wittayakom School**,** using a simple random sampling method. The data collection instrument consisted of a 3-part questionnaire: the student's general questionnaire, the Thai Psychological Capital Inventory [TPCI], and the study strategies test. Frequency, percentage, means, standard deviation [SD], independent samples t-test, one-way ANOVA, Pearson's product-moment correlation coefficient, and stepwise multiple linear regression analysis were used for data analysis.

Results: The samples included 453 upper secondary school students where they were 170 male students (37.5%) and 283 female students (62.4%). The results revealed that their levels of psychological capital and study strategies were moderately high. The result of the comparison of study strategies between genders showed that female students have better study strategies than male students with a statistical significance at 0.01 level. In consideration of grade levels, twelfth grade students had better study strategies than eleventh grade students and tenth grade students with a statistical significance at the 0.01 level. In addition, psychological capital and its components hope, self-efficacy, resilience and optimism were positively correlated to study strategies with a statistical significance at the 0.01 level. Hope and optimism can predict study strategies approximately 16.5%.

Conclusion: Psychological capital was positively related to study strategies. The components of psychological capital that could predict study strategies of the sample group were hope and optimism.

Keywords: Psychological capital, Study strategies, Upper secondary school

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Education is an essential tool for development of one's own capacities and learning their place in society. Learning in high school is one of the most important steps for making good choices for further educations and career paths. To focus on student quality is an important approach to develop human capacities. In other words, quality students will more likely grow to become quality members of the workforce. In order to develop effective leaning, students should be enthusiastic so they can adapt well to environment, society and educational lessons. Holtzman[1] suggested that a positive learning attitude, study habits, and learning behavior were positively related to students' achievement in school. Therefore, students who possessed good learning behavior are more likely to have better chances to succeed in high school.

There had been a highlight on a concept of psychological capital during the 2000s. Psychological capital or PsyCap was a new branch of positive psychology which emphasized on human's strengths and happiness as a center of development. Psychological capital consisted of hope, self-efficacy, optimism, and resilience. Luthan and Youssef[2] pointed

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out that psychological capital had significantly influenced work performance and it could be developed into a person within a short period of time. The components of psychological capital were associated with learning behaviors. For instances, Snyder et al[3] developed the dispositional hope scale to examine the relationship between hope and successful learning among university students. As a result, successful learning was highly related to hope. In congruence with Curry, Snyder, Cook, Ruby, and Rehm[4], a role of hope, study expectation, and achievement in sports among college athletes were studied. They found that high level of hope was related to getting higher grade as well. This finding indicated that the level of hope could predict the degree of success in sports of college athletes. In order to develop psychological capital and to improve study strategies, the authors are interested in studying the influences of psychological capital which may affect student's study strategies. In addition, the reason for focusing on high school students is because adolescents have high potential for self-development both physically and psychologically compared to other age groups.

Materials and Methods

Population and samples

The present study was a survey research study. The population of the study was 127,383 secondary school students under the Secondary Educational Service Area. Simple random sampling was used for school selection which divided into 2 groups by area; the Secondary Educational Service Area Office 1 and the Secondary Educational Service Area Office 2 (Bangkok). Two selected schools from Area Office 1 were Santiratwittayalai School and Chinorotwittayalai School. Also, two selected schools from Area Office 2 were Sarawittaya School, and Yannawate Wittayakom School**.** Then, stratified random sampling was used in order to select students divided by grade 10 to 12 with approximately 37 students per grade. The calculated sample sizes were 468 students. However, the representative samples totaled 453 students who completed the survey.

Measurements

The data collection instruments of (a) Personal Information Questionnaire which contained personal information including gender, grade, school record, and studying program. (b) Thai Psychological Capital Inventory [TPCI] which was developed by Tuntatead[5]. TPCI comprised of 53 items divided into 4 domains including hope, self-efficacy, optimism, and resilience with 5 rating scales. The higher score on TPCI indicated a better level of psychological capital. Its reliability equals to 0.937. And (c) the Study Strategies Test which was developed by Sirisamphan and Mahakun[6]. It contained 76 questions classified into 10 domains i.e., Attitude, Motivation, Anxiety, Time Management, Concentration, Information Processing, Selecting Main Ideas, Study Aids, Self-Testing and Test-Strategies. The higher the score on the Study Strategies Test, the better level of study strategies was. The Alpha Reliability Coefficient is 0.983. However, the present study adjusted the questions from 76 into 50 brief questions classified into 10 domains after receiving permission from the developer. It was tried out with a group of 40 upper secondary school students in Bangkok. Finally, its reliability equaled to 0.783.

Ethical consideration

Ethical approval was obtained from Siriraj Institutional Review Board [SIRB], Faculty of Medicine Siriraj Hospital, Mahidol University (Si. 346/2014).

Statistical analysis

Statistical analysis was conducted by PASW 18.0. Subject information was reported as descriptive statistics, including frequency and percentage. Continuous variables were analyzed using mean and standard deviation [SD]. Continuous variables were compared with independent samples t-test and one-way ANOVA. Pearson's product-moment correlation coefficient was conducted to explore correlation between variables. Besides, stepwise multiple linear regression analysis was tested for predictive ability.

Results

According to the demographic data, from 468 students, only 453 students (90.9%), completed the survey, and were included in the present study. The subjects were female (62.5%) more than male (37.5%). Most of them were tenth grade students (36.4%), followed by eleventh (33.6%), twelfth (30.0%) grade students, respectively. The subjects' program of study were categorized into 3 kinds of program, English-Mathematics program (39.5%), Science-Mathematics program (36.6%), and English-Second Foreign Language program (23.8%). The students' academic records, GPAX, ranged from 2.51 to 3.00 (30.9%), followed by GPAX ranged from 3.01 to 3.50 (28%), GPAX less than 2.51 (23%), and GPAX ranged from 3.51 to 4.00 (18.1%).

The level of psychological capital of upper secondary school students in Bangkok as a whole was moderately high (Table 1). All four components (hope, self-efficacy, optimism, and resilience) were also at the moderately high levels. As well as the level of study strategies of upper secondary school students in Bangkok, which was moderately high.

The relationship between study strategies and four components of psychological capital after adjusting for other factors i.e., gender, grade, studying program, and school record [GPAX] was shown in Table 2. The results showed that only the level of study strategies showed a significant difference between genders. Female students had a higher level of study strategies than male students ($p = 0.007$). There was a significant difference in study strategies among grades, studying programs, and school records ($p = 0.01, 0.01$, and 0.01, respectively). Higher levels of study strategies were found among students who were at grade 12, studying in the Science-Mathematics program, and had GPAX range from 3.51 to 4.00. Moreover, there was a significant difference in hope ($p = 0.01$), self-efficacy ($p = 0.02$), and optimism ($p = 0.02$) among school records.

Correlation between psychological capital and study strategies was assessed using Pearson product-moment correlation coefficient. The results showed that psychological capital was positively correlated to study strategies at a low level ($r = 0.39$, $p = 0.01$). Every components of psychological capital, which were hope, self-efficacy, optimism, and resilience, were also positively correlated to study strategies at low levels (r

Table 1. The level of psychological capital, its components, and study strategies

Characteristics	Mean	SD	Level
Psychological capital	3.74	0.55	Moderately high
Hope	3.58	0.58	Moderately high
Self-efficacy	3.66	0.60	Moderately high
Optimism	3.94	0.70	Moderately high
Resilience	3.90	0.69	Moderately high
Study strategies	3.19	0.36	Moderately high

Table 2. The relationship between study strategies classified by gender, grade, studying program, and school record [GPAX] (n = 453)

Demographic data	Study strategies		
	n	Mean ± SD	*p*-value
Gender			
Male	170	3.13±0.37	0.007
Female	283	3.22±0.36	
Grade			
Tenth	162	3.13±0.36	0.01
Eleventh	152	3.20±0.38	
Twelfth	136	3.25±0.34	
Studying program			
Science-mathematics	166	3.26±0.39	0.01
English-mathematics	179	3.19±0.36	
English-second foreign language	108	3.07±0.30	
School record (GPAX)			
Less than 2.51	104	3.12±0.32	0.01
2.51 to 3.00	140	3.13±0.37	
3.01 to 3.50	127	3.20±0.33	
3.51 to 4.00	82	3.37±0.39	

Table 3. The result from study strategies prediction by using psychological capital

Factor	b	SE	t	*p*-value
Hope	0.179	0.034	5.629	0.000
Optimism	0.090	0.028	3.189	0.002
(Constant) = 2.196				
SE_{est} = ±0.338				
R^2 = 0.165				

= 0.38, 0.35, 0.28, and 0.39, respectively) with a statistical significance at the 0.01 level.

Stepwise multiple linear regression analysis was shown in Table 3. Four components of psychological capital including hope, self-efficacy, optimism, and resilience were entered into the first model. The results demonstrated that hope and optimism were the only two factors of psychological capital that could predict study strategies of the samples by 16.5% (R^2 = 0.165). The standard error of the estimate was ±0.338. The equation for the study strategies of upper secondary school students in Bangkok could be written as follows:

Study Strategies = 2.196 + 0.179 Hope + 0.090 Optimism.

Discussion

The results demonstrated that most upper secondary school students in Bangkok generally have moderately high psychological capital which could be attributed to teaching style and studying style within the schools. Students were given more opportunities to think, analyze, and make decisions through various activities such as project presentation, academic competition, and being a leader in various school activities. Such aforementioned activities can help students improve their intelligence and skills. The present finding supported Kantasorn's study[7] that found moderately high levels of psychological capital among upper secondary school students in Samsen Wittayalai School. When considered the study strategies of the upper secondary school students, the level of study strategies were moderately high because the students had more freedom to choose their study program based on their interests and their expectations in the future.

There are differences between psychological capitals among school records. It can be implied that students with high GPAX tend to have more psychological capital than students with lower GPAX. Students with high GPAX also have the highest mean in all components of psychological capital. In addition, differences in study programs can affect the level of hope, self-efficacy, and study strategies. It is found that the English-Mathematics program students have higher level of hope and self-efficacy than any other programs where each program is based on different curriculums and specific contents. The English-Mathematics program solely focused on English and Mathematics while additional specific contents are taught in other programs. For instance, Chemistry, Physics, and Biology are taught in Science-Mathematics program and other foreign languages such as German and French are taught in English-Second Foreign Language program. These distinctions can be challenging, and created self-doubt at times which could effect the mean levels of hope and self-efficacy.

In regard to study strategies, there are significant differences in every personal data variable. For gender, female students have higher mean level of study strategies than male students which conform to Sirisamphan and Mahakhan's result[6] in Silpakorn University students. This might be the result of gender differences as female students were likely to be more obedient and follow guidance of their parents. For grade level, twelfth grade students have the highest study strategies score because as a group of the most senior students in the school, their next step was to be ready for education at university level. Hence, they were under pressured to prepare for university entrance examinations among other stressors and this may attributed to more rigorous study strategies. When accounting for differences in study programs, the results found that students in Science-Mathematics program have higher level of study strategies than those in other programs. The differences could be explained by adjustments and adaptations needed to be done in other programs such as learning a new language compared to the Science-Mathematics program. Also for school record, students with the 3.51 to 4.00 GPAX have the highest level of study strategies which

conform to Charles's study[8] that studied academic achievement among students in university. The previous study found that the higher the grade students were in, the better the study strategies they had.

The present study revealed a positive relationship between psychological capital and study strategies of upper secondary school students. The present results supported previous research related to psychological capital and study strategies. For instance, the study of the effect of optimism and resilience toward academic performance by Smith[9], as well as the findings of Snyder et al[3], there was positively a relationship between hope and academic achievement in college students. In addition, Chemers, Hu, and Garcia[10] found that students with high self-efficacy had a high level of hope in education and study strategies. However, the positive relationship between psychology or psychological capital and strategies of upper secondary school students was found to be at low level. The advancement in technology may attributed to students' being able to study more independently the Internet or through mobile application. Thus, it could affect their level of study strategies.

For the multiple linear regression analysis, hope and optimism were two components of psychological capital that could predict study strategies of upper secondary school in Bangkok. Students who are hopeful would likely set their goals to meet their highest perceived potential and abilities in achieving them. They may make an appropriate plan that leads to clearer study strategies. Finally, their self-control would help them achieve their goals as they expected. In addition, hope also helps students to pursue future endeavors, motivation, devotion, and inspiration to become successful in their academic lives. This conformed to Snyder et al[3] study who found that students with high levels of hope were more successful in education than students with low levels of hope. The other component that could predict study strategies is optimism. Students positive expectation about their future. They may perceive obstacles and problems as challenges to overcome instead of hurdles. No matter how difficult situations are, they will look for any positive aspects of those situations and adjust them to be valuable lessons for their lives. Although they may face disappointments, they perceived it as a growth opportunity rather than a regrettable mistake. At this point, optimism encouraged students to believe in their efficacy including acknowledgement of their goals. The more optimistic a student feels, the more enthusiastic a student is about his or her goals. The present finding supported Smith's study[9] which showed that optimism was a factor that led to academic improvement in students.

There are some limitations in this study. The samples are randomly selected from upper secondary students in Bangkok area only. Therefore, future research should use samples which are more representative of Thai upper secondary school student population including students in suburb schools or in other provinces. In addition, the present study focused only on the effect of psychological capital toward study strategies. Further research should include other psycho-social factors that may affect study strategies as well. In addition, too many questions on the questionnaires might affect students' attention and concentration; therefore, the questionnaires should be considerably developed into abbreviated forms that are more concise in order to maintain their attention and concentration.

Conclusion

The present study found that the level of psychological capital and its components, among upper secondary school students was moderately high. The level of study strategies was moderately high as well. There was no difference between psychological capital among gender, grade, and study program. However, the differences of psychological capital were significantly found among school records only. For study strategies, the difference was found to be significant between gender, grade, study program, and school records. The comparison between groups illustrated significant differences between hope and self-efficacy. In addition, there was a significant difference in hope, self-efficacy, and optimism in school records. Psychological capital and its components were positively correlated with study strategies at a low level. Hope and optimism were the only two components that could predict study strategies.

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What is already known on this topic?

Psychological capital and its components,

which are hope, self-efficacy, optimism, and resilience were associated with effective performance such as work performance and school achievement.

What this study adds?

There are moderately high levels of psychological capital, its components, and study strategies in upper secondary school students. Psychological capital and its components are positively related to study strategies. Also, only two components could predict study strategies, which are hope and optimism.

Potential conflicts of interest

None.

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