

Testing the Relationship Between Self-Discipline and Self-Efficacy

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ABSTRACT

In a class, usually the students who do not get distracted easily are able to use their time more efficiently on accomplishing academic goals. This study tested on the relationship between students' self-discipline skills and their self-efficacy level, and on whether age influences the relationship. Surveys that included the Academic Self-Discipline Questionnaire^[16] and General Self-Efficacy Scale^[18] were sent out to 41 Chinese students. The results showed that the higher a student scores on the self-discipline test, the higher they will score on the self-efficacy test, while age difference does not have any significant influences. The positive relationship between students' self-discipline and self-efficacy can boost students' performances by telling them that the less distracted they are in class, the more possible it will be for them to have great academic performances.

Keywords: "Self-discipline" "Self-efficacy" "Academic performance"

1. INTRODUCTION

Why do some students work more efficiently and perform better than others? This question has been widely discussed among teachers, parents, and even students themselves for a long time^{[4][13]}. As the primary aim of the US education system, the target of developing students' self-discipline ability via character education was initiated in the early 20th century (Bear, 2004). Students' ability of executing academic tasks and doing well at school is the result of many factors' conjunction^[12]. Self-discipline is one important factor that contributes to a student's self-efficacy. According to Duckworth and Seligman (2005, 2006), self-discipline is defined as "the ability to suppress responses in the service of a higher goal"^[5]. Schunk (2011) defined self-efficacy as "an individual's capabilities to perform given actions"^[10]. A student's self-disciplinary ability is an important factor that influences their self-efficacy^[8]. Previous studies presented data assessed on the relationship between participants' self-disciplinary level and self-efficacy. However, previous studies can hardly ever account for the situation in China since the researches are all rooted in other countries^{[5][8][9][23]}. The main goal of this study is to explore how one's self-discipline influence on the score of self-efficacy test and evaluate whether age has impact on the score. The importance of a student's self-efficacy is proven to be significant to their life-long development. The ability of working efficiently is found highly related to academic performance^[14], which is essential for the success of

individual's life^[17]. Therefore, determining the impact of self-discipline on one's self-efficacy is helpful for the person's later success in life, and this study provides useful data of how self-discipline influences one's self-efficacy.

Researchers have been testing the relationship between self-discipline and self-efficacy under various types of circumstances and contexts. Zimmerman and Kitsantas (2014) surveyed on the relationship between self-discipline and self-regulation among a group of high school students and teachers. Their study compared students' self-discipline (SD) and self-regulation (SR) measures and their academic achievement prediction by using hierarchical regression to analyse the SD and SR factors^[23]. This study involved 507 high school students and teachers, and found that the students' measure of SD and SR are significantly correlated, which means that the viability of combining the two separate tests (self-discipline test and self-regulation test) into one has been proven. This study was conducted among teenage high school students and proved that self-discipline and self-efficacy can be discussed and tested simultaneously. However, this study was conducted only among high school students in a particular region which cannot account for other situations. Maxwell (1989) tested on in what ways students' self-discipline and self-regulation skills can be enhanced. The study elaborates on how self-discipline skill is an essential part of helping students solve their disciplinary problems that are traditionally hard to handle at school^[17]. The study reviewed previous

researches and current situation of student mediation at school and introduced the theory that the skills of self-discipline and self-efficacy need to be enhanced and consolidated as a student grows. This study focuses on how mediations are able to help address students' discipline issues. However, this study did not fully include the relationship in the context of normal students (students who do not have discipline problems).

Furthermore, researchers from various background have done researches on the relationship between students' self-discipline and age. The researchers who published the *Self-Discipline and Obesity in Bangkok School Children* conducted an experiment among grade 4-6 primary school students in four co-educational school located in Bangkok, Thailand^[19]. The main researcher of the study Sirikulchayanonta (2011) sent out questionnaires testing children's self-discipline and personal characteristics. The results recommend that young teenagers' self-disciplinary abilities are usually not mature enough and require parental and teachers' guidance. This study explores mainly on the aspect of personal health and diet control, which is not fully representative in students' academic performance. Based on a different group of participants, Zhao and Kuo (2015) investigated on the role of self-discipline among 10th grade middle school students^[23]. The researchers conducted an experiment to explore this age groups of students' self-disciplinary level and how that links to their academic performance. The results collected from respondents revealed a strong correlation between academic self-discipline and self-efficacy. However, the results of this study only account for 10th grade middle school students and did not show the pattern of how self-discipline levels vary among students at different ages. Liu (2006) illustrated on current situation of college students in China and college students' self-discipline level^[11]. As was mentioned in by Liu (2006), college students usually face lures such as money and fame, and their self-discipline ability is always under tests. Based on China's social background, this study is more applicable from further investigation on Chinese students' self-discipline level.

In this study, we aimed at using the combination of two tests, the Academic Self-discipline Questionnaire^[16] and General Self Efficacy Scale^[18] to find the correlation between students' academic self-discipline level and self-efficacy and explore how this correlation vary among people with different ages. We formulated the potential results from data collection. The hypothesis is that the students with higher academic self-discipline level will also score higher on the self-efficacy test.

2. METHOD

2.1. Participants

The experiment was conducted among a sample of 41 students in an educational organization in Zhengzhou, Henan. Among all participants chosen for this experiment, approximately 51% were male and 49% were female. Their ages ranged from 13 to 24 with a mean age of 17 years. 17% in middle school, 68% in high school, and 15% in college or above. All participants were Chinese.

2.2. Procedure and Measures

Participants were asked to complete an online survey via Microsoft Forms testing academic self-discipline and self-efficacy. At the beginning of the survey, all participants were informed that their answers would be anonymous. To collect the participants' demographic information, the researcher first asked about the basic information of participants including age, gender, and grade level. The total time for participants to complete the survey ranged from 3 minutes to 10 minutes. The mean time for each participant to complete the survey was 6 minutes 37 seconds.

2.3. Academic Self-Discipline Questionnaire (ASD)

In order to measure participants' academic self-disciplinary level, the researcher used the Academic Self-Discipline Questionnaire^[16]. There are 58 items and each item is a statement. An example item is "I submit my assignments on time". Ten of all terms are reversely coded, such as "If I got higher mark, I give up studying". The questionnaire uses a five-point scale ranging from 1 (never) to 5 (always) for each statement to collect answers from the participants. The survey was modified to better fit local students' situation.

2.4. The General Self-Efficacy Scale (GSE)

The survey also adopted the General Self-Efficacy Scale^[1]. There are ten statements in the survey and participants need to state the extent of agreement or disagreement towards each of the ten items. An example of the items is "I can always manage to solve difficult problems if I try hard enough". The response options for each statement ranged from 1 (not at all true) to 4 (exactly true). The higher score represents higher generalized sense of self-efficacy. Each of the ten items' scores are summed to get a total score for a test taker.

3. RESULTS

We conducted an independent samples T-test on the difference between self-discipline and self-efficacy of

males and females. The self-discipline score of males is 3 points higher than females, while the self-efficacy score of both genders does not have significant difference. The results show that there is no significant difference of self-discipline (male: $M = 173.6$, $SD = 25.8$; female: $M = 170.8$, $SD = 24.1$), $t(37) = 0.35$, $p = 0.73$, or self-efficacy $t(38) = -0.225$, $p = 0.823$ between males and females. Therefore, gender was not counted as a factor in the subsequent analysis.

We conducted a multiple regression test on the effect of age and self-discipline on one's self-efficacy. The results show that there was an effect of self-discipline on self-efficacy ($B = 0.18$, $SE = 0.019$, $t = 9.66$, $p < 0.001$). The self-efficacy test score has a positive relation with the self-discipline score. When one's self-discipline score is high, the person's self-efficacy score tends to be high. There is no significant effect of age on predicting one's self-efficacy ($B = 0.016$, $SE = 0.186$, $t = 0.09$, $p = 0.93$).

4. DISCUSSION

The study aimed to explore the relationship between self-discipline and self-efficacy of the Chinese students. We found a strong positive relationship that a participant who scored higher on the self-discipline test was more likely to have a higher score on the self-efficacy test. Furthermore, even though we expected that older adolescents were more self-disciplined, being more capable of self-disciplining and better in performing more difficult and quantitative work, the results did not show any pattern of the relation between age and self-efficacy.

The relationship between self-discipline skills and the self-efficacy levels of students has also been discussed by other experimenters under different backgrounds and circumstances. Cordoca and Mariano (2014) examined the relationship between students' disciplinary performance and self-efficacy level at St. Scholastica's College^[13]. However, their study yielded the conclusion that there was only a weak correlation between those two factors, different from the strong positive relationship that we found out. In some other circumstances, there is a substantial amount of research documenting the existing relationship between academic self-discipline performance and self-efficacy. Tiyuri (2018) surveyed on the relationship between the performance of students and their self-efficacy^[20]. The participants are postgraduate students at TUMS and the results showed a strong correlation between performance and self-efficacy. In Tiyuri (2018) and our studies, there has been found a positive relationship between self-discipline and self-efficacy, while in Cordoca (2014)'s study, this relationship did not stand. The data suggested that different educational degrees might play a role on influencing the relationship between students' self-discipline skills and self-efficacy. The sample of this

study was mainly Chinese teenagers, whose responses cannot account for other ethnic groups under different cultural background. Meanwhile, a shorter survey would help the participants concentrate better and provide the most accurate answer to each question.

Analysing the effects self-discipline skills have on different subjects is worth future research efforts including testing the relationship between self-discipline and self-efficacy under various cultural and demographical backgrounds. The positive relationship between self-discipline and self-efficacy helps students understand that they can have better study efficiency by disciplining themselves. Moreover, these research proves the importance of self-discipline in education since it can promote students to regulate themselves and realize individual capabilities.

5. CONCLUSION

The influence of a student's self-discipline on their self-efficacy is significant. When a student is highly disciplined, they will have greater efficiency and productivity. Because self-efficacy is an important factor on one's success in life, the results of this study showing the positive relationship between self-discipline level and self-efficacy level will effectively remind students to discipline their behaviors to succeed in life. By learning this relationship, students will have more explicit plans on achieving their goals. Even though the study shows a strong relationship between self-discipline and self-efficacy, further studies will require researches based on different cultural and student groups since this study on Chinese students does not fully account for other cultures' impact on the different levels of students' self-efficacy.

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