

*The Effects of Adversity Quotient Development Program on Stress in  
Mutthayomsuksa 3 Students in Bangkok*

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**Abstract**

This research has the following objectives: 1) To compare adversity quotient (AQ) in Mutthayomsuksa 3 students before and after joining the AQ development program. 2) To compare stress in Mutthayomsuksa 3 students before and after joining the AQ development program. 3) To study the effects of the AQ on stress reduction in Mutthayomsuksa 3 students. The participants in this study were 90 Mutthayomsuksa 3 students in Bangkok area. The material and measurement used in this research were: 1) AQ development program 2) Adversity Quotient Skill Scale ( $\alpha = .86$ ) and 3) Perceived Stress Scale ( $\alpha = .84$ ); furthermore, independent sample t-test, paired sample t-test, and multiple regression analysis were used to test hypotheses in this study. The research results indicated that: 1) After 6 weeks of joining the AQ development program, students in the experimental group had increasing levels of AQ and decreasing levels of stress with a statistical significance level of 0.01. While the students in the experimental group had indifferent levels of AQ and stress. 2) After the participants had participated the AQ development program, their AQ levels were significantly higher than the control group and the stress levels were lower than the control group, these results can be implied that the AQ development program created by the researchers was effective in enhancing AQ and reducing stress in the participants who were Mutthayomsuksa 3 students. 3) Multiple regression analysis indicated that Adversity Quotient could significantly predict 44% ( $R^2 = .440$ ;  $p < .01$ ) of stress of Mutthayomsuksa 3 students in Bangkok.

Keywords: Adversity quotient (AQ), Adversity Quotient development program, Stress

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## Introduction

The purposes of this research were to study the effects of the AQ development program on stress in Mutthayomsuksa 3 students in a school in Bangkok. The background and significance of this research are as follows: The 21st century is a period of great change. However, this change has been very useful in terms of development of quality of life, optimization, work effectiveness and educational development (Beetham & Sharpe, 2013). Thailand is a developing country, therefore, it is necessary to lay the foundation for "children", who are major human resources of the country, by using an educational system as an important tool in enhancing knowledge, skills and potential development. Nonetheless, it is always commonplace to have competitions in the educational system. The advantage of competitions is to motivate children to be more enthusiastic in their own development. Conversely, the disadvantage of competitions is social inequality by commendation only towards students with good grades. This puts a lot of pressure on children and affects their lives in various aspects in both sides of relationships and adaptation (Yansomdet, 2009).

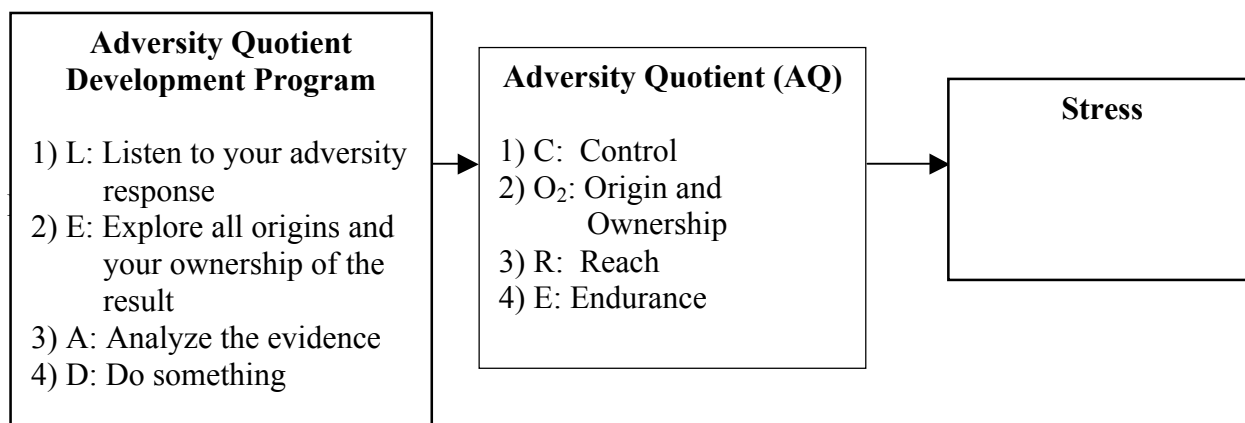
Early adolescence between the ages of 12-15 years is referred as "transition period" due to they have to face physical change to enter the reproductive age with more responsibilities based on age, new social changes, new educational institutes, new friends (Valentine, 2003), meeting various risks, pressures that may cause problems in learning and living, such as family problems, anti-social behavior, and social adjustment, befriending with roguish friends, skipping class, sex problems, and drug addiction (Sinrachatanant, 2012). Coping with problems and obstacles or change indefinitely by children, although how serious of problems or how much physical, conceptual and mental energy they used, to deal with such problems is to analyze a root of problems with morale, problem militating, intention and consideration carefully to find solutions to such problems by adversity quotient (AQ) which is an ability of individuals to respond to adversity or difficulty, tolerate the problems or obstacles. When obstacles occurred in life of individuals who possess AQ, they will be able to deal with problems. For these reasons, those who possess high AQ will actually be strong, do not despair of any obstacle and always be spirited. In contrast, those who possess low AQ will actually be defeated when they faced disappointment or difficulty (Stoltz, 1997).

Adversity quotient (AQ) refers to an ability of students to respond patiently to events or situations of difficulties, distress, or exhaustion in studying and daily life with a strong mind, patience, and a clear goal occurs from an important process called CO<sub>2</sub>RE consisting of four important components: 1) C = 'Control' means an ability of students to control themselves to pass events or situations of difficulties in studying and daily life. 2) O<sub>2</sub>= 'Origin' and 'Ownership' mean an ability of students to recognize and identify causes of a problem and obstacles occurred to themselves as well as understanding in their roles and responsibilities to solve problems effectively. 3) R = 'React' means an ability of students to assess impacts of a problem and effects to other parts of life. 4) E = 'Endurance' means an ability of students to perceive permanence of a problem and an ability to deal with continuity of a problem. These components can be developed by using a technique called "The LEAD sequence and stoppers!" (or LEAD) which is divided into four key techniques: 1) L = 'Listen to your adversity response' means an ability of students to recognize a problem and

obstacles occurred immediately. 2) E = 'Explore all origins and the ownership of the result' means an ability of students to explore causes of a problem and obstacles occurred and estimation of outcomes from resolution. 3) A = 'Analyze the evidence' means that an ability of students to analyze their abilities to deal with a problem or situation occurs and 4) D = 'Do something' means an ability of students to remove a problem and obstacles or situations of difficulty. For this AQ development techniques, Stoltz (1997) and Pargudtong (2008) considered that individuals can succeed by changing their habits of thinking that can be created by uninstalling original visions and creating a new form of thinking intentionally. In addition, there are researches represented that AQ development is relevant to the development of academic achievement and helps promote emotional stability, adaptation and stress reduction. Moreover, it was found that an ability to solve problems is not only correlated and positively influences learning achievement, it is also positively correlated with success in work, social skills and self-control as well (Chailangka, Panomrit, Boonmee, Kaewjaiboon, & Mekloi, 2009; Cornista & Macasaet, 2013; Saetang, 2012; Santos, 2012).

Therefore, the researchers were interested in creating AQ development program in order to reduce stress in AQ development of Mutthayomsuksa 3 students. Due to these students were in the age of adolescence completely and will create an important identity for further growth in adulthood. They had to adapt themselves and face major problems with higher stress than other early levels of Mutthayomsuksa. As these reasons, they had to prepare for high school entrance examination, decided on a career and were concerned about adapting themselves to new friends and places. There are researches from around the country including Bangkok that affirm about the stress of students in this class level (Chinapong, 2013; Laohasurayotinom, 2010; Wiset, Pongsangiam, & Sutthawatnatcha, 2014). It is consistent with the findings of the researchers from the survey conducted in the school that was collected the data. It revealed that Mutthayomsuksa 3 students had high stress levels in consequence of the reasons mentioned above. Therefore, it is necessary to find solutions for such problems. Recent researches had studied and developed AQ of adults mainly, so the AQ development program was not appropriate for samples of early adolescences as it should. Also, there was no research studied about AQ development program for stress reduction directly. There were researches related to correlation between two variables only. Hence, the researchers thought that the AQ development program that was directly developed to resolve the problems and to be appropriate to the samples will be one of the solutions to resolve stress problems as mentioned previously. Thus, the researchers required to take the potential of AQ to be adopted for maximum benefit as well as to reduce stress on learning and living, including to be a way to raise a level of success in every life aspect in the future as well.

All the documents and researches can be used as evidence to support the researcher's ideas in the development of AQ development program that affects stress in Mutthayomsuksa 3 students as below.



## Participants

For determining the sample size in this research, the researchers calculated by using G\*Power (Faul, Erdfelder, Lang, & Buchner, 2007) with power of test of 0.80, medium effect size of 0.50 and statistical significance of 0.05. The sample was selected in a total of 84 people. The researchers increased the number of groups up to 10% to reserve for data loss so that the total sample size was about 90 people who were Mutthayomsuksa 3 students in Piboonprachasan School, Bangkok, who willingly participated in the research program and submitted requests to instructors and coordinators. The researchers performed a simple random sampling from student IDs by using a computer program and took them to enter the research methodology in form of Randomized Block Design to get 45 participants in the experimental group for AQ development and 45 participants in the control group.

## Data collection and Data analyses

There were two types of research tools including AQ development program and data collection tools divided into three parts: Part 1) Personal data questionnaire 2) Perceived Stress Scale - The researchers developed from the Perceived Stress Scale (PSS) by Cohen, Kamarck, and Mermelstein (1983) and Stress Questionnaire Mingkwan (1999) consisted of 14 items related to the feelings of the participants in the past month. The Corrected Item-total Correlation (CITC) ranged from 0.30 - 0.65 and the Chronbach's Alpha ( $\alpha$ ) was 0.84. 3) Adversity Quotient Skill Scale developed from Kambannarak (2008) and Stoltz (1997) consisted of 28 items in all four AQ aspects, CITC ranged from 0.31 - 0.71 and the Alpha value was 0.86.

All measurements were characterized by 5-point rating scales with positive and negative statements and were checked the quality by evaluating Index of Item Objective Congruence (IOC) by three experts. The revised measurements were tried out with 60 Mutthayomsuksa 3 students who were not the sample in the experiment conditions. The results were brought to find out the entire reliability of all questionnaires by using Cronbach's Alpha Coefficient.

The AQ development program created by the researchers based on 'LEAD' techniques (Kumbannarak, 2008; Stoltz, 1997) by using multi-methods such as lecture, leaderless discussion, watching video clip, small group activities, board and puzzle games. The data was analyzed by descriptive statistics (mean and Standard deviation), independent

sample t-test, paired sample t-test, and multiple regression analysis were used to test hypotheses in this study.

## Results

1) The sample group consisted of Mutthayomsuksa 3 students in a total of 90 whose average age of 15 years and 2 months. The majority of the students were 54 females, accounting for 60% and 36 males, accounting for 40%.

2) Before joining the AQ development program, participants in experimental and control groups had both AQ and stress moderate level, but after joining the AQ development program the experimental group had a high level of AQ and low level of stress while the control group still had AQ and stress in moderate level.

3) The participants in the experimental group who joined the AQ development program significantly had a higher level of AQ and lower level of stress. While the participants in the control group who did not participate the AQ development program showed no difference in both levels of AQ and stress.

4) After the participants in experimental group had participated the AQ development program, they had a statistical significant higher level of AQ than the control group and had a lower level of stress than the control group (see figure 1).

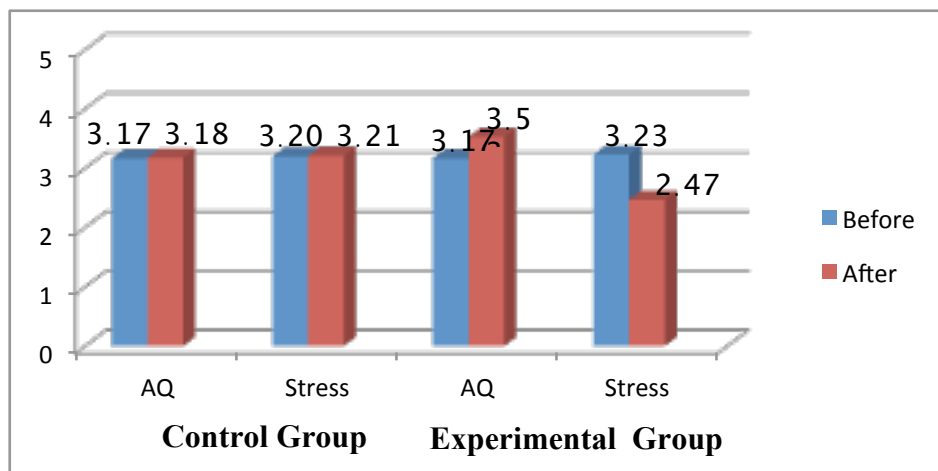


Figure 1. The levels of AQ and stress of the experimental and control groups before and after joining the AQ development program.

5) Multiple regression analysis indicated that Adversity Quotient could significantly predict 44% ( $R^2 = .440$ ;  $p < .01$ ) of stress of Mutthayomsuksa 3students in Bangkok (see table 1).

Table 1

*Multiple regression analysis of Adversity Quotient (AQ) on stress*

| Variable                | <i>b</i> | <i>SE</i> | $\beta$ | <i>t</i> | <i>p</i> |
|-------------------------|----------|-----------|---------|----------|----------|
| constant                | 6.07     | .39       |         | 15.65    | .000     |
| Adversity Quotient (AQ) | -.96     | .12       | -.66    | -8.32    | .000     |

$R = .664$ ;  $R^2 = .440$ ;  $R^2_{adj} = .434$ ;  $F = 69.25$ ;  $p = .000$

This was consistent with the research assumption that the AQ development program could help enhance AQ in Mutthayomsuksa 3 because the researcher used multi-methods and multi-activities in this program which could help to improve the AQ concepts, skills and raise an attention of the participants. When participant was facing problems and learned how to solve problems by analyze the cause of that problem, try to seek his/her own potential to get over that problem, think positive, and be patient

### **Discussion and Suggestions**

From the results, the AQ development program which developed by the researchers was effective in enhancing AQ and helping reduce stress in the participants who were Mutthayomsuksa 3 students or early adolescences. In conclusion, higher AQ significantly had effect to reducing stress level.

This was consistent with the research assumption that the AQ development program could help enhance AQ in Mutthayomsuksa 3 because the researchers used multi-methods and multi-activities based on developmental psychology, behavioral modification, trainings techniques, and AQ concepts in this program which could help to improve the participants' knowledge about AQ and its components (Cornista & Macasaet, 2013; Santos, 2012). Following 'learning by practicing' principal, which could rise attention, sentiment, skills, and ability to fight with problems of the participants because when they were facing problems, they could recall how to solve problems by analyze the cause of that problem, try to seek his/her own potential to get over that problem, think positive, do not forgive, and be patient (Radhika, Samar, & Vkharia, 2007; Pargudtong, 2008; Stoltz,1997). However, before implementing the AQ development program, relevant people should start by explaining details about AQ and various elements to create an idea and basic understanding about concepts and details that allows the research participants or activities participants to gain initial knowledge prior. This will help create learning in various skills that are able to develop further effectively and quickly. However, there are limitations on the duration of implementing this research so that the participants may not be able to learn to enhance their AQ substantially, especially in terms of positive thinking towards impact (Reach: R) which requires time to develop more than other aspects. Therefore, those who want to implement the program should have a time allocation that is conducive to learning and skill development fully or should design and adapt the form of activities to suit the period of time and the nature of the sample at any given age onwards.

This AQ development program could be found that it contributed to stress reduction in overall students or early adolescences effectively to a certain extent because when people were facing the problem and couldn't solve it immediately, they would feel that they lack of abilities, could be pessimism, and tried to shutdown themselves or avoid from that problem. In contrast, when they had high level of AQ or knew how to get over the problem, they would reducing their stress and anxiety feelings (Aldwin, 2007; Loprinzi, Prasad, Schroeder, & Sood, 2011). Therefore, it may be informative or guidelines for those involved in adaptation to training, development, creating a curriculum or policy to help reduce the stress of people in this age who may be facing learning problems or livings in order to prevent social problems in the future. Moreover, the results of this research indicated that the AQ development program could actually help increase AQ levels and reduce stress levels. This effect might

persist for a period of time. However, it requires to be followed up periodically, such as every 3 months or 6 months, to monitor the durability of AQ and stress levels. If the levels of both variables decline, those involved may stimulate or revise enhancing AQ constantly to keep pace or empower AQ in people that will be key characteristics or living skills to overcome problems and cope with stress effectively.

There were some suggestions for further research: First, this research was conducted with the sample of Mutthayomsuksa 3 students in Bangkok who were early adolescences. Therefore, the AQ development program may be applied to improve AQ in Mutthayomsuksa 3 students in other provinces aside from Bangkok. Also, it may be adopted by modifying various sub-activities to be consistent with growth and maturity of individuals of each age, such as early childhood, late adolescence, those who are studying at the university level or those who were in a working age to develop AQ in individuals in other ages smoothly. In addition, those involved with the target group who wants to develop their AQ, such as teachers, professors and organizers, should have an opportunity to lead and conduct activities simultaneously with the researchers to gain expertise and to study shortcomings that may occur and lead to the development of AQ development program or other activities involved, such as classroom teaching, to get information about variables and to develop this skill increasingly. Nevertheless, The AQ development program can be used as a guideline for the development of AQ mutually with other psychological variables, such as self-esteem, leadership empowerment, and anxiety reduction, which helps individuals reduce problems occurred in living, studying and work to promote good physical and mental health onwards.

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