**Development of student adversity quotient instruments: questionnaire**

**L Majidatut Zahro1**

1Postgraduate State University of Surabaya, Jalan Lidah Wetan, Indonesia

E-mail: lilikmajidatutzahro@gmail.com

**Abstract.** This paper describes the steps in developing an adversity quotient instrument, especially related to determining aspects of student adversity quotient that can be used as a basis for formulating the indicators of adversity quotient, which includes four dimensions including Control, Origin-ownership, Reach, and Endurance. Based on the four dimensions of adversity quotient, several indicators of student adversity quotient will be formulated. These indicators will later be used as a basis for formulating statement items contained in a questionnaire as an instrument for measuring student adversity quotient. The Adversity Quotient instrument is a questionnaire using a Likert scale. with a range of 1-4 with a positive statement that will be answered by students with alternative answers with an answer score: Strongly Agree (SS) = 4; Agree (S) = 3; Disagree (TS) = 2; Strongly Disagree (STS) = 1. The quality of student response questionnaires is determined through validation by three validators.

1. **Introduction**

Over the years, researchers have devoted much of their studies to Intelligence Quotient (IQ) and Emotional Intelligence (EQ) which are considered to be the determinants of superior success and achievement (Darwin, 2007). A decade ago (1997), Paul Stoltz introduced an interesting new concept called "Adversity Quotient". AQ is the most scientifically powerful and most widely used method in the world to measure and strengthen human resilience in running their lives. Adversity Quotient is about how a person responds to life, especially related to the difficulties they face. This is a measure of how a person handles everything from daily hassles to difficulties or other problems that can arise in one's life. The more resilient a person is, the more effective and constructive his response to life's difficulties. Adversity Quotient research has been conducted on teachers, students, managers, psychologists, hospitals, staff, entrepreneurs, insurance agents, IT staff, staff of non-profit organizations, political leaders, etc. And it has been proven to increase the level of performance, leadership style and practice, resilience, promotion, retention, optimism, and commitment to change (Napire, 2013).

This study is also anchored in the theory of Dr. Paul G. Stoltz (1997). Stoltz's Theory of Adversity Quotient; is the theory of attribution, style of explanation, optimism, hardiness, resilience, and locus of control. The powerlessness that is learned in Adversity Quotient is in the dimension of control, where the leader understands his ability to control events / situations while facing difficulties. Adversity Quotient (AQ), refers to the state of distress, misery, suffering, difficulties, misfortune, disaster, and challenges or difficulties or difficulties encountered by someone who arises from certain circumstances.

In addition, Adversity Quotient is a measure of a person's ability to manage the difficulties he faces every day. People who can't handle difficulties become easily overwhelmed and emotional, then back off and stop trying. Those who handle adversity well will be leaders (Stoltz, 1997). It also predicts how well a person endures hardships, overcomes them, and predicts the likely outcome of a particular situation. Also, according to Stoltz, understanding the concept of AQ can better understand how he and others react to challenges and difficulties in all aspects of his life. Actually how people respond to adversity is a strong indicator of the ability to succeed in many businesses. Adversity Quotient is the result of research conducted for 19 years and 10 years of application application which is a major breakthrough in understanding what is needed for success (Stoltz, 1997).

Baroa (2015) explains that difficulties in life measure the person's ability in a variety of unusual situations that challenge each person to make a difference in life and overcome difficulties so that it will open the most effective and efficient ways of life opportunities from chaos to victory. School leaders must adjust and respond to difficulties. Most of the research reveals that life challenges and difficulties determine a person's way of making decisions especially for their career perspective.

Based on the various definitions of Adversity Quotient above, it can be concluded that Adversity quotient is a measure of a person's ability to overcome the difficulties he faces into an opportunity to solve them. In other words the concept of adversity quotient is understanding how a person will react to challenges and difficulties in all aspects of his life.

1. **Method**

Broadly speaking, the steps that have been taken in the process of developing this Adversity Quotient instrument include: (1) determination of the adversity quotient dimension; (2) formulation of indicators (2) formulation of Adversity Quotient indicators, (3) preparation of Adversity Quotient questionnaire statements, (4) readability testing, (5) content and construct validity testing, and (6) reliability testing instrument. The steps of developing the instrument are carried out in order to produce a standardized instrument. Thus the resulting Adversity Quotient instrument is expected to be used to collect data, and the data collected is no longer questionable as to its validity.

1. **Discuss**

*3.1. The Adversity Quotient Dimension*

Adversity Quotient (AQ), this refers to the total score obtained on the Adversity Quotient Profile developed by Dr. Paul G. Stoltz (2009) as a measure of how a person handles / faces difficulties in his life. There are 4 dimensions of Adversity Quotient which include:

*3.1.1 Control*

Is the extent to which a person feels they can influence whatever happens next. This is how much control one feels over bad events. People who respond to adversity as temporary, external and limited have an optimistic explanation style and tend to enjoy the benefits of life (Canivel, 2010). Even in situations that seem overwhelming or beyond their control, someone who has a high AQ always finds or interprets some part of the situation under their control while those who have a low AQ will usually give up easily (Cura & Gozum, 2011). In addition, the more control one has, the more likely a person must take positive action (Canivel, 2010).

*3.1.2 Ownership*

It is likely that someone will really do anything to improve the situation, regardless of their formal responsibilities. This reflects the responsibility for achieving specific results in responding to a problem, that is who or what is the origin of the difficulty or to what extent the person has the outcome (Canivel, 2010). A person with a high AQ increases their accountability for controlling, empowering, and motivating actions, while low AQ people reject problems that cause failure to act, give up, point fingers, reduce performance and anger directed at others and many other negative actions ( Canivel, 2010). Also, high AQ individuals consider themselves responsible for the situation regardless of the cause, while those with lower AQ will become victims and helplessness (Cura & Gozum, 2011).

*3.1.3 Reach*

Reach is the extent to which a person perceives difficulties as "reaching me" and influencing other aspects of the situation or more. The extent to which the results, good or bad, will affect other areas of one's life (Enriquez & Estacio, 2009). In addition, it involves placing setbacks to their place, and not letting them damage healthy work areas and the rest of a person's life (Cura & Gozum, 2011). This implies that people with low AQ allow difficulties to influence other aspects of their lives that lead to financial panic, insomnia, bitterness, distance from others and poor decision making, but those who score high in one's reach can limit the range of problems to the event at hand (Canivel, 2010).

*3.1.4 Endurance*

Is a measure of the perception of time where events are good or bad and the consequences of whether they will last long (Enriquez & Estacio, 2009). How long the hardship will last and how long the cause of the hardship will last. It is also the ability to see how one can transcend enormous difficulties and maintain expectations. Where, the higher AQ people have the ability to feel "this will definitely pass," and hold on while the lower AQ people see difficulties as a problem that will drag indefinitely (Cura & Gozum, 2011). In addition, people with high endurance scores find that difficulties are temporary and believe that there is always a solution to overcome these difficulties (Maiquez, Preolco, Sausa & Talatagod, 2015).

Based on the description above it is concluded that the dimensions to be developed referred to in this paper are: (1) Control (Control). is a measure of the level of control that a person feels when a bad event occurs, (2) Origin & Ownership (Origin & Ownership), is a measure of the extent to which a person has, or takes responsibility in resolving difficulties or the extent to which a person considers himself responsible for improving situations that happened because of a problem; (3) Reach, is a measure of the extent to which a person perceives good or bad events that are interrelated in his life, and (4) Endurance, is a measure of the perception of time where good or bad events and their consequences will last or last.

*3.2. Adversity Quotient Indicators*

These adversity quotient indicators are a more specific description of an adversity quotient dimension that has been described previously. In the formulation of these indicators, in addition to being guided by the adversity quotient dimensions outlined above, the author also conducts a preliminary study and literature to capture student responses related to the behavior they exhibit when they are in a position or situation that makes them have to face or resolve an obstacle. or problems both personally and related to the surrounding environment. This preliminary study was conducted on 85 students of SMKN 2 Lumajang students grade XII. The behaviors shown by these students are used as a reference in developing indicators of the adversity quotient dimension determined by the author.

**Table 1.** Dimensions and Indicators of Student Adversity quotient

| **Dimensi** | **Indikator** |
| --- | --- |
| Control (ability to control situations)  Origin-Ownership (one's ability to take responsibility for the emergence of difficulties) | Subjects can control conditions or situations that are difficult to deal with |
| Subjects can face difficult situations |
| Reach (reach / impact of difficult situations on individual life) | The subject knows the cause of a problem |
| The subject feels responsible for dealing with any situation / problem causing it |
| Control (ability to control situations)  Origin-Ownership (one's ability to take responsibility for the emergence of difficulties) | The subjects remained calm and concentrated while doing other activities |
| Subjects still have enthusiasm in dealing with difficult situations |
| Reach (reach / impact of difficult situations on individual life) | The subject is not easily discouraged |
| The subject is able to solve the problem at hand |

*3.3. Items of the Adversity quotient questionnaire*

Of the various methods that can be used to assess student's Adversity quotient, in developing the student's Adversity quotient instrument, the author uses the questionnaire method (questionnaire). Therefore, the writer must formulate the statement items from the questionnaire. As for several considerations the selection of questionnaires as a method of data collection, among others: (1) can collect data from a large number of subjects simultaneously compared to the method of observation and interview; (2) the data collected is more objective than using interviews because respondents can give their responses more freely, without being influenced by the mental attitude of the relationship between researchers and research sub-sectors, or by the time available to think about answers; (3) can capture information related to cognitive and affective processes, which cannot be obtained through observation; and (4) the data collected is easier to analyze, because the statements written in the questionnaire are fixed and the same between those submitted to one respondent and those submitted to other respondents.

In Table 1 the aspects and indicators of the student Adversity quotient have been formulated. Based on these dimensions and indicators, the items of statements from the questionnaire (questionnaire) are formulated. The formulation of the items in the questionnaire statement is shown in Table 2.

**Table 2.** Formulation of the Item Adversity quotient Questionnaire Statement for students

| **Indicator** | **Item Number of statement** | **Item Statement** |
| --- | --- | --- |
| Subjects can control conditions or situations that are difficult to deal with | 1, 5, 9, dan 25. | * I feel nervous when presenting in front of the class. * I do not easily forgive people who disappoint. * Negative comments from friends make me angry. * Criticism from friends makes me insecure. |
| Subjects can face difficult situations | 33. 13, 17, 21, dan 29. | * When disputing with friends, I choose to budge. * I will avoid someone if I have a problem with it * I complained about the heavy tasks given by the teacher. * Even though I'm tired, I still work on assignments after school. * I still go to school even though my friends are hanging out. |
| The subject knows the cause of a problem | 10, 14, 18, dan 34. | * I am lazy to go to school because there are certain lessons that are not interesting. * It took me a long time to understand the instruction given by the teacher. * I immediately correct mistakes when reprimanded by others. * The incompatibility of thinking patterns with group friends makes me feel difficult to complete the task in the group. |
| The subject feels responsible for dealing with any situation / problem causing it | 2, 6, 22, 26, dan 30. | * I am able to accept all the risks that will occur later. * I felt unable to complete a difficult task. * The more problems encountered, making me even more eager to solve. * I will continue to look for a way out until I succeed from the problem * If the group assignments are not completed properly, it is because of my friend's mistake. |
| The subjects remained calm and concentrated while doing other activities | 3, 11, 27, 31, dan 35. | * I appreciate parents who do not provide support in continuing school. * I cannot make the right decision when facing problems. * Non-conducive environment caused my performance to decline. * I have difficulty completing assignments in a state of illness. * Although disturbed by others, I still focus on completing the task. |
| Subjects still have enthusiasm in dealing with difficult situations | 7, 15, 19, dan 23, | * I appreciate parents who do not provide support in continuing school. * I cannot make the right decision when facing problems. * Non-conducive environment caused my performance to decline. * I have difficulty completing assignments in a state of illness. * Although disturbed by others, I still focus on completing the task |
| The subject is not easily discouraged | 8, 16, 20, dan 32. | * I can endure difficult situations. * I am a person who is not easily discouraged. * I do not have the ability that can be seeded * I am a quitter. |
| The subject is able to solve the problem at hand | 4, 12, 24, 28, dan 36. | * I don't get emotional when a friend mockes * I have a passion for change. * I find it hard to try even harder after failing. * Difficult lessons are not a significant obstacle for me to follow. * I'm still happy even though no friends care. |

The statement formulation that has been compiled based on the adversity quotient indicator, will then be used to compile an adversity quotient instrument to assess the size of students' resilience in facing the difficulties of class XII students at SMKN 2 Lumajang in future research.

*3.4. Readability and Validity Testing*

The adversity quotient instrument that has been prepared subsequently will be tested through validity. Instrument validation is carried out to assess the content validity, construct and readability. Testing the validity of the instrument involved three experts in the field of Vocational Education. Content validity testing is carried out to ascertain whether each statement item contains an adversity quotient indicator, whether the statement statements of each indicator are formulated clearly, specifically and operationally so that it is easy to assess, and whether it matches the lattice with the adversity quotient questionnaire. The construct validity was conducted to assess whether the statement items contained in the questionnaire had been prepared in a good, clear, and able to access the adversity quotient of the research subjects. And the last is the readability test includes how the readability of the language used as a statement item whether to use language and writing in accordance with the rules of Indonesian language is good and right, whether the language used is communicative, and easy to understand, and whether the terms used are appropriate and can be understood . The results of the validation by the experts are included in the validation sheet and given access to comment for the improvement of the instrument, if any.

1. **Conclusion**

Based on the data it can be concluded that (1) Adversity quotient is a measure of a person's ability to overcome the difficulties he faces into an opportunity to solve them. In other words the concept of adversity quotient is understanding how a person will react to challenges and difficulties in all aspects of his life. (2) Steps that have been taken in the process of developing this Adversity Quotient instrument, include: (a) determination of the adversity quotient dimension; (b) formulation of indicators (c) formulation of Adversity Quotient indicators, (d) preparation of Adversity Quotient questionnaire statements, (e) readability testing, (f) testing content and construct validity, and (g) reliability testing instrument. (3) Adversity quotient dimensions include control, ownership, reach and endure. Of the four dimensions, several indicators will be formulated which will be used as a reference to develop statements that can be used as questionnaire instruments to explore students' abilities in facing difficulties. (4) Instrument validation is carried out to assess the content validity, construct and readability. Testing the validity of the instrument involved three experts in the field of Vocational Education. Validation is carried out in order to produce a standardized instrument. Thus the resulting Adversity Quotient instrument is expected to be used to collect data, and the data collected is no longer questionable as to its validity.

1. **References**

Beheshtifar, M., & Roasaei, F. (2012). Role of Social Intelligence in Organizational Leadership. *Euro Journals Publishing, Inc*, *28*, 200-206. Retrieved from http://www.researchgate.net/publication/263852356\_Role\_of\_Social\_Intellig\_n\_Organizational\_Leadership

Brown, W. S.. "Neurophysiology." Encyclopedia of Science and Religion. 2003. Retrieved March 9, 2015 from Encyclopedia.com:http://www.encyclopedia.com/doc/1G2-3404200357.html

Canivel, L.D. (2010). Principals’ Adversity Quotient: Styles, Performance and Practices. Retrieved from http://www.peaklearning.com/documents/PEAK\_GRI\_canivel.pdf

Cha, J., Cichy, R. F., & Seung Hyun, K. (2009). The Contribution of Emotional Intelligence to Social Skills and Stress Management Skills Among Automated Foodservice Industry Executives. *Journal Of Human Resources In Hospitality & Tourism*, *8*(1), 15-31. doi:10.1080/15332840802274411

Cornista, G.L. & Macasaet C.A. (2013). Adversity Quotient and Achievement Motivation of Selected Third Year and Fourth Year Psychology Students of De La Salle Lipa A.Y. 2012 – 2013. Retrieved from <http://www.peaklearning.com/documents/PEAK_GRI_cornista-macasaet.pdf>

Feldman, R. S. (2009). Discovering Life Span (2Education, Inc., publishing as Pearson Prentice Hall. nd edition). USA. Pearson

Gimpel, G. A., & Merell, K. W. (2014). *Social Skills of Children and Adolescents: Conceptualization, Assessment and Treatment*. Retrieved from https://play.google.com/books/reader?id=FSABAwAAQBAJ&printsec=frontce&output=reader&hl=en&pg=GBS.PP1

Gupta, S. K., & Jadhav, T. (2014). Global Communication Skills and Its Relationship with Emotional Intelligence. *American Journal of Management*, *14*(4). Retrieved from http://www.nabusinesspress.com/AJM/JadhavT\_Web14\_4\_.pdf

Huijuan, Z. (2009). The Adversity Quotient and Academic Performance among College Students at St. Joseph’s College, Quezon City. Retrieved from <http://www.peaklearning.com/documents/PEAK_GRI_huijuan.pdf>

Maiquez, R., Preolco, A., Sausa, L., & Talatagod, K. (2015). Predictive Ability of Emotional Intelligence and Adversity Quotient on Academic Performance of USC College Students Retrieved from http://www.peaklearning.com/documents/PEAK\_GRI\_sauza.pdf

Malinauskas, R., Dumciene, A., & Lapeniene, D. (2014). Social Skill s andLife Satisfaction of Lithuanian First and Senior Year University Students. *Social Behavior& Personality: An International Journal, 42(2), 285-293. doi:10.2224/sbp.2014.42.2.285*