# Adversity Quotient and Defense Mechanism of Secondary School Students

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**Abstract**    The present study was conducted to explore the relationship between Adversity Quotient (AQ) and Defense Mechanism (DM) of secondary school students. The aim of the study was to ascertain relationship between Adversity Quotient and Defense mechanism i. e. Turning against object (TAO), Projection (PRO), Turning against self (TAS), Principalisation (PRN) and Reversal (REV). Another aim of the study was to find out whether there exist any difference between the level of AQ and DM of boys and girls. The sample included 156 girls and 152 boys (aged from 13 years to 15 years) selected randomly from Uran region of Raigad District, Maharashtra State, India. Inventory by Dr. N. R. Mrinal and Dr. Uma Mrinal was used for data collection of Defense Mechanism. Online Adversity Quotient profile® tool by Dr. Paul Stoltz was used for data collection of Adversity Quotient. Data analysis revealed that there is no correlation between Adversity Quotient and Defense Mechanism of secondary school students. Data analysis also revealed that there are no significant differences in the level of AQ and Defense mechanism of boys and girls.

**Keywords**    Adversity Quotient (AQ), Defense Mechanism (DM)

## 1. Introduction

We often read about suicides in the newspaper. It is the extreme step taken as the concerned person could not cope-up with his/her problems. In the year 2009, in Maharashtra state alone there were 9201 suicides, out of which 446 were of school going students. In the year 2010, there were 66 suicides of students in the month of January and February 2010 in India[1]. It is an alarming situation and important to note that the students are under the constant stress and they are going through lot of adversities at school, home or in peer group.

We often talk about 'Adversity' in our daily routine life. These adversities could be natural calamities like cyclone or they could be hardship at home or office. In case of students they could be various hardships at school or society, peer pressure in school, unfavorable school environment with strained teacher-student relationship, poor social relations at home, parent's fights among themselves, too many siblings, gender discrimination etc. Students of every age group face different adversities. However All adversity is really an opportunity for our soul to grow (John Grey) [2]

According to Paul Stoltz, AQ is the science of human resilience. People, who successfully apply AQ, perform optimally in the face of adversity and the challenges that confront us each day. In fact, they not learn from these challenges but they also respond to them better and faster. Adversity Quotient is designed to measure an individual style of responding to adverse situations.

### 1.1. Adversity Quotient

Adversity Quotient consists of following 4 components i.e. Control, Ownership, Reach and Endurance.

- Control (C) - Control measures the degree of control the person perceive that he or she has over adverse events.
- Ownership (O) - Ownership measures the extent to which the person owns or takes responsibility for the outcomes of adversity or the extent to which the person hold himself or herself accountable for improving the situation.
- Reach (R) - Reach measures the degree to which the person perceives good or bad events reaching into other areas of life.
- Endurance (E) - Endurance measures the perception of time over which good or bad events and their consequences will last or endure.

AQ is based on work by many prominent scholars' research work of 35 years and breakthrough in the three different scientific fields of Cognitive Psychology, Neurophysiology and Psychoneuroimmunology.

### 1.2. Research Work on AQ

Research on resilience over the past three decades

examines a wide range of psychosocial correlates of, and contributors to, this trait. Some explanatory models have been derived but the biological contributors to, or correlates of, competent functioning despite the experience of adversity have not received attention.

Curtis and Cicchetti (2003) [3] in their paper 'Moving research on resilience into the 21st century: Theoretical and methodological considerations in examining the biological contributors to resilience' provide a preliminary theoretical framework and outline of empirical strategies for studying resilience at a biological level. The paper discusses the likely relation of several areas of brain and biological functioning with resilience, including emotion, cognition, neuroendocrine and immune functioning, and genetics. The aim is to understand the implications of the biological perspective on resilience for preventive interventions. The studies above have tried to find significant correlation between resilience or AQ and a variety of other constructs. The studies show significant correlations between Adversity Quotient and resilience and the development of personality, job performance, organizational commitment, and retention, tendency to self-enhancement, school performance, and school culture/climate. Studies suggest that different coping styles operate for different personality types. Low resilience correlates significantly with depression, and vicarious truamatization .an important message from the researches is the finding of high correlation between resilience and the finding of meaning in adversity.

### 1.3. Defense Mechanism

Defense Mechanism is Psychological device to maintain mental health of an individual. Their use if made sparingly can save the individual from being mentally unbalanced and maladjusted but if their use is made too frequently, so that they become a sort of habitual behavior, then they become dangerous and may lead to serious mental complications. These are just like medicines only the proper quantity of dose is beneficial. Taking too much of a medicine and becoming addicted to a medicine may lead to a serious consequences.

G. F. Vaillant [4] categorized defenses into 4 levels as mentioned below:
- Level 1 Defenses: Psychotic defenses i.e. psychotic denial, delurional projection etc.
- Level 2 Defenses: Immature defense i.e. fantasy, projection, passive aggression, acting out etc.
- Level 3 Defenses: Neurotic defenses i.e. intellectualization, reaction formation, dissociation, displacement and repression etc.
- Level 4 Defenses: Mature defenses i. e. humor, sublimation, suppression, altruism, anticipation etc.

### 1.4. Research Work on Defense Mechanisms

Gleser and Thilevich [5] worked on classification of defense mechanism. They grouped the defenses into 5 categories TAO, PRO, PRN, PRN and REV i.e. Turning against object, Projection, Principalisation , Turning against self and Reversal respectively.

A study of the existing literature found consistent evidence that the use of defense of denial was more characteristic of young children than of older children or adolescent.(Glasberg &Aboud 1987, Hill and Sarason 1966, Smith and Dinielsson (1977) Smith and Rossman (1986).

In an early study using the DMI as the measure to assess defense use or comparison of a younger adolescent group (mean age = 14 years ) an older group (mean age = 16 years ) failed to show differences in defense choice (Cramer 1979) possible relations between adolescent developmental level and DMI defense choice was then approached in a different manner by levit (1993) who reasoned that adolescent development differences in defense use might be easier to discover if the index of development were based on level of ego maturity rather than chronological age. Accordingly the DMI scores of 66 adolescents, age 14-19 years were related to level of ego development, as assessed by Loevinger's sentence completion test (loevinger wesster, 1970). The result indicated that adolescent level of ego development was negatively correlated with the choice of turning against the object (TAO), and positively correlated with reversal (REV) and turning against the subject (TAS), the latter relation being due primarily to the girls in the sample. The result with projection and principalisation (PRN) i.e isolation, intellectualization and rationalization were not significant.

A conceptually similar study was carried out by Evans and Seaman based on the DSQ 78, adolescents were divided into 2 groups 'mature and immature "defense users. The mature group showed greater ability to differentiate among various domains of their self-concept (e.g patent relationship peer acceptance, athletics and scholastic ability, romantic relationship , friendship, physical appearance.) suggesting a higher developmental level in the adolescent who used more mature defense. The immature groups showed less differentiation among the various domains of the self-concept, suggested a kind of developmental delay. Although these finding do demonstrate a relationship between defense choice and level of ego development, they do not address the issue of whether adolescent defense use change with age. This question of change was investigated in a sample of 516 finish adolescent (Tuulio–Henriksson, Poikoainen, Aaltro-setala and Lonnquvist 1997) using the DSQ-72 these young men and women were assessed for defense use at age 16 years again at age 21 years, the result indicated an increase in scores on the maturity scale and decrease on both the immature and neurotic scale [6]

The present study investigated the relationship between Adversity Quotient and Defense Mechanism of secondary school students.

## 2. Research Methodology

### 2.1. Objectives of the study

2.1.1. To find Out Relationship Between Adversity Quotient and Defense Mechanism (I.E. TAO, PRO, PRN, TAS and REV) of Secondary School Students.

➢ Correlation between AQ and TAO Turning against Object for the (complete sample, boys and girls).

➢ Correlation between AQ and Projection PRO for the (complete sample, boys and girls.)

➢ Correlation between AQ and Principalisation PRN for the (complete sample, boys and girls.)

➢ Correlation between AQ and Turning against self TAS for the (complete sample, boys and girls.)

➢ Correlation between AQ and Reversal REV for the (complete sample, boys and girls.)

2.1.2. To find Out Differences Between AQ Scoreof Boys and Girls.

2.1.3. To find Out Differences Between Defense Mechanism Score of Boys and Girls.

### 2.2. Hypotheses

2.2.1. There is no Significant Relationship Between AQ and Defense Mechanism (i. e. TAO, PRO, PRN, TAS, REV) of Secondary School Students.

2.2.2. There is no Significant Difference Between AQ of Boys and Girls.

2.2.3. There is no Significant Difference Between Defense Mechanism of Boys and Girls.

### 2.3. Sampling and Sample

In the present research, Sample of 307 (151 boys and 156 girls) secondary school students, from four schools of Uran region, Raigad District, Maharashtra state (India) were selected. Simple random sampling technique was used for the selection of schools and cluster sampling technique was used for selection of students.

### 2.4 Data Collection Tools

2.4.1 Adversity Response Profile (ARP) Developed by Dr. Paul Stoltz, 1997.

This is a copyrighted tool. It is self rating questionnaire designed to measure an individual's style of response to adverse situations. The ARP describes fourteen scenarios. Each scenario is followed by four questions and each question is to be answered on a five point bipolar scale. Each of the four answers is scored on a different scale. There are therefore, four scales of ten questions each. The four scales of AQ are Control, Ownership, Reach and Endurance. Total score of AQ can ranges between 40 to 200. Reliability of AQ scale is as follows i.e. Control = 0.77; Ownership = 0.78; Reach = 0.83; Endurance = 0.86 and for total AQ score it is 0.86.

2.4.2. Defense Mechanism Inventory by Dr. N.R. Mrinal and Dr. Uma Mrinal

It is a self rating questionnaire. The inventory consists of ten stories. After reading each story, one has to respond to four questions corresponding to following four types of behavior evoked by the situation described in the story (Proposed actual behavior, impulsive behavior, thoughts and feelings etc). The tool deals with five clusters of Defense Mechanisms i.e. Turning against Object (TAO), Projection (PRO), Prinicipalsation (PRN), Turning against Self (TAS) and Reversal (REV) etc. Five responses are provided for each question. Each response representing one of the five defense mechanisms listed above. Reliability of TAO = 0.86; PRO = 0.80; PRN = O.82; TAS = 0.87 and REV = 0.92

### 2.5. Statistical Techniques

Pearson 'r' was used to ascertain the relationship between Adversity Quotient and Defense Mechanism and 't' test was used to find out differences between the AQ level of boys and girls and defense mechanism score among boys and girls.

**Table 1.** Correlation between Adversity Quotient and Defense Mechanism

| Sample size | Variables | Defense mechanism | TAO | PRO | PRN | TAS | REV |
|---|---|---|---|---|---|---|---|
| 307 | Adversity Quotient | Total sample | -0.072 N.S. | -0.061 N.S. | 0.083 N.S. | O.042 N.S. | 0.04 N.S. |
| 151 | AQ | Boys | -0.31 N.S. | -0.059 N.S. | 0.064 N.S | 0.042 N.S. | 0.033 N.S. |
| 156 | AQ | Girls | -0.124 N.S. | -0.06 N.S. | 0.104 N.S. | 0.084 N.S. | 0.044 N.S. |

(Level of significance at 0.05 Level)

# 3. Findings and Discussion

Finding related to relationship between Adversity Quotient and Defense Mechanism

### 3.1.1. Finding Related to Relationship of Adversity Quotient and TAO Defense Mechanism

The obtained value of 'r' for the complete sample, boys and girls is -0 072, -0.31, and -0.124 respectively. The tabulated 'r' is greater than the calculated value of 'r'. Therefore the null hypothesis is accepted. It indicates that there is no significant correlation between AQ and DM. A negative value of 'r' implies that an increase in AQ score will have corresponding decrease in the score of TAO i.e. an increase in the ability to handle adversity reduces the chances of using Turning against object (TAO) defense Mechanism. Turning against object is a destructive type of defense mechanism. In this category the person does something as a substitute for something else. Such classical defenses as identification with the aggressor and displacement can be placed in this category. This class of defenses deals with conflict through attacking a real or presumed external frustrating object. Whereby person expresses his or her feelings indirectly to an object. Sometimes it happens that certain people do not find any substitute for their aggression. In such cases suicide is committed

### 3.1.2. Findings Related to Relationship of AQ and Projection (PRO) Defense Mechanism

The obtained value of 'r' is for the complete sample is -0.061, for boys -0.059, for girls -0.06 which is not greater than the tabulated value of 'r'. Therefore the null hypothesis is accepted. It indicates that there is no significant correlation between Adversity Quotient and Projection defense mechanism of boys and girls. The calculated value of 'r' for the total sample, boys and girls are shows negative values. Negative value indicates as the AQ score increases, corresponding PRO score decreases. The Projection includes the defenses which justify the expression of aggression towards an external object through first attributing to it, without unequivocal evidence, negative intent, or characteristics. It means to project one's feelings, thoughts' hopes, ambitions, frustrations, fears, interest and urges on some external objects, the common tendency to blaming other for our mistakes is example of projection. Projection (PRO) is an immature Defense Mechanism. It can be said that students with higher AQ, handles adversity in a better way and use PRO Defense Mechanism in a lesser extent. It supports the concept of Ownership one of the component of Adversity Quotient.

### 3.1.3. Findings Related to Relationship of AQ and Principalisation (PRN) Defense Mechanism

The obtained value of 'r' is 0.083 for the total sample, 0.064 for boys and 0.104 for girls which is not greater than the tabulated value of 'r'. Therefore the null hypothesis is accepted and it can be said that there is no significant relationship between the AQ and PRN defense mechanism of secondary school students.

The obtained value is positive and indicates positive relationship between AQ score and PRN score of secondary school students at negligible level. Defenses such as intellectualization, isolation, and rationalization fall into this category. Since there is a negligible positive correlation, it can be said that with the increase in AQ, there may corresponding increase in PRN. However intellectualization, isolation and rationalization defense mechanisms are mature defense mechanism. Intellectualization concentrating on the intellectual components of the situations as to distance oneself from the anxiety provoking emotions associated with this situation, at the same time rationalization is the process of constructing a logical justification for a decision that was originally arrived at through a different mental process. It attempts to justify something which is an otherwise unjustified.

### 3.1.4. Findings Related to Relationship of AQ and Turning Against Self (TAS) Defense Mechanism.

The obtained value of 'r' is for the total sample 0.042, for boys 0.042 and for girls 0.084 the tabulated 'r' is greater than the calculated 'r', the null hypothesis is accepted. Therefore it can be said that there is no significant relationship between the AQ Score and the TAS Score of secondary school students. Thus in other words, it can be said that higher AQ students take the responsibility of problems. Turning against self class are those defenses that handle conflict through directing aggressive behavior towards him/her self. Masochism and auto sadism are examples of defensive solution in this category.

### 3.1.5. Findings Related to Relationship of AQ and Reversal (REV) Defense Mechanism.

The obtained value of 'r' is 0.04 for complete sample, 0.03 for boys and 0.04 for girls. Since the tabulated 'r' is greater than the calculated 'r', the null hypothesis is accepted. Therefore it can be said that there is no significant relationship between the AQ and the REV Defense Mechanism of secondary school students. The reversal class includes defenses that deal with conflict by responding in a positive or neutral fashion to a frustrating object which might be expected to evoke a negative reaction. Defenses such as negation, denial, reaction formation and repression are subsumed under this category. Denial means refusing to perceive the more unpleasant aspects of external reality, Reaction formation is the converting of unconscious wishes or impulses that are perceived to be dangerous into their opposites. It is to substitute opposite reaction formation which causes anxiety. Here the person thinks, and acts in a manner directly opposite to the unconscious impulse. In reaction formation the unconscious desire is socially unacceptable but in his conscious state the person may protest against it openly. Repression is the process of

pulling thought into the unconscious and preventing painful or dangerous thoughts from entering unconsciousness. It is a process of unconscious forgetfulness of our unpleasant and conflict producing emotions and desires. and the do the opposite of that which should be done. The above defense mechanism is destructive defense mechanism. The high score of AQ people do not use REV defense mechanism in the adverse situation.

**Table 2.** Comparison of boys and girls in the scores of Adversity Quotient and Defense Mechanism

| Table 2 | Boy = 151 | | Girl = 156 | | 't' | L. O. S. |
|---|---|---|---|---|---|---|
| Variables | Mean | SD | Mean | SD | 't' value | At 0.05=1.97 |
| AQ | 133.19 | 12.03 | 133.8 | 10.83 | 0.466 | N.S |
| TAO | 42.02 | 5.45 | 42.1 | 4.78 | 0.137 | N.S |
| PRO | 39.21 | 4.22 | 38.7 | 4.68 | 1.00 | N.S |
| PRN | 41.66 | 4.07 | 41.9 | 3.68 | 0.541 | N.S |
| TAS | 39.21 | 4.15 | 39.2 | 4.42 | 0.02 | N.S |
| REV | 37.9 | 4.57 | 38.04 | 4.86 | 0.26 | N.S |

### 3.2. Finding for Comparison of AQ Score of Boys and Girls

In the present research, the mean of AQ is 133.19 for boys and 133.80 for girls. Thus there are not many differences in the score AQ of boys, girls. The calculated value of 't' is not greater than tabulated value of 't' therefore the null hypothesis is accepted and it can be said that there is no differences between the boys and girls in the level of Adversity Quotient.

### 3.3. Findings for Comparison of Defense Mechanism of Boys and Girls

The calculated 't' value is not significant. Therefore the null hypothesis is accepted. On the basis of findings for comparison between defense mechanisms of boys and girls, it can be said that there is no difference between the defense mechanisms of boys and girls. India is democratic country. After the exposure of Globalization, Westernalisation and Liberalization has brought up many changes in set up of the society. Nowadays most of the parents try to maintain equality among the children. Women's empowerment concept has impact on the education. Girls get equal opportunity in choosing their own field of education or major decisions in their life.

The present research has proved that there is no difference between boy and girl students in terms of intelligence, decision making ability and risk taking ability etc.

## 4. Conclusion

In the present research, it is seen that the mean of AQ for complete sample is 133.49, mean for boys is 133.19 and mean for girls is 133.80. The mean of AQ of secondary students is very low and even it does not meet the average AQ of 145- 164.  Looking at above result of AQ and its level, almost 90% students are below the average AQ. It focuses on the reframing the role of education system, teachers, administrators and curriculum developers to bring necessary changes in the existing system to increase Adversity Quotient of the secondary school students. The role of education system is to build healthy mental health of the students because defense mechanism cannot take the place in sound and healthy personality. Students should not feel the need of use of these defense mechanisms. Students should be equipped with better abilities, life skills so that they can overcome adversities in their life successfully. The component of AQ i.e. Control, Ownership, Reach and Endurance are global predicator of success. It reflects high level of resiliency characteristics in adverse situation. The school system should implement life skills programmes and increase Adversity Quotient awareness among the students.

## Appendix

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