The Moderating Effects of Social Media Networking Usage on Adversity Quotient and Academic Performance among Filipino High School Students

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ABSTRACT

Teenage years are often the subject of considerable interest for researchers and practitioners of education as children experience the psychological turmoil and transition that often accompanies this period of development. Knowing the teen's behavior and how they cope with adversity by using social media networking to help them with academic challenges would be beneficial. The study is a moderation model research that will investigate the moderating variable Social Media Networking Usage influences the independent variable Adversity Quotient and its relationship on our dependent variable Academic Performance among High School students. The result of the study showed that social media does not moderate its relationship. The findings suggest that Social Media has become the new normal, everyone is using it to get information and it is not limited to improving academics alone, it may not be a significant variable to influence AQ. There might be other external factors aside from social media that need to be examined like family, peers, age, demographics. The study contributes to AQ as predictor to academic performance and achievement literatures by introducing social media as one of the many variables that may have an influence on the relationship of AQ and academic performance.

Keywords – Adversity Quotient, Social Media Networking, Academic Performance, Academic Adversities, Social Media Usage

INTRODUCTION

Adversity quotient (AQ) refers to the capacity of an individual to deal with challenges and turn circumstances into opportunities [1]. Stoltz [2] adds that a person's health, happiness and wealth are affected by adversity quotients. A high adversity quotient is a reliable predictor of a person's success in life. Academic performance is viewed as one of the many measures of success in an individual's life, having endured and succeeded their academic challenges during high school may help the student's future. Although adulthood and professional life may be totally different, it is not that we expect teens to experience the same level of adversity. Instead having experience on how difficult academic life is partnered with a high level of adversity quotient will most likely help teens to tolerate the bumps along the way and to remain hopeful about better days ahead. One of the six ways to improve an individual's AQ is through the internet. As we surf the internet, an individual can explore advertisements and analyze the language they use to explain themselves [3].

The researchers are interested in assessing if social media usage plays a part in the adversity quotient of high school students when it comes to their academic performance. Studies about adversity quotients and academic performance garnered different results over the years. Mostly resulting in moderate to low significant effect on academic performance as AQ explains a very minimal role in the variance of academic performance [4]. With the emergence of social media in the late 2000 s up to the present created an impact on many teenagers. We would like to see if there will be any influence on the level and strength of the adversity quotient's effect on academic performance when social media is present. Different kinds of forms platforms such as Facebook, Youtube, Instagram and Tiktok are prominent in use. This phenomenon has been sought out by policy makers, teachers, parents, and clinicians about social media's impact on our lives and well-being [5]. Then came the pandemic where education became innovative and social media networking became the main and only means of communicating and teaching. Everything went in and out of social media and with this it became the source of multiple information that has proven useful for education. It made things easier not only for students but people all over the world to receive and gather information. The underlying question, did it have an influence on the students' AQ level and improved academic performance? Has social media bridged the gaps of information as almost if not all information needed to overcome educational challenges is not available through social media.

Researchers and practitioners in education continue to search for factors that contribute to student academic achievement [5]. Social media is one of the many factors that we need to look into. Social media refers to "the websites and online tools that facilitate interactions between users by providing them opportunities to share information, opinions, and interest" [6]. Social media had substantial growth over the years, in one statistical survey it presented that from 2020 with only 54 million users, it went up 48% to a total 85.2 million users in 2023. In the first quarter of 2023, with the total population of 116.5 million Filipinos alarmingly 15.9% of the population with ages 5-12 years, another 9.7% of the population from ages 13-17 years of age, 12.6% coming from ages 18-24 and finally 16.1% of the population with ages 25-35. If you add them all up a total of 54.3% of the entire population of the Philippines.

With an average of 3 hours and 43 minutes spent on social media per day. Anything we do more than 3 hours a day, would have a lasting effect on an individual whether we are aware or not, and should be taken into consideration. It is essential for us to know if there is truly a lasting effect and what effect does social media bring in order for us to adjust and regulate in our lives.

Educational factors such as intelligence, prior academic achievement, and standardized test scores have historically been used to predict academic achievement, but psychological factors have been more recognized in recent years as stronger indicators to academic achievement [7]. Among many psychological factors the researchers are interested in uncovering is Adversity Quotient [2] and its effects on students' academic performance. Each individual has faced a variety of adversities that range from minor issues to major setbacks that would affect one's productivity in general, may it be in academic, professional, personal, etc. Brunkhorst [8] stated that "that adversities are part of everyday living and people choose the way to react to each adversity in life. Considering all the factors that influence an individual's happiness, well-being and success in life, a person's Adversity Quotient plays a vital role. This research is important to the academic field, the study will serve as a stepping stone to understand whether social media networking would have an influence towards student's adversity quotient level and help improve their academic performance.

- **Purpose of the Study**

Social media platforms have helped improve the students' academic performance and increase their knowledge through gathering data and information. Students visit various online platforms to gather information to solve their assignments. Students primarily use these social media platforms: Messenger (for

communicating), Wikipedia (for references), Facebook (for updates), Instagram (for photo sharing), YouTube (for video tutorials), and many more. Researchers have suggested that social media has altered the forms of group interaction and its users' individual and collective behavior around the world. The present study is moderation model research that will investigate the moderating variable Social Media Networking Usage and how it influences the independent variable Adversity Quotient and its relationship to the dependent variable Academic Performance among High School students. Students in this stage belong to the adolescent development stage. The teenage years are often the subject of considerable interest for researchers and practitioners of education as children experience the psychological turmoil and transition that often accompanies this period of development. Knowing the teen's behavior and how they cope with adversity by using social media networking to help them with academic challenges will be beneficial not only to educational practitioners but also the parents, students and the community they are in. We will be able to conduct interventions, training, seminars and workshops, on the proper usage of the internet and strengthen students' adversity quotient for them to better cope with their academic challenges.

Given this purpose, a moderation research approach is best fit. The moderator variable, that is Social Media Networking Usage is the third variable used to investigate the strength of relationship between an independent (adversity quotient) and dependent variable (academic performance). Figure 1 shows the moderation model showing the relationships of the variables.
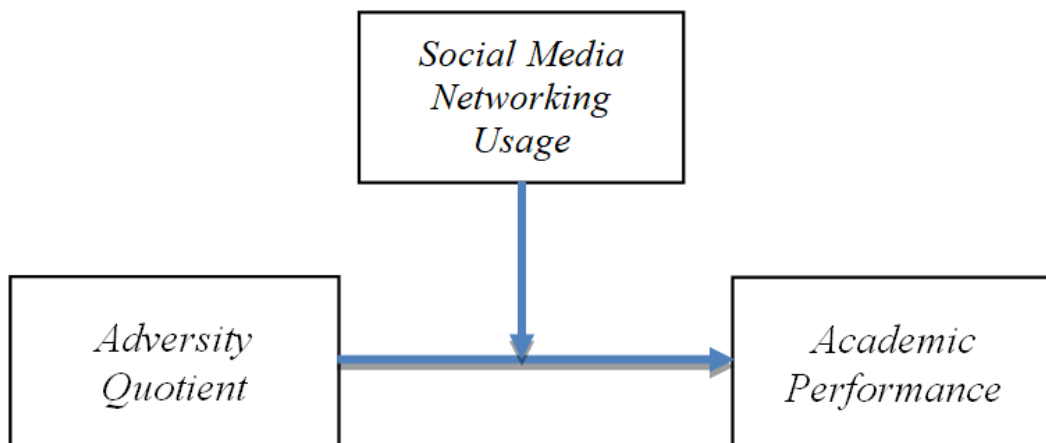

Fig. 1 Moderation Model of Social Media Networking Usage, Adversity Quotient, and Academic Performance

- **Literature**

Adversity Quotient (AQ) is the measure of how people ascend despite obstacles, it gauges how an individual sees opportunity in a difficult position. Singh and Sharma [13] define AQ as a science of endurance that can measure an individual's ability to deal with difficulties in life. This is in line with Dorji and Singh [14] stating that AQ is a science of endurance to measure a person's ability to face difficulties in life, so that a person can turn obstacles into opportunities. Stoltz [2] defines AQ as how a person can withstand difficulties and is able to overcome because IQ alone is not enough to achieve success. This may be equated to the ability to withstand and surmount life's problems and challenges. This is composed of four CORE dimensions, namely Control, Origin and Ownership, Reach, and Endurance. He states that the theory was built on three pillars, Cognitive Psychology, Health Science and Neuroscience. It has become a crucial metric in assessing a person's potential, especially in terms of academic performance and achievements [3]. Although initially and widely used for business AQ is also used in educational institutions like MIT uses the AQ test in their global entrepreneurship programs to select participants. Parents and Teachers use the AQ test to better support children/students in facing setbacks and difficulties both in their academics and prepare them for life in general.

During the Pandemic the biggest challenge for the education system was innovation which requires teachers

and students to do online learning and virtual education. However, if taken on the positive side, all educational institutions are encouraged to involve technology in the teaching and learning process so that both lecturers, teachers, and students can be technology literate [15]. Even though the school was closed, the teaching and learning process were still carried out. Some countries conducted distance learning using several online platforms, such as educational contents and virtual meetings conducted using video conferences. After the pandemic, the usage of social media networks has become a new normal, almost if not everyone is using them to gather information nowadays. The obstacles found during online learning include problems with the mobile phone signals, limited internet quotas, and inadequate electricity supply [16-18]. These obstacles "force" students to overcome, everyone has different strategies in dealing with their problems. Especially for high school students who have a greater sense of responsibility to assignments than elementary. Bruner [19], proposed that the goal of education should always be intellectual development and not just memorization or facts. It should create an autonomous environment where the learners learn how to learn. The theory also suggests that learners actively participate in constructing their knowledge through experience. According to Bruner, students build on their current understanding of a topic by integrating new information into their prior knowledge. Nowadays Social Media plays a big role in students learning, as their use of all social networking sites influences the way the students learn.

Filipino high school students typically use social media to share non-political posting, this includes posting online and offline activities, sharing opinions and sentiments, sharing personal experiences and among others [35]. A study conducted by Ostic et al. [20] on the effects of social media use on psychological well-being, resulted in a significant and positive effect of social media use on psychological well-being both through bridging and bonding social capital. However, a significant and negative effect of social media use on psychological well-being through smartphone addiction and through social isolation was also found. The study also cited smartphone addiction refers to an individuals' excessive use of a smartphone and its negative effects on his life as a result of his inability to control his behavior" [21].

Regardless of its form, smartphone addiction results in social, medical, and psychological harm to people by limiting their ability to make their own choices [22]. The rapid advancement of information and communication technologies has led to the concept of social media, e-games, and to smartphone addiction [23]. The excessive use of smartphones for social media use, entertainment (watching videos, listening to music), and playing e-games is more common amongst people addicted to smartphones [24]. The study concluded that the overall impact is positive, despite some degree of negative indirect impact in the use of smartphones to the well-being of the respondents.

A prominent study by Tus et. al. [9] on social media usage and its impact on the Filipino learners' academic performance amidst the online education, concluded that social media usage positively affects the students' academic performance. Meanwhile, the level of social media usage that showed up primarily in academics is high, which means many of the respondents use their social media platforms to do their academic work. Even though social media usage in terms of information is connected to academics, the general mean that showed is average which means that the respondents rarely use their social media platforms in researching current situations. Contrary to this, the level of social media usage that showed up in terms of entertainment is also high, which means that many of the respondents use their social media platforms for their pleasure. Somehow, social media usage in terms of socialization has also increased, meaning that the respondents use their social media platforms to socialize and communicate with other people. Furthermore, most of the respondents are using their time for academic purposes: doing research work, an academic discussion with their classmates, and preparing for an incoming examination, which means that the respondents are more interested in studying using social media to gather more ideas from their recent lessons. Moreover, the students use social media to gather news and share ideas. The respondents are wisely using their allotted time for social media to study. It shows that the students use social media to do academic work, get information about current events, read the recent news, and many more. Furthermore, students also use it for their enjoyment and pleasure, such as watching movies, communicating with their friends and relatives, and

watching funny media. It is also a way to unwind from academic stress. This study concluded that social media usage has a positive effect on students' academic performance [9]

Another study conducted on adversity quotient and coping strategies of college students in the Philippines, resulted in the respondents assessing themselves that they can influence their adversities to a moderate extent [25], indicating that they have a moderate adversity quotient. Respondents' coping strategies are categorized in their ability to determine their adversities, immediately coping within the situation, rebuilding confidence, and forming a strong network after adversities.

In addition to this, Española [3] studies on the correlation of Adversity Quotient (AQ) and academic performance of selected students in MSU Marawi City, Philippines further elaborate the positive relationship of AQ to their academic performance. In this study where these were measured through Adversity Response Profile-Revised to its cumulative grade point average, signifies that those students are able to assume appropriate responsibility for their adversities which shapes their academic success. The same result is displayed in the similar study by Zhou [26] where the relationship of AQ and academic performance in the students of St. Joseph College, Quezon City, Philippines was measured. In this study, there is a significant correlation between the adversity quotient and academic performance.

Furthermore, a study by Valerie Fortin [27] on adversity quotient and academic performance of senior high school as a basis for intervention program, concluded based on the findings of the study that AQ plays a significant role in the academic life of the learners. The results implied that the higher the learners' AQ the better academic performance will be achieved by the learners. The below average scores in the AQ and core dimensions encompass the learners' perception of the connection of the variables, though not all are considered significant, but as contributing factors when adversity unfolds in the academic and social life of the learners. The study also cited Twenge [28], who explains that these learners belong to the iGen, born in the mid-1990s to the mid-2000s and later wherein adolescents in this generation spent most of their time on a smartphone. Activities like spending time with friends in person is being replaced by social media and texting that possibly contribute to the reason of experiencing unprecedented levels of anxiety, depression, and loneliness. Stolz [2], mentioned in his book title "Adversity Quotient at Work", that children spend forty-seven hours per week in front of uncensored media. What could be the implications of this for children and adolescents? This led us to our research question.

- **Research Question**

To what extent does the moderating variable social media networking use influence the relationship between adversity quotient and academic performance?

METHOD

- **Research Design**

Quantitative study that employs moderation analysis, a statistical method that will investigate how a third variable affects the relationship of a predictor variable and an outcome variable done through multiple linear regression. This study is a cross-sectional study where it collects data from student participants at a single point in time. This is to observe research variables without influencing them.

- **Participants**

The respondents were a total of 160 high school students from Adion Memorial College Foundation Inc. (AMCFI) 106 from Junior high school and 54 from Senior high school. There were 80 male and 80 female with ages 12-18 years old. To ensure random testing, the data were collected by disseminating a google

form link through social media that contains the informed consent to assure that the respondents' participation and test result will remain confidential, anonymous, and voluntary. Students may choose not to participate or withdraw his or her participation anytime.

- **Research Instruments**

The following research instruments were used to measure the variables in this study:

The influence of social media networking usage on adversity quotient was measured through a revised 19-item Social Networking Usage Questionnaire [29] and 20-item Adversity Quotient Test [30]. The Social Networking Usage Questionnaire entails a series of questions that determine the utilization of social networking in school, family, and other forms of social interactions. It follows a 5-point Likert Scale (Always, Often, Sometimes, Rarely, Never). Sample items are "I use social media to become sociable" for social situations and "I use social media to seek help from my teachers" which refers to relationships with the teachers. Higher scores indicate frequency in the use of social media across different areas.

The Adversity Quotient Test refers to the scale used to assess individuals' response to adversity. However, the following scale is specifically revised to fit into the cohesiveness of the entire questionnaire. It also follows a 5-part Likert Scale, however, it varies depending on the questions. Sample items are "When I suffer a financial problem, to what extent can I influence this situation?" and "When I hit every teacher's warning about the deadline of your project to have good grades, the consequences of this situation will:". The AQ response is dependent on the results from the CORE dimensions, where each letter signifies different numbers of questions. C is for question numbers 19, 25, 31, 33, 35. O is for question numbers 29, 34, 36. While, R is for numbers 20, 24, 27, 30, 38. Lastly, E is for numbers 21, 23, 28, 32, 37, 22, 26. The ARP score is derived from the summation of the total results of C, O, R, E multiplied by two. The higher the score, the individual is better at handling adversity. The psychometric properties were determined using the Cronbach Alpha which is a measure of the internal consistency and reliability of the instrument with a value of 0.79, while the content validity of the instrument was established using the Lawshe Content Validity Index (CVI), which gives a value of 0.70.

The students Grade Point Average (GPA) will represent students academic performance for the first grading of school year 2023-2024. This will serve as an indicator to whether the level of the student's current performance meets a specific criterion. For this study the highest possible GPA standing will be from 90 to 100 which would be considered outstanding and anything below 75 would indicate they have not achieved the expected academic performance. We have secured the GPA from the AMCFI Registrar.

- **Data Gathering Procedures**

Permission to gather data was obtained from Adiong Memorial College Foundation Inc. through a Letter to Conduct Study. Upon approval the researchers scheduled the time and date to send out the Google form link. Online consent was obtained individually as the Google form link contained the informed consent form, the details of the study, and the survey questionnaires. The students may choose not to participate or withdraw his or her participation in the survey anytime.

- **Data Analysis**

After the data was gathered, the researchers had to get the average and interpret the students' answers from the tools and measurements used. Descriptive analyses were conducted to examine the result of Adversity Response Profile (Adversity Quotient), Social Media Networking Usage Questionnaire (social media) and Grade Point Weight (academic performance) of the sample, which include the interpretation, frequency, and percentage. SPSS was primarily used to analyze the data, a multiple linear regression analysis was used to

check the influence of the moderation variable also known as effect modification which is social media on the relationship of the independent variable adversity quotient and dependent variable academic performance.

RESULTS

Of the total 160 junior and senior high school students across AMCFI as respondents, with 80 male and 80 female, Table 1 depicted that majority of the respondent's population, which is 37.5% are on the Very Satisfactory Performance level with a General Average Grade of 85 to 89, followed by the Satisfactory group with GPA of 80 to 84, with 33.1% of the population.

Table I. Academic Performance			
General Average	**Performance Level**	**Frequency**	**Percentage**
90 to 100	Outstanding	22	13.8
85 to 89	Very Satisfactory	60	37.5
80 to 84	Satisfactory	53	33.1
75 to 79	Fairy Satisfactory	24	15
74 below	Did not meet expectation	1	0.6
Total		**160**	**100**

Table 2 presented the result of the AQ questionnaires, wherein, 45% or majority of the respondents scored 118 to 134, equivalent to the range of Moderately Low AQ level, followed by the group which are 24.4% of the respondents, who scored 117 below which is on the Low AQ level, and thirdly ranked at 23.1% are the group who scored 135 to 160, which are on Moderate AQ Level.

Table II. Adversity Quotient			
AQ Score	**AQ Level**	**Frequency**	**Percentage**
178 to 200	High AQ	7	4.4
161 to 177	Moderately High AQ	5	3.1
135 to 160	Moderate AQ	37	23.1
118 to 134	Moderately Low AQ	72	45
117 below	Low AQ	39	24.4
Total		**160**	**100**

Table 3 exhibited social media usage score of respondents, wherein, majority or 54.4% of the respondents scored 2.50 to 3.49, which corresponds to the group who used social media "Sometimes" , followed by the group comprising of the 35% of the respondents who scored 3.50 to 4.49 and are ranked as group who use social media "Often".

Table III. Social Media Usage			
Social Media Score	**SM Level**	**Frequency**	**Percentage**
4.50 to 5.00	Always	7	4.4
3.50 to 4.49	Often	56	35
2.50 to 3.49	Sometimes	87	54.4
1.50 to 2.49	Rarely	10	6.3
1.00 to 1.49	Never	0	0
Total		160	100

The study was run through SPSS and assessed the moderating role of social media (SM) on adversity quotient (AQ) and academic performance (AP). The results revealed that social media does not influence the effects of adversity quotient on students' academic performance with *(β = 0.070, t = 0.881, p = 0.38)*. The model was not significant with *(p = 0.66)* and only 4.5% of the student's academic performance can be explained by the moderator social media and independent variable adversity quotient at *(ΔR² = 0.45)* as shown on Table 4.

Table IV. Moderation Analysis Summary				
Predictors	**ΔR²**	**β**	**t**	**p**
Model	0.45			0.66
AQ		0.204	2.601	0.010
SM		0.018	0.231	0.818
AQ*SM		0.070	0.881	0.38
Note: **p ≤ .05, Adversity Quotient (AQ), Social Media Usage (SM), dependent variable Academic Performance				

DISCUSSION

The introduction of AQ as a predictor of success brought curiosity to many researchers, educators, and many education practitioners on its impact in academic performance. AQ's influence in Academic Performance gained conflicting results, not to mention there are only a few local studies that ventured on AQ's impact on academic performance. Although the majority of the students' AQ level are moderately low followed by low AQ as shown in table one it can be explained as AQ is dependent on experience. The more adversities you encounter the higher your experience will be in overcoming these adversities thus the higher your AQ will be. High School students may have experienced lesser adversities. This could be the reason why some studies show that AQ has low to no significance in academic performance. It does not necessarily mean that if you have a high AQ you will get high grades on your academics. AQ is far from being a sole predictor of academic performance as supported by the studies of Cando and Villacastin [31]; Aslam & Ahmad, [32]; O'Connor & Little [33]; Maiquez et. al. [34]. There might be many factors and external variables that could affect or influence AQ that needs to be studied, thus as for this study the researchers looked into social media as the internet is one way to improve AQ and may influence the strength of its effect on academic performance as majority of the Filipinos uses social media in an average of 3 hours per day. It was presumed to have an influence on AQ as students will be able to gain second hand experience about academic adversities and makes it easier for them to gather information and data, interact with one another and solve academic problems that may arise and look for opportunities to bounce back from academic adversities but the result shows otherwise.

In recent years social media has become the new normal, everyone is using it to get information and it is not limited to improving academics alone so we could not really pinpoint what students are really using social media for and how it could influence AQ's impact on academic performance. Social media may not be a good variable that can influence AQ. There might be other external factors aside from social media that need to be examined like family, peers and age since AQ is dependent or influenced by how you experience and overcome previous adversities. It is also evident that AQ will change in time and social media as the new normal may be constant. People will use social media no matter if they improve or help in their adversities or not.

Another reason could be the demographics of the respondents. Adiong Memorial College Foundation Inc.

(AMCFI) is a private high school academic institution situated at Barangay Western Wao, Lanao del Sur. A rural town strategically situated on the mountains border of Bukidnon and Cotabato. A town away from the comfort of the city, with multicultural people from Ilonggos, Muslims, Cebuanos, Batanguenos and Ilocanos living in harmony. AMCFI is a 5000 sq meter school, catering to almost 1000 students of diverse culture. As a multi diverse private school, wherein 80% of the students catered are funded by the Educational Service Contracting (ESC) grants partnership program by the Department of Education (DepEd) aimed at decongesting overcrowded public junior high schools., they are composed of mostly to low-income families, students in majority may be deprived to accessibility to internet connections, wherein, most students whose parents are farm workers opted to provide food and basic needs of the family. Hence, social media may not be a vital need for most AMCFI students to gather information, communicate with fellow students and discuss academic challenges. Which could result in the outcome of the study where social media does not influence the relationship of adversity quotient and academic performance.

Limitations and Future Direction of the Study

Like all studies, this study is not without limitations. Future researchers should therefore do a wider approach, getting data from different schools and different areas in the Philippines and use a cross-cultural approach in investigating the influence of social media on adversity quotient's impact on academic performance. Furthermore, the respondents may have not experienced that many adversities in their lives as they have their parents, peers, and teachers to ask help, hence the reason for the low AQ scores. The demographics is also one thing future researchers should also consider, as the availability and accessibility of the internet is one major factor for social media usage. Making sure that the respondents profile is tailored fit for the research variables would give us reliable data that may give us substantial evidence about the moderating role of social media.

CONCLUSION

Based on the analysis and findings of the study the following conclusions were drawn. Social media may not be a good variable that can influence Adversity Quotient. There might be other external factors aside from social media that need to be examined like family, peers, age, accessibility and demographics. Adversity Quotient is dependent or influenced by how you experience and overcome previous adversities. Social Media usage may not significantly influence the adversity quotient of Junior and Senior High School Students and influence academic performance of our students. AQ is far from being the sole predictor of Academic Performance.

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