Predictive Ability of Emotional Intelligence and Adversity Quotient on Academic Performance

of USC College Students

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A Research Study

Presented

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By

Maiquez, Rowelie

Preolco, Ann Cristelle

Sausa, Lorraine

Talatagod, Katherine

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ABSTRACT

It has been a lot of decades since the dominance of IQ as measurement of learning in education. The world and its customs also change rapidly in this generation. Thus, this study intended to look into factors like emotional intelligence (EI) and adversity quotient (AQ) as predictors of academic performance to determine the possible variable that will improve the educational system for the learners to be globally competitive. To determine the EI and AQ score of the respondents, Assessing Emotional Scale (AES) of Schutte and colleague (1998), and Adversity Quotient Profile of Dr. Paul Stoltz were used to collect the data. The multiple regression analysis had resulted in an insignificant relationship both on EI and AQ towards academic performance. Though insignificant, the small percent of probability could have been caused by another factor. With this, the researchers suggest that these two factors may be studied again by future researchers in a new angle.

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CHAPTER I

Introduction

As the second decade of the 21st century unfolds, the world continuously faces drastic changes brought by new technologies, social change, and various traumatic events. These substantial changes include way of living, occupational transition and change in economic structures. According to Gysbers and Henderson (2000), these changes together with the varying personal and moral values have significant impact to education system and to the academic development of the students.

In the Philippines, despite limited financial resources, the government implemented academic programs that are in line with the global shift. One of the new implemented programs is the K to 12-curriculum, which is in accordance to the international standards. The Department of Education (DepEd) is expecting the first batch of students under K to 12-curriculum to graduate in March, 2018. Through this new 12-year curriculum, future Filipino students will be ready and better equipped to enroll in undergraduate level in local and foreign universities to become globally competent. But, before achieving this condition and be responsive to an increasingly competitive job market, academic performance of students must be considered. Maintaining high academic performance of the students is very important, especially to students who are in the adolescence stage, wherein intellectual, physical and emotional development is critical (Cox, Zhang, Johnson & Bender, 2007).

To ensure that the given core curriculum is in line with the needs of the students, we, the researchers, opted to look for variables that can have great impact on academic performance.

Most academic institutions have emphasized on developing a student's cognitive abilities by making them memorize sentences, analyze math problems, identify facts, compare objects and a lot more but there is little to none chances that a student's emotional and coping ability can be assessed and given importance as a skill that will help them improve their scholastic achievement. These factors that define this emotional and coping ability which can affect academic performance are Emotional Intelligence (EI) and Adversity Quotient (AQ). Emotional Quotient (EQ) emerged from a dissertation of Bar-On in 1988 and was later redefined as Emotional Intelligence (EI) as the ability to appraise, regulate and utilize one's own and other's emotion by Salovey and Mayer (1990). EI became a widespread topic and recent studies showed positive remark of EI to academic achievement and performance (Aslam & Ahmad, 2010; Marquez, Martin & Brackett, 2006). We, the researcher, hypothesize that aside from the factor mentioned above, the engaging construct, adversity quotient, might also play a role in academic performance as shown in the studies of HuiJuan in 2009 and Bakare in 2013. Adversity quotient is the capacity of the person to deal with the adversities of his life. As such, it is the science of human resilience" (Stoltz, 1997, p. 6). The researchers would also want to look into its applicability in the local setting like Metro Cebu and to study its relationship with academic performance. This is to gain new knowledge on which other factors can we develop to improve academic performance among Filipino students.

Literature Review

The scope of this literature review is expanded to include research that examined Emotional Intelligence and Adversity Quotient and their individual relationship to academic performance.

Emotional Intelligence. A factor believed to affect academic performance is emotional intelligence. Interaction plays a great component in a school setting. Students, in order to learn, interact and communicate not only with their instructors but also with their classmates. In this everyday phenomenon, emotional intelligence is at work but most of the time not considered to be an ability that helps a person deciphers different emotions that he or she comes across daily. Although academic curriculums focus mainly on developing and evaluating student's intelligence on a subject matter, it should not be the only factor that educators should cultivate as an advantage for the student's success in academics and future career. Most studies suggest that emotional intelligence is the key rather than IQ or intelligence itself as the basis for the most part of success in academic performance or achievement (Aslam & Ahmad, 2010; Marquez, Martin & Brackett, 2006; Nwadinigwe & Azuka-Obieke, 2012).

The following studies are the most influential works when it comes to emotional quotient and it is presented to see the transition of the emotional quotient (EQ) to emotional intelligence (EI) having the same concept but elaborated in a different way.

In 1988, Reuven Bar-On was the first person to introduce emotional quotient ("EQ") in his dissertation before it became a widespread topic through the work of Peter Salovey and John Mayer on their first model of emotional intelligence (Goleman, 2003). Bar-On defined EQ or emotional intelligence in terms of "an array of emotional and social knowledge and abilities that influence our overall ability to effectively cope with environmental demands" (as cited in Goleman, 2003, p. 4). This set of emotional and social knowledge consists of the 5 domains in his model; *intrapersonal skills*, *interpersonal skills*, *adaptability*, *stress management* and *general mood*. *Intrapersonal skill* is the ability to be aware of, to understand and to express oneself. *Interpersonal skill* is the ability to be aware of, to understand and to express to others.

Adaptability is the ability to adapt, to change and to solve problems of personal or social in nature. *Stress management* is the ability to deal with strong emotions and control one's impulses. Lastly, *general mood* is the self-motivation of the person (Bar-on, 2000a). He discussed that his EQ model first originated from the concept of Edward Thorndike's social intelligence in 1920 which is the ability to understand and manage relations with other people in different situations (Bar-On, 2006). This later on garnered a lot of research for many years (Moss & Hunt, 1927; Vernon, 1933; Wechsler, 1958; see Kihlstrom & Cantor, 2011) but failed to have a definite standard of measurement thus making it as invalid reference of intelligence as concluded by Cronbach in 1960 (Salovey & Mayer, 1990). Moreover, Bar-On's idea of EQ is more focused on the social aspect of individuals in which they can use in general communication and relationship management.

Meanwhile, Peter Salovey and John Mayer (1990), who redefined EQ to EI, pioneered the construct of emotional intelligence which suggests that it is a combination of cognitive and social aptitude. They defined it generally as the ability to understand, to interpret and regulate their own and other's emotions, and to promote a better relationship by using the information to guide their thinking and actions. Their developmental model of intelligence is comprised of four hierarchical tiers or stages that determine an individual's ability to distinguish and group emotions. In the first stage, the person learns how to recognize their own emotions and others as well as how to differentiate between expressions of emotions. In the second stage, the person utilizes emotions to assist in decision making process. The third stage is characterized by the ability to utilize emotional knowledge. Lastly, the fourth stage is characterized by the ability to handle emotions by behaviors related to the information those emotions suggest. Moreover, Salovey and Mayer had elaborate the cognitive feature of emotional intelligence in which people

can also use this not just in a social setting but may also be on themselves alone like when making decisions, interpreting situations comprehended and utilizing their EI to influence a situation. Nevertheless, their study is comprised of stages in which an individual must undergo first before the situation can be managed. In a performance, it would be more efficient if the person can immediately respond to the emotional demand of the situation rather than going into the whole process before it is dealt.

Eventually, Schutte et al. (1998) developed a self-report measure of emotional intelligence based on the first emotional intelligence model of Salovey and Mayer (1990). The scale comprises of 3 categories; *appraisal and expression of emotion, regulation of emotion, and utilization of emotion.* They stated that the original model of Salovey and Mayer (1990) covers most dimensions of the other model that can be incorporated into one global emotional intelligence factor (Kun, Balazs, Kapitany, Urban & Demtrovics, 2010). Schutte's (1998) model or self-report measure summarizes all the features of EI in one factor making the evaluation of EI simplified and convenient. Furthermore, Kun et al. (2010) mentioned that other measurements of EI (e. g. Bar-On EQ-I – see Bar-On, 2006; Mayer-Salovey-Caruso Emotional Intelligence Test V2.0 – Mayer, Salovey, Caruso & Sitarenios, 2003; Emotional Competencies Inventory-University ver. – Batista-Foguet, Boyatzis, Guillén, Serlavós, 2006) focus on the specific aspect of EI but slightly correlate to academic intelligence, has weaker linked in emotions than performance, and difficulty in determining which skills, traits and competencies belongs to the concept of EI. Moreover, AES showed evidence of predictive validity in that incoming college students' EI scores predicted their end-of-year GPA. The study also provided discriminant validity of its difference on cognitive abilities (assessed by Scholastic Assessment Test), and insignificant relationship to the big five personality dimensions (Schutte et al., 1998).

Since the study focuses on the predictability of the factors (, EI and AQ) to academic performance, EI will be operationally defined as to that of Salovey and Mayer's (1990) EI which is "the ability to monitor one's own and other's feelings and emotions to discriminate among them and to use this information to guide one's thinking and actions." but will be determined as that of Schutte's (1998) one-factor solution categorized into appraisal and expression of emotion, regulation of emotion, and utilization of emotion. This model is chosen for this study for the reason that this can already integrate all aspects of emotional intelligence in a brief and concise definition which can be implied to the general population (Schutte et al., 1998).

Therefore, to evaluate the effectiveness of EI as a predictor for academic performance, another variable called AQ was drawn as a variable of this study to have a comparison. AQ is said to be a new concept but despite that, studies showed that this construct can indicate academic success, achievement and performance (HuiJuan, 2009; Bakare, 2013; Praditsang & Hanafi, 2013).

Adversity Quotient. With EI being studied and explained on how it affects academic performance, some researchers still look for other factors. What happens when an individual has an average EI but still gets depressed when faced with adversities, will that still predict his/her academic performance?

The answer to these questions was discovered by Dr. Paul Stoltz when he asked this question while doing his own research studies, "What is it inside the rare individual and enterprise that thrives on even the most difficult circumstances, when most do not?" This led to his discovery and development of adversity quotient which opened a new door for researchers. Adversity Quotient may be new in the field of psychology, but it has easily gained popularity.

Hundreds of studies have been made globally about AQ and how it affects aspects in life (e.g. job satisfaction, learning behaviors, success, academic performance, etc.) AQ studies on how it affects academic performance are still few but produced results that can help improve education here in the Philippines since some studies to be presented are locally made.

As defined by Paul Stoltz, Adversity Quotient is "the capacity of the person to deal with the adversities of his life. As such, it is the science of human resilience" (Stoltz, 1997, p.6). It is the measure of how people act in response from daily trials to great difficulties they experience in life. AQ describes how well people can face any adversity they encounter and how well they can counter it. AQ predicts who gives up and who prevails (Stoltz 1997).

Adversity Quotient (AQ) was developed by Dr. Paul Stoltz. It was a result of 19 years of research and 10 years of application. It was a major breakthrough in understanding what it takes to succeed (Stoltz, 1997). AQ was first introduced in Stoltz's book *Adversity Quotient®: Turning Obstacles into Opportunities* in 1997. It is believed to be a better indicator in achieving success instead of Intelligence Quotient (IQ), education or even social skills.

The building blocks or foundation of AQ are Cognitive Psychology, Neurophysiology and Psychoneuroimmunology. With the integration of these three came AQ which resulted in the new understanding, measure and set of tools that can help enhance human efficiency with work, studies, and increase the probability of success in an individual's life.

Adversity quotient has four dimensions which measures the AQ of an individual. These are Control, Ownership, Reach, and Endurance embodied in the acronym C.O.R.E.

Control is the degree to which one perceives they can influence whatever happens next. It influences the direction of action, amount of effort, level of perseverance and resilience. It

determines resilience, health, and tenacity. People with high score on control will have better control of any adverse situation they may encounter.

Ownership is how much one feels accountable to improve the adverse situation. This determines accountability, responsibility, action and engagement. People with high score on ownership will feel accountable of the situation they are in. they will take responsibility, learn from that experience and change strategy to try a new route and take action.

Reach is the degree to which one perceives an adversity will affect other aspects of their life. It determines burden and stress; it tends to have a cumulative effect. People with high reach scores see the adversity in a different view. They do not allow the adversity to hinder other parts of their life. They believe adversity caters to only that particular situation and does not impact other aspects of life.

Endurance is the duration the individual perceives the adversity will last. It determines hope, optimism, and willingness to persevere. People with high endurance score find that adversities are temporary and believe that there is always a solution to overpower the adversity.

Emotional Intelligence and Academic Performance. From past decades, emotional intelligence received a lot of attention and researches from different settings like in primary, secondary, and college setting, human services agencies, business schools, organizations and corporations (Buford, 2001). It was also known that emotional intelligence can be develop and enhance unlike IQ that is already fixed (Goleman, 2003). Although that is the case, further research in relation to other construct are needed to establish this concept as an indicator for success. The following studies show that a person's EI has a significant relevance to high academic performance.

Ogundokun and Adeyemo (2010) showed that emotional intelligence had a significant correlation to that of academic achievement on students in secondary level. It was mentioned in their study that competences like self-regulation, intrapersonal skill and interpersonal skill could have been the reason for attaining academic success especially if the student knows how to use emotional information to seek academic assistance from teachers or classmates. Although their study focuses on academic achievement, this is not far from the idea of high academic performance for high achievement is the product of their performance in scholastic area.

Likewise, the study of Nwadinigwe and Azeka-Obieke (2012) on the impact of emotional intelligence on academic achievement showed that students exposed to an emotional-learning system had a more positive impact on their academic performance than those in a peer monitoring and control groups. Their study also suggested that emotional-learning system is an appropriate curriculum intervention program that can develop the emotional intelligence skills of the students which plays an important role on their academic achievement.

Moreover, Maraichelvi and Rajan (2013) found out that emotional intelligence can significantly predict academic achievement of college students. They also suggest that curriculum developers should integrate emotional intelligence into the curriculum in colleges as to help the students and even the teachers tackle the obstacles that hinder learning by motivating and enlightening them through appropriate counseling and intervention programs. Since college is the training ground for workplace, it was mentioned that schools and admission test should not only put emphasis in developing a student's cognitive abilities but also the emotional skills since there are demanding careers that may require a high emotional function and stability.

On the contrary, "Yılmaz (2007) and Diken (2007) concluded that there is statistically no significant relationship between academic achievement and emotional intelligence level of students and their total scores of emotional intelligence while Arlı *et al.* (2011) found that the levels of emotional intelligence vary significantly according to many variables such as graduated faculty, non-thesis master's program attended, gender and perspective on life."(Durgut, Gerikan & Pehlivan, 2013, p. 65).

However, there is a lack of empirical evidences that can validate the impact of EI on success (Matthews, Zeidner, & Roberts, 2002). Waterhouse's (2006) critical review on EI claimed that application of new theories lacking a sound empirical support can only do so little to the improvement of student learning even if the theory stimulated excitement and a promising effect on its application. In response to the critical review, they explained that EI is a young theory that is in a hypothesis-testing stage in which evidences are still ongoing (Cherniss, Extein, Goleman, & Weissberg, 2006). Goleman also claimed that EI is only a key factor to success but it is still unknown whether it is the best predictor among the various factors affecting academic performance.

Adversity Quotient and Academic Performance. As the objective of the study is to see the relationship of AQ to academic performance, here are some studies conducted with regards to AQ affecting academic performances. These are all recent since study on AQ and academic performance is still young and is still currently being ventured.

HuiJuan's (2009) and Bakare's (2013) studies both aimed to know the adversity quotients of their participants. They aimed at finding if there is a significant relationship between adversity quotient and academic performance. The two studies both included age and gender as other

factors that affect adversity quotient which was proven to be of no effect. In HuiJuan's study, most participants had low AQ while with Bakare, most had moderate AQ scores. They may have different outcomes with regards to the adversity quotient of their participants; still they both have come up with the same results. They both have shown that adversity quotient has a significant relationship with academic performance. As AQ increases, the academic performance of an individual also increases.

A study made by Praditsang and Hanafi (2013) examined the relationship between adversity quotient and learning behaviors while Cornista and Macasaet (2013) investigated the relationship between adversity quotient and achievement motivation. Both studies examined the adversity quotients of the participants and other factors, such as age and gender, which they assumed to have significant relationship with adversity quotient but was proven to be of no effect. Majority of Praditsang and Hanafi's participants have high AQ scores while Cornista and Macasaet's had low AQ scores in majority. Both studies used fourth year students as participants. When comparing the CORE dimension scores of both studies, Praditsang and Hanafi's participants scored high on most dimensions except on Control while Cornista and Macasaet's participants scored average on Control while having below average scores on the rest, thus marking their difference in AQ scores.

Praditsang and Hanafi (2013) aimed at examining the significant relationship between adversity quotient and learning behavior which the study have proven to be significant. On the other hand, Cornista and Macasaet aimed at investigating the achievement motivation of students in relation to their adversity quotient. This study yielded a positive relationship between the two factors. Looking at their results and the two studies on adversity quotient and academic

performance, AQ can predict academic performance and other factors that could also affect it like learning behavior and achievement motivation.

Synthesis

This chapter looks into the relationship of emotional intelligence and adversity quotient on academic performance and how it can also affect academic performance. From the above related literature, we can see that most of the studies tried to explain and discover the significance of EI and AQ to a person's academic performance. Many of the researches used are foreign related studies as only a few local studies have been made relating to the topics used for this research.

However, for the present study, the researchers choose a new field as basis, integrating all the variables presented above: studying the relationship of EI and AQ to academic performace and if one of them can be the better predictor. This study could unlock new knowledge that can be helpful not just to the students but also for the parents, teachers and academic institutions.

Conceptual Framework

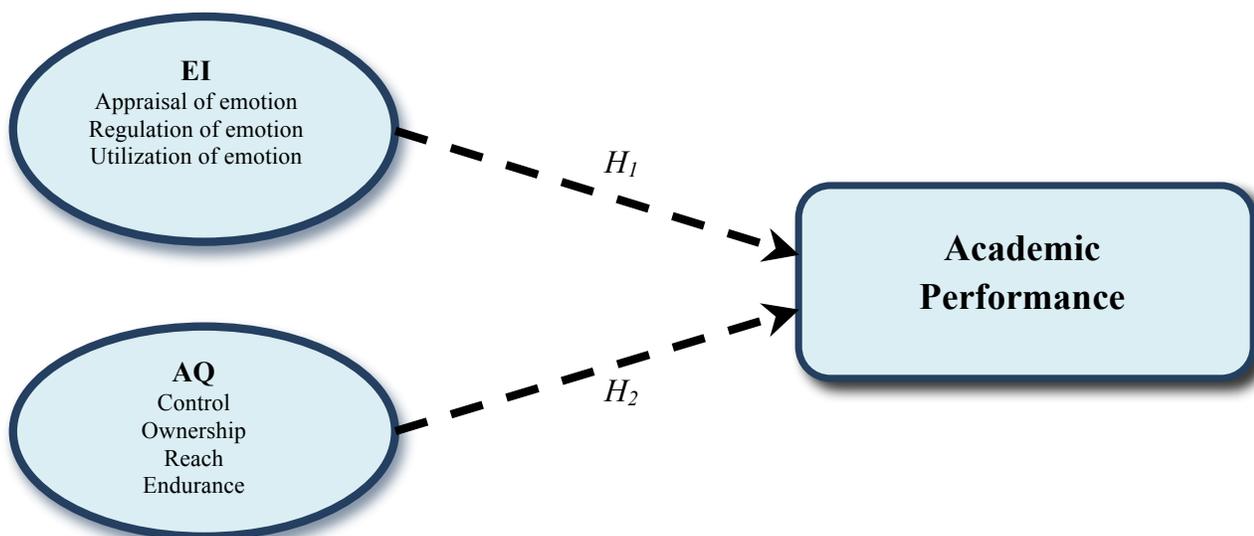Figure 1. Conceptual Diagram of the 2 Factors to Academic Performance

Figure 1   The conceptual diagram shows the factors EI and AQ predict Academic Performance.

In the past years, there have been a lot of studies affecting academic performance. Some of which is emotional intelligence (Aslam & Ahmad, 2010; Marquez et al., 2006; Nwadinigwe et al., 2012). IQ has been one of the factors assumed to be a good predictor, however, when studies were done, many researchers suggested that IQ alone is a weak factor for academic performance (Murray & Wren, 2003; Francis et al., 2005). Thus, other factor like AQ came up (Stoltz, 1997) which can be considered as one of the latest construct affecting academic performance. In lieu with that, this study is going to explore the relationship of EI and AQ on academic performance.

Generally, EI is the ability to perceive one's and other's emotions as well as understand, interpret and regulate these emotions to promote better social relationships. As for this study, the EI will be operationally defined as that of Salovey and Mayer but will use the components of Schutte and her colleagues (1998) in their AES scale. The AES or Assessing Emotion Scale consists of 3 categories: appraisal of emotion, regulation of emotion and utilization of emotion. The category, regulation of emotion, has 2 subcomponents; regulation of own emotion and regulation of other's emotion. The overall score of the 33-item scale will be used to determine the EI of the participant and it will be correlated to their academic performance using their GPA for the last semester.

Adversity Quotient is a new field being explored by researchers nowadays. It is discovered by Stoltz and he defines AQ as "the science of human resilience" (Stoltz, 1997, p.6). It is the capacity of an individual to cope up with the different adversities in life. AQ has four

dimensions with it namely Control, Ownership, Reach and Endurance (CORE). If one scores highly on the CORE dimensions, then he or she has a high Adversity quotient. In this study, researchers would look into the AQ of the students and compare it with their academic performance, thus looking into their possible relationships.

With these two factors being explained on how they can affect one's academic performance, this study would not only look into individual relationships of these factors but also correlations between them and how they affect the academic performance of the students.

Statement of the Problem

The researchers broaden the scope of this study by exploring the possibilities that EI and AQ can be new predictors of academic performance. As it is possible to have both factors predict academic performance, the researchers would also look in the probability that one of the two is a better predictor. According to a study of Battle & Lewis (2012), to become globally competent, one must ensure the acquisition of knowledge and skills that enable the individuals to increase their productivity and improve their quality of life. It suggests that knowledge alone or skills alone cannot be a sole predictor of having academic performance. This was supported by the study of Duckworth & Seligman (2005) which stated that intellectual strengths and non-intellectual strengths (motivation, self-discipline, etc.) both contribute to a students' academic performance. The two variables used have their own different domains. Knowing this essential information can help individuals imply failure or success in their academic performance. Thus, the researchers came up with the following research questions:

1. Can Emotional Intelligence and Adversity Quotient predict academic performance?
2. Which among the two can be a better predictor of academic performance?

    a. Adversity Quotient

    b. Emotional Quotient

<div align="center">Hypothesis</div>

These are the following hypothesis presented in the conceptual diagram and the assumptions that are made in this study.

1. H_o: Emotional intelligence cannot predict an individual's academic performance.

   H_a: Emotional intelligence can predict an individual's academic performance.

2. H_o: Adversity quotient cannot predict an individual's academic performance.

   H_a: Adversity quotient can predict an individual's academic performance.

CHAPTER II

Methods

Finding an appropriate method for a research is essential and it needs a logical,

systematic process. Quantitative research is a mathematical tool that makes use of numerical data

and hermeneutical data such as test scores and other measures of performance that explains,

predicts and/or control field of interest by deducting the procedure for data analysis (Badmus,

Okonkwo, & Okoh, 2012). In this study, quantitative research design was used to obtain a

statistical result among the variables presented and determined the significance of EI and AQ in

relation to academic performance.

Participants

The total sample of this study is 208 students from different colleges and year levels of

the University of San Carlos. The respondents consisted of 11 females and 33 males from the

College of Engineering; 20 females and 15 males from the College of Architecture and Fine

Arts; 14 females and 1 male from the College of Education; 15 females and 17 males from the

School of Law and Governance; 16 females and 15 males from the School of Business and

Economics; 17 females and 20 taken from the College of Arts and Sciences; and 9 females and 5

males from the School of Health Care Profession. The GPA of each participant varied from low

to high. High performers are students who made it to the Dean's List having a GPA within the

range from 1.0 to 1.70. Average performers are students who have a GPA within the range from

1.71 to 3.0 while the low performers are students who have a GPA within the range from 3.01 to

5.0. GPAs are based from the students' perceived grade point average on the first semester of the

academic year 2014 - 2015. Stratified random sampling was used for the sample population of

this study. *The number of sample population was reduced to 198 from being 208 since some data from the respondents are void and incomplete.*

Measures

There were three variables presented in this study; EQ, AQ and perceived academic performance. The measurements and tools used to collect the data for the analysis of the null hypothesis and alternative hypothesis of the study is explained in this section.

Emotional Quotient. To measure emotional quotient or emotional intelligence, the AES or Assessing Emotion Scale was used. AES in some literature is called the Emotional Intelligence Scale, the Schutte Self-Report Intelligence Scale, or the Schutte Emotional Intelligence Scale, either which it is still the measurement Schutte and her colleagues developed from Salovey and Mayer's (1990) original EI model (Schutte, Malouff, & Bhullar, 2009). This tool consists of 33 items self-report measure focusing on typical emotional intelligence. It comprises of three categories: appraisal and expression of emotion, regulation of emotion and utilization of emotion. Under the regulation of emotion, there are two subcomponents for regulating owns emotions and other's emotions. Respondents were asked to answer a 5 point Liker-type scale ranging from "1 – Strongly Disagree" to "5 – Strongly Agree" having some sample statements such as "I am aware of my emotions as I experience them." and "By looking at their facial expressions, I recognize the emotions people are experiencing." (See Appendix B).

The AES has been used and written several times over 200 publications as listed in PsycINFO database ever since it was released (Schutte et al., 2009). In the development sample of 346 participants, Schutte et al. (1988) reported the internal consistency of AES having Cronbach's alpha of 0.90. For the diverse samples across different studies, the mean alpha is

0.87 for the 33 item scale (Schutte et al., 2009). A test-retest reliability was also conducted and it showed a .78 result for the two-week interval administration. For evidence of validity, a longitudinal study was conducted to test whether the scores on the emotional intelligence measure would predict college students' success in their first year. Results showed a significant predictability validity outcome of the students' GPA at the end of the year, $r(63) = 0.32$, $p< 0.01$. *In this study with 208 participants from University of San Carlos, the gathered Cronbach's alpha was 0.821, which showed a good internal consistency of the 33 -item scale of AES*. For scoring and category identification, Ciarrochi, Chan and Bajgar (2001) found out that items 5, 9, 15, 18, 19, 22, 25, 29, 32 and 33 make up for perception or appraisal of emotion. Items 2, 3, 10, 12, 14, 21, 23, 28 and 31 make up for managing or regulating own emotion. Items 1, 4, 11, 13, 16, 24, 26 and 30 make up for managing other's emotion. Finally, items 6, 7, 8, 17, 20 and 27 make up for utilization of emotion. Item 5, 28 and 33 are reverse scored as noted by Schutte et al. (1998).

Adversity Quotient. Adversity Quotient Profile® or AQP® was used to measure the respondents' adversity quotient. This widely-used tool was designed by Paul Stoltz who developed adversity quotient. The AQP is an online and interactive questionnaire in its standard form. With the permission and supervision from Peak Learning, the specialized direct link was given and was used for this study. As for a sample of the questionnaire, a contract from the Peak Learning limits the inclusion of the AQ Profile in the appendix of this study. Moreover, scoring of AQP was released solely by the Peak Learning.

With regards to reliability and validity, scores, together with its four sub cores, have high Cronbach alpha scores, ranging from 0.80-0.82 with the sub cores and 0.91 on AQ itself. According to the validity study done for AQP, it was proven to be strongly valid as its sub core

does measure aspects relating to adversity quotient. *The local internal consistency of the subset –*

Control had a Cronbach's alpha of 0.834 which shows a good internal consistency. The subset-

Ownership shows an excellent internal consistency with a Cronbach's alpha of 0.90. The items

under the subset Reach and Endurance had a good internal consistency with Cronbach's Alpha

of 0.827 and 0. 0.80 respectively.

Academic Performance. Since Academic performance can be measured several different ways,

the researchers in this study chose academic grades as a standard that illustrates student's

academic performance. Academic performance in university or educational institutions is a

measure of accomplishment or success of a student in accordance to the standards set or required

by the institution where a student belongs (Han et al., 2011). It is a measure how well a student

meets the standards in all academic subjects taken in a specific term or semester. In this study,

academic performance refers to the Grade Point Average or GPA of each student. Teaching-

learning is a process wherein knowledge is imparted, nurtured, developed and tested in school.

On the part of the students, the success of this process is measured through students' Grade Point

Average (GPA). Thus, GPA is the measure of failures or success of completion of the enrolled

units or subjects (Han, et al., 2011). It is a numeric worth or value of all the computed grades for

each subject. In this study, self-report GPA was asked and used as reference of each respondent's

GPAs. This can be seen in their GPA which is based on the grading system adopted by

University of San Carlos. A grade of 1.0 – 1.2 is remarked as excellent, 1.3 – 1.9 as very good,

2.0 – 2.7 as good, 2.8 – 3.0 as fair and 3.0 – 5.0 as failure. Since all respondents will be students

from University of San Carlos their academic performance will be based on their self-report

GPA. This was the most convenient way for the respondents. Its reliability might be questioned

but according to some research, like Kuncel, Crede & Thomas's (2005) study, the correlation

between self-report GPA and actual achievement among university students was r = .90, p <

.001. *In the local internal consistency, results showed that Self-report grade point average*

(GPA) and Actual grade point average (GPA) were significantly correlated, r =.97, < .05 (See

Appendix D).The pearson's r value implies a very strong positive relationship. Thus it has been

proven to be a useful substitute of the actual GPA (King & Gaerlan, 2013).

Procedure

      Students were asked of their approval to participate in the study. A consent form was

given to the participants before the administrations of the tests and they were informed of the

confidentiality of the test questionnaire (See Appendix B for Consent Form). Participants took

the test in a study lounge in the school campus. A demographic profile was filled-up before they

answered two written questionnaires (AES and AQP®) which needed to be finished for more or

less than twenty minutes (See Appendix C for Demographic Profile). Participants were informed

about the tests they took and that they may contact the researchers if they wish to know their

results. Data from the tests were used and encoded for analysis in the SPSS ver. 20.

Data Analysis

      The researchers used Multiple Regression Analysis as the statistical procedure to analyze

the quantitative data collected. This procedure was used to determine the individual relationship

of the two variables namely Emotional Intelligence (EI) and Adversity Quotient (AQ) to

academic performance of the students. It was also used to analyze which among the two

variables is the best predictor of academic performance. Moreover, the researchers also

considered the correlation of the two variables, whether it can still predict academic performance

after controlling the influence of each independent variables and the relationship of each

independent variables to academic performance

CHAPTER III

Results

This chapter presents the results of the study which looked into whether emotional intelligence and/or adversity quotient can predict academic performance. A multiple regression analysis was conducted to evaluate which of the two independent variables can predict academic performance. Section A includes the means and standard deviations of each variable. Section B shows the correlations of the variables and multiple regression analyses results including the subsets under emotional intelligence and adversity quotient. Furthermore, Section C shows the relationship of the main variables to gender.

A. Descriptive Statistics

Table 1

Summary of Means and Standard deviations of GPA, EI, and AQ, of Male and Female (NT=198)

Variables	Gender	N	Mean	Std. Deviation
GPA	Male	99	2.06	0.49
	Female	99	1.99	0.41
	Total	198	2.02	0.46
EI	Male	99	119.26	10.77
	Female	99	123.60	10.87
	Total	198	121.43	11.00
AQ	Male	99	122.35	16.23
	Female	99	124.43	17.17
	Total	198	123.39	16.70

Note. GPA= grade point average, Highest GPA=1.0, Lowest GPA=5.0; EI= emotional intelligence; Highest EI=165, Lowest EI= 33; AQ = adversity quotient, Highest AQ =176-200, Above Average = 158-175, Average = 136-157, Below Average = 119-135, Low = 40-118.

Table 1 showed the descriptive statistics of the variables. Participants were 198 students from the University of San Carlos (Male= 99; Female= 99). The average self-report GPA or grade point average of the male students from USC was 2.06 (*SD* = of 0.49). On the other hand, female has an average GPA of 1.99 (*SD* = of 0.41). Female Carolinians has higher GPA compared to the male. From the total sample, the mean self-report GPA is 2.02 and the standard deviation is 0.46, these results indicate that most of the data are clustered around the mean and only few self-report GPA tends to be extremely high or low. The mean score for Emotional Intelligence (EI) of male was 119.26 and a standard deviation of 10.77 and female has an average score of 123.60 and 10.87 standard deviation. The result shows that female has higher scores of EI compared to male. The scores for EI were converged close to the mean (*M*= 121.43; S*D*= 11.00). Lastly, the average adversity quotient score of male was 122.35 (*SD*= 16.23). The females' average AQ score was 124.43 (*SD*= 17.17), which denotes that the scores garnered of the respondents in terms of AQ was far from each other.

B. Correlation and Multiple Regression Analysis

Table 2.1

Intercorrelations among GPA, EI and AQ

	Mean	1	2	3
GPA	2.0	1	-0.055	-0.087
EI	121.42		1	0.080
AQ	123.40			1

Correlation deals primarily with the magnitude and direction of relationships. The table showed the correlation between the main variables (EI and AQ) with the dependent variable (GPA). Values incurred imply that EI and AQ have a very weak correlation with the GPA. Both of the main variables have a negative correlation with the GPA which shows an inverse relationship.

Table 2.2

Means and Intercorrelations among GPA and subsets of EI and AQ (n=198)

	Mean	1	2	3	4	5	6	7	8
GPA	2.02	1	.080	-.186**	-.031	.053	.132	-.008	-.009
AQ									
Control	33.56		1	.060	-.277**	.033	.136	.068	.071
Ownership	32.75			1	.152*	-.132	.010	.091	.117
Reach	24.67				1	.252**	-.019	.024	.026
Endurance	32.78					1	.082	.096	-.002
EI									
E1	36.21						1	.514**	.274**
E2	34.12							1	.308**
E3	17.40								1

Note. E1=appraisal of emotion; E2= regulation of emotion; E3= utilization of emotion. *p<0.05, **p<0.01

Correlation is a measure of statistical relationship between two variables. This means that two or more variables tend to occur at about the same time and might be associated with each other but this doesn't imply causation. The table showed how variables including subsets are intercorrelated with each other. Only the correlation of Ownership to Reach has a significant correlation, r = -0.152, p < 0.05. The table also showed that Ownership has a significant correlation to GPA, although it was not following the continuum, r= -.186, p < 0.01. Likewise the correlation between Control and Reach, r= -.277, the correlation between Reach and Endurance, r-.252, the correlation between E1 and E2, r = .514, E1 and E3, r = .274, and E2 to E3, r = .308, were only significant at alpha level of 0.01, respectively. Having a positive correlation means that when one variable increases or decreases, the other variable also increases

or decreases. On the other hand, the negative correlation implies an inverse relationship, that

when one variable increases, the other variable decreases or vice versa.

Table 2.3

Multiple Regression Analysis with GPA as dependent variable and EI and AQ as independent variables (n=198)

	GPA		
Variables	Unstandardized Coefficients		Standardized Coefficients
	B	Std. Error	Beta
(Constant)	2.523	.409	
AES	-.002	.003	-.045
AQ	-.002	.002	-.082
R^2	.010		
F	.942		

p<.05

Multiple regression analysis was used to test if the variables (AQ and EI) significantly

predicted GPA. The results of regression showed that only 1% of the total variation (R^2= .010,

F=0.94, p<.05) of the dependent variable (GPA) can be explained by the predictors (AQ and EI).

The results reject the alternative hypotheses which are emotional intelligence can predict an

individual's academic performance and adversity quotient can predict an individual's academic

performance.

Table 2.4

Multiple Regression Analysis with GPA as dependent variable and subsets EI and AQ as independent variables (n=198)

Variable	Unstandardized Coefficients		Standardized Coefficients
	B	Std. Error	Beta
(Constant)	1.68	0.41	
Control	0.01	0.01	0.10
Ownership	-0.01	0.00	-0.19*
Reach	0.00	0.01	0.02
Endurance	0.00	0.01	0.02
E1	0.02	0.01	0.19*
E2	-0.01	0.01	-0.10
E3	-0.01	0.02	-0.03
R^2	.064		
F	1.845		

Note. E1=appraisal of emotion; E2= regulation of emotion; E3= utilization of emotion. *p<.05

The table indicated that among the subsets, ownership (subset of AQ) and E1 (subset of EI) incurred the highest standard beta coefficient. This means that they have a greater impact to the dependent variable. GPA and ownership has a negative relationship, which means that the lower the score on ownership the higher the GPA. On the contrary, the GPA and E1 has a positive relationship, which means that the higher the score on E1 the higher the GPA. The results of regression analysis showed that 6% of the total variance (R^2= .064, F= 1.85, p<.05) of the dependent variable (GPA) can be explained by the predictors. This means that among the subsets of EI and AQ, only ownership has a significant correlation to GPA.

Table 2.5

Stepwise Multiple Regression Analysis with GPA as dependent variable and subsets EI and AQ as independent variables (n=198)

Model		t	Sig.	R	R^2
1	Ownership	-2.649	.009	.186	.035

Stepwise multiple regression is used to know which of the predictor variables best predicts the dependent variable. It is a process of building a model by successively adding or removing variables based solely on the t-statistics of their estimated coefficients. It turns out that among the subsets, the Ownership has the greatest impact on GPA. The coefficient of determination is 0.035. This means that only 4% of the total variance (R^2= .035, p<.05) of the GPA can be explained by the subset Ownership.

C. Additional Data

Table 3.1

Independent Sample t-test result between Gender in terms of GPA

		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
				t-test for Equality of Means		
GPA	Equal variances assumed	2.20	196	0.039	0.078	0.065
	Equal variances not assumed	2.20	189.11	0.039	0.078	0.065

Independent sample *t* tests were conducted to show the difference between the scores of male and female in terms of GPA, EI and AQ. For GPA, there is a significant difference between the scores of male and females. Females ($M = 1.99$, $SD = .41$) have higher GPA than males ($M = 2.06$, $SD = .49$), t (198) =2.20, p = 0.04.

Table 3.2

Independent Sample t-test result between Gender in terms of EI

		t-test for Equality of Means				
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
EI	Equal variances assumed	2.82	196	0.005	4.33	1.54
	Equal variances not assumed	2.82	195.98	0.005	4.33	1.54

The table above shows that females (*M* = 123.60, *SD* = 10.87) scored higher than the

males (*M* = 119.26, *SD* = 10.77), *t* (198) =2.82, p = 0.01. There is a significant difference

between the scores of male and female in terms of emotional intelligence.

Table 3.3

Independent Sample t-test result between Gender in terms of AQ

		t-test for Equality of Means				
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
AQP	Equal variances assumed	0.88	196	0.38	2.08	2.37
	Equal variances not assumed	0.88	195.38	0.38	2.08	2.37

In contrast to the incurred significant values of GPA and EI, the AQ scores for both genders are not statistically significant. Male (*M*= 122.35, *SD*= 16.23) and female (*M*= 124.43, *SD*= 17.17) did not differ significantly on their AQ scores, *t*= 0.88, *p*= 0.38. This result between AQ scores and gender is consistent with studies of HuiJuan's (2009) and Bakare's (2013) which both proven that gender has no effect to AQ scores.

CHAPTER IV

Discussions

The intent of this study is to know the correlation and predictive ability of the two

factors, EI and AQ, to academic performance. Results showed that the variables EI and AQ are

not correlated to academic performance. The same results are generated when the subsets are

used. With regards to regression process, neither EI nor AQ predicts academic performance.

These results then reject the two alternative hypotheses: EI and AQ can predict an individual's

academic performance. The results for EI and GPA supported the studies of Marquez et al.

(2006) and Shipley, Jackson and Segrest (2010) that although it may have positive associations

with academic grades it does not guarantee that EI alone can predict academic performance.

According to Mayer and Salovey (1997), there were few studies so far regarding the predictive

ability of EI to the different aspects of life by that time. Nowadays, a lot of researchers have

already tried to confirm its predictability and it turns out that EI is not a strong predictor of

academic performance or achievement regardless of any type of tools to measure it (Aslam &

Ahmad, 2010; O'Connor & Little, 2003). Same result was generated in this study using Schutte

et al. (1998) Assessing Emotion Scale which supports the null hypothesis which states that it

does not predict academic performance regardless of its positive remarks to academic success.

Moreover, the insignificant result of EI predicting academic performance is consistent

with the study of Beauvais, A.M. and colleagues (2013). They found out that emotional

intelligence was not related to academic success, in which they also measured academic success

by the GPA of the undergraduate nursing students. Also, in the study of Ahammed et al. (2011),

revealed that academic success (as measured by GPA) was not correlated to overall emotional

intelligence. According to Ahammed et al. (2011), alternative variable must be considered when evaluating relationship between emotional intelligence and academic performance since the said variables do not necessarily capture all the aspect that may directly contribute to academic success. Cleary et al., (2008) suggested that achievement goals, motivation and self-regulation of the students must also be considered.

With regards to the non-predictability of AQ, the results are also consistent with the studies of Cando and Villacastin (2012) in which they concluded that Adversity Quotient (AQ) and Emotional Quotient (EQ) do not affect the outcome and performance and suggested that AQ is a predictor of success but it cannot predict academic performance. They might be other mediator variable and or external factor that accounts the significant effect of AQ to academic performance. For instances, the study of Masten and colleagues (1995), McGinty (1999) and Fuller (2001) denoted that social support plays an important factor in developing resilience in which affect the academic achievement and performance of students. This is because social support offers the availability of individuals' first source of reference which are family and friends that could help and protect them in difficult circumstances. Through the support they received from their parents and friends they tend to cope up easily with disturbances, in which they can still excel in their academic life (Cutrona, et.al, 1994; Holahan et al., 1995; & Domagla-Zysk, 2006). Therefore, students must first gain social support to develop resilience and AQ in order to perform well in school.

Furthermore, the additional data generated showed results when gender was drawn out as a variable for analysis. Both gender showed significant difference towards two variables, GPA and EI while gender and AQ did not show statistical significance. Statistics showed that females

have higher GPA and EI scores than males. This implies that gender can have effects on GPA scores and EI and no effect on AQ scores.

In summary, this study shows that neither EI nor AQ can predict academic performance. Studies like Cando and Villacastin (2012); Aslam & Ahmad, (2010); O'Connor & Little, (2003) have supported the results of this research study. To improve the predictive ability of these two variables could mean mediation from other factors like social support and achievement motivation. Studies show that students who gain social support develop higher resilience and AQ thus also improving in academic performance (Cutrona, et.al, 1994; Holahan et al., 1995; & Domagla-Zysk, 2006). Preeti (2013) also suggested 8 factors that may affect EI to academic achievement. These are emotional literacy, academic understanding, affective domain building, self assessment, pressure handling, parental guidance, performance evaluation, and academic motivation from mentors, parents and academicians to allow the child to understand the importance of awareness of emotions in our life. Cleary et al., (2008) has also suggested that goal achievement and self-regulation of the students must also be considered for predicting academic performance while Tella (2007), Turner et.al. (2009) and Remali et.al. (2013) suggested motivation.

The results of this study along with the previous researches strengthen the claim that for one to succeed with academic performance, a combination of factors must be gained and developed well. Intelligence quotient alone cannot guarantee good academics. It also takes emotional intelligence and adversity quotient combined with other underlying factors like social support and motivation to gain that good academic performance.

Significance

Almost everyone in the world experienced being a student. In the Philippines, education

is most valued since Filipinos believed that education is the key for success. Thus, this study

gives supplementary information regarding education, and the recent concepts that revolve in

improving an individual's academic performance and success.

The introduction of adversity quotient (AQ) in this study paves a new road for future

researchers; as AQ with regards to academic performance is still being ventured with only a few

available local researches. Moreover, this study has provided additional information regarding

the level of emotional intelligence and adversity quotient of Filipino students with regards to

their academic performance.

For educators, educational psychologist and curriculum developers, this study gives new-

found insight that for schools and institutions to produce a globally competent student, they

should take into consideration the development of emotional and coping skills as it has been

studied to be of great advantage in academic field and beyond (Collins, 2013); (Santiago, 2010)

and (Hogan, Parker, Wiener, Watters, Wood, & Oke, 2010). This insight might direct them in

developing effective programs and courses that develop and hone students' emotional

intelligence and adversity quotient.

For researchers, this study produces additional information regarding the variables

presented. Studies have shown that EI and AQ predicts academic performance, however the

contrasting results gained from this study can serve as basis of new studies in the field of

emotional intelligence and adversity quotient. And although insignificant, the results suggest

that the small probability of the two factors still has a small effect on academic performance. This small effect could have been caused by another variable which might create new arguments in the field thus giving birth to new studies and expanding the literature with regards to EI, AQ and academic performance.

Scope and Limitation

These limitations of the study can be taken into consideration to better improve future researches regarding this topic. First, this study has been limited only to the students of the University of San Carlos. Having participants only from one kind of community can affect the results as they are not as diverse as having participants from different schools. Second, the study has its focus on two independent variables only namely emotional quotient (EQ) and adversity quotient (AQ) and one dependent variable which is the academic performance. The study also has been limited to looking into the predictability of these two factors with regards to academic performance. The researchers also used gender as additional data but only to the point where the study is concern. Third, researches relating EQ to academic performance has been well supported while AQ relating to academic performance is still young and is being ventured nowadays by researchers. The literature available is still few.

Recommendations

As a result of this study, the researchers recommend that the following suggestions may be taken in to consideration.

Results could have been more reliable and valid if participants were taken at least from different universities and colleges in the province. That way, external variables like exclusive

custom, social status, economic status and teaching system can be eliminated from being extraneous variables. The distribution of questionnaires to respondent should also be given in a convenient time and place for the participants to make sure that their answers are honest and carefully chosen.

From here on, future studies would be advised to add other variables that are believed to affect academic performance. This may have different results thus giving another story for researchers and readers to ponder. Change of approach, like studying the mediation effect, is also recommended so as to see diverse types of relationship of the variables being used. Further studies would either contrast or support the results gathered. Moreover, these results would be used to further explain the predictability of emotional intelligence and adversity quotient to academic performance and on how these factors can be used to improve academic performance.

Conclusions

Although results yielded that emotional intelligence (EI) and adversity quotient (AQ) do not predict nor correlate with academic performance using grade point average (GPA) as a basis, this shows that having only one factor cannot determine a person's academic performance but it involves a combination or perhaps a mediation of other important factor. According to Goetz et al., (2005), there are several possible pathways by which emotional intelligence may influence academic performance. It can be mediation between emotional intelligence and another factor that can influence academic performance. MacCann and his colleagues (2011) concluded that coping styles mediate the relationship between emotional intelligence and academic success. They found out that problem-focused and emotion-focused coping scales had significantly meditate the relationship of emotional intelligence to academic performance or GPA of students. Lopes, Salovey, and Strauss (2003) also suggested that social support was involved in the

relationship of emotional intelligence and academic performance. They revealed that the ability to maintain social relationship is important in maintaining high emotional intelligence in which can result in performing well in schools. Furthermore, in the relationship between AQ and academic performance, social support plays as an important factor (Masten et al., 1999). This study also provided similarities and contradiction to previous researches regarding gender and their EI and AQ scores (HuiJuan, 2009) and (Bakare, 2013). Future researchers may look into these contradictions as to why such results occurred and if it has something to do with fast changes in the gender role of the younger generation.

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APPENDICES

Appendix A

ASSESSING EMOTION SCALE

(AES)

NAME:_____   DATE:_____

Instructions: Indicate the extent to which each item applies to you using the following scale:

> 1 = strongly disagree
> 2 = disagree
> 3 = neither disagree nor agree
> 4 = agree
> 5 = strongly agree

1. I know when to speak about my personal problems to others.

2. When I am faced with obstacles, I remember times I faced similar obstacles and overcame them.

3. I expect that I will do well on most things I try.

4. Other people find it easy to confide in me.

5. I find it hard to understand the nonverbal messages of other people.*

6. Some of the major events of my life have led me to re-evaluate what is important and not important.

7. When my mood changes, I see new possibilities.

8. Emotions are some of the things that make my life worth living.

9. I am aware of my emotions as I experience them.

10. I expect good things to happen.

11. I like to share my emotions with others.

12. When I experience a positive emotion, I know how to make it last.

13. I arrange events others enjoy.

14. I seek out activities that make me happy.

15. I am aware of the nonverbal messages I send to others.

16. I present myself in a way that makes a good impression on others.

17. When I am in a positive mood, solving problems is easy for me.

18. By looking at their facial expressions, I recognize the emotions people are experiencing.

19. I know why my emotions change.

20. When I am in a positive mood, I am able to come up with new ideas.

21. I have control over my emotions.

22. I easily recognize my emotions as I experience them.

23. I motivate myself by imagining a good outcome to tasks I take on.

24. I compliment others when they have done something well.

25. I am aware of the nonverbal messages other people send.

26. When another person tells me about an important event in his or her life, I almost feel as though I have experienced this event myself.

27. When I feel a change in emotions, I tend to come up with new ideas.

28. When I am faced with a challenge, I give up because I believe I will fail.*

29. I know what other people are feeling just by looking at them.

30. I help other people feel better when they are down.

31. I use good moods to help myself keep trying in the face of obstacles.

32. I can tell how people are feeling by listening to the tone of their voice.

33. It is difficult for me to understand why people feel the way they do.*

Note: The authors permit free use of the scale for research and clinical purposes.
* These items are reversely scored

Appendix B

CONSENT FORM

University of San Carlos
Nasipit, Talamban, Cebu
Department of Psychology

Dear Participants,

Good day!

First, we would like to thank you for responding to the notification given by your department to participate in this study.

The researchers of this study are 4th year Psychology students of University of San Carlos who would like to know which among social support, emotional intelligence and adversity quotient is the best predictor for academic performance. This is in partial fulfillment of the course Research 1A under the advisory of Ms. Ruby Ilustrisimo.

We would also like to inform you that you're identity will be kept confidential at all cost. The data that will be collected from the questionnaires will also be kept private and will be use for the purpose of this study alone. You may choose to stop participating to this study anytime. This will not have any effect on your records. But if you wish to know the result of each test you have answered and for other concerns, you may contact us through this number, 09227895646 and this e-mail address, raine_sausa@yahoo.com.

___ Kindly put a checkmark on the blank provided if you agree to participate in this study voluntarily.

Thank you and God bless!

Sincerely,

Maiquez, Rowelie   Sausa, Lorraine

Talatagod, Katherine   Preolco, Ann Cristelle

Participant's Signature

INFORMATION SHEET

NAME (OPTIONAL): _____**DATE**: _____

AGE: ___**GENDER**: _____   **GRADE POINT AVERAGE/ GPA (Last semester)**: _____

COLLEGE/COURSE/YEAR: _____

CONTACT NUMBER: _____ E-MAIL ADRESS_____

APPENDIX C

Correlation of Self-Report GPA and Actual GPA

Table 4

Correlation between Self Report GPA and Actual GPA

		SRGPA	AGPA
SRGPA	Pearson Correlation	1	0.97[**]
	Sig. (2-tailed)		.000
	N	30	30
AGPA	Pearson Correlation	0.97[**]	1
	Sig. (2-tailed)	.000	
	N	30	30

SRGPA=Self-Report grade point average; AGPA=Actual grade point average

The results shows that Self-report grade point average (GPA) and Actual grade point average (GPA) were significantly correlated, $r = .97, < .05$. The pearson's *r* value implies a very strong positive relationship. This supports the literature that there is a relatively high correlation between self-reported and actual academic performance in terms of GPA (Cole & Gonyea, 2010; Kuncel et al., 2005).