12

Practical Research 2

First Quarter – Module 1: Week 1
Nature of Quantitative Research

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SUPPORT MATERIAL FOR INDEPENDENT LEARNING ENGAGEMENT (SMILE)

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PRACTICAL RESEARCH 2 - Grade 12
Alternative Delivery Mode
Quarter 1 – Module 1: Nature of Quantitative Research
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What I Need to Know

This module will help you understand the nature of quantitative research. This will answer your preliminary questions i.e. how do we gather data through this approach, it is this similar or different with qualitative research you took in Grade 11, how do we deal respondents, what kind of data are we dealing with and how do we analyze the gathered data. In learning the nature of this approach, it will also help you understand its role in our society and how it has become the commonly used approach in research undertakings. The module includes a sample quantitative research conducted by student researchers. This will give you a glimpse of arrangement of its components, gathering and analysis of data, and how key findings are presented. Furthermore, the module aligns with your field of interest.

Learning Competency: **Describes characteristics, strengths, weakness and kinds of quantitative research CS_RS12-Ia-c-1**

After going through this module, you are expected to:

1. Describe the characteristics of quantitative research;

2. Identify strengths and weaknesses of quantitative research;

3. Compare qualitative and quantitative research through reading research abstracts; and

4. Appreciate the role of quantitative research in your chosen career path.
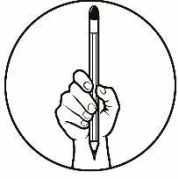
What I Know

Choose the letter of the best answer. Write the chosen letter on a separate sheet of paper.

1. A systematic process of collecting and logically analyzing information for some purposes
a.inquiry   b.research   c.verification   d.observation

2. A research study that uses numbers in stating generalizations about a given problem or inquiry.
a.qualitative research   c.experimental research
b.quantitative research   d.Statistics

3. After a thorough study, it is considered as a basis about a certain phenomenon.
a.instruments   b.observation   c.data   d.results

4. A structured approach is composed of the following, EXCEPT:
a.predetermined variables   b.design   c.hypothesis   d.title

5. In gathering and analysis of data for Quantitative Research it involves the use of this methods.
a.numerical   b.statistical   c.scientific   d.computer-based

6. A larger population yields, what type of data?
a.significant   b.reliable   c.correct   d.quality

7. Which statement is NOT a strength of Quantitative Research?
a.   this type of research is the most reliable and valid way of concluding results
b.   it allows researcher to insufficiently control the situation
c.   it produces real and unbiased results since it filters out external factors
d.   it is useful for testing the results gained by series of qualitative experiments

8. Among the following statements, which is a weakness of a Quantitative Research?
 a.   Limited to the views of the respondents
 b.   Biased due to the researchers perspective
 c.   Costly, difficult and time-consuming
 d.   Provides certainty on its results

9.Which of the following is true about the role of researchers in a quantitative approach?
a.observer   b.participant   c.participant and observer d.participant or an observer

10.Which of the following justifies the absence of in-depth analysis in quantitative research?
a.   The absence of qualitative connection between researcher and respondents
b.   Participant's unwillingness to answer the survey forms
c.   Statistical tools are usually straightforward when it explains
d.   Numerical responses are self-explainable

Lesson 1

Nature of Quantitative Research

What's In

The use of quantitative research has greatly influenced the society in various fields. It has brought the humanity into greater heights of relevant discoveries of explaining natural phenomena, describing population and innovating products. It helped scientists, field experts and organizations in providing solutions to certain problems in our community. Throughout time, it has become the backbone of the world's activities in business, industry, health, human affairs, infrastructure, space exploration etc. Previously, you have acquired basic concepts of qualitative research and, probably, engaged in understanding social issues through qualitative methods. This time, you will be introduced to quantitative research.

What's New

At the beginning of COVID-19 pandemic in the Philippines, the scientists from University of the Philippines became an active partner in providing recommendations to the Inter-Agency Task Force, the core agency assigned in managing the health emergency crisis in the Philippines, based on their predictions and research. The quarantine measures implemented by the LGUs were always based from the policy reports of the research team. Last June 11, 2020, they have predicted the cases in the Philippines to reach 40, 000. Surprisingly, the cases tallied by the Department of Health as of June 30, 2020 was estimated at 37, 000. This was very close to the predictions they have made.

SECTIONS Tuesday, July 21, 2020	TODAY'S PAPER

NEWS   OPINION   SPORTS   LIFESTYLE   ENTERTAINMENT   BUSINESS   TECHNOLOGY   GLOBAL NATION

NATION

COVID-19 cases in PH could reach 40K by June 30 — UP research team

By: Cathrine Gonzales - Reporter / @cgonzalesINQ   INQUIRER.net / 11:53 AM June 11, 2020

MANILA, Philippines — The number of coronavirus cases in the Philippines could reach 40,000 by June 30, according to a team of researchers and scientists at the University of the Philippines on Thursday.

EDITORS' PICK   MOST READ

Heftier penalties for illicit cigarette traders eyed

The projection is based on current trends on the COVID-19 data, Professor

Source: https://newsinfo.inquirer.net/1289772/covid-19-cases-in-ph-could-reach-40000-by-june-30-up-research-team

For the next months, how will reliance to research community help national and local government units in responding to emergency issues?

What is It

Quantitative research uses numbers in stating generalizations about a given problem or inquiry in contrast to qualitative research. The involvement of scientific methods in gathering data and analyzing them to produce generalization is needed with this approach. Therefore, any interaction established with a certain group of people can be generalized (May & Williams, 1998). One of the benefits we could get from this approach is the replicability. The hypothesis testing allows any researcher to follow the guidelines and objectives of the research (Lichtman, 2013). Control groups allow researchers to assign participants in sub-groups and control their interventions (Johnson and Christensen, 2012).

The structured style is built with identified variables, design and hypotheses (Denscombe, 1998; Bryman, 2012; Creswell, 2009; Christensen and Johnson, 2012). Researcher should follow the certain order – formulate research questions, construct hypothesis, conduct literature review, data collection, analysis of data and summarize the results (Litchman, 2006; Creswell, 2009). The objective scales of measurements of the units of analysis are called variables where it determines significant differences and relationships between variables. Results become the basis about a certain phenomena. Data gathered either support or reject what is already known or, in this case, the paradigm. Since, you are testing the hypothesis; you should look for cause and effect relationships. This will help you in predicting and generalizing findings for a larger group. In order to verify findings, quantitative research can be conducted again in another setting. It should also be noted that the central focus of the method emphasizes proof rather than discovery. Furthermore, research work is said to be good when a researcher reads, considers and uses ethically the works of other researcher (Gorard, 2001). When large population is used, it yields more reliable data. However, random sampling must be strictly followed. In terms of concluding results, quantitative research is the most reliable and valid. For instance, when we are dealing with bigger population, generalizing results becomes valid and reliable. External factors which contribute to real and unbiased results are filtered by mechanisms and procedures. Most of output-based research i.e. investigatory projects or experimental research involves series of quantitative experiments. This leads the researcher towards final answer.

However, the nature of the research detaches the researchers from their participants. They stand as an observer. It would be irrelevant to conduct in-depth analysis. This separation leads them to a shallow understanding of the group or individuals involved in the study (Brown and Shank, 2007; Berg, 2007; Johnson and Christensen, 2012). It limits the appreciation of life, mind and opinions of the involved participants (Berg and Howard, 2012). Any contributions i.e. opinion from the respondents are ignored due to epistemological and ontological orientation where it controls the human behavior (Cohen, 2011). On the other hand, conducting quantitative research is costly, difficult and consumes a lot of time. It also needs extensive statistical treatment. Findings may also leave grey areas or uncertainty.
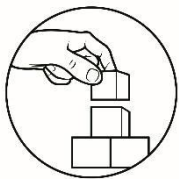
 What's More

Quantitative vs. Qualitative Research

Based on your experience in Practical Research 1 and from the previous reading, compare and contrast the following abstracts. Write your answers on the provide activity sheet.

Qualitative Research
Tolentino, K. (2019). **'Look What You Made Me Do': A Study on the Individualized Fan Culture of Filipino Taylor Swift Fans**, Unpublished Undergraduate Thesis, University of the Philippines Diliman
The investigation recognizes the intensity of media and its commitment to the advancement of a person. This incorporates how fans don't rehearse fan culture just as a type of diversion, but instead permitting an outside power to make an effect in their lives. Specifically, this examination shows how a universal craftsman, Taylor Swift, had the option to connect with our nation, adding to the unmistakable fan culture in the Philippines. In a few top to bottom meetings with Filipino Taylor Swift fans, the examination uncovers how the hole between unfamiliar media and fans are crossed over through the association shaped through media utilization. Considering this, the exploration saw the individual existences of individual Filipino Taylor Swift fans as they had the option to create confidence, character, and strengthening, through the ceaseless utilization of Taylor Swift's substance.
Keywords: fan culture, identity, music, self-esteem and Taylor Swift
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Quantitative Research
Lim, J. S., Alonso, D. E., Dingal, M. J. L., and Sandueta, R. (2019). **Anger, Impulsivity and Anxiety from Academic Stress as Suicidal Risk Predictors**, Unpublished Research Journal. Science, Technology, Engineering and Mathematics. Zamboanga del Norte National High School
The study aims to assess anger, impulsivity and anxiety from academic stress as suicidal risk predictors in Senior High School students. Researchers employed correlational (prediction studies) design with a sample size of 274 respondents. The 4-point Likert scale questionnaires adapted were State-Trait Anger Expression Inventory- 2 (STAXI-2), Barratt Impulsiveness Scale (BIS-11) and Beck Anxiety Inventory (BAI) in measuring the level of anger, impulsivity and anxiety from academic stress. Using 7-point Likertscale, Suicidal Ideation Questionnaire (SIQ) was also used to measure the level of suicidal risk.
Higher level of anxiety ($\bar{x}$=2.64) and anger ($\bar{x}$=2.54) was found among the respondents. Impulsivity was found to be low ($\bar{x}$=2.25). Results revealed that both anger (r=0.297) and anxiety (r=0.296) has weak correlation to suicidal while impulsivity shows a very weak correlation (r=0.196). Although significant relationship was found between anger, impulsivity and anxiety from academic stress and suicidal risk, respondents are unlikely to commit suicide as shown by its mean ($\bar{x}$=2.46). Ultimately, it can be concluded that both anger and anxiety can be predictors of suicidal risk. The researchers recommend that people playing vital roles in the lives of students be active in implementing ways to help them control their emotions.
Keywords: anger, impulsivity, anxiety, academic stress, suicidal risk predictors

What I Have Learned

Fill in the blanks. Write your answers on the provide activity sheet.

Quantitative research deals with (1)_____ data. The respondents are (2)_____ selected. The approach could either be (3)_____ or (4)_____. The findings can be (5) _____ into certain population due to its nature. Data is collected through (6) _____. The analysis of data is conducted through the use of (7)_____.
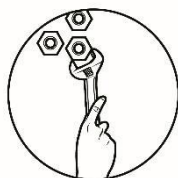
What I Can Do

Create a concept map on quantitative research. Write your answers on the provide activity sheet.

Quantitative Research
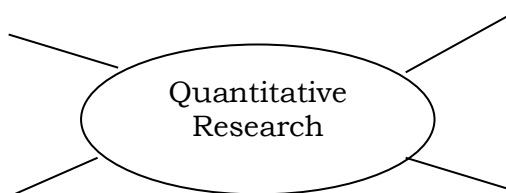
Assessment

Multiple Choice. Choose the letter of the best answer. Write the chosen letter on a separate sheet of paper.

1. The involvement of scientific methods in gathering data and analyzing them to produce generalization is needed with this approach.
a. Quantitative Research   c. Qualitative Research
b. Experimental Research   d. Descriptive Research

2. Which of the following is a strength of Quantitative Research?
a.   Control groups allow researchers to assign participants in sub-groups and control their interventions
b.   The hypothesis testing provides confusion to the study due to the varying circumstances
c.   The approach used is undetermined
d.   Any interaction established within a certain group of people cannot be generalized

3. In a Quantative Research, what process should be followed by the researcher?
a. construct hypothesis, formulate research questions, conduct literature review, analysis of data,data collection, and summarize the results
b. formulate research questions, construct hypothesis, conduct literature review, data collection, analysis of data and summarize the results
c. conduct literature review, construct hypothesis, formulate research questions, analysis of data, data collection, and summarize the results
d. formulate research questions, construct hypothesis, conduct literature review, data collection, and analysis of data

4. The central focus of this quantitative method is on
a. using ethically the works of other researcher c. yielding a reliable and valid result
b. emphasis on proof rather than discovery   d. dealing with a larger population

5. All are weaknesses of a Quantitative Research, EXCEPT:
a. Any interaction established with a certain group of people can be generalized.
b. Separation of researchers and respondents leads to a shallow understanding of the group or individuals involved in the study
c. It limits the appreciation of life, mind and opinions of the involved participants
d. Conducting quantitative research is costly, difficult and consumes a lot of time.

6. One of the following is NOT predetermined in a structured approach.
a. variables   b. design   c. hypotheses   d. title

7. The results of a quantitative research study becomes
a. answers to statistical problems   c. the support for the rejection of a proposal
b. the basis about a certain phenomena d. prediction of the forfeituous events

8. Which statement holds true about a Quantitative Research?
a. One of the drawbackss we could get from this approach is the replicability.
b. The nature of the research connects the researchers from their participants.
c. It can be conducted again in another setting.
d. Smaller population is dealt with in the conduct of the study.

9. Researchers in a Quantitative Research are expected to:
a. stand as an observer only   c. extends life appreciation of participants
b. subjective to the respondents   d. accept opinions from the respondents

10. What are the charateristics of a quantitative research?
I. It deals with a bigger population.
II. Hypothesis testing is highly discouraged.
III. It uses numbers in stating generalizations about a given problem or inquiry.
        a. I and II   c. II and III
        b. I and III   d. I, II and III
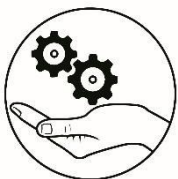
Additional Activities

Read the sample research journal. The journal will be the references for most of the activities in your learning modules. You may keep this as one of your future resources for this subject.

ANGER, IMPULSIVITY AND ANXIETY FROM ACADEMIC STRESS AS SUICIDAL RISK PREDICTORS

Doris Easter V. Alonso, Mark Jay Louise I. Dingal, Jelena Shelby A. Lim, Richardson Y. Sandueta
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Abstract

The study aims to assess anger, impulsivity and anxiety from academic stress as suicidal risk predictors in Senior High School students and employed correlational (prediction studies) design. A sample size of 274 respondents were utilized and the data gathered was analyzed using mean, standard deviation, Pearson product- moment correlation and multiple linear regression analysis. The researchers adapted the State- Trait Anger Expression Inventory- 2 (STAXI-2), Barratt Impulsiveness Scale (BIS-11) and Beck Anxiety Inventory (BAI) to measure the level of anger, impulsivity and anxiety from academic stress in a 4- point Likert Scale. Furthermore, Suicidal Ideation Questionnaire (SIQ) was also used to measure the level of suicidal risk in a 7- point Likert scale. Results revealed that both anger and anxiety has weak correlation to suicidal risk (r=0.297, 0.296), while impulsivity shows a very weak correlation (r=0.196) Furthermore, significant relationship was found between anger, impulsivity and anxiety from academic stress and suicidal risk (p= 0.000, 0.001, 0.000). Based on computed means, it can be concluded that SHS students high levels of anxiety and anger ($\bar{x}$ = 2.64, $\bar{x}$ = 2.54) but low level of impulsivity ($\bar{x}$ = 2.25). However, despite having generally high levels of negative emotion/ behavior, SHS students are unlikely to commit suicide ($\bar{x}$ = 2.46). Ultimately, it can be concluded that both anger and anxiety can be predictors of suicidal risk while impulsivity cannot. The researchers recommend that people playing vital roles in the lives of students be active in implementing ways to help them control their emotions and prevent them from resorting to impulsive decisions.

Introduction

Students experience different kinds of emotion in their everyday academic endeavor which lead to expression of various behaviors. An individual's reaction to a certain event in his/ her life gives rise for emotions. Dr. Martin Seligman says that people have the ability to control their own emotions based on how they perceive or interpret their experiences however, there are instances where some children and adults fail to manage negative emotions and they express these out through anger, impulsivity and anxiety leading to depression (Lawson, 2002). Alarmingly, in worst cases, depression can lead to suicide (World Health Organization, 2009).

Every year, 800,000 people die due to suicide and for every suicide, there are even more people who attempt to do it. Suicide is the second leading cause to the death of 15-29 year old individuals and 79% of suicide occurs in low to mid income countries. This is an alarming rate and if not prevented, it might increase from 1 person dying for every 40 seconds to 1 dying every 20 seconds by 2020. (World Health Organization, 2009). According to the data from 2015 from the Global Burden of Disease Study, suicide rates in the Philippines are up to 3.8 for both sexes for every 100,000 of the general population (Coronel, 2019). By any measure, there must be a way of understanding and assessing suicide.

Studies that were recently conducted showed that adults who have suicidal thoughts show higher means of anger, impulsivity and academic stress than those without suicidal thoughts (Masoo & Kamran, 2018) and Nepon et al. (2010) stated that there were 5 causes of suicide namely: loneliness, depression, hopelessness, anger and conflict, however some studies state that anxiety is independently associated with suicide attempts(18) and that academically achieving students have higher suicidal ideas than those of academically failing students (Arun, Garg & Chavan, 2017). Mostly, studies about suicide ideation that were conducted focused only on university students. Also, most, if not all were conducted on international countries. With this, the researchers came up with a study that is focusing on the assessment of the level of anger, impulsivity, and anxiety from academic stress and its use as suicidal predictors on senior high school students, whether academic achievers or not, that will be conducted in the locality.

The findings of this study is most beneficial to students since they are able to monitor their own behavior and emotions and determine if they are prone to suicide so they can seek for professional help before it turns severe. Also, other beneficiaries include the parents and teachers since they are knowledgeable about their son's, daughter's/ student's emotional conflicts and they will be able to find ways to cater their needs. The school administration is

more mindful of their students' mental and emotional health as these are matters that should pose serious concern to the society and the batches to come.

This study is anchored to the Stress- Diathesis Model which focuses on behavior categories, risk factors and their interactions (Heeringen, 2012). This model intends to emphasize that there is a vulnerability called diathesis among individuals which predisposes them to develop suicide ideation when encountered with stress. Conceptually, diathesis is the vulnerability which makes a disordered state to occur. Also, it is the factor that increases the tendency of an individual to succumb into a particular attitude or act in a different way. The model asserts that if the interaction between predisposition and stressor go beyond the individual's ability to control and maintain it, he/ she will develop a disorder (Lazarus, 1993). The schematic diagram of the present study is shown below.

STRESSOR		Anger		DIATHESIS
Academic Stress	→	Impulsivity	→	Suicidal Risk
		Anxiety		
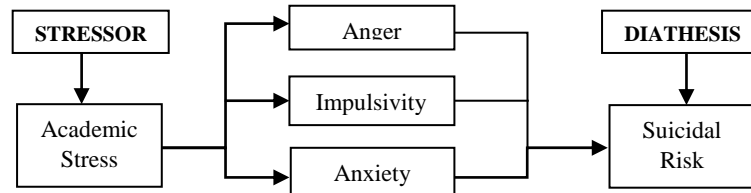
Schematic Diagram of the Study

The general objective of this study is to assess anger, impulsivity and anxiety from academic stress as suicidal risk predictors of senior high school (SHS) students. Specifically, it seeks to answer the following research questions: 1. What is the demographic profile of SHS students in terms of: a. gender; b. age; c. grade level; d. program/ strand and monthly family income?; 2. What is the level of negative emotion/behavior of SHS students in terms of: a. anger; b. impulsivity; c. anxiety and; d. suicidal risk?; 3. Is there a significant relationship between: a. anger and suicidal risk; b. impulsivity and suicidal risk and; c. anxiety and suicidal risk? 4. Which among the dependent variables can be predictors of suicidal risk?

Methods

The study employed descriptive- correlational (prediction studies) research design since the study was set to assess if anger, impulsivity and anxiety could be predictors for suicidal risk. The students in senior high school level of Zamboanga del Norte National High School, Turno Campus (ZNNHS- TC) enrolled for the school year 2019- 2020 were the target population of the study. The sample size was 274, 156 students for grade 11 (STEM: 47; ABM: 28; HUMSS: 53; GAS: 17 and A&D: 11) and 118 for grade 12 (STEM: 32; ABM: 41; HUMSS: 22; GAS: 14 and A&D: 9). No specific criteria was followed within the process of utilizing the participants, as long as they were able enroll themselves to senior high school of S.Y 2019-2020 of ZNNHS- TC, they were qualified to take part in the study.

The researchers prepared a questionnaire which consists of questions from previously validated data collection tools which was revised to concern with evaluating the levels of anger, impulsivity, anxiety and suicidal risk from academic stress. These were the State- Trait Anger Expression Inventory- 2 (STAXI-2),a 57-item inventory which was developed to evaluate state anger, trait anger and anger expression (Spielberger, 1999) the Barratt Impulsiveness Scale (BIS-11), a 30- item questionnaire formulated to measure personality/behavioral construct of impulsiveness (Stanford et al., 2009), the Beck Anxiety Inventory (BAI), a 21- item questionnaire meant to determine the presence of anxiety or depression (Lawson, 2002) and the Suicidal Ideation Questionnaire (SIQ), a 15- item questionnaire that assesses the frequency of suicidal ideation to provide initial information on an adolescent's thoughts about suicide. The researchers modified the questionnaires and only selected certain items from the actual and original tools. Those which did not seem significant to the population and hard to understand (Ibrahim et al., 2017) not included to ensure that the respondents were able to decode the meaning of each statement in the questionnaire. For each variable, anger, impulsivity and anxiety, 10 questions were compiled. All were in a 4-point Likert scale. A score of 1 corresponds to Never, 2 for Occasionally, 3 for Often, and 4 for Always. On the other hand, the original SIQ consisting of 15 questions was employed in a 7-point Likert Scale where 1 corresponds to Never (NR), 2 I had this thought before but not in the past month (NPM), 3 for once a month (OM), 4 for couple of times a month (CM) 5 for once a week (OW), 6 for couple of time a week (CW) and 7 for almost everyday (AE).

Cronbach's alpha coefficient formula was used to evaluate the internal consistency of the questionnaire. With the use of Statistical Package for Social Sciences (SPSS) software, calculated alpha coefficient for the questionnaire exhibited excellent reliability of 0.953.

A rating scale was also used by the researchers in describing the level of anger, impulsivity, anxiety and suicidal ideation of the students towards academic stress. In describing the level of anger, 1.00 – 1.75 infers Very Low Level of Anger (VLLA), 1.76 – 2.5 infers Low Level of Anger (LLA), 2.51 – 3.25 infers High Level of Anger (HLA) and 3.26 – 4.00 infers Very High Level of Anger (VHLA). For the impulsivity, 1.00 – 1.75 implies Very Low Impulsivity (VLI), 1.76 – 2.5 implies Low Impulsivity (LI), 2.51 – 3.25 implies High Impulsivity (HI) and 3.26 – 4.00 implies Very High Impulsivity (VHI). For the anxiety, 1.00 – 1.75 indicates Very Low Anxiety (VLA), 1.76 – 2.5 indicates Low Anxiety (LA), 2.51 – 3.25 indicates High Anxiety (HA) and 3.26 – 4.00 indicates Very High Anxiety (VHA). In describing the level of suicidal risk, 1.00 – 1.85 means Extremely Unlikely to commit suicide (EUCS), 1.86 – 2.70 means More Unlikely to commit suicide (MUCS), 2.71 – 3.65 means Unlikely to commit suicide (UCS), 3.66 – 4.50 means Neutral (N), 4.51 – 5.35 means Likely to have suicide (LCS), 5.36 – 6.20 means More Likely to commit suicide (MLCS) and 6.21 – 7.00 means Extremely Likely to commit suicide (ELCS). The first Statement Of the Problem was analyzed though frequency count since this was concerned with the demographic profile of the respondents, mean for Statement Of the Problem 2 to interpret the levels of anger, impulsivity and anxiety, Pearson product- moment Correlation for Statement Of the Problem 3 to determine the correlation of the negative behaviors to suicidal risk and multiple linear regression analysis for Statement Of the Problem 4 to determine which among the three dependent variables can be predictors of suicidal risk. The data gathered was analyzed through MS (Microsoft) Excel and SPSS.

Results and Discussion

The respondents of the study is comprised of 46.72% male respondents and 53.28% female respondents. In terms of age, 94.89% is within age bracket of 16-18 years old. In terms of grade level, 56.93% of the respondents are in 11th Grade while 43.07% are in 12th grade. The highest percentage of respondents came from STEM strand at 28% followed

Level of Anger, Impulsivity, Anxiety and Suicidal Risks from Academic Stress

Felt from Academic Stress	Mean	Description
Anger	2.54	High
Impulsivity	2.25	Low
Anxiety	2.64	High
Suicidal Riks	2.46	More Unlikely to Commit Suicide

Results reveal that the respondents show high level of anger ($\bar{x}$ = 2.54). Respondents unveil high level of anger when they feel frustrated if they can't find a perfect solution to the problem they face, they get angry when they find a mistake on the work they carefully did and they get infuriated when doing long tasks and assignments. The respondents divulge a low impulsivity rate towards academic stress. The respondents have low impulsivity rates towards but showed high impulsivity when they have racing thoughts during examinations and resting more than working. Respondents hold high anxiety rate towards academic stress especially when they can't keep calm when deadlines are coming near, doing debates or speeches or when grades or test results come out and having class presentations. Lastly, the respondents are more unlikely to commit suicide.

Students' Level of Anger, Impulsivity, Anxiety and Suicidal Risk from Academic Stress analyzed according to their demographic profile
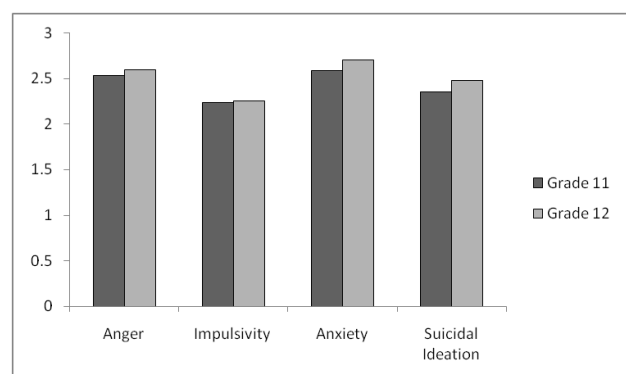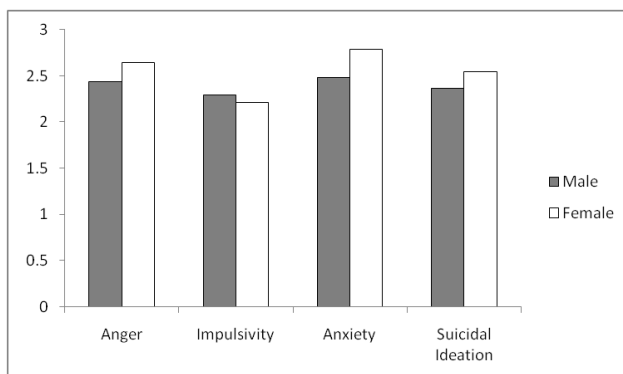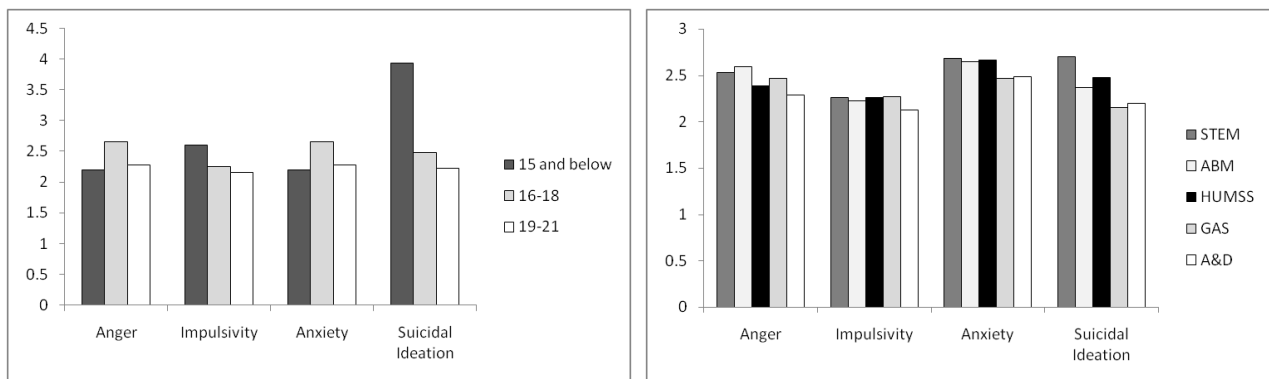
As seen on the graph, females tend to have higher levels of anger, anxiety and suicidal ideation. This is in consonance with the study on Agression in Women which states that women have higher anger levels than men (Denson, 2018). However, male displayed higher levels of impulsivity. The result is consistent with the findings of Weafer (2014) where men are more impulsive than women. The results are comparable with the study of Ibrahim et.,al which states that women have higher suicidal risk than men. Grade 12 showed higher levels across four areas. The subjects for Grade 12 semesters are now focused on specializations, community immersion and research. The results confirmed the findings of Suoza et al. (2009), wherein higher level of suicidal ideation was seen among students who have spent more than 8 years of studying at 16.7%.

Younger students showed higher levels of impulsivity and suicidal risks. In a sample of Finnish students aged 13–17, self-reported depression severity was associated with concentration difficulties, and poorer social relationships, self-learning, poorer academic performance, and worse reading and writing outcomes (Fröjd et al., 2008).

Across various strands, they share the same levels of negative feelings from academic stress except for Arts and Design which has shown significantly lowest when compared to others. This could be attributed to the nature of their specialization. Most of the subjects covered are inclined with expression and creativity. The findings is consistent with the study of Hallaert (2018), where majors were not at a greater risk for suicide than their general peers .

Correlation and Significance of Relationship between Anger, Impulsivity, Anxiety to Suicidal Risk

Variable	r-value	Verbal Description	p-value	Decision on H_o
Anger vs. Suicidal Risk	0.297	Weak	0.000	Reject H_0
Impulsivity vs. Suicidal Risk	0.196	Very Weak	0.001	Reject H_0
Anxiety vs. Suicidal Risk	0.296	Weak	0.000	Reject H_0

Level of Significance: 0.05

The table above shows that both anger and anxiety exhibits a weak correlation to suicidal risk. Meanwhile, impulsivity has very weak correlation to suicidal risk. On the other hand, its corresponding p- values are 0.297, 0.196 and 0.296 which are all greater than the perceived level of significance, 0.05. Hence, there is enough evidence to reject null hypothesis. The findings above can be supported by previously conducted studies which state that anger, impulsivity and perceived academic stress has a positive significant relationship to suicidal risk (Hawkins et a., 2013; Masood & Kamran, 2018)

Multiple Linear Regression Analysis on Anger, Impulsivity and Anxiety to Suicidal Risk

Model	Adjusted R Square	Coefficients (ß)		Sig.
		USTD	STD	
1 (constant)	0.085	0.485		0.220
Anger		0.777	0.297	0.000
2 (constant)	0.104	0.150		0.715
Anger		0.490	0.187	0.009
Anxiety		0.404	0.186	0.009
3 *(excluded variable)*	-	-		-
Impulsivity		-	0.080	0.197

a. Predictors: (Constant), Anger
b. Predictors: (Constant), Anger, Anxiety
c. Excluded Variable: Impulsivity
d. Dependent Variable: Suicidal Risk

The first model showed an adjusted R square value of 0.085. This implies that 8.5% of the independent variable is explained by the dependent variable. Anger exhibits a statistically significant relationship with suicidal risk with a p- value of 0.000. The unstandardized ß coefficient for model 1 of 0.777 means that, mean wise, for every one unit raise in anger, suicidal risk increases by 0.777 and its standardized ß coefficient of 0.297 means that for every one unit raise, standard deviation wise, suicidal risk increases by 0.297.

Second model considered both anger and anxiety. With an adjusted R square value of 0.104, 10.4% of both these dependent variables explain suicidal risk with both of their p-values at 0.009. It showed a statistically significant relationship with suicidal risk. The unit raise in the mean of anger, suicidal risk increases by 0.490 while for anxiety it increases by 0.404 (ß$_{ustd}$= 0.490, 0.404) and for every unit raise in the standard deviation of anger and anxiety, suicidal risk increases by 0.187 and 0.186 respectively (ß$_{std}$= 0.187,0.186).

Meanwhile, impulsivity was excluded in the analysis with a p- value of 0.197. This means that it exhibits no statistically significant relationship with suicidal risk.

Ultimately, statistical analysis of the data shows that both anger and anxiety can be predictors of suicidal risk while impulsivity cannot. These findings are comparable with the study of Ibrahim et., al (2017) which stated that anger is associated with suicidal ideation and behavior through perceived burdensomeness and with greater acquired capability for suicide via experiences with painful and provocative events. The researchers also emphasized that treatment for problematic anger may be beneficial to decrease risk for suicide. American Association of Suicidology and American Foundation for Suicide also claims that anxious people are especially at risk for suicide (Bentley & Nock, 2017; Bentley, 2016). Meanwhile, other studies have also claimed that impulsivity is not a cause for suicidal behavior (Klonsky & May, 2015).

Conclusions and Recommendations

having generally high levels of negative emotion/behavior, SHS students are unlikely to be suicidal. Applying the statistical analysis, it is revealed that anger and anxiety exhibit weak correlation to suicidal risk and impulsivity has very weak correlation to suicidal risk. In addition, there is a significant relationship between anger, impulsivity and anxiety to suicidal risk. Lastly, both anger and anxiety can be predictors of suicidal risk while impulsivity cannot.

Researchers recommend that students should learn and be urged to manage their emotions. Talking to someone and opening up to them about their problems will also help in applying preventive measures. By attending activities such as family day and parent-teacher meeting, parents can engage more to their children. Also, as the second parent, teachers must avoid scolding their students publicly. Teachers should also monitor them regularly and observe closely to track changes in their behavior in school. Besides, teachers can conduct face to face interview or home visitation to discuss important matters to parents. The school administration must also find ways to lessen the emotional problems of students relative to academic stress such as strengthening and requiring strict implementation of the Children Protection Policy. Finally, future researchers are also recommended to conduct further studies considering different predictor variables or they can enhance reconduct the present study to compare results.
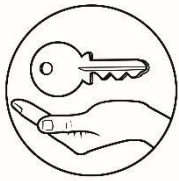
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In your own chosen field of Senior High School specialization,

How does quantitative research help in improving your field of Science, Technology, Engineering and Mathematics?

Write your response in the provided activity sheet.

Answer Key

Post-test:	1.A	2.A	3.B	4.C	5.A	6.D	7.B	8.C	9.A	10.B
Pre-test	1.B	2.B	3.D	4.D	5.C	6.B	7.B	8.C	9.A	10.A

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