

PROFILE AND PRIMARY FACTORS OF PERSONALITY AS CORRELATES TO ACADEMIC ACHIEVEMENT OF THE FRESHMEN STUDENTS AT THE COLLEGE OF DEVELOPMENT COMMUNICATION AND ARTS AND SCIENCES DURING THE SCHOOL YEAR, 2014-2015

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ABSTRACT

This study aimed at determining the relationship of the profile, Primary Factors of Personality and academic achievement of the freshmen students of the College of Development Communication and Arts and Sciences in their first semester during the school year, 2014-2015. The 82 respondents were chosen based on Simple Random Sampling. The data was collected through High School Personality Questionnaire, consolidated and described utilizing the percentage, frequency count, weighted mean and analyzed through Pearson Product Moment Correlation Coefficient to obtain the existing relationships. The profile variables that are included in this study are age, educational attainment of their parents, annual family income, religious affiliation and family size.

The academic performance of the respondents showed that majority obtained a Grade Point Average of 3.0. The Primary Factors of Personality showed that the respondents obtained low description in the following five factors (A-Warmth, B-Intelligence, F-Cheerfulness, H-Boldness and Q4-Tension) while the other eight factors such as C+Emotional Stability, D+Excitability, E+Dominance, I+Sensitivity, J+Withdrawal, O+Apprehension Q2+Self-Sufficiency and Q3+Self-Discipline indicated that the respondents obtained high description. The single factor on Conformity showed equal number of Low, G-description and High, G+ description.

When the variables are correlated correspondingly, Intelligence, Emotional Stability, Excitability, Dominance, Cheerfulness, Sensitivity, Withdrawal, Self-Sufficiency, Self discipline and Tension do not show any relationship to academic achievement. Thus, the socio-demographic profile of students have an effect on their academic achievements.

Keywords: Primary factors of personality, socio-demographic profile, academic achievement.

INTRODUCTION:

Under the constitutional act sec 17, art 1 (1987) in the Republic of the Philippines regarding the fundamental laws, the education is made a priority and authorized the sovereignty of the education. Likewise, this law commands the government to defend and elevate the welfare of the Filipino people in order to avail high class education right starting from primary level to university levels. The act must ensure and follow that the quality education is affordable by the entire population of the Philippines (Sec. 1, Art.XIV). In the secondary level, the state made an appropriate move while providing the best support to tertiary education among the policies implemented through subsidized State Colleges and Universities of the Philippines (De Leon, 2011).

The Isabela State University (ISU), a prestigious university in Northern Isabela, Philippines, caters to students' educational needs. A majority of the students are average income families particularly children of farmers (ISU and You,2010). But poverty should not be a hindrance to succeed in whatever endeavor, the students wish to undertake. This challenge should serve as emotional springboard of realizing one's dreams, goals and aspirations in life. It should rather have a great influence which embraces, rather than depreciate, the students' desirable traits in developing a clearer vision and widening their greater potentials (NSO,2015).

With a vision to produce effective and quality students, the college of Development Communication and Arts and Sciences offered various subjects in its curriculum which will surely help the students acquire knowledge and skills much needed in their career as computer experts, researchers, educational broadcasters, journalists, communicators, law enforcers, scientists and careers in other educational endeavour. Consequently, the realization of this educational objectives, like the attainment of quality in teaching-learning process remains with the learners, teachers and parents. Parents are the best teachers. No other person or agency can replace home in providing the child with the qualities that he or she needs for a successful living.

Home environment is related to measured levels of intelligence of the child (Schiamberg, 1998). Few evidence suggests that the maternal educational level is the strongest predictor of a child's achievement. Home environment, including parents, acts as the best teacher, whereas, income and educational level are the important factors in predicting a child's academic success.

Emotional development has been recognized as an essential impediment in the educational development of a person. The High School Personality Questionnaire has been used as the standardized instrument to measure the emotional conflicts of individuals (Hurlock, 1982). In order to ensure the scientific basis of the study, the researcher formulated a problem pertaining to the possible relationships among the profile, primary factors of personality and academic performance of the freshmen students of the College of Development Communication and Arts and Sciences for the school year, 2014-2015.

The results of the study serves as the reference of the first year college students to understand themselves and the teachers can be fully aware of the personalities of their students. The parents are also provided with the knowledge about their children behavior and as stakeholders, they are made aware of the present circumstance in the school system, particularly the variables that affect their children academic achievements. Hence, this study is a notable one in the current setting

The research problem

This study attempts to determine the relationship between the profile and 14 Primary Factors of Personality (14PF) such as warmth, intelligence, emotional stability, excitability, dominance, cheerfulness, conformity, boldness, sensitivity, withdrawal, apprehension, self sufficiency, self discipline and tension and how it correlates with the academic performance of freshmen students of College of Development Communication and Arts and Sciences during the year, 2014-2015. Specifically, this study aims to answer the following questions:

1. What is the profile of the respondents in terms of
 - 1.1. Age
 - 1.2. Gender
 - 1.3. Educational Attainment of Parents
 - 1.4. Annual Family Income
 - 1.5. Religion
 - 1.6. Family Size
2. What is the academic performance level of the students as revealed by their Grade Point Average (GPA)?
3. Which of the fourteen (14) Primary Factors of Personality as revealed by the High School Personality Questionnaire affects significantly the academic performance of the freshmen students of CDCAS School Year 2014-2015?

OBJECTIVES OF THE STUDY:

1. To determine the profile of the freshmen students of CDCAS such as age, gender, educational attainment of parents, annual family income, religion and family size.
2. To determine the academic performance level of the students as revealed by their Grade Point Average.
3. To determine the relationship between the fourteen (14) primary factors of personality as revealed by the High School Personality Questionnaire and academic performance of the freshmen students of CDCAS school year, 2014-2015.

LITERATURE REVIEW:

The High School Personality Questionnaire (HSPQ) is a self report inventory for adolescents which measures the fourteen primary personality characteristics such as warmth, intelligence, emotional stability, excitability, dominance, cheerfulness, conformity, boldness, sensitivity, withdrawal, apprehension, self-sufficiency, self-discipline and tension. Their description are classified either as 'low score description' or 'high score description' (Cattell, R.B.1984).

The biological and social factors are the two factors that constitute the behavior of a child, aside from the individual differences as a result of heredity. The environmental factors that influence a student's intelligence, academic success or failure is not solely dependent on the students' inherent mental ability, but there are variables within the environmental set-up that affects the academic success as correlates to the battery of test taken by the students (Kapunan, 1997).The educational and occupational counseling of high school and college students and selection of applicants for professional schools are the educational uses of test. Educational administrators, educational counselors and teachers frequently have to act according to the results obtained from different kinds of tests (Anastasi & Urbina, 1997).

They stressed to use the tests in individual counseling as total involvement with all aspects of a person's life. Emotional wellbeing and effective interpersonal relations have become increasingly important objectives of counseling. The tests differ in the aspects of behavior that they cover. Some tests concentrate the assessment of cognitive traits or abilities that may range from broad attitudes such as readiness to profit from college work to highly specific sensory motor skills required to perform a simple manual operation. Other tests measure the effective variables or personalities such as emotional traits, interpersonal behavior, interest, attitudes and values (Anastasi & Urbina, 1997).

The aptitude tests applications are it provide the ways to compare the performance of a child with other children in the same situation with the profile of strengths and weaknesses being provided. The tests also assess the differences among individuals, improvement of educational opportunities if any with specific focus to hidden talents of children, used for grouping students as long as it is flexible and valuable in making program and curricula decision. The aptitude test results can be used in instructional, administrative and guidance purposes (Macklem, 1990).

The intelligence towards personality development gave reliable empirical results which interpreted the variation of personality facets being systematically correlated with intelligence (Catell, R.B.1984). The central tendency in the closing year of high school according to 16PF test is for intelligence to be correlated positively, but slightly (+18) with super ego strength, G,(+0.23) with self sentiment (self concept organization and development, Q3, (+0.12) with premsia, I, (protect emotional sensitivity). Among the university students, it tends to become correlated also with the dominance, E, (0.20) radicalism, Q1, and autia, M (0.20) intensity of inner mental life.

The High School Personality Questionnaire has focused on some aspects of the achievement. The dependent variable used in most of the studies was overall 'Grade Point Average' of the total score from a standardized achievement battery test. Cattell and John (1984) summarized some of this HSPQ research as follows,

In a study conducted to correelate the HSPQ scales and various indices of achievement among 1,443 boys and girls representing several urban and rural locations in the United States, two HSPQ scales like intelligence and conformity are significantly correlated in the positive direction with all the achievement measures. There is also considerable consistency with HSPQ factors of warmth and self-assurance (Cattell and John, 1984).

The average HSPQ profiles of high and low achievers were compared. In a sample of 277 urban and rural males and females, the 50 highest and 50 lowest scorers on the Stanford Achievement Test were selected and the average profiles were plotted for each. The scales showing the greatest operation between the two groups are intelligence dominance, conformity, and self-sufficiency (Cattell and John, 1984).

It showed the cumulative contribution of the HSPQ scales to achievement as obtained from a regression

analysis of 310 West Coast school students. The high achievers are intelligence (B+), conforming (G+), self-sufficient (Q2+), tough minded (I-), and self-disciplined (Q3) (Cattell and John, 1984).

The personality and achievement of the students correlates among various cross-cultural samples. The findings were consistent with those from the students of the United States. Intelligence, Conformity and Self-Discipline are significantly related to achievement (Cattell and John, 1984).

The study summarized the correlation of 14 Personality Factors studied among 3,485 male and female subjects in grades from 6th to 12th which revealed the importance of intelligence, conformity, and self-discipline in predicting the achievement. Moreover, the traits of warmth, emotional stability, and self-assurance show statistically significant relationship with achievement.(Cattell and John, 1984).

The relationship between the primary factors of personality and academic performance is significantly related to academic achievement of the students.

CONCEPTUAL FRAMEWORK:

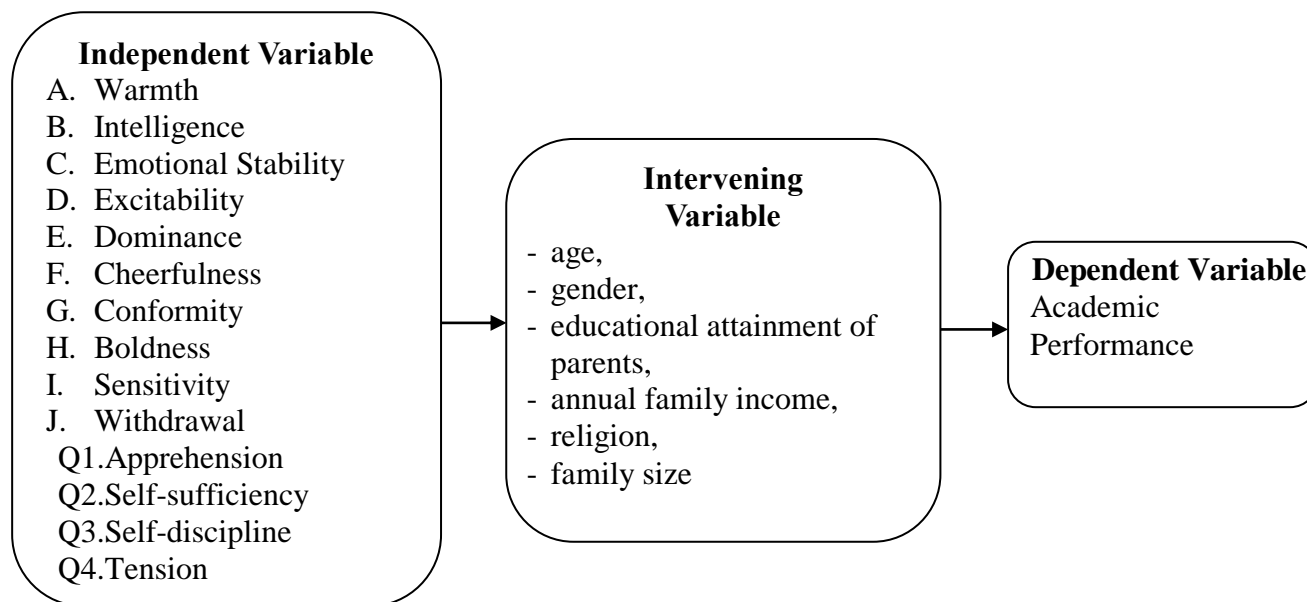


Figure 1 shows the set of primary factors and intervening variables correlating to academic performance of the freshmen students.

METHODOLOGY:

Research Design:

The study used descriptive survey method to determine the socio-demographic conditions of the freshmen students of College of Development Communication and Arts and Sciences during the first semester in the school year, 2014-2015. The statistical correlation was employed to determine whether there exists a relationship among the students’ Standard Ten Score (STEN) in the High School Personality Questionnaire and their academic achievement as shown by their Grade Point Average (GPA).

Location of the study:

This study was conducted at the College of Development Communication and Arts and Sciences, Isabela State University at Cabagan, Isabela, Philippines. This campus is one of the nine campuses of the Isabela State University. The college consists of five departments and eight curricula which were covered during the conduct of this study. The departments of Natural and Applied Sciences, Social Sciences, Criminal Justice Education, Information and Computer Technology and Development Communication and Languages are the departments covered during the study

Respondents of the Study:

This study deployed the freshmen students enrolled in the first semester for the school year, 2014-2015 in the following curricula: BS Biology, AB Sociology, BS Criminology, BS Law Enforcement Administration, BS Information Technology, BS Computer Engineering, BS Development Communication and BS Computer Science.

Table 3.3. Sampling distribution of the respondents according to their course

Degree/Program	No. of Respondents	Percentage Distribution
BS Development Communication	6	7.32
BS Biology	6	7.32
AB Sociology	9	10.97
BS Information Technology	15	18.29
BS Computer Science	8	9.76
BS Computer Engineering	5	6.10
BS Criminology	17	20.73
BSLawEnforcement Administration	16	19.51
Total	82	100.00

Sampling Procedure:

The researcher utilized Simple Random Sampling (SRS) in determining the respondents for this study. 82 students representing about 10% of the total student population were chosen as respondents for the study

Research Instrument:

The researcher used the Personal Data Sheet for each respondent which is available in the ‘Campus Guidance Office’ to gather the socio-demographic profile of the student respondents. The socio-demographic information gathered are age, educational attainment of parents, annual family income, religion and family size. The High School Personality Questionnaire Form-A is the standardized psychological test that aims to measure or determine the emotional conflicts and behavior. The cognitive elements of creativity and variety of other situations of the individual was utilized by the researcher. It is also a self-report inventory for adolescent that measures the fourteen (14) Primary Personality Characteristics. The Grade Point Average (GPA) of each respondent obtained during the first semester of the school year, 2014-2015 were gathered, analyzed and tabulated adopting the university’s standardized grading system and its quantitative equivalent.

Procedure To Data Collection And Analysis:

A formal letter was served to the campus registrar requesting a master list of freshmen students of College of Development Communication and Arts and Sciences as well as the final grades for every subject area enrolled by the respondents. A formal letter of permission was also presented to the campus guidance counselor primarily to obtain the socio-demographic information contained in the Personal Data Sheet from each participant. The High School Personality Questionnaire Form-A was floated to each respondent with the approval of the campus guidance counselor.

Statistical Analysis of Data:

Descriptive statistics using frequency count, percentage and the weighted mean were employed to present the profile of the respondents in terms of their age, gender, income of parents, educational attainment of parents as well as the primary factors of personality generated through the High School Personality Questionnaire Form-A and in analyzing the Grade Point Average of the respondents.

The correlational method through Pearson Product Moment Correlation Coefficient was employed to determine the relationship between the academic performance of the respondents with their Standard Ten Score (STEN) in every primary factor of personality.

FINDINGS AND DISCUSSION:

Socio-Demographic Profile of the Respondents:

Age Distribution:

Table 4.1. Age distribution of respondents in terms of frequency and percentage

Age	Frequency	Percentage
21-22	1	1.22
19-20	11	13.41
17-18	66	80.49
15-16	4	4.88
Total	82	100.00

Gender Distribution:

Table 4.2. Gender distribution of respondents in terms of frequency and percentage

Gender	Frequency	Percentage
Male	23	28.05
Female	59	71.95
Total	82	100.00

RESPONDENT’S PARENTS EDUCATIONAL ATTAINMENT:

Table 4.3: Distribution of respondents according to the educational attainment of parents in terms of frequency and percentage

Parent’s Educational Attainment	Father Frequency	%	Mother Frequency	%
Elementary undergraduate	6	7.31	8	9.75
Elementary graduate	16	19.51	17	20.73
High School undergraduate	15	18.29	20	24.39
High School graduate	30	36.59	30	36.59
College undergraduate	8	9.76	5	6.10
College graduate	7	8.54	2	2.44
Total	82	100.00	82	100.00

ANNUAL INCOME OF THE RESPONDENTS:

Table 4.4. Annual income distribution of respondents in terms of frequency and percentage

Monthly income	Frequency	Percentage
Php1,000 - Php4,000	42	51.22
Php 4,001- Php 7,000	20	24.39
Php 7,001- Php 10,000	20	24.39
Total	82	100.00

Parents’ Occupation of the Respondents:

Table 4.5 Distribution of respondents according to their parent’s occupation in terms of frequency and percentage

Parent’s occupation	Frequency	Percentage
Both parents hold professional jobs	9	10.97
At least one parent hold a professional job	6	7.32
Both parents hold non-professional job	67	81.71
Total	82	100.00

Religion of the Respondents:

Table 4.6. Distribution of respondents according to religion in terms of frequency and percentage

Religion	Frequency	Percentage
Roman Catholic	57	69.51
Iglesia ni Cristo	5	6.10
Baptist	5	6.10
Methodist	3	3.66
Jehovah’s Witnesses	2	2.44
Pentecostal	1	1.22
Born Again Christian	8	9.75
Aglipay	1	1.22
Total	82	100.00

Respondents' Family Size:

Table 4.7. Family size distribution of students in terms of frequency and percentage

Family size	Frequency	Percentage
1-4	32	39.02
5-8	39	47.56
9-12	11	13.42
Total	82	100.00

Academic performance of the respondents:

Table 4.8. Distribution of respondents according to their academic performance in terms of frequency percentage

GPA	Frequency	Percentage(%)
1.0 (98-100)-Excellent	0	0
1.25 (95-97)-Very satisfactory	0	0
1.50 (92-94)-Satisfactory	0	0
1.75 (89-91)-Fairly Satisfactory	4	4.88
2.0 (86-88)-Good	5	6.09
2.25 (83-85)-Fairly Good	5	6.09
2.50 (80-82)-Fair	23	28.05
2.75 (77-79)-Below Fair	14	17.07
3.0 (75-76)-Passed	30	36.60
4.0 (Below 74)-Conditional	1	1.22
Total	82	100%

The fourteen (14) Primary Factors of Personality of the respondents:

The fourteen (14) Primary Factors of Personality results indicate that each factor was interpreted according to the forms of behavior listed in each of the figures placed in the order of correlation with the source trait. Each factor is defined by two roles or extremes. Entries with description of high scores (STEN Score of 6-10) in the corresponding factor and entries in the description of low scores (STEN Score of 1-5) are indicated using the symbols '+' and '--' which means high or low scores respectively.

Table 4.9. Distribution of Respondents according to the fourteen Primary Factors of Personality (14 PF) expressed in terms of frequency and percentage (Interpreted based on High School Personality Test User's Manual of Raymond B. Cattell, 1984)

Factor	High 6-10 Frequency	Percentage	Description/ Characteristics	Low 1-5 Frequency	Percentage	Description/ Characteristics	Total
A. Warmth	A+ 40	48.78	1. Warm 2. Outgoing 3. Kindly 4. Easy going 5. Participating 6. Likes people	A-42	51.22	1. Cool 2. Reserved 3. Impersonal 4. Detached 4. Formal 5. Aloof	100%
B. Intelligence	B+ 8	9.76	1. Abstract thinking 2. More intelligent 3. Bright	B- 74	90.24	1. Concrete thinkers 2. Less intelligent	100%
C. Emotional Stability	C+ 69	84.15	1. Emotionally stable 2. Mature 3. Faces reality 4. Calm	C- 13	15.85	1. Affected by feelings of others 2. Emotionally less stable 3. Easily annoyed	100%
D. Excitability	D+ 50	60.98	1. Excitable 2. Impatient 3. Demanding 4. Overactive	D- 32	39.02	1. Phlegmatic 2. Undemonstrative 3. Deliberate 4. Placid	100%

Factor	High 6-10 Frequency	Percentage	Description/ Characteristics	Low 1-5 Frequency	Percentage	Description/ Characteristics	Total
			5.Easily distracted			5.Inactive	
E. Dominance	E+ 42	51.22	1.Dominant 2.Assertive 3.Aggressive 4.Stubborn 5.Competitive 6.Bossy	E-40	48.78	1.Submissive 2.Humble 3.Mild 4.Easily led 5.Accommodating	100%
F. Cheerfulness	F+ 25	69.51	1.Cheerful 2.Enthusiastic 3.Impulsive 4.Heedless 5.Expressive	F- 57	30.49	1.Sober 2.Restrained 3.Prudent 4.Taciturn 5.Serious	100%
G. Conformity	G+ 41	50	1.Conforming 2.Conscientious 3.Staid 4.Persistent 5.Moralistic 6.Rule bound	G- 41	50	1.Expedient 2.Disregards rules 3.Self-indulgent 4.Nonconforming	100%
H. Bodness	H+ 32	60.98	1.Bold 2.Venturesome 3.Uninhibited 4.Can take stress	H- 50	39.02	1.Shy 2.Threat- sensitive 3.Timid 4.Hesitant 5.Intimidated	100%
I. Sensitivity	I+ 63	76.83	1.Tender minded 2.Sensitive 3.Over protected 4.Intuitive 5.Refined	I- 19	23.17	1.Tough minded 2.Self-reliant 3.No-nonsense 4.Rough 5.Realistic	100%
J. Withdrawal	J+ 47	57.32	1.Withdrawn 2.Guarded 3.Circumspect individualism 4.Internally restrained	J- 35	42.68	1.Vigorous 2.Goes readily with group 3.Zestful 4.Given to Action	100%
O. Apprehension	O+53	64.63	1.Apprehensive 2.Self-blaming 3.Guilt prone 4.Insecure 5.Worrying	O- 29	35.37	1.self-assured 2.Secure 3Feels free of guilt 4.Untroubled 5.self-satisfied	100%
Q2. self-sufficiency	Q2+ 53	64.63	1.Self- sufficient 2.Resourceful 3.Prefers own decisions	Q2- 29	35.37	1.Group-oriented 2.A "Joiner" and sound follower 3.Listens to others	100%
Q3.self-discipline	Q3+ 65	79.27	1.Self-disciplined 2.Controlled 3.Socially precise 4.Compulsive 5.self respecting	Q3- 17	20.73	1.Undisciplined self-conflict 2.Lax 3.Careless of Social Rules	100%
Q4.Tension	Q4+ 24	70.73	1.Tense 2.Frustrated 3.Over wrought 4.Has high drive as obtained	Q4- 58	29.27	1. Relaxed 2. Tranquil 3.Composed 3. Has Low Drive 4.Unfrustrated	100%

Relationship of the respondent’s academic performance to their Primary Factors of Personality:

The table 4.10 reveals the overall relationship of the fourteen (14) Primary Factors of Personality to academic performance of the respondents. Using the Pearson Product Moment Correlation Coefficient, there is no relationship found in the following factors such Warmth, Intelligence, Emotional Stability, Excitability,

Dominance, Cheerfulness, Conformity, Boldness, Sensitivity, Withdrawal, Apprehension, Self-Sufficiency, Self-discipline, and Tension with that of the academic performance of the respondents. These findings implied that the ten primary factors of personality are independent to academic performance. However, low positive relationship exists in Warmth factor of personality, low negative correlation in Conformity, low positive correlation exists in Boldness and Apprehension. Thus, academic performance of the respondents was not solely dependent on their inherent mental ability, but was also influenced or affected by the factors within their environmental set-up.

Table 4.10. The relationship of academic performance of the respondents to their fourteen Primary Factors of Personality (14PF)

Factor	Computed r	Description
A. Warmth	0.3	Low positive correlation
B. Intelligence	0	No relationship
C. Emotional Stability	0	No relationship
D. Excitability	0	No relationship
E. Dominance	0	No relationship
F. Cheerfulness	0	No relationship
G. Conformity	-0.2	Little negative correlation
H. Boldness	0.1	Little correlation
I. Sensitivity	0	No relationship
J. Withdrawal	0	No relationship
O.Apprehension	0.1	Little correlation
Q2.Self-sufficiency	0	No correlation
Q3.Self-discipline	0	No correlation
Q4.Tension	0	No correlation

The study of (Lopez, 2004) found out that there is low negative but negligible relationship that exists between academic performance and the nine emotional dimensions of personality using Emotions Profile Index (EPI) (Trustful, discontented, timid, depressed, distrustful, controlled, aggressive, and bias). The results of the review of literature is related to the current study in such a way that it deals with the actual dimensions of personality whereas the HSPQ reveals the emotional conflicts of certain individuals. Considering the results of the studies cited and the actual study undertaken, it can be concluded that the respondents’ desire and interests to acquire academic success in life prevail over the emotional, environmental and cognitive circumstances.

CONCLUSION:

The socio-demographic profile of the respondents such as their age, gender, annual family income and educational attainment of their parents pose an impact on the academic performance. Socio-economic factor plays a large part in human life. Some of the primary factors of personality as revealed by the High School Personality Questionnaire do not have strong connection with academic performance of the respondents. The respondents’ desire to pursue tertiary education is a matter of perseverance and strong determination. Although emotional stability has zero correlation, foreign studies have proven that emotions influence academic success. However, it was mentioned earlier in this study that emotional profile is not a powerful factor that influences academic performance of the respondents. Aside from not being established in relationship, the frequency of emotional stability factor at low description (C-) among respondents has been very low. This is expected considering the personal circumstances of the respondents being from rural areas who bring with them some anxieties and peculiarities as the result of the interaction of their culture and modernization. With all the hardships that are prevalent today, Filipinos are expected to strive harder and to struggle for the fittest in order to survive. The circumstances can be said to gain some strength to the respondents to pursue their education.

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REFERENCES:

- De Leon, H. (2011). *Textbook on the Philippine Constitution*.1987. (Sec.17, Art.1; Sec1 Art.XIV) (Eds)
Anastasi, A. & Urbina, S. (1997). *Psychological Testing*. (7th Ed). Simon and Schuster (Asia) Pre Ltd. Singapore.
- Cattell, R.B. (1973). *Personality and Mood Questionnaires*, London: Methuen.
- Cattell, R.B. & John (1984). *High School Personality Questionnaire User's Manual (HSPQ)*. Institute of Personality and Ability Testing (IPAT), 1602-04 Coronado Drive, Champaign, Illinois, USA.
- Cattell, R.B. (1984). A Clinical diagnosis by the Objective- Analytic Personality Batteries. *Journal of Clinical Psychology*, Monograph Supplement.
- Hurlock, E. (1982). *High School Personality Questionnaire User's Manual*.
- ISU, & You. (2010). *Student Handbook*. Revised Edition. Isabela State University. ISBN 978-971-94255-3-3.
- Kapunan, R.R. (1997). *Educational Psychology* (4th Ed.). Rex Book Store Manila.
- Lopez, R.M. (2004). Profile and Academic Performance of Bachelor of Science in Biology. Masteral Thesis, Isabela State University,Cabagan, Isabela Philippines.
- Macklem, G. L.(1990). Measuring Aptitude, Practical Assessment, Research and Evaluation. *Eric Assessment and Evaluation*.USA, 2(5).
- Primer, National Statistics Office. (2015). Average Poverty Level of Filipino Family. May 5, 2017.
- Schiemberg, L. B.(1998). *Successive Stage of Intelligence Development Discovering Science in the Elementary School*. Addison Wesley Publishing Company.
