Relationship of extrovert and introvert personality types against student achievement faculty of nursing USU

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Abstract. Learning achievement is one indicator in determining the success of an educational institution, student learning achievement consists of three aspects, namely cognitive, affective and psychomotor aspects. The student has unique and distinctive characteristics in behaving as well as in the learning process. A good learning process will result in a good learning achievement as well. Learning achievement is a proof of the success of learning or ability of a person in doing learning activities in accordance with the weight achieved. Many factors that affect learning achievement one of them is the student's personality. Personality can affect student achievement level. This study uses a descriptive correlative design that aims to determine the relationship between the personality with student achievement. The sample in this study amounted to 234 students of the Faculty of Nursing USU, with the approach of proportionate stratified random sampling. Chi-square test results obtained a relationship of personality with student achievement with p-value value of 0.043. Furthermore, the test statistic nonparametric test sperman rho that produces strength correlation relationship of the personality variable to the achievement index of -0.050. The suggestion for further research is to include other variables that influence academic achievement such as interest, motivation, lecturer and teaching method and environmental factors so that can be seen the influence of these variables.

1. Introduction
Personality is a unique behavior and human nature, emerging as a response to the stimuli both coming from the environment and self.

Each student has unique and distinctive characteristics in behaving as well as in the learning process. A good learning process will result in a good learning achievement as well. Winkel (in [1]) states that the learning achievement is a proof of the success of learning or ability of a person in doing learning activities in accordance with the weight achieved. Learning outcomes contained in Bloom's taxonomy, which is grouped into three domains (domains) namely the cognitive domain, affective or attitude and psychomotor or skill domains [1].

The success of a student study is based on an average weight score or usually called a Grade Point Average (GPA). Dependent variable used in this research is Grade Point Average (GPA). The value of GPA is obtained from the average IP obtained by students from the first semester to the semester that is being undertaken by the student.
In the world of education, as educators will be exposed to various characteristics of personality. There are students who are fun, cheerful, open to the problems they are facing, active in various organizations that exist in the institution and vice versa there are students who seem boring, quiet, close minded, not warm and so forth. Of course as an educator is required to understand the characteristics of student personality so that as educators we can provide stimulation or treatment in accordance with the personality type of learners encountered.

Houkoos and Penick in [2] found that the relationship of personality and achievement in the class shows the dynamic relationship and personality affecting achievement [2]. Another study conducted by [3], examines the relationship between personality type: extrovert and introvert with the academic achievement of FT UI undergraduate students. The results found that there was no significant relationship between personality type and student achievement [3]. But in previous research conducted by [4] note that there are differences in learning outcomes of learning outcomes in FIK UI students with extrovert and introvert personality. Researchers suggest to do further research on students who have a more varied learning achievement for the results obtained research can provide a more real picture of the relationship type of personality with academic achievement or learning achievement [4].

University of North Sumatra is an educational institution that has a commitment to improve the quality of human resources of Indonesian society. One important thing to note is the student's own personality and his reaction to the learning environment. Previous research conducted by [5], examines the relationship of personality type with the cumulative achievement index in the students of A Program of Faculty of Nursing USU. The method used in this research is Chi-Square test. The result of this research is there are personality relationship with GPA with p value equal to 0.0044 and correlation value 0.750 [5].

In this study the personality type used is based on the theory of Gustav Jung that divides into introvert and extrovert personality types. Extrovert is a term whereby a person likes the outer, open, spontaneous expression of emotions, likes to meet people and easily connect with others. Introvert is a term where a person who likes to be alone, always hide his feelings, shy, and unfriendly except to his close friends. According to [6], the major difference between extroverts and introverts is not the behavioral aspect, but rather on the biological and genetic level.

Students at the Faculty of Nursing USU have different behaviors. Based on the observations of researchers in the classroom, there are found some students who are quiet, shy and more like to be alone. They do not like to join with other friends, whether in learning together, doing joint tasks, or just telling and joking. They prefer to sit alone, play gadgets, read books, draw and prefer to rush home instead of accepting invitations to play or study together. Conversely, there are also cheerful students, do not like to learn or read on their own, like joking and happy to laugh. They are easy to socialize, like to visit new places, have lots of friends and easily connect with others.

The nursing student will surely become a nurse who will be in contact with the patient, the patient's family as well as his professional friend. In carrying out its duties, a nurse will deal with patients with a variety of personalities and unique. Nonetheless, in providing nursing care, nurses should not distinguish patients from one another even though they are treated from different treatment classes [7].

A nurse must understand the differences in personality and characteristics that are owned in order to facilitate interact with others. Therefore researchers interested in researching the personality type and whether there is a relationship of personality with student achievement during the course of study at the faculty of nursing USU.

2. Materials and Methods

2.1. Research Locations
The location of this research is done at the campus of the Faculty of Nursing, University of North Sumatra. The location of the study was determined by reason as input to improve student academic
achievement at Faculty of Nursing USU. Data retrieval and data processing in this study was conducted from March to June 2016.

2.2 Method
This research uses descriptive correlation research design that aims to find out the relationship of extrovert and introvert personality types to the level of student achievement in the Faculty of Nursing University of North Sumatra.

The number of population in this study is 543 people consisting of I, II, III and IV. The sampling technique used is proportionate stratified random sampling. The number of samples required based on Slovin formula with 5% leeway presentation as many as 234 students.

This study used a research questionnaire conducted by [3] with the title of relationship between personality type: extrovert and introvert with academic achievement of FT UI undergraduate students. This is because the contents of the questionnaire used in previous studies in accordance with research to be conducted by researchers. This questionnaire has been tested reliability and validity with the value of $r = 0.852$ [3].

3. Results and Discussion
This research was conducted in March - April 2016. The presentation of research data includes description of respondent characteristics, personality type of USU nursing student, student achievement index and inferences analysis of personality relationship with student achievement at Nursing Faculty of University of Sumatera Utara.

3.1. Description of Respondents' Demographic Characteristics
Below will be described the demographic data of respondents.

From the results of the study (Table 1) shows that the age of respondents is more in 20 years ($n = 67, 28.63\%$). The majority of respondents are women ($n = 230; 98.29\%$). Based on class, the respondents were slightly more likely to be in the 2013 stable compared to other class ($n = 67; 28.63\%$). Recapitulation of frequency distribution and percentage of respondent characteristics can be seen in the table below.
Table 1. Frequency Distribution and Percentage Based on Respondent Characteristics at Faculty of Nursing USU

| Respondent Characteristics | Frequency | Percentage |
|---------------------------|-----------|------------|
| Age                       |           |            |
| 17                        | 1         | 0.43%      |
| 18                        | 44        | 18.80%     |
| 19                        | 65        | 27.78%     |
| 20                        | 67        | 28.63%     |
| 21                        | 57        | 24.36%     |
| Sex                       |           |            |
| Laki-laki                 | 4         | 1.71%      |
| Perempuan                 | 230       | 98.29%     |
| Ledger                    |           |            |
| 2015                      | 55        | 23.50%     |
| 2014                      | 55        | 23.50%     |
| 2013                      | 67        | 28.63%     |
| 2012                      | 57        | 24.36%     |

3.2. Frequency Distribution of Student Personality Type at Faculty of Nursing USU

The type of personality that USU nursing students have is classified into two parts, namely introvert personality type and extrovert personality type. An extrovert has a tendency that directs more personality outward than into him. Extrovert characteristic is talkative, friendly, loves to meet people, loves to visit new places, and does not like routine and monotonous things.

An introvert has a tendency to rarely come into contact with events outside, self-oriented, and more subdued. According to Jung introverted behavior as a quiet person, distancing themselves from external events, not wanting to be involved with the objective world, not happy to be in the midst of many people. The difference between these two personality types will certainly result in attitude or how to adapt to the surrounding environment. This resulted in the achievement of learning which is measured in the form of cumulative achievement index (GPA).

Based on the provisions set out in the previous section, a student is said to have an introverted personality if the score of the questionnaire obtained is above 68.93%. If it is below or equal to 68.93% it is categorized as extrovert. From table 5.2 below can be seen that the respondents who have introverted personality type only amounted to 25 students with a percentage of 10.68%. While respondents who have extrovert personality type is much more that is 209 students with percentage 89.32%. This is a table of personality types of students of the Faculty of Nursing USU.

Table 2. Distribution of Frequency and Percentage of Respondents in USU Nursing Based on Personality Types

| Personality Types | Frequency | Percentage |
|-------------------|-----------|------------|
| Introvert         | 25        | 10.68%     |
| Ekstrovert        | 209       | 89.32%     |
3.3 Frequency Distribution of Grade Point Average (GPA) of Students at Faculty of Nursing

Student achievement index is a benchmark value that will be used as a reference for the success of students during the study of knowledge at the University concerned. Semester Performance Index is calculated based on the amount of credit expense taken in one semester multiplied by the weight of achievement of each course then divided by the amount of credit expense taken [8]. The Cumulative Achievement Index is an achievement index calculated based on the total amount of credit expense taken from the first semester up to the last semester. From table 5.3 we can see that the respondents of USU nursing students are more dominant than GPA in the range of 3.00-3.99 with the number of 188 respondents (80.34%). This achievement index is already in the good category with the maximum index that can be reached is 4.00. However, there are still some students who have less pretation index, that is as many as 45 students who are in the GPA range 1.00-2.99. The explanation above can be seen in table 5.3 below.

Table 3. Distribution of Frequency and Percentage of Respondents in USU Nursing Based on Cumulative Performance Index (GPA)

| Category   | GPA   | Frequency | Percentage |
|------------|-------|-----------|------------|
| Failed     | 0.00-0.99 | 0          | 0.00%      |
| Poor       | 1.00-1.99 | 4          | 1.71%      |
| Average    | 2.00-2.99 | 41         | 17.52%     |
| Good       | 3.00-3.99 | 188        | 80.34%     |
| Excellent  | 4.00   | 1          | 0.43%      |

3.4. Relationship Between Personality Type and Student Achievement Index at Faculty of Nursing USU

Based on literature studies that have been done previously researchers found that the personality of a student has an influence and relationship to achievement index achieved. Therefore, researchers conducted observations and tests directly using the questionnaire instrument to determine whether the personality has a relationship to achievement. The results obtained in this study can be seen in table 5.4 below. Testing the relationship done in this research is chi-square test. A chi-square test is performed to see if the personality has a significant relationship to the achievement index.

The result obtained from chi-square test is a significant correlation between the independent variable of personality to the dependent variable of achievement index. The following is a table of test of personality correlation with student achievement index by using chi-square test.

Table 4. Test Results Personality Relationship with Student Achievement Index Using Chi-square Statistical Method

| Variabel Independent | Variabel Dependent | P-value | Level Significance |
|----------------------|-------------------|---------|--------------------|
| Personality Types    | Indeks Prestasi Kumulatif | 0.043   | 0.05               |

After chi-square test done and obtained that personality have a significant relation to student achievement index in faculty of nursing USU. Then tested correlation sperman rho to see how much relationship obtained. Values obtained can be seen in the following table view.
Tabel 5. Result of Personality Correlation Test with Student Achievement Index Using Statistical Method Nonparametric Test Sperman Rho Correlations

| Personality  | GPA       | Spearman's rho | Personality Correlation Coefficient | Sig. (2-tailed) | N  |
|--------------|-----------|----------------|-------------------------------------|----------------|----|
| Personality  | GPA       | 1.000          | -.050                               | .              | 234|
| Correlation  | Coefficient |                  |                                     |                |    |
|              | Sig. (2-tailed) |                  |                                     |                |    |
|              | N          |                |                                     |                |    |

From the results of the research that has been described above, the discussion is used to explain the results of research and answer research questions about the relationship between personality type with student grade point average.

3.5. Type Personality of Respondents Nursing Students Universitas Sumatera Utara

This section will discuss the results of the research obtained and compare it with previous research and literature studies that already exist. This comparison is useful for obtaining the accuracy of the research that has been conducted whether it supports the theory or otherwise.

The results of this study indicate a difference in the number of students with introverted personality type with extrovert personality. This can be seen from the recapitulation of data collection shows that the number of respondents who have introverted personality is 25 students (10.68%). While respondents who have extrovert personality type is as much as 209 students (89.32%). References in determining a student's introvert or extroverted personality can be seen from the total point (score) obtained by the students when filling out the questionnaire. Based on research conducted [3], if point > 68.93 then respondent have introvert personality.

Personality is a dynamic organizational unity of the individual psychophysical system that determines the unique adaptability of its environment [9]. Differences in communication styles can be seen from the personalities of each student who basically have different models of communication, communication, how to express in communication and responses given to their communication opponents [10].

Respondents used in this research are nursing students of University of Sumatera Utara in 2015, 2014, 2013 and 2012. The data collected show that personality of respondent is more dominant with extrovert personality that is 89.32%.

3.6. Grade Point Average (GPA) of Nursery Student of Universitas Sumatera Utara

Grade Point Average (GPA) is the level of achievement obtained by each student by adding up the whole semester that has been passed by the student in question. From the data that has been collected can be seen GPA USU nursing students are more dominant in the range 3.00-3.99 and is already quite good. But there are still some students who have GPA in the range 1.00-2.99 with a frequency of 45 students (19.23%). [11] explained that the achievement of learning is influenced by each internal or
external students concerned. Internal factors that affect learning achievement such as physical condition, motivation, intelligence, interest, confidence and so forth. While external factors that affect learning achievements are family, community, school and so forth [11].

Personality variables also participate in influencing the achievement of learning as expressed by [12] that internal factors that influence success in the learning process one of them is a personality variable [12]. A well-balanced person greatly affects the learning process, a well-balanced person can create mental health and emotional calm, which can drive success in learning. Individuals in their lives always have needs and drives such as security, trustworthiness, appreciation and others. If that need is not met then there will emerge emotional problems and as a manifestation of an unhealthy mental emotional sense, the result will be compensated in negative aggressive actions.

3.7. Relationship Type Personality with Student Grade Point Average (GPA) at the Faculty of Nursing USU

The result of bivariate analysis by using chi-square test showed that there was a significant correlation between independent variable of personality to the dependent variable of student achievement index with p-value value of 0.043.

After the chi-square test, the results show that there is a relationship of personality type with student achievement index in Faculty of Nursing USU. To see the great relationship obtained then performed correlation test r. The correlation r value obtained for personality relationship with student cumulative grade index is -0.050. This value indicates the strength of the personality relationship with the student achievement index has a weak negative correlation. That is, the higher the personality score of a person then the index of student achievement will decrease.

Achievement of these achievements is actually not only influenced by the personalities of each student but also influenced by other factors. Knowledge of the psychological condition and personality of the student can certainly affect the learning outcomes obtained by adjusting to the appropriate learning environment. The results of this study have the same perception with the theory that the personality is one of the factors that affect student academic achievement.

This research is in line with previous research conducted by [5], examining the relationship of personality type with cumulative achievement index on student of A Faculty of Nursing Program USU. The results found in the study by using Chi-Square test is the type of personality has a relationship with student achievement index [5]. Similar results were also found in previous research conducted by [4] note that there are differences in student learning outcomes FIK UI extrovert and introvert personality [4].

While previous research conducted by [13] to know the impact of personality type analysis with cumulative achievement index of nursing students of Universitas Pelita Harapan. This research use cross sectional design with sample of nursing student of class 2009-2011. The results showed that there was no significant correlation between student learning outcomes with extroverted and introverted personality [13]. [14] also conducted a study to determine the effect of learning strategies and personality types (introvert and extrovert) to the learning result of Indonesian language. This research uses 2x2 factorial experimental design with sample 48 junior high school students in Tangerang city. The results showed that there was no significant difference between student learning outcomes with extroverted and introverted personality [14]. Another study conducted by [3] states that there is no relationship between extrovert and introvert personality types with student achievement index in Faculty of Nursing Universitas Indonesia Regular S1 program.

References
[1] Sunarto 2009 Learning Prestation (Accesed at 05 November 2015)
[2] Chen, Sue-Jen and Caropreso EJ 2004 Journal of Interctive Online Learning; Influence of Personality on Online Discussion. http://www.ncolr.org/jiol/issue/pdf. (Accesed at 05 November 2015)
[3] Tarmidzi and Dias S 2012 *Relationship between personality type: extrovert and introvert With Academic Achievement Faculty of Engineering, University of Indonesia for Regular Program* (Jakarta: Universitas Indonesia)

[4] Widiatmi T 2007 *Differences in Student Achievement S1 Regular personality introverst and extrovert personality type in the Faculty of Nursing University of Indonesia* (Jakarta: Universitas Indonesia)

[5] Septiariani 2010 *Relationship Between Personality Type and Cumulative Achievement Index of Student Program A Faculty of Nursing Universitas Sumatera Utara* (Medan: Universitas Sumatera Utara)

[6] Eysenck HJ 1970 *The Scientific Study of Personality* (London: Routledge)

[7] Sunaryo 2004 *Psychology in Nursing* (Jakarta: EGC)

[8] www.respositoryusu.ac.id (Accessed at 05 November 2015)

[9] Kartono 2014 *Social Pathology 2: Juvenile Delinquency* (Jakarta: Rajawali Press)

[10] Soemirat S, Ardianto E and Suminar Y 1999 *Organization Communication* (Jakarta: Gramedia Pustaka)

[11] Selameto 2003 *Learning and Influencing Factor* (Jakarta: Rineka Cipta)

[12] Azwar 1996 *Prestation Test* (Yogyakarta: Pustaka Pelajar)

[13] Susila FM 2014 *Analysis of Impact of Personality Type With Student Achievement Average Achievement Index of Universitas Pelita Harapan* (Jakarta: Universitas Pelita Harapan)

[14] Mularsih and Heni 2010 *Learning Strategies, Personality Types and Learning Outcomes Indonesian At Junior High School Students* (Jakarta: Universitas Tarumanegara)