The effect of personality and cognitive ability about reproduction health to healthy life motivation: an ex post facto approach

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Abstract. This research is aims to about the effect of personality and cognitive ability about reproduction health to healthy life motivation. The hypothesis was tested using Two Way ANOVA and involved 279 students as a sample selected by purposive sampling method. The results showed that (1) There are differences in healthy life motivation between students with accurate personality compare with those who are less accurate, (2) There are differences in healthy life motivation between students who had high cognitive ability about reproduction health compare with those who had low cognitive ability about reproduction health, (3) There are differences in group of students with accurate personality and had high cognitive ability about reproduction health, they have better healthy life motivation compare with those who are less accurate, (4) There are differences in group of student with less accurate personality and had high cognitive ability about reproduction health, they have better healthy life motivation compare with those who had low cognitive ability about reproduction health, (5) There is an interaction between personality and cognitive ability to healthy life motivation. Then, a healthy life motivation change significantly by personality and cognitive ability about reproduction health.

1. Introduction

Indonesia is a country whose territory is the fourth most populous country in the world, with a population of around 264 million people or around 3.5% of the world's total population (UNFPA, 2017). The population problem is still a problem that needs serious attention for Indonesia. Past population-related policy issues in Indonesia have focused on fertility issues, family planning and the unequal distribution of population across the archipelago. According to Gardiner dan Gardiner (2017); Utomo, Mcdonald, Utomo, Cahyadi, & Sparrow [2] as demographic transitions and subsequent changes in age structures have shifted attention and policy discussions have begun to focus on strategies to reap the benefits of the potential demographic bonus associated with salient factors in today’s youth.

Urban areas are in the fourth rank with a percentage of 5.4%, or equivalent to the cause of death from malignant tumors such as in the body parts in the breast, liver, cervix, lungs [4]. In addition, another issue in health problems in adolescence is related to the problem of deviant behavior from these adolescents. This was revealed by Kholifah, Yumni, Minarti, & Susanto [3] who stated that based on national survey data in Indonesia that 1% of women and 8% of the male population have had sexual
relations outside of marriage. Then, 5% of adolescents aged 10-24 years have engaged in various sexual activities, such as masturbation. This survey also confirms symptoms of premarital sexual activity, including sexual intercourse. Currently, adolescents have liberal attitudes towards sexuality because of liberalism and Westernization. Susanto (2016) in Kholifah et al., [3] emphasizes that the Reproductive Health program to improve life skills of adolescents during puberty must be based on their personal characteristics. Meanwhile, health education generally promotes health behavior for adolescents in the school environment.

At present, population problems are related to population health problems, where a high mortality rate is caused by obstetric or reproductive health diseases whose mortality rate is equivalent to cancer or malignant tumors must start to become a serious concern. The Health Research and Development Agency of the Ministry of Health of the Republic of Indonesia submitted data on the proportion of causes of death for women of reproductive age 15-44 years of age which are obstetric or reproductive health diseases. This condition should have been eliminated by Indonesian government programs since the international community specifically discussed population issues at the International Conference on Population and Development (ICPD) forum in September 1994 in Cairo, as many as 184 countries gathered to plan an equality between human life and resources, which exists. For the first time, international treaties on population focus on reproductive health and women's rights as central themes [1].

Problems related to reproductive health, often stem from a lack of information, understanding and awareness to achieve reproductive health and these cases are experienced by many teenagers [5] [6]. Sufficient information and knowledge about health, sexual and reproductive rights (SRHR) shows that adolescents are not afraid of social stigma. However, they want health care providers to provide access to information and non-judgmental assistance facilities when consulted [7]. There are so many things related to this, starting from understanding the need for maintaining the cleanliness of the reproductive organs, understanding the reproductive process and the impact of irresponsible behavior such as unwanted pregnancy to abortion and free sex activities with the risk of transmitting sexual diseases including immunodeficiency virus / human immunodeficiency syndrome (HIV / AIDS).

Sexual and reproductive health for adolescents faces challenges because the young population is vulnerable to diseases related to unplanned pregnancies and births, as well as sexually transmitted infections (STIs) including HIV / AIDS, as well as maternal mortality and abortion. The trigger factors include a lack of information on reproductive health, difficult access to contraceptive methods, low levels of education and income, sexual violence and abuse, gender inequality which contributes to an increase in reproductive health problems among adolescents [8].

The World Health Organization's (WHO) 2030 sustainable development goals include promoting sexual and reproductive health for all adolescents and young adults. Recognition that attention to men's sexual desire needs which are often not fulfilled leads to increased vulnerability to the reproductive health of men and women. Globally, the chronology of sexual reproductive health services and policies is targeted at women and children, who are considered to be most vulnerable to adverse health outcomes [9]. When we refer back to the data from the Health Research and Development Agency of the Ministry of Health of the Republic of Indonesia based on the 2008 national regional health research report (Riskesda), it turns out that Indonesian adolescents' knowledge is still minimal about the problem of HIV / AIDS infectious diseases, namely in the population age range 15-24 years. of the 63.2% who had heard of HIV / AIDS, only 14.2% had correct knowledge about transmission. This minimal understanding is also shown by the DKI Jakarta Province which is the capital city of Indonesia and becomes Indonesia's barometer of the level of knowledge and the high level of HIV / AIDS transmission, where out of 67.8% only 9.2% are well-informed [10]. Even though in line with this, Indonesia has committed to the development goals of the Sustainable Development Goals (SDGs), especially in item three concerning health and welfare.

The issue of adolescent reproductive health is a very important topic for understanding by society, especially adolescents so that they have correct information about reproductive health and the various factors that influence it. Adolescence is influenced by the challenges of special health needs, as a sexual
maturation process that usually aims to reduce risk, this is because it is a sensitive period in the development of high-risk sexual behavior [11].

Ideally, adolescents have attitudes and behavior that are responsible for reproductive health. Adolescent reproductive health is a healthy condition related to the reproductive system, function and process in adolescents. Various sources of information are very important in strengthening knowledge about reproductive health. Processing correct information is human knowledge that needs to be developed in a school environment [12]. Personality is a biological trait of intra-individual consistency, a basic trait that is inherited and is related to one's physical fitness [13]. The school environment becomes a pillar of socialization for the development of community insights, especially for students who are in the productive age or adolescent category, so that there will be interest and encouragement for students to carry out activities to clean personal clothes, maintain environmental cleanliness and care for their health. The conditions mentioned above will reflect the personality characteristics of students who have knowledge of reproductive health in avoiding the various effects of the disease it causes [14].

Social personality can be defined as a coherent set of social strategies for responding to the challenges of group life, which are consistent over time and have the characteristics of a particular social group. Social strategy can be a key factor in the evolution and development of consistent individual differences in personality [15]. Motivation is a subject that has long been studied to understand human behavior and performance. During the 20th century and towards the new millennium, scholars have developed broad theories and have accumulated a great deal of applied research investigating motivation in various fields [16]. Any plan to advance public health requires knowledge of a level of awareness, attitude and [17].

Based on the description above, the motivation to live a healthy life can be assumed to be related to personality and knowledge. This is in line with the organizational behavior integration theory model developed by Colquitt, Lepine, & Wesson [18] that motivation is related to personality and abilities. Therefore, the originality of the research carried out is to confirm the theoretical model of organizational behavior integration Colquitt et al. [18], in which the model states that there is a relationship between motivation and personality and abilities. Usually this model is used in management research related to organizational behavior, but in this study it emphasizes that the personality in question is the big-five personality, the ability in question is knowledge of reproductive health, and what is meant by motivation is the motivation to live a healthy life. Although there are many studies on motivation, personality and knowledge, very few have reported their research on healthy life motivation related to big-five personality and knowledge about Reproductive health. Based on the confirmatory theoretical model of Colquitt et al. [18]. About the integration model of organizational behavior, novelty in this study focuses on the interaction of healthy life motivation related to big-five personality and knowledge about Reproductive health. In addition, it explores which of the five big-five personality factors that have the strongest contribution to the motivation to live a healthy life.

2. Methods
The method of the research uses quantitative methods with an ex-post facto approach with a 2 x 2 factorial design to examine the relationship between research variables and to measure the influence between variables.

The target population in this study were all students of class XI SMA Negeri in DKI Jakarta Province. The affordable population in this study were all students of class XI SMA Negeri in DKI Jakarta Province with a sample frame of 279 respondents. Sampling was done by taking affordable population through purposive sampling technique, namely the sampling technique with a specific purpose. This technique implies a sampling process by first determining the number of samples to be taken, then selecting samples based on the desired objectives, guided by the characteristics of the selected sample. Characteristics sample were selected from the group upper limit and lower limit of 27%, then 75.33 was obtained, to be divided into the group upper and lower limits, 76 samples were fulfilled, so that each group had an upper and lower limit of 38 samples.
Table 1. Research Design

| Cognitive ability about reproductive health (B) | Personality (A) |
|-----------------------------------------------|----------------|
| Cognitive ability (B)                         | Accurate (A1)  |
| High (B1)                                     | A1B1           |
| Low (B2)                                      | A1B2           |
|                                              | Less Accurate (A2) |
|                                              | A2B1           |
|                                              | A2B2           |

Y = Motivation healthy life

3. Results and Discussion

3.1. Independent sample T test result of personality variable (A)

The following is a data table of the results of the calculation of personality variable groups consisting of accurate and inaccurate personality groups.

Table 2. Mean Score Result Group Variable A

|     | N  | Mean   | Std. Deviation | Std. Error Mean |
|-----|----|--------|----------------|-----------------|
| A1  | 38 | 146.3947 | 17.12993       | 2.77884         |
| A2  | 38 | 169.8684 | 18.48765       | 2.99909         |

The number of personality variable data for accurate and inaccurate personality groups were 38 students respectively. The average value of healthy life motivation or Mean for the accurate personality group is 146.3947, while for the inaccurate personality group is 169.8684. Thus, statistically descriptive it can be concluded that there is a difference in the mean score of students' healthy life motivation between the accurate personality group and the inaccurate personality group. Furthermore, to prove the significance of these differences, the following is a table of the results of the independent calculation of sample T in interpreting the significance of the data between these groups.

Table 3. Independent Sample T Test Result Variable Group A

|     | F    | Sig. | t     | df  | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |
|-----|------|------|-------|-----|-----------------|-----------------|------------------------|-----------------------------------------|
|     |      |      |       |     |                 |                 |                        | Lower                                 |
| Y   | 1.251| .267 | -5.741| 74  | .000            | -2.347.368      | 408.858                | -3.162.036 -1.532.700                 |
|     |      |      |       |     |                 |                 |                        | Upper                                 |

The probability value (Sig.) of Levene's test is 0.267 > 0.05, it means that the data variance between accurate personality groups and inaccurate personalities is homogeneous or the same. Next, in the “equal variances assumed” the Sig value is known. (2-tailed) of 0.0001 < 0.05, it can be the basis for the hypothesis decision making in the independent sample T test that H0 is rejected and H1 is accepted. Therefore, it can be concluded that there is a significant difference between the mean score of healthy life motivation between students in the accurate personality group and the inaccurate personality group. In addition, the hypothesis can be taken through the t value, where it is known that the t value is 5.741 and the t table is 2.262 so the t value is 5.741 > t table 2.262 then H0 is rejected and H1 is accepted. Thus there is a difference in the average score of healthy life motivation between groups of students with accurate personalities and inaccurate personality groups.
3.2. The result of independent sample T test calculation for variable B

The following is a data table of the results of the calculation of the cognitive ability variable group regarding reproductive health, which consists of the cognitive ability group regarding high reproductive health and low understanding of reproductive health.

| Table 4. Mean Score Variable Group B |
|-------------------------------------|
| B | N  | Mean   | Std. Deviation | Std. Error Mean |
|---|----|--------|----------------|-----------------|
| Y | B1 | 38     | 154.6579       | 21.08448        | 3.42036        |
|   | B2 | 38     | 161.6053       | 21.18584        | 3.43680        |

The quantity of cognitive ability data variables about reproductive health for the high understanding of Reproductive health and low understanding of Reproductive health were 38 students respectively. The average value of healthy life motivation or Mean for the high cognitive ability group on Welfare was 154.6579, while for the cognitive ability group on low Welfare Health was 161.6053. So, statistically descriptively it can be concluded that there is a difference in the average score of students' healthy life motivation between the high cognitive ability group on Reproductive health and the low cognitive ability group on Reproductive health.

| Table 5. Independent Sample T Test Result Variable GroupB |
|----------------------------------------------------------|
| Levene's Test for Equality of Variances                  |
| t-test for Equality of Means                             |
| F  | Sig. | t   | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |
|---|------|-----|----|-----------------|-----------------|-----------------------|------------------------------------------|
| Y | Equal variances assumed | .136 | .713 | 1.433 | 74 | .156 | -694.737 | 484.875 | -1.660.872 | 271.398 |
|   | Equal variances not assumed | .136 | .713 | 1.433 | 73.998 | .156 | -694.737 | 484.875 | -1.660.872 | 271.399 |

The probability value (Sig.) of Levene's test is 0.713 > 0.05, so it can be interpreted that the data variance between the group of high understanding of reproductive health with cognitive abilities about low reproductive health is homogeneous or the same. Next, in the "equal variances assumed" the Sig value is known. (2-tailed) 0.156 > 0.05, it can be the basis for the hypothesis decision making in the independent sample t test that H0 is accepted and H1 is rejected. Therefore, it can be concluded that there is no significant difference between the mean score of healthy life motivation between students in the cognitive ability group about high health and the cognitive ability group about low health. In addition, the hypothesis can be taken through the t value, where it is known that the t value is 1.433 and the t table is 2.262 so the t value is 1.433 <t table 2.262 then H0 is accepted and H1 is rejected. Thus there is no difference in the mean score of healthy life motivation between the group of students with high cognitive ability on reproductive health and the cognitive ability group on low reproductive health.

3.2.1. Two way ANOVA test

The results of the two way ANOVA calculation, which is the following table is a of recapitulation of the two way ANOVA data calculation results.
The number of valid samples for each variable was 76 samples and the samples that were missing were zero. The following table is the results of the calculation of the two way ANOVA test through SPSS 20.0 in knowing the influence and interaction between the independent and dependent variables as in the table below.

### Table 6. ANOVA Data Test Result

|        | A         | B         | Y         |
|--------|-----------|-----------|-----------|
| N Valid| 76        | 76        | 76        |
| N Missing| 0        | 0        | 0         |
| Mean   | 1.5000    | 1.5000    | 158.1316  |
| Median | 1.5000a   | 1.5000a   | 151.6667a |
| Mode   | 1.00b     | 1.00b     | 146.00b   |
| Std. Deviation | .50332 | .50332 | 21.28307 |
| Variance | .253     | .253     | 452.969   |
| Skewness | .000     | .000     | .095      |
| Std. Error of Skewness | .276     | .276     | .276      |
| Kurtosis | -2.055    | -2.055   | -1.278    |
| Std. Error of Kurtosis | .545     | .545     | .545      |
| Range   | 1.00      | 1.00      | 85.00     |
| Minimum | 1.00      | 1.00      | 118.00    |
| Maximum | 2.00      | 2.00      | 203.00    |
| Sum     | 114.00    | 114.00    | 12018.00  |

Note:  

- a = Calculated from grouped data.  
- b = Multiple modes exist. The smallest value is shown.

### Table 7. Two Way ANOVA Validity Calculation Result

| Varians                  | Amount of mean square | df | Mean Square | F       | Sig.   |
|--------------------------|-----------------------|----|-------------|---------|--------|
| Corrected Model          | 159067.053a           | 3  | 53022.351   | 1751.958| .000   |
| Intercept                | 1079093.895           | 1  | 1079093.895 | 35655.293| .000   |
| Personality              | 107175.211            | 1  | 107175.211  | 3541.271| .000   |
| Cognitive ability        | 39562.579             | 1  | 39562.579   | 1307.222| .000   |
| Personality * Cognitive ability | 12329.263 | 1 | 12329.263 | 407.382 | .000   |
| Error                    | 2179.053              | 72 | 30.265      |         |        |
| Total                    | 1240340.000           | 76 |             |         |        |
| Corrected Total          | 161246.105            | 75 |             |         |        |

Note:  

- a: R Squared = .654 (Adjusted R Squared = .634)  
- ( * ) Significan α = 0.05

Corrected model or the effect of all independent variables on the dependent variable has a significance value (Sig.) of 0.0001 where the level is 0.05, then the corrected model value is significant because 0.0001 <0.05 and means that the model is valid. Thus, overall there are differences in personality and cognitive abilities for reproductive health on motivation to live healthy. Then it is known that the significance value (Sig) of the intercept or the interaction between the independent variable and the dependent variable is 0.0001 and if the significance (Sig) <α = 0.05 then the interaction is significant because the Sig. 0.0001 <0.05. While the significance value (Sig) of personality interaction on the value of motivation to live a healthy life is known to be 0.0001 and in the model it is declared significant if the significance (Sig) < = 0.05, then personality has a significant effect because the Sig value. 0.0001 <0.05.
If the significance (Sig.) < $\alpha = 0.05$ is significant, it is known that the significance value (Sig.) is 0.0001, so the cognitive ability about reproductive health has a significant effect because the Sig. 0.0001 < 0.05. For the Personality model * cognitive abilities about reproductive health on motivation to live healthy are significant if the significance value (Sig.) < $\alpha = 0.05$, it is known that the significance value (Sig.) of 0.0001 means that personality * cognitive abilities have a significant effect on life motivation healthy because 0.0001 < 0.05. Mean while, it is known that the value of R squared or the effect value between personality variables and cognitive abilities on reproductive health with healthy life motivation is 0.654 or close to the value of 1 and the value of Adjusted R Square or the value of direct influence is 63.4% which means that it has a very strong interaction.

Based on these data, it can be concluded that the two way ANOVA test hypothesis is that the F test results indicate significant or accept $H_1$, then further tests are carried out with the Tukey test.

### 3.2.2. The Tukey test

The Tukey test is conducted to determine the difference test between the independent and dependent variables. The following is a table of Mean score data and Tukey test result data through SPSS 20.0.

| Group | N   | Subset |   1 |   2 |
|-------|-----|--------|-----|-----|
| A1B1  | 19  |        | 145.58 |     |
| A1B2  | 19  |        | 147.21 |     |
| A2B1  | 19  |        | 163.74 |     |
| A2B2  | 19  |        | 176.00 |     |
| Sig.  |     |        | 0.992 | 0.144 |

The mean scores in order of highest to lowest are as follows; The mean score for the A2B2 data group was 176, the mean score for the A2B1 data group was 163.74, the mean score for the A1B2 data group was 147.21 and the A1B1 group score was 145.58

### Tabel 9. Hasil Uji Tukey

| Group Varians | Q value | Q table | Note   |
|---------------|---------|---------|--------|
| A1B1 with A2B1| 0.11    | 0.05    | Significant |
| A2B1 with A2B2| 0.144   | 0.05    | Significant |

The results of the Tukey test showed that all data groups were compared with significant results, namely the significance value of groups A1B1 and A2B1 with a Sig. 0.11 > 0.05 and the significance value of the A2B1 and A2B2 groups with a Sig. 0.144 > 0.05.

### 3.3. Discussions

Data analysis of the independent sample T test, two way ANOVA and the results of the Tukey test, provide the following hypotheses.

#### 3.3.1. Hypotheses I.

Calculation of independent sample T test, with criteria reject $H_0$ if the value of $t$ count > $t$ table, where it is known that the value of $t$ count is 5.741 and $t$ table is 2.262 so the value of $t$ count is 5.741 > $t$ table 2.262 then $H_0$ is rejected and $H_1$ is accepted. Thus there is a difference in the motivation to live a healthy life between groups of students with accurate personalities with inaccurate personalities.
Empirically and theoretically, this study proves that there are differences in the motivation to live a healthy life between students with accurate personalities compared to inaccurate personalities, where from the results of the T sample independent test calculation, with the reject criteria $H_0$ if the $t$ value $> t$ table, it is known that the $t$ value count 5.741 and $t$ table 2.262 so the $t$ value is 5.741 $> t$ table 2.262 then $H_0$ is rejected and $H_1$ is accepted.

Referring to the organizational behavior integration model proposed by Colquitt et al. [18] that personality is an individual characteristic that can influence individual behavior, especially motivation, this is in line with the application of character education in education in Indonesia which can develop a virtuous personality: noble, disciplined, tough, religious and loves personal hygiene and the environment. Regarding the character of loving cleanliness, in Islam the values of loving cleanliness are part of faith. So that from the positive personality characters that are formed can build high individual motivation, and in the end affect the high motivation to live a healthy life by maintaining the values of personal hygiene and the environment. Thus it is very clear that personality has a very strong influence on building one's motivation to live a healthy life.

3.3.2. Hypotheses 2.
The results of the independent test sample T, with the criteria reject $H_0$ if the value of $t$ count $> t$ table, where it is known that the value of $t$ count is 1.433 and $t$ table is 2.262 so the value of $t$ count is 1.433 $< t$ table 2.262 then $H_0$ is accepted and $H_1$ is rejected. Thus there is no difference in the mean score of healthy life motivation between the group of students with high cognitive ability on reproductive health and the cognitive ability group on low reproductive health.

This study proves that there are differences in healthy life motivation between students with high cognitive abilities about reproductive health compared to low ones, where from the results of the T sample independent test calculation, with the reject criteria $H_0$ if the $t$ value $> t$ table with known $t$ value. count 1.433 and $t$ table 2.262 so the value of $t$ count is 1.433 $< t$ table 2.262 then $H_0$ is accepted and $H_1$ is rejected.

Ability is one of the individual characteristics in the organizational behavior integration model proposed by Colquitt et al. [18], where in the model, the ability consists of two types of abilities, namely physical abilities and cognitive abilities. In this model, cognitive abilities can affect motivation as part of individual behavior.

According to Hutchison & Charlesworth [19] where they describe a five-stage model of child development based on their sexual instincts, namely: the oral phase (born around 18 months), when the search for pleasure is centered in the mouth; the anal phase (from about 18 months to 3 years), when the search for pleasure is centered on the anus; the phallic phase (ages 3-6), when the search for pleasure is centered on the genitals; the latency phase (ages 6-8), when erotic urges are suppressed; and the genital phase (adolescence and beyond), when the search for pleasure centers on the genitals and sexual intimacy.

In the context of the stage of child development based on their sexual instincts and education in Indonesia, it is clear that cognitive abilities regarding reproductive health are important because in adolescence who are in the genital phase where the search for pleasure is centered on the genitals and sexual intimacy, this condition will be exacerbated if the level of cognitive ability about health low reproduction which results in high mortality rates for women of reproductive age 15-44 years due to obstetric diseases or reproductive health. Based on data, urban areas are ranked fourth with a percentage of 5.4% or equivalent to the cause of death due to malignant tumors [4]. Thus, aspects of cognitive abilities need attention in the development of education in Indonesia as an effort to increase reproductive health literacy and minimize the impact of mortality due to obstetric diseases.

3.3.3. Hypotheses 3.
The results of the calculation of the mean score for the A1B1 group were 145.58 and the mean A2B1 score was 163.74, so from the calculation of the mean score data, there was a difference between the
A1B1 and A2B1 groups. Then after testing the significance level of the difference using the Tukey test with the criteria for rejecting H0, if the value of Qcount > Qtable is at the significance level α = 0.05, it is known that the Qcount value is 0.11 while the Qtable value is 0.05 then 0.11 > 0.05. Thus H1 is accepted and it can be concluded that there is a significant difference between groups of students with accurate personalities and cognitive abilities about high health outcomes, have better motivation to live healthily than groups of students with inaccurate personalities.

This study proves that there are differences in the group of students with accurate personalities and high cognitive abilities regarding reproductive health, who have better motivation to live healthily than groups of students with inaccurate personalities. Where from the results of the calculation of the data, the mean score for the A1B1 group was 145.58 and the mean score for A2B1 was 163.74, so from the calculation of the mean score data, there was a difference between the A1B1 and A2B1 groups. Then after testing the significance level of the difference using the Tukey test with the criteria for rejecting H0, if the value of Qcount > Qtable is at the significance level α = 0.05, it is known that the Qcount value is 0.11 while the Qtable value is 0.05 then 0.11 > 0.05, then the hypothesis H0 is rejected and H1 is accepted.

The organizational behavior integration model proposed by Colquitt et al. [18] states that the ability and personality are individual characteristics that affect motivation as part of individual behavior. Pervin (1996); in Rhodewalt [20] explains that personality is a complex organization of cognition, influence, and behavior that provides direction and patterns (coherence) for a person's life, personality consists of structures and processes and reflects both nature (genes) and parenting experiences.

The issue of motivation is important for educational organizations because motivation is a major factor of student learning. Learning is one of the determinants of student personality development. Interest in learning is a product of several factors that depend on personality, individual abilities, exclusivity of obligations, encouragement and other environmental factors [21]. Thus it can be said that the motivation to live a healthy individual is influenced by personality and cognitive abilities which are the main factors in forming "interest", in other words the term interest itself can be perceived as motivation, so that the elements of accurate personality and high ability will influence in shaping motivation. someone better and vice versa.

### 3.3.4. Hypotheses 4

The results of the calculation of the mean score data for the A2B1 group were 163.74 and the mean A2B2 score was 176.00, so from the calculation of the mean score data there was a difference between the A2B1 and A2B2 groups. Then after testing the significance level of the difference using the Tukey test with the criteria for rejecting H0 if the value of Qcount > Qtable at the significance level α = 0.05, it is known that the Qcount value is 0.144 while the Qtable value is 0.05 then 0.144 > 0.05. Thus H1 is accepted and it can be concluded that there is a significant difference between the A2B1 and A2B2 groups. Then after testing the significance level of the difference using the Tukey test with the criteria for rejecting H0 if the value of Qcount > Qtable at the significance level α = 0.05, it is known that the Qcount value is 0.144 while the Qtable value is 0.05 then 0.144 > 0.05.

The conditions above illustrate that there are differences in a person's healthy life motivation because it is influenced by personality factors and cognitive abilities regarding their reproductive health. So it is very important to pay attention to the factor of personality development and increase in cognitive abilities about one's reproductive health in fostering motivation in one's life through educational...
institutions, especially schools that are formal educational institutions that are able to make pre-
conditions with reward and punishment for their students.

The pre-condition context of reward and punishment for students is reinforced by Pakdel who stated
that many education experts have reported repeatedly that even though students are very similar in terms
of talent and ability to learn, they act differently from one another in academic development and informal
activities. Pakdel also stated that based on the behavioral perspective on the context of reward and
punishment, the main focus of student motivation is encouragement, stimuli or positive and negative
events that can have an effect on student behavior (same). The humanistic perspective emphasizes the
development of students' personalities, freedom to choose the future and other positive features
(sympathizing with others). This perspective is closely related to Abraham Maslow (1971) who believes
that before meeting higher needs, certain basic needs must be met. For example, based on Maslow's
point of view, before students can progress, we must satisfy their need for food and satisfy their hunger
[21].

Maslow's view shows that a person's personality characteristics are a reflection of one's motivation
through fulfilling one's needs. This is in line with Allport (1937); Dweck & Leggett (1988); Higgins &
Scholer (2008); McAdams (1995); Murray (1938); Winter, John, Stewart, Klohnen, & Duncan (1998)
in Zeigler-Hill et al. [22] which states that motivation is a basic construct in psychology that is often
considered important for understanding personality.

3.3.5. Hypotheses 5.
The results of the two-way ANOVA calculation data with the reject criteria H0 if the significance value
of the intercept or interaction is Sig. <α = 0.05, it is known that the significance value (Sig.) of the
interaction is 0.0001, so the interaction is significant because the Sig. 0.0001 <0.05. Based on this, it
can be concluded that the hypothesis proposed by the researcher can be accepted because there is an
interaction between personality and cognitive abilities about persistence on healthy life motivation.

This study shows that there is an interaction between personality and cognitive abilities about
reproductive health on the motivation to live a healthy life. Where from the results of the two way
ANOVA calculation data with the reject criteria H0 if the significance value of the intercept or
interaction is Sig. <α = 0.05, it is known that the significance value (Sig.) of the interaction is 0.0001,
so the interaction is significant because the Sig. 0.0001 <0.05.

The term motivation comes from the Latin root which means to stimulate. Motivation is behavior,
not things or events that can be observed directly. These are compounds that describe certain behaviors.
Two aspects of behavior are explained by the concept of motivation which consists of justifying the
behavior or purpose of a behavior and consuming appropriate energy [21]. So it can be clearly stated
that motivation is the dominant factor in influencing behavior to act, including in leading to physical
health. This is also reinforced in the research of Peacock, Perry, & Morien [23] in their research on the
tendency of individuals to take medical actions in order to maintain their physical health, the results of
this study stated that most participants reported motivation related to physical health, but participants
with responses greater perceived affective motivation cites death prevention and sees surgery as their
last resort to a higher degree.

This context explains that the interaction of personality and cognitive abilities regarding
reproductive health on the motivation to live healthy is an important picture for the world of national
education by placing character education in building healthy living behaviors as a national asset to create
a healthy generation of people ready to meet national development. So that the strengthening of character
education needs to be strengthened by the cognitive abilities of students in understanding reproductive
health which is not only understood from a biological perspective, but also in a social and mental context
as a provision to become a person who is able to socialize well and has a positive mentality.

Data analysis with SPSS 20 shows a graph of the interaction between personality variables and
cognitive abilities about health and wellness towards healthy life motivation that intersect between
variables as can be seen visually based on the following graph.
Figure 1. Interaction Graphic Between Personality and Cognitive Ability of Reproductive Health for Healthy Life Motivation.

4. Conclusions
The results of the findings in the discussion of this research, it can be concluded that the strong influence of the weak motivation to live a healthy student is caused by the level of personality accuracy and the high level of low cognitive abilities regarding reproductive health, the implication is that if you want to increase motivation to live healthy, first improve the accuracy of personality and cognitive abilities about Reproductive health. This means that there is an interaction between personality and cognitive abilities about persistence and motivation to live a healthy life.

The results of the research that produced two interaction models conceptually and empirically concluded conceptually that the level of strength and weakness of students' healthy life motivation was strongly influenced by the level of personality accuracy and the high level of cognitive ability about health problems.

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