

Big-Five Personality Types of Students in Department of Primary School Teacher Education and the Effects on Self-Directed Learning

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Abstract

This study aims to determine whether there is a personality influence of the Big Five Personality Traits model on self-directed learning in students of the PGSD study program-at Institute of Education of South Tapanuli. The research used a quantitative approach, and the number of research participants was 190 active students in the PGSD-Institute of Education South Tapanuli study program using a voluntary sampling technique (voluntary sampling). Data collection uses a psychological scale to measure personality, namely the Big Five Personality Scale. And to measure self-directed learning using the self-Rating Scale for Self-Directedness in Learning (SRSSDL) by Fisher Instruments. Data were analyzed using the Structural Equation Modeling (SEM) method and processed through SmartPLS3. The study results show a significant positive effect between the two big five personality dimensions, Extraversion, and Openness to experience, on self-directed student learning. As well was an insignificant positive effect between the three big five personality dimensions, namely Agreeableness, Conscientiousness, and Neuroticism, on self-directed learning of students of the PGSD study program-Institute of Education of South Tapanuli.

Keywords: personality types; self-directed learning; and skala big five

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INTRODUCTION

Learning is a process of one's activities in achieving the broadest possible knowledge as a result of the interaction between individuals with other individuals. So by learning, growth and change are formed in a person, which is poured into the form of new behavior, and through the experience he has gained in the learning process takes place (Simarmata et al., 2021). A school is a place or place for someone to carry out the learning process; there are three learning components, namely the teacher, material, and students; apart from the teacher, students play an important role in the learning process.

After the learning process, students will undoubtedly achieve the desired target, namely satisfactory learning outcomes; learning outcomes are the determination of student values or values measured during the learning process, both from cognitive, affective, and psychomotor aspects (Ramadhani et al., 2022). The learning outcomes obtained by students are different and go according to expectations. Some students' learning outcomes are satisfying because they try to understand each subject. However, on the contrary, some students do not achieve maximum learning outcomes because they need to understand the purpose of a lesson during the learning process.

The achievement of student learning outcomes varies, usually influenced by several factors, namely internal factors, and external factors. Internal factors consist of physical and psychological factors such as talent, interest, mental health, mental health, the attention received, intelligent thinking, self-motivated or motivation and encouragement from within oneself, learning style, and finally, the student's personality (Jannah & Mudjiran, 2019; Ramadhani et al., 2022; Trigunawan & Solfema, 2021). External factors originating from outside the student's self-consist of three things (family, school, and community) (Nabillah & Abadi, 2020).

One of the internal factors, namely student personality, greatly influences student learning outcomes (Amin et al., 2020; Rosito, 2018). Each student's personality is different; this makes learning outcomes differ. According to Gregory, personality is a characteristic that indicates a person's personality, such as traits and behavior patterns (Sjarkawi, 2020).

Experts have taken several approaches to understanding personality. Costa & McCrae put forward a trait theory that describes a model for identifying essential traits in describing a personality (Costa Jr & McCrae, 1992). This theory later became known as the Big Five Theory of Personality. Big Five theory has the advantage that it can be used universally, so it can be relatively applied to individuals with different cultures (McCrae & Costa Jr, 2008) and can be used from childhood to adulthood (Thompson, 2008).

The big five personality traits have five factors that have their characteristics. The choice of the big five does not mean that there are only five personalities, but because of the grouping of thousands of traits into five large sets of personalities called personality dimensions. The five dimensions are extraversion, agreeableness, conscientiousness, neuroticism, and openness (Greenhaus & Callanan, 2006).

According to (McCrae & Costa Jr, 2008), highly extroverted individuals tend to be affectionate, sociable, talkative, fun-loving, and passionate. In contrast, those with low levels of extraversion tend to be indifferent, aloof, quiet, serious, and unfeeling. The second personality trait is neuroticism. If an individual has this personality trait, it tends to be high; then, the individual tends to be anxious, temperamental, sentimental, emotional, and vulnerable. However, if it tends to be low, then the attitude that appears is calm, proud of himself, not emotional, and strong. Trait openness in individuals who tend to be high on having imaginative, creative, innovative, curious, and accessible traits; but if it is

low, it has strong, realistic, uncreative, conventional, not interested, and conservative characteristics. Individuals with high agreeableness tend to be soft-hearted, trusting, generous, friendly, tolerant, and friendly. However, if this personality trait tends to be low, the attitude that will appear is hard-hearted, suspicious, critical, tends to be irritable. The fifth personality trait, conscientiousness, is conscientious, hard-working, organized, punctual, ambitious, and persistent. If the individual tends to be high and is careless, lazy, disorganized, late, has no goals, and gives up quickly, an individual with personality traits of conscientiousness tends to be low (Feist & Feist, 2010).

Student personality affects the results obtained by students during the learning process that will take place, so from there, it can be seen how the results achieved by these students. The personality possessed by students at school has different variations. Some tend to be open and highly socialized, but some tend to be introverted and anti-social. Because the personality of this student is the most crucial thing in supporting the success of learning because personality is a way that students have to determine the direction and concept of themselves in determining the success of learning they take in education. According to (Fatmala et al., 2019), personality is an important determinant for individuals because personality determines how a person thinks, behaves, and feels in various situations and circumstances.

Self-directed learning is needed for every individual; it is one of the encouragements for individuals to take the initiative, with or without the help of others, to organize their learning. Knowles explained that Self Directed Learning is a process carried out by realizing their own needs in learning, setting personal goals, making decisions on learning resources and strategies, and assessing results (Knowles, 1975). Meanwhile, according to (Long, 1989), Self-Directed Learning is a mental process that is usually accompanied and supported by behavioral activities, which include identifying and seeking information.

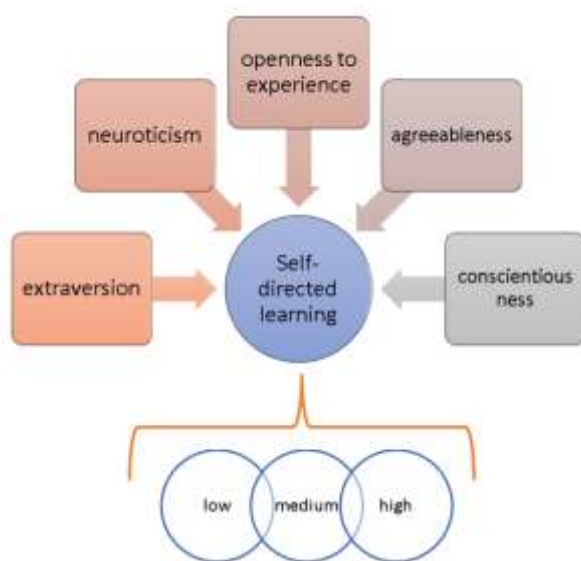
Guglielmino's theory suggests that self-directed learning can occur in various situations, ranging from teacher-directed classrooms to self-planned and self-conducted learning (Guglielmino & Guglielmino, 1991).

According to (Gibbons, 2003), Self-Directed Learning is an increase in knowledge, skills, achievements, and self-development where individuals use many methods in many situations at any time. Self-Directed learning is needed because it can give students the ability to do assignments, combine the development of abilities with character development and prepare students to learn their whole lives. Self-Directed learning includes how students learn every day, how they can adapt to rapidly changing circumstances, and how they can take their own initiative when an opportunity does not occur or does not appear (Ramadhani et al., 2020). The dimensions of independent learning, according to Candy (1991), there are four namely a) self-autonomy; b) self-management; c) the need for independent learning; d) learner control over learning (Chici Pratiwi Solfema Solfema, 2018; Damayanti, 2006).

From some of the definitions above, Self-Directed Learning is an increase in individuals' knowledge, skills, achievements, and self-development. That begins with their initiative by learning self-planned, self-conducted learning plans, realizing learning needs themselves in achieving learning goals by making their learning strategies, evaluating their learning outcomes, and having the responsibility to become agents of change in learning.

Research on the relationship between big five personality types and self-directed learning, conducted by (Lounsbury et al., 2009), revealed that self-directed learning was

found to be associated with the average cumulative point scores at all levels and the Big Five personality traits (Openness, Conscientiousness, Emotional Stability, and Extraversion). While different results were found (Kirwan et al., 2010) among students at Southeastern U.S. state university, that self-directed learning was found to be significantly associated with four of the Big Five personality traits: Agreeableness, Conscientiousness, Emotional Stability, and Openness. The results of research by (Sari et al., 2015), self-directed learning is basically influenced by conscientiousness and extraversion, which are personality traits. (Dağal & Bayındır, 2016) found that the level of self-directed learning is related to personality traits, namely 'extraversion' and 'conscientiousness'. From several previous studies, it can be seen and concluded that there is an influence of personality (Big Five Personality Model) on self-directed learning. Figure 1. The framework about the relationship between personality (Big Five Personality) and self-directed learning.



The hypothesis of this study is to see whether the Big Five personality traits (extraversion (X1), neuroticism (X2), openness to experience (X3), agreeableness (X4), and conscientiousness (X5)) have an influence on self-directed learning (Y). This research was conducted in the scope of students at the higher education level (students). From the point of view of developmental psychology, in general, students are at the stage of late adolescent development, entering young adulthood, which is around 17/18 to 21 or 22 years (Jahja, 2011). At this stage, the adolescent's personality develops toward a relatively sedentary pattern. Thus, identifying the dominant personality type or dimension has been able to describe specifically the condition of the characteristics of the adolescent's behavior. In addition, the pattern of education in tertiary institutions, which demands the development of independent learning (Sobri et al., 2020), and decision-making are factors that encourage the development of specific relatively sedentary patterns of behavior. Based on the explanation above, the researcher is interested in studying personality types and their influence on self-directed learning. The purpose of this study was to find out whether there is a personality influence of the Big Five Personality Traits model on self-directed learning in students of the PGSD study program-Institute of Education of South Tapanuli.

METHOD

Design

The research design used is a quantitative approach because the data and analysis used in this study are based on numbers. As stated by (Suharsimi, 2006) the data collected is quantitative, more numbers, not words or pictures. This study describes the influence of the big five personalities on self-directed learning in students in the PGSD study program - Institute of Education of South Tapanuli. (Creswell, 2014) explains that to conduct quantitative research, the researcher initially determines specific research questions, then uses or develops instruments to collect data to answer questions and analyzes the numbers from the instrument using statistical methods. The type used in this research is descriptive. Descriptive research is a type of research that describes systematically, factually, and accurately the facts and characteristics of a particular population (Ramdhan, 2021). The researcher intends to find out the description of the influence of the big five personalities on self-directed learning in students in the PGSD study program - Institute of Education of South Tapanuli.

Participants

The number of research participants was 190 active students in the PGSD study program - Institute of Education of South Tapanuli. This study's sample selection uses a voluntary sampling technique (Voluntary Sampling). This sampling method is based on the subject's willingness to participate in the study.

Instrument

In this study, the primary data was an online questionnaire distributed to groups of PGSD study program students. Data collection uses a psychological scale to measure personality, namely the Big Five Personality Scale (John et al., 1991). This study's Big Five Personality Scale was adapted from Oliver's Big Five Inventory in English and translated into Indonesian. This questionnaire consists of 5 indicators of personality dimensions, namely extraversion, neuroticism, openness to experience, agreeableness, and conscientiousness, with 62 questions. Questionnaire to measure self-directed learning using the self-Rating Scale for Self-Directedness in Learning (SRSSDL) by Fisher Instruments. This questionnaire consists of 60 questions with indicators of Awareness, Learning Strategies, Learning Activities, Evaluation, and Interpersonal skills (Williamson, 2007). The final score of the self-Rating Scale for Self-Directedness in Learning (SRSSDL) assessment is adjusted to the research objectives with the following tabulation:

Table 1. Ability Level of Self-Directed Learning (Williamson, 2007)

60 – 140	Low
141 – 220	Medium
221 – 300	High

Data Analysis

To analyze the data, the researcher first conducted a descriptive for personality type and self-directed learning. Then, test the validity of the instrument seen from the loading-factor value of the indicators proposed to measure the research variables, then for the reliability test seen from composite value reliability and Average Variance Extracted (AVE). Data were analyzed using the Structural Equation Modeling (SEM) method and processed through SmartPLS3.

RESULT AND DISCUSSION

Research Data Categorization

The following is a score of the big five personality dimensions, namely (extraversion (X1), neuroticism (X2), openness to experience (X3), agreeableness (X4), and conscientiousness (X5)) and self-directed learning; this was done to classify with levels using the aspect being measured. The grouping is done using empirical data, which is calculated based on the categorization formula. Then the extraversion personality dimension category (X1), can be seen in the following table:

Table 2. Empirical and Hypothetical Data on Extraversion Personality Types

Big five personality	Empirical data		Hypothetical data	
	Mean	Standard Deviation	Mean	Standard Deviation
Extraversion (X1)	49.14	9.34	39	8.66

Based on the table above, a comparison between the empirical mean and the hypothetical mean, it appears that the empirical extraversion mean (X1) (me = 49.14) is greater than the hypothetical mean (mh = 39). So it can be concluded that based on the empirical mean, this study sample has extraversion personality (X1) is high.

Table 3. Table of Empirical Data Categorization on Extraversion Personality Types

Category	Criteria	Frequency	Percent
Low	< 40	29	15.26
Medium	40 - 58	139	73.16
High	58 <	22	11.58
Total		190	100.00

Based on the table above, it is known that students of the PGSD-Institute of Education South Tapanuli study program have medium extraversion (X1) personalities. In the "high" category with a total of 22 students as much as 11.58 percent. In the medium category with a total of 139 students as much as 73.16 percent. And in the low category with a total of 29 students as much as 15.26 percent.

Table 4. Empirical and Hypothetical Data on Neuroticism Personality Types

Big five personality	Empirical data		Hypothetical data	
	Mean	Standard Deviation	Mean	Standard Deviation
Neuroticism (X2)	46.01	8.95	39	8.66

Based on the table above, a comparison between the empirical mean and the hypothetical mean, it appears that the empirical neuroticism mean (X2) (me = 46.01) is greater than the hypothetical mean (mh = 39). So it can be concluded that based on the empirical mean, this study sample has neuroticism personality (X2) is high.

Table 5. Table of Empirical Data Categorization on Neuroticism Personality Types

Category	Criteria	Frequency	Percent
Low	< 37	18	9.47
Medium	37 - 55	147	77.37
High	55 <	25	13.16
Total		190	100.00

Based on the table above, it is known that students of the PGSD-Institute of Education South Tapanuli study program have medium Neuroticism (X2) personalities. In the "high" category with a total of 25 students as much as 13.16 percent. In the medium

category with a total of 147 students as much as 77.37 percent. And in the low category with a total of 18 students as much as 9.47 percent.

Table 6. Empirical and Hypothetical Data on Openness to Experience Personality Types

Big five personality	Empirical data		Hypothetical data	
	Mean	Standard Deviation	Mean	Standard Deviation
Openness to experience (X3),	44.43	8.60	39	8.66

Based on the table above, a comparison between the empirical mean and the hypothetical mean, it appears that the empirical openness to experience mean (X3) (me = 44.43) is greater than the hypothetical mean (mh = 39). So it can be concluded that based on the empirical mean, this study sample has openness to experience (X3) is high.

Table 7. Table of Empirical Data Categorization on Openness to Experience Personality Types

Category	Criteria	Frequency	Percent
Low	< 36	14	7.37
Medium	36 - 53	148	77.89
High	53 <	28	14.74
Total		190	100.00

Based on the table above, it is known that students of the PGSD-Institute of Education South Tapanuli study program have medium openness to experience (X3) personalities. In the "high" category with a total of 28 students as much as 14.74 percent. In the medium category with a total of 148 students as much as 77.89 percent. And in the low category with a total of 14 students as much as 7.37 percent.

Table 8. Empirical and Hypothetical Data on Agreeableness Personality Types

Big five personality	Empirical data		Hypothetical data	
	Mean	Standard Deviation	Mean	Standard Deviation
Agreeableness (X4)	43.09	8.44	39	8.66

Based on the table above, a comparison between the empirical mean and the hypothetical mean, it appears that the empirical agreeableness (X4) mean (me = 43.09) is greater than the hypothetical mean (mh = 39). So it can be concluded that based on the empirical mean, this study sample has agreeableness (X4) is high.

Table 9. Table of Empirical Data Categorization on Conscientiousness Personality Types

Category	Criteria	Frequency	Percent
Low	< 35	18	9.47
Medium	35 - 52	150	78.95
High	52 <	22	11.58
Total		190	100.00

Based on the table above, it is known that students of the PGSD-Institute of Education South Tapanuli study program have medium conscientiousness (X5) personalities. In the "high" category with a total of 22 students as much as 11.58 percent. In the medium category with a total of 150 students as much as 78.95 percent. And in the low category with a total of 18 students as much as 9.47 percent.

Table 10. Empirical and Hypothetical Data on Conscientiousness Personality Types

Big five personality	Empirical data		Hypothetical data	
	Mean	Standard Deviation	Mean	Standard Deviation
Agreeableness (X4)	43.74	8.78	39	8.66

Based on the table above, a comparison between the empirical mean and the hypothetical mean, it appears that the empirical conscientiousness (X5) mean (me = 43.74) is greater than the hypothetical mean (mh = 39). So it can be concluded that based on the empirical mean, this study sample has conscientiousness (X5) is high.

Table 11. Table of Empirical Data Categorization on Conscientiousness Personality Types

Category	Criteria	Frequency	Percent
Low	< 35	17	8.95
Medium	35 - 53	148	77.89
High	53 <	25	13.16
Total		190	100.00

Based on the table above, it is known that students of the PGSD-Institute of Education South Tapanuli study program have medium conscientiousness (X5) personalities. In the "high" category with a total of 25 students as much as 13.16 percent. In the medium category with a total of 148 students as much as 77.89 percent. And in the low category with a total of 17 students as much as 8.95 percent.

Mapping self-directed learning of students based on three categorization levels according to (Williamson, 2007). Can be seen in the following table :

Table 12. Table of Data Categorization on Self-Directed Learning

Category	Criteria	Frequency	Percent
Low	< 140	9	4.74
Medium	140 - 220	50	26.32
High	220 <	131	68.95
Total		190	100.00

The results of the analysis in the table above show that the level of self-directed learning behavior among students of the PGSD-Institute of Education of South Tapanuli study program is at a high level (131 students). In addition, there are 50 students at the moderate level of self-directed learning, and there are nine students at the low level. Based on this analysis, it was found that most of the students from the PGSD study program at the Institute of Education of South Tapanuli could identify learning needs, make plans, and carry out these plans.

Students who apply self-directed learning to their teaching and learning activities will be actively involved in improving their teaching and learning process and will be seen in the learning outcomes they get (Shokar et al., 2002). So that the higher the self-directed learning, the higher the cumulative achievement index of the student. Self-directed learning also makes a person see challenges as problems, enjoy learning and be more motivated, confident, and disciplined in their learning (Wijayanti, 2014). Students with high readiness for self-directed learning are more likely to graduate more quickly, hold study groups, spend more time preparing for quizzes, and use the internet to find their lecture material (Deyo et al., 2011).

Several things can be done to improve self-directed student learning so academic achievement can be achieved more optimally. The use of learning methods that can

encourage self-directed student learning, such as problem-based learning and inquiry-based learning (Loyens et al., 2008), can be used as material for consideration by teachers and is expected to apply as much as possible. In addition, lecturers are expected to become more a facilitator than an expert in all material; lecturers are expected to involve their students more actively in planning, to prepare material, and asking various questions to direct their students. Lecturers must also provide more in-depth discussions (Gibbons, 2003). In addition, adequate facilities can encourage self-directed learning, so the campus can continue improving student learning facilities.

Testing the Measurement Model (Outer Model)

Convergent Validity Test

Convergent validity aims to determine the validity of each relationship between indicators and constructs or latent variables. An indicator is declared valid if the outer loading value of the indicator is more than 0.7 (Abdillah & Hartono, 2015). Based on the results of processing using SmartPLS, the outer loading value of each indicator is above 0.6; the variable question indicators meet the convergent validity requirements.

Discriminant Validity

Discriminant validity test by looking at the Heterotrait-Monotrait Ratio (HTMT) value. The required HTMT ratio must be less than 1 so that it can be said to meet the discriminant validity assessment (Hair et al. 2010).

Table 13. Table of Heterotrait-Monotrait Ratio (HTMT)

	Agreeableness	Conscientiousness	Extraversion	Neurotics	Openness to experience	self-directed learning
Agreeableness	0.000	0.000	0.000	0.000	0.000	0.000
Conscientiousness	0.914	0.000	0.000	0.000	0.000	0.000
Extraversion	0.868	0.883	0.000	0.000	0.000	0.000
Neurotism	0.891	0.892	0.91	0.000	0.000	0.000
Openness to experience	0.928	0.919	0.93	0.959	0.000	0.000
self-directed learning	0.811	0.807	0.897	0.845	0.874	0.000

The value of the Heterotrait-Monotrait Ratio table above does not have more than 1, so it can be said that the research model formed from the six variables above is valid (Hair, 2010).

Reliability Test

According to (Ghozali, 2014), reliability is a tool for measuring a questionnaire which is an indicator of the variable/construct. A questionnaire is said to be reliable or reliable if one's answers to the questions are consistent/stable from time to time; likewise, this study also expects consistency from the dimensions and research variables so that it can proceed to the next test phase. Data reliability can be declared reliable if the composite reliability and Cronbach's Alpha values are more than 0.6.

Table 14. Construct Reliability

	Cronbach's Alpha	Description
Agreeableness	0.885	reliable
Conscientiousness	0.924	reliable
Extraversion	0.948	reliable
Neurotism	0.861	reliable
Openness to experience	0.933	reliable
self-directed learning	0.986	reliable

Based on the table above, it can be seen that all variables have a Cronbach alpha value above 0.70. This shows that the consistency and stability of the instruments used are very high. In other words, the reliability of the instrument has been fulfilled.

Thus, the fulfillment of convergent validity, discriminant validity, reliability test, and the overall model analysis results indicate that this study's measurement model is good. Therefore, the next stage is testing the structural model.

Structural Model Testing (Inner Model)

R-square value

The R-squared value (R²) is used to assess how much influence certain independent latent variables have on the latent dependent variable.

Table 15. R-square value

	R Square
self-directed learning	0.791

The table above gives a value of 0.791 for the self-directed learning construct, which means that the big five personality traits can explain the self-directed learning variance of 79.1% while other factors influence the rest.

Bootstrapping results

In PLS, each relationship is tested using a simulation with the Bootstrapping method on the sample. This test aims to minimize the problem of abnormal research data. The results of testing with the Bootstrapping method from the PLS analysis are as follows.

Table 16. Table of Indirect Influence Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Agreeableness -> self-directed learning	0.053	0.049	0.093	0.57	0.569
Conscientiousness -> self-directed learning	0.015	0.007	0.082	0.186	0.853
Extraversion -> self-directed learning	0.532	0.536	0.077	6.882	0
Neurotism -> self-directed learning	0.069	0.066	0.078	0.885	0.377
Openness to experience -> self-directed learning	0.261	0.273	0.124	2.116	0.035

Based on the table above, it can be seen that there is one equation that is not proven to have a significant effect. This can be seen from the p-value > 0.05. Whereas for the other four equations, it is proven to have a significant effect, which is indicated by a p-value <0.05.

Table 17. Result of Hypothesis Test

Hypothesis	Construct	Decision
Agreeableness affects self-directed learning	0.885	It has no significant positive effect
Conscientiousness affects self-directed learning	0.924	It has no significant positive effect
Extraversion affects self-directed learning	0.948	It has a significant positive effect
Neurotics affects self-directed learning	0.861	It has no significant positive effect
Openness to experience affects self-directed learning	0.933	It has a significant positive effect

Discussion

This research was conducted to determine the influence of the big five personalities on self-directed student learning. Based on the descriptive analysis of the self-directed learning variable, 131 students out of 190 had high self-directed learning with a percentage of 68.95. There were 50 students out of 190 samples who had moderate self-directed learning with a percentage of 26.32. There were 9 students out of 190 samples who had low self-directed learning with a percentage of 4.74.

Self-directed learning is a learning process carried out independently by someone without help or supervision from others (Morris & Rohs, 2021). People with a high level of self-directed learning can identify their own learning needs, find relevant sources of information, and organize their learning to achieve predetermined learning goals. Students with a high level of self-directed learning tend to be more successful in learning and achieving their academic goals (du Toit-Brits & van Zyl, 2017; Khiat, 2017; Lee et al., 2020). They can manage their learning effectively, solve problems, and find relevant learning resources to achieve predetermined goals.

Deal with students with a low level of self-directed learning; several ways can be done to help them improve their independent learning abilities, including: Teachers help students understand the purpose and benefits of learning (Fisher & Frey, 2021). The teacher explains to students how the material to be learned can be used in real life and how it can help students achieve long-term goals. Teachers help students create effective study plans. The teacher teaches students how to manage time and make a structured study plan (Saragih et al., 2021).

Furthermore, the teacher can provide clear and structured directions. by giving precise and structured instructions, so students know what to do and how to complete the tasks assigned (Sanjaya, 2020). Teachers help students find relevant learning resources. Teachers teach students to find valuable learning resources and provide access to various learning resources (Kato et al., 2022). The teacher assists when needed. If students experience learning difficulties, provide the necessary assistance to help them solve their problems (Suharti et al., 2020). then, the teacher can give constructive feedback. by delivering constructive feedback after student's complete assignments or exams to help them evaluate their learning progress (Muslim et al., 2021; Pratiwi, 2021).

From the data from the hypothesis test results above, there are results from testing the big five personality Agreeableness variables that have no significant positive effect on the self-directed learning variable with P value of $0.569 > 0.05$. Based on the results of testing the hypothesis that Agreeableness personality has no significant impact on self-directed student learning.

Agreeableness is one of the five dimensions of personality described by the Big Five Personality model, a widely used framework for understanding and studying personality. Agreeableness is characterized by cooperation, kindness, and consideration for others. Agreeableness may have a positive but not statistically significant relationship with self-directed learning. Self-directed learning refers to the ability and motivation to take charge of one's learning and development and actively seek new knowledge and skills. It involves the ability to set learning goals, plan and manage one's own learning, and evaluate and reflect on one's own learning process.

This is in line with research conducted by (Alfian, 2019); the results of the study show that the level of self-directed learning does not correlate with several personality traits such as Extraversion, Agreeableness, Neuroticism, and Openness because of the value of Sig. (2-tailed) value is more than 0.05.

While in research conducted by (Abd El Aziz et al., 2022) found that students' personality traits significantly influence the learning process. The results of this study indicate that the personality trait of agreeableness has the highest average score, followed by conscientiousness and openness, then extraversion. While the personality trait of neuroticism has the lowest average score percent among nursing students.

This can be attributed to integrating individual relationships in sociology courses to prepare students to embrace agreeableness personality traits such as being cooperative, empathetic, supportive, friendly, and sociable.

There are several potential reasons why agreeableness may not have a statistically significant relationship with self-directed learning. For example, there may be other factors that have a more substantial influence on self-directed learning, such as intrinsic motivation or prior knowledge and skills. Additionally, the relationship between agreeableness and self-directed learning may vary depending on the specific context and task. It is important to note that personality is just one factor that can influence an individual's learning and development. People with different personalities can be successful learners in different ways. It is also important to consider that personality is complex and multifaceted and that individuals may exhibit different traits and behaviors in different situations.

The test results of the big five personality variables conscientiousness have no significant positive effect on self-directed learning variables with P value of $0.853 > 0.05$. Based on the results of testing the hypothesis that Conscientiousness personality has no significant impact on students' self-directed learning.

The conscientiousness personality type is a personality dimension that measures a person's level of persistence, orderliness, and attention to detail. Individuals who have a high Conscientiousness personality type tend to be more disciplined, organized, and orderly in completing their tasks. Even so, the Conscientiousness personality type cannot predict with certainty a person's level of self-directed learning.

This is not in line with research conducted by (Bruso, 2019). The study's results (Bruso, 2019) describe that agreeableness and openness have the highest average scores, followed by conscientiousness, extraversion, and finally, neuroticism among college students. They found that these students used self-directed learning strategies

and behaviors related to goal setting, environment setting, and time management, such as creating to-do lists, subtasks, and scheduling time for schoolwork on their calendars.

The test results of the big five personality variables Extraversion have a significant positive effect on self-directed learning variables with P value of $0 < 0.05$. Based on the results of testing the hypothesis that Extraversion personality has a significant impact on students' self-directed learning. Extraversion personality type is a personality dimension that measures the level of social activity, self-confidence, and the desire to be involved in activities with other people. Individuals with a strong Extraversion personality tend to be more sociable, bold, and like to stand out.

Some literature shows that self-directed learning is only related to conscientiousness (Kirwan et al., 2010; Lounsbury et al., 2009). The findings from this study are supported by research (Lounsbury et al., 2009) which reveals that conscientiousness and extraversion are related to independent learning. In addition, a proactive personality consisting of conscientiousness and extraversion is consistently associated with independent learning.

The test results of the big five personality variables Neuroticism have no significant positive effect on self-directed learning variables with P value of $0.377 > 0.05$. Based on the results of testing the hypothesis that neuroticism personality has no significant effect on students' self-directed learning. Neuroticism personality type is a personality dimension that measures a person's anxiety, irritability and is easily disturbed. Individuals who have a high Neuroticism personality type tend to be more irritable, easily anxious, and easily disturbed by problems.

The results of this study were supported by previous research (Alfian, 2019) revealed that the results showed that the level of self-directed learning did not correlate with several personality traits such as Extraversion, Agreeableness, Neuroticism, and Openness because of the value of Sig. (2-tailed) value is more than 0.05. A strong Neuroticism personality can affect a person's stress level (Ayuningrum, 2022). Individuals who are easily anxious and distracted by problems are more prone to stress and mental fatigue. They also may have more difficulty coping with stress and regulating their emotions when faced with challenging situations.

The test results of the big five personality variables openness to experience have a significant positive effect on self-directed learning variables with a P value of $0.035 < 0.05$. Based on the testing results, the hypothesis is that openness to experience personality significantly affects students' self-directed learning. The Openness to Experience personality type is a personality dimension that measures the level of a person's desire to explore new ideas, seek new experiences, and be open to different views and thoughts. Individuals with a high Openness to Experience personality type tend to be more open to new ideas, easily inspired, and better able to appreciate different perspectives.

The findings of this study are supported by research (Howay et al., 2019) that of the five dimensions of personality trait variables, only openness and conscientiousness have a relationship with self-directed learning. Openness as a personality trait that makes the most substantial contribution to self-directed learning—followed by conscientiousness personality traits.

Individuals with high self-directed learning are also expected to have higher Openness to Experience, especially because one of the main expressions of Openness to Experience is learning new material. There is a significant positive relationship between the Big Five personality and self-directed learning (Kirwan et al., 2010;

Lounsbury et al., 2009), where self-directed learning is more thorough, more open, and more enjoyable.

Based on the explanation described above, there is a significant positive influence between the two big five personality dimensions, namely Extraversion and Openness to experience, on students' self-directed learning. And the positive effect is not significant between the 3 big five personality dimensions, namely Agreeableness, Conscientiousness, and Neuroticism on students' self-directed learning.

This research certainly has shortcomings, so it needs improvement. There are limitations to research using online questionnaires, namely the honesty of filling out the questionnaire is not necessarily filled by direct respondents because there is no direct control from the researcher.

CONCLUSION

Based on the results of the research that has been done, researchers can conclude that there is a significant positive influence between the two big five personality dimensions, namely Extraversion and Openness to experience, on students' self-directed learning. And the positive effect is not significant between the three big five personality dimensions, namely Agreeableness, Conscientiousness, and Neuroticism, on self-directed learning of PGSD study program students at the Institute of Education of South Tapanuli.

Self-directed learning can only be assessed by considering the big five personalities of the PGSD study program students at the Institute of Education of South Tapanuli. Thus, the assessment of the big five personalities is regarded as the foundation of self-directed learning among students, which influences their learning preferences or the desire to accept responsibility for their learning process.

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