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Religiosity-based psychoeducational intervention for academic procrastination based on the Big Five personality traits among college students

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ABSTRACT

The purpose of this study was to examine the effectiveness of a religiosity-based psychoeducation program in reducing academic procrastination among students, based on the Big Five personality traits. The study utilized a one-group pretest-posttest design to analyze the impact of the religiosity-based psychoeducation program on academic procrastination. The academic procrastination questionnaire and the Big Five personality traits scale were used for data collection. Data analysis was conducted using Dependent sample t-test and two-way ANOVA to determine the differences in the level of reduction in academic procrastination based on personality traits. The study found that the application of the religiosity-based psychoeducation program was effective in reducing academic procrastination among students, with significant decreases observed in both State Islamic and Private Universities. Additionally, differences were observed in the level of reduction in academic procrastination based on the Big Five personality traits, with extraversion and neuroticism decreasing drastically compared to the other three traits. Religiosity-based psychoeducation programs can be an effective approach in reducing academic procrastination among students, especially when combined with lectures or religious activities on campus/institutions. The findings of this study suggest that addressing procrastination based on personality traits can improve the effectiveness of interventions aimed at reducing academic procrastination. This study has practical implications for educators and academic institutions seeking to address academic procrastination among students. By tailoring interventions to address personality traits and incorporating religiosity-based psychoeducation programs, educators can effectively reduce academic procrastination among students.

Contribution/Originality: This paper proposes a novel psychoeducational intervention that infuses religiosity to address academic procrastination based on the Big Five personality traits among college students. The study contributes to developing effective interventions considering the role of personality traits and religiosity in tackling academic procrastination, a prevalent issue among college students.

1. INTRODUCTION

The education in college is different from elementary/secondary schools and several students experience academic barriers during the study process. Based on the data from the 2021 academic report in one of the faculties at the State Islamic University (SIU) in Indonesia, 3.34% of the active students have *dropped out*. Moreover, the problem with other academic barriers is that students are often late for class, and sometimes do not attempt their

assignments at all. This is because they prioritize outside activities (such as organizational activities), rather than the main lecture. In line with these challenges, Steel (2007) stated that around 25% -75% of students have procrastination behavior related to academic matters, while as many as 50% consistently delay work. This creates academic problems, as well as the accumulation of assignments. Several other studies showed 90% of students from tertiary institutions like to procrastinate, and another 25% are included in chronic procrastination (Yuen & Burka, 1983). This behavior is part of a psychological issue; hence, it requires an application of religiosity-based psychoeducation by paying attention to differences in students' personalities.

Currently, studies have been widely conducted on psychoeducation and the existing ones examined three aspects. Firstly, the orientation on the implementation of technology-assisted psychoeducation programs. For example, Lam, Tsiang, and Woo (2017) used the *YouTube platform in disseminating* psychoeducation. It turns out that social media can also be used in providing knowledge related to health education (Sharma, John, & Sahu, 2020). Secondly, studies on the application of psychoeducation still tended to focus on clinical/medical challenges. For instance, there are some reports on the application of psychoeducation for mentally disordered people (Rico-Uribe et al., 2018; Zhao, Sampson, Xia, & Jayaram, 2015). This program can be used as a therapy for schizophrenics (Jones et al., 2018). Therefore, several studies have been developed related to the application in the educational world. Thirdly, psychoeducation contributes to students' psychological problems. For example, Midgett, Doumas, Sears, Lundquist, and Hausheer (2015) used psychoeducational therapy for students who experienced *bullying*. Students who experience anxiety can also be treated with this program (Frias et al., 2020; Marcotte & Lévesque, 2018; Winarso, Alsa, & Khilmiyah, 2022). The existing studies did not prove that the application of religiosity-based psychoeducation can improve academic procrastination behavior among university students.

The existing study responded to the shortcomings of previous reports by focusing more on the application of religiosity-based psychoeducation. It also aims to explain the effectiveness of the application of psychoeducation on students' academic procrastination attitudes. Furthermore, it provides an explanation for the differences in academic procrastination based on students' personality after implementing the program. The Big-Five personality traits is required in this study. This is because the personality measurement refers to the five personality model factors. The students' personality can be divided into five factors, namely *neuroticism, extraversion, openness to experience, agreeableness,* and *conscientiousness.*

This study is based on the efforts to overcome students' academic procrastination by combining health education programs and strengthening religious content. Therefore, the model offered is the application of a religiosity-based psycho-educational intervention for academic procrastination based on the Big Five Personality Traits among college students, which was found necessary for an in-depth study. The content of religiosity knowledge was also needed in this program because it can raise awareness naturally through self-reflection on the meaning of life based on the religious rituals that students live daily.

2. LITERATURE REVIEW

2.1. Academic Procrastination

Wolters (2003) stated that academic procrastination is a failure to carry out academic assignments within the desired time frame or a delay in doing assignments until the deadline ends. It is a behavior that becomes an ineffective habit and also tends to delay work negatively. Burns, Dittmann, Nguyen, and Mitchelson (2000) revealed procrastination can cause a person to lose time, suffer health, and have low self-esteem. Ferrari and Tice (2000) also stated that it can be associated with anxiety and fear of failure. Procrastination is considered an obstacle for students in achieving academic success because it can reduce the quality or quantity of learning outcomes, increase stress levels, and have a negative impact on their life. Only a very few students with academic procrastination are predicted to take advantage of the grace period given to complete assignments. Procrastination that is not accompanied by a students' adaptive role can lead to underachievement (Schraw, Wadkins, & Olafson, 2007). The

academic barriers experienced by students can be addressed by strengthening health education. This helps to improve knowledge and self-management of procrastination symptoms.

Some studies showed psychoeducation is effective in reducing academic procrastination (Berber & Odacı, 2018; Malouff & Schutte, 2019). Students' knowledge about health education can make learning enthusiastic. Moreover, psychoeducation can foster learning motivation (Quispe-Bendezú et al., 2020). Motivation to learn can be well developed, not only with external intervention but also with intrinsic motivation of students (Dunn, 2014). Therefore, intrinsic motivation needs to be strengthened for students to overcome this problem. The improvement of self-awareness is also an important point in the impact of implementing psychoeducation (Engku, Wan, Sarnon, & Amin, 2020; Nihayati, Istizabana, & Nastiti, 2020). Religiosity-based psychoeducation can increase, not only knowledge but students' inner peace. Students' religious values are instilled in learning or religious activities held by institutions (Mooney, 2010). They can give inner peace, through the provision of knowledge, as well as prayer activities to generate hope, confidence, and optimism in dealing with students' academic problems.

2.2. The Big Five Personalities in Academic Procrastination

Personality is an individual character in the form of feelings, thoughts, and behavior pattern that tends to be consistent (Cervone & Pervin, 2022). It can also be interpreted as a characteristic pattern of thinking, feeling, and behavior that distinguishes a person. The nature of the personality tends to persist over time (Geller, 2016). The changes that individuals experience only occur on the surface until there is a change in individual character (McCrae & Costa, 1997). Since students have differences in carrying out their academic processes, the personality dimension is an important concern in the issue of academic procrastination. Several empirical studies showed the importance of personality as a predictor of academic procrastination problems (Johnson & Bloom, 1995; Steel, Brothen, & Wambach, 2001; Watson, 2001). Alzangana (2017) stated that academic procrastination depends on individual awareness, therefore, it can be experienced differently based on the Big Five Personality Traits. There are five main dimensions encompassed within this model. Firstly, openness to experience reflects a person's willingness to explore new ideas, think creatively, and embrace intellectual curiosity. Secondly, conscientiousness refers to the level of organization, responsibility, and dependability exhibited by an individual. Thirdly, extraversion represents the degree of sociability, assertiveness, and enthusiasm displayed in social interactions. Fourthly, agreeableness reflects a person's tendency to be cooperative, compassionate, and considerate towards others. Lastly, neuroticism encompasses emotional stability, resilience, and the propensity to experience negative emotions such as anxiety, sadness, or irritability. By considering these five dimensions, we can gain a comprehensive understanding and description of an individual's personality. The role of *self-efficacy* influences the determination of the academic procrastination level and personality differences occur at each level (Swaraswati, Winarno, & Goeritno, 2017).

The Big Five personality traits represent a factor theory approach, where the five categories of factors include *emotionality, activity,* and *sociability* (De Raad, 2000). These dimensions provide insights into an individual's personality, comprising five fundamental traits that describe differences in cognitive, affective, and social behavior (Zillig, Hemenover, & Dienstbier, 2002). In relation to academic procrastination, the traits associated with the Big Five dimensions play a significant role. According to Johnson and Bloom (1995) individuals with lower levels of extroversion and conscientiousness tend to be less prone to procrastination and view assignments as enjoyable tasks. There is a negative correlation between conscientiousness and procrastination, indicating that individuals with higher levels of conscientiousness possess better self-control and are less likely to engage in procrastination. Conversely, individuals with higher levels of neuroticism, openness to experience, and agreeableness tend to exhibit higher levels of procrastination. When faced with tasks, individuals with the openness dimension perceive them as commonplace, while those with the agreeableness dimension consider the tasks to be easy. Ferrari and Tice (2000) stated that students with conscientious traits, characterized by being structured, diligent, and having good self-

control, are more likely to avoid academic procrastination. Karatas (2015) discovered a negative relationship between the personality traits of *conscientiousness, extraversion, openness to experience, agreeableness,* and *neuroticism,* with academic procrastination. However, of the five traits, neuroticism was at the top and had a greater influence on the tendency to procrastinate.

2.3. Religiosity-Based Psychoeducation

Psychoeducation can be applied among students, since many of the academic problems are related to mental health (Martin & Thomas, 2000). Religiosity-based psychoeducation is not only applied to provide knowledge but also treatment for students' mental peace (Hefti, 2011). Low learning motivation can be improved by providing psychological education. Procrastination among students is not only a cognitive matter but requires the improvement of attitudes (Holland & Holden, 2016). The value of religiosity can be applied in psychoeducational activities by providing thematic Islamic education in the Al-Qur'an and Hadith. The *informed consent* provided is in the form of content related to procrastination from the verses of the Al-Qur'an and Hadith. Religiosity-based psychoeducation programs can be included in lectures and religious activities held on campus. This program has a structure of components and stages that need to be carried out by educational lecturers/facilitators. The following is a resume of the psychoeducation program in the applied lectures presented in Table 1.

Table 1. Resume of religiosity-based psychoeducation program.

Model sections	Description
Program goals and objectives	The psychoeducation program targets students who experience academic procrastination consistently. The program was carried out for three months. Moreover, it was applied in lecture activities and carried out specifically in students' religious programs every Friday.
Psychoeducation material	The materials presented in the program are educational materials on mental health, motivation, and Islamic educational material which originate from the Al-Qur'an and Hadith. Islamic religious education material is thematic by selecting verses related to academic procrastination from a religious perspective.
Instructions for implementing psychoeducation programs	The methods used in this activity are of two types, namely (1) An interactive dialogue method, which begins with an exploration of the problem it is experiencing. (2) second, a psychoeducation method, where students are taught how to give *informed consent.* This is psychoeducation through positive thinking programming, which is more able to change what was initially considered negative into positive thoughts. Therefore, intrinsic motivation can be awakened.
Media/Teaching aids	This program is complemented by the use of religious music media and recitation (Murottal) Al-Qur'an in order to gain inner peace, reduce stress hormones, activate endorphins naturally, as well as focus attention on *informed consent.* Moreover, these media can also increase the release of the *neurotransmitter dopamine* which makes the brain feel better.
Evaluation	The evaluation was carried out in two stages, namely pretest and posttest. The evaluation instrument used was the academic procrastination questionnaire.

3. METHOD

3.1. Research Design

This study was carried out using an *experimental* method, while a *one-group pretest-posttest* design was used to answer research problems by analyzing students' academic procrastination after implementing religiosity-based psychoeducation. Furthermore, it was conducted at two types of tertiary institutions in Indonesia, namely State Islamic Universities (SIU) and Private Universities in Cirebon Regency. Intitut Agam Islam Negeri (IAIN) Syekh Nurjati Cirebon University and the Muhammadiyah University of Cirebon were both selected as the study locations because spiritual-based psycho-education was appropriate to be applied in an Islamic educational environment. There are three reasons that serve as the basis for the selection, namely the differences in campus status (public-

private), both campuses apply Islamic education curriculum content (scientific integration), and both are large campuses with representative educational facilities as well as infrastructure conditions in region III Cirebon.

The research population comprised the active students of both institutions. Moreover, they were boys and girls in the age range of 18-20 years and in the adolescent phase of development stages. The research sample was determined through two stages. A *simple random sampling* technique was used in the first stage. At this stage, there were 340 students from IAIN Syekh Nurjati Cirebon, and 236 from the Muhammadiyah University of Cirebon. Students who experienced academic procrastination were subsequently identified. A *purposive sampling* technique was applied in the second stage. This is a sampling technique for data sources with certain considerations (Campbell et al., 2020). This technique was used because not all samples had criteria that matched the phenomenon being studied. *Purposive sampling* is also used to determine the considerations or criteria for students who experience academic procrastination. Based on the results of the final subject identification, as many as 92 students were obtained from IAIN Syekh Nurjati Cirebon and 63 from Muhammadiyah University of Cirebon. This sample was proportional because it was sufficient in representing the both higher education institutions (State Islamic University and Private University). Moreover, it consisted of a fairly proportional gender distribution. The research subject also had a representativeness of various students' personalities based on the Big Five Personality Traits.

3.2. Research Procedures

The experimental research procedure was completed in three stages. First, students participated in an initial condition test (*pretest*) regarding academic procrastination. Second, they were given the application of a religiosity-based psychoeducation program for three months. Third, they participated in a final test of academic procrastination (*posttest*). The posttest was conducted to see whether there was effectiveness in implementing religiosity-based psychoeducation by reviewing the level of decline in students' academic procrastination.

3.3. Data Collection Techniques

The data collection techniques for this study were academic procrastination questionnaires and the Big Five Personality Traits scale. Both techniques used the Likert scale with 5 alternative answer choices: Rarely (R), Very Rarely (VR), Sometimes (S), Very Often (VO), and Almost Always (AA). In the questionnaire, there were 15 items adopted from the TPS (*Tuckman Procrastination Scale*) dimension, consisting of *time wasting*, task avoidance, and *blaming others* (Tuckman, 1991; Yockey, 2016). The results of the questionnaire validity were between $0.302 - 0.632$ which are > 0.300. The results of the validity calculation showed that all the questionnaire items were valid. Meanwhile, the academic procrastination scale reliability had *Cronbach's alpha* value between 0.752 - 0.790. These values are > 0.60, which means all the questionnaire items were reliable.

In the Big Five personality traits technique, 35 items were tested for confirmation. This test aimed to see the consistency of Big Five personality constructs. This confirmatory test was previously carried out by Laverdière, Morin, and St-Hilaire (2013). The personality scale contained 35 statements from 5 personality dimensions, namely *extraversion, conscientiousness, agreeableness, neuroticism*, and *openness*. Each of these dimensions was represented by 7 statements. The Big Five Personality Traits scale had an average validity of 0.83 to 0.91. The reliability results were between 0.75 and 0.80, therefore, the two calculation results indicated that the big five personality scale was valid and reliable (Worrell & Cross Jr, 2004).

3.4. Data Analysis Techniques

The data were analyzed in two stages. In the first stage, an analysis was made to determine the causes of the decrease in students' academic procrastination behavior after the application of a spiritual-based psychoeducational model. This was carried out to determine the effectiveness of the psychoeducational application. The data sources were analyzed using the pretest and posttest results. *Gain score* was the difference between the pretest and posttest

scores. Meanwhile, the average N-gain formula (normalized gain) was used to show the magnitude of the decrease in students' academic procrastination. The analysis proceeded using the dependent sample *t-test*.

The second stage of analysis examines the differences in students' academic procrastination based on their personality. Students' personality can be identified based on the Big Five Personality Traits scale. To analyze the data, the two-way ANOVA was utilized in order to compare the average differences between groups based on the treatment carried out. Prior to the analysis, a classical assumption test was conducted to ensure the input data met the prerequisite criteria of normal and homogeneous data. The hypothesis was then tested based on a significance value of less than 0.05.

4. RESEARCH RESULTS

4.1. Condition of Students' Academic Procrastination

The results described the condition of students' academic procrastination. The results of the personality mapping on the subject used were 155 students consisting of 92 students from State Islamic University and 63 from Private University. The tendency of students' personality in research subjects for the *neuroticism* and *extraversion* were 25% and 22%, respectively. The other 2 personality traits, namely *agreeableness*, and *openness*, were 21% while *conscientiousness* had the smallest portion of 11%.

The condition of students' academic procrastination was obtained from the calculation results of the initial and final tests. The questionnaires distributed to the subjects obtained the average data of 56.97 and 49.95 on students' academic procrastination results in the initial condition and final condition respectively. The minimum scores in the initial and the final conditions were 44 and 30, while the maximum scores were 72 and 68 respectively. The calculation results showed there was a descriptive decrease in students' academic procrastination from initial to final conditions. The condition of students' academic procrastination can also be reviewed for each personality trait they have. The results of the descriptive analysis showed that there was a descriptive decrease in the initial (pretest) and final (posttest) conditions. This indicates the impact of implementing religiosity-based psychoeducation. The detail of the decrease in academic procrastination is presented in the following Figure 1.
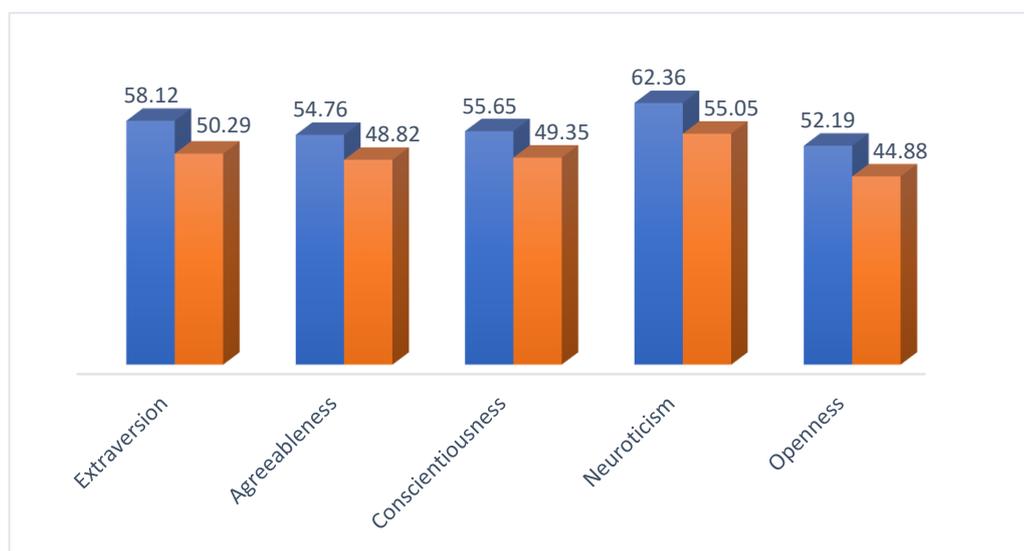

Figure 1. Academic procrastination based on personality traits.

The visualization results showed a decrease in students' academic procrastination, as well as an equivalent decrease of about 7 points in *extraversion*, *neuroticism*, and *openness* personality traits. Furthermore, *conscientiousness* had 6.3 points, while *agreeableness* had the lowest decrease with 5.94 points. The procrastination condition was also reviewed based on the origin of the institution. The results of the calculations are as exhibited in Figure 2.
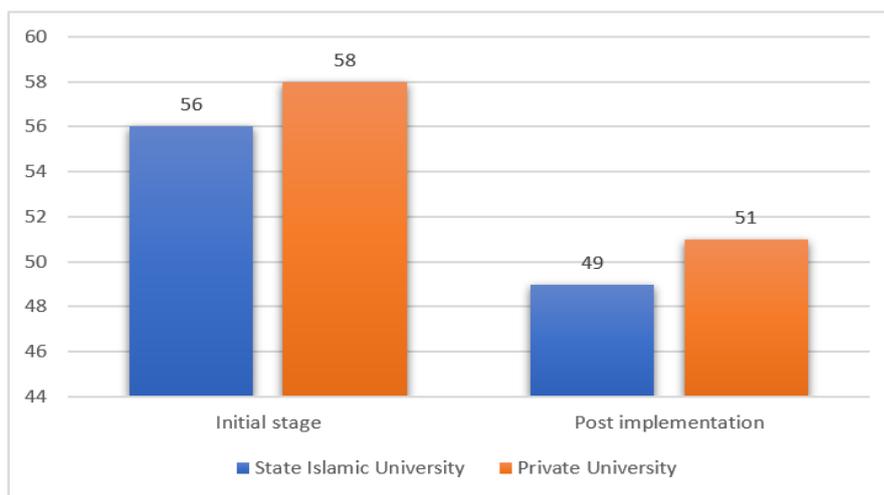
Figure 2. Academic procrastination based on institutions.

Figure 2 shows there is a decrease in students' academic procrastination on the two campuses after the implementation of the religiosity-based psycho-education program. In the initial conditions, students in Private University (PTS-per) descriptively experienced higher academic procrastination compared to those at State Islamic University (PTKIN), even though the difference in scores was only 2 points. In the post implementation results, a decrease of 7 points was seen in the procrastination levels in the environments of both the State Islamic University environment and Private University.

4.2. The Effectiveness of Implementing Religiosity-Based Psychoeducation

The effectiveness of applying psychoeducation is based on the results of hypothesis testing calculations. The research data were analyzed using the *dependent sample t-test*. The data were obtained from students' academic procrastination scale based on the calculation results of the N-gain score at the *pretest* and *posttest*. The calculation results are presented in Table 2.

Table 2. Paired sample student academic procrastination test.

Pair test		Paired differences					T	Df	Sig. (2-tailed)
		Mean	Std. deviation	Std. error mean	95% Confidence interval of the difference				
					Lower	Upper			
Pair 1	Pretest state Islamic religious university – Posttest state Islamic religious university	7.087	3.747	0.391	6.311	7.863	18.144	91	0.000
Pair 2	Pretest private university – Posttest private university	6.921	2.807	0.354	6.214	7.628	19.567	62	0.000

The results of the paired sample test showed a significant difference (p-value < 0.005) in the level of academic procrastination between the initial (pretest) and final (posttest) assessments for both universities. Therefore, it can be concluded that the application of religiosity-based psychoeducation effectively reduced academic procrastination among students.

4.3. Differences in Students' Academic Procrastination Based on Gender

The subsequent analysis examines the differences in students' academic procrastination based on gender. The data obtained from the results of hypothesis testing were analyzed using a two-way ANOVA. The analysis

examined the simultaneous relationship between decreased student academic procrastination, personality traits, and institutional origin. The results of the data analysis are as follows.

Table 3. Tests of between-subjects effects of students' academic procrastination.

Source	Type III sum of squares	Degrees of freedom	Mean square	F	Sig.
Corrected model	3.132[a]	9	0.348	3.203	0.001
Intercept	23.994	1	23.994	220.851	0.000
University	0.032	1	0.032	0.291	0.590
Personality	2.897	4	0.724	6.666	0.000
University * personality	0.127	4	0.032	0.293	0.882
Error	15.753	145	0.109	-	-
Total	52.411	155	-	-	-
Corrected total	18.886	154	-	-	-

Note: *Academic procrastination data comparison based on sample characteristics between campuses and personalities.

Based on the tests of the *between-subjects effects* Table 3, there are 3 results of data analysis decisions. First, the calculation results of students' academic procrastination after the application of religiosity-based psychoeducation based on personality traits obtained a significance value of 0.000, which is < 0.005. Therefore, there are differences in the reduction of academic procrastination based on personality traits. Second, student academic procrastination when viewed from the origin of the tertiary institution had a significance value of 0.590 which is > 0.005. This indicates there is no difference in the reduction of procrastination based on the origin of the university. Third, the simultaneous analysis of academic procrastination, personality, and higher education, obtained a significance value of 0.882. This indicates there is no difference in academic procrastination simultaneously based on personality and the origin of the university.

From the analysis results, further studies are only focused on reducing students' academic procrastination based on differences in personality traits. The results of calculating the average decrease in procrastination based on the variety of personalities possessed by students are presented in the *Estimated Marginal Mean* Table 4.

Table 4. Estimated marginal mean decrease in academic procrastination.

Personality traits	Mean	Std. error	95% Confidence interval	
			Lower bound	Upper bound
Extraversion	-0.529	0.057	-0.642	-0.417
Agreeableness	-0.342	0.059	-0.458	-0.226
Conscientiousness	-0.326	0.094	-0.512	-0.140
Neuroticism	-0.666	0.053	-0.771	-0.562
Openness	-0.339	0.060	-0.458	-0.220

From the Table 4, the decrease in students' academic procrastination based on personality has various tendencies. The highest decreasing trend of students' academic procrastination was in extraversion ($\bar{x} = 0.529$) and neuroticism ($\bar{x} = 0.666$). Meanwhile, the other 3 personalities experienced an equal decrease.

5. DISCUSSION

Students' academic procrastination is a behavior of delaying an academic activity/work. Students who experience academic procrastination always ignore assignments given by lecturers, and underestimate or think assignments are too easy to do. Moreover, they spend a long time browsing the internet that has nothing to do with academic/college assignments, and replace main tasks with other less important activities. Such behavior can be said to be a tendency to intentionally and repeatedly delay the assignment of lecture activities related to the academic field (Zacks & Hen, 2018).

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The results showed that students who procrastinate have difficulty doing their cool work according to a predetermined time limit. This is in line with Gonda, Pavlovičová, Tirpáková, and Ďuriš (2021) which stated that students often experience excessive delays in preparation. Moreover, they also tend to fail in completing academic assignments according to the deadline (Rozental, Forsström, Hussoon, & Klingsieck, 2022; Scheunemann, Schnettler, Bobe, Fries, & Grunschel, 2022). Students can experience academic procrastination due to two factors. The first factor that influences procrastination among students is the *fear of failure*. This condition can occur as a result of anxiety when assignments are given. Therefore, this makes students unable to achieve according to expectations and causes them to spend much time rethinking how the task should be carried out. Second, the factor of rejecting the task and laziness (*averseness and laziness*) is also significant. This factor occurs when students refuse to do assignments because they are too many or difficult, hence much time is required to understand the task. The lack of confidence makes them think about completing the task. This often happens to advanced semester students who feel that assignments are complicated; therefore they prefer to do other things to avoid doing assignments.

The application of religiosity-based psychoeducation is in line with the aim of the program, namely being able to develop and increase self-acceptance of something that is being experienced (Bordbar & Faridhosseini, 2012). Psychoeducation can be carried out through training with methods of exploration, assessment, discussion, role play, and demonstration (Berber & Odacı, 2018). The basis of religiosity-based psychoeducational interventions is to provide strength as well as focus on the present and the future in order to avoid the problem of academic procrastination (Lukens & McFarlane, 2004). This intervention does not only provide important information related to individual/group problems in dealing with procrastination but can also be applied to various age groups and educational levels (Brown, 2018). This religiosity-based psychoeducation is appropriate and can be applied at the tertiary level. The program places more emphasis on the process of learning, education, self-awareness, and self-understanding, where the cognitive has a greater proportion than the affective component (Brown, 2018).

The results of the psychoeducation application which was carried out for 3 months contributed to improving the quality of students. There are changes in students who experience academic procrastination in the form of increased knowledge, and better learning attitudes, starting from an increase in knowledge about mental health education to changes in learning attitudes. This is in line with Portzky and Van Heeringen (2006) which stated that psychoeducation contributes to increasing knowledge and is useful in overcoming the problem of students' discouragement. This model can be very gentle when combined with religious values. Therefore, the religiosity approach becomes an opening for students to return to *muhasabah* or introspection in postponing their work/academic assignments. Religious psychoeducation can balance knowledge and life beliefs (Elias, Awang, & Mohamed, 2005; Madjid, Sutoyo, & Shodiq, 2021). The benefit felt after the implementation of psychoeducation is that students can find out the symptoms of academic procrastination existing in them. The religiosity content given to this program provides mental/inner reinforcement for students (Nasab & Mohammadi-Aria, 2015). Moreover, the ability to control oneself, as well as foster learning motivation, is a priority in psychoeducation (Hidayah & Mu'awanah, 2020; McCullough & Willoughby, 2009).

The results of implementing religiosity-based psychoeducation can reduce the level of student academic procrastination. The data showed a descriptive decrease in the average score of student academic procrastination from the initial 56.97 to the final condition of 49.95 after the implementation. In line with these results, based on the Sig value. (2-Tailed) table 2, the hypothesis test showed the significance value of 0.000, which is <0.005. Therefore, the application of religiosity-based psychoeducation was effective in reducing students' academic procrastination. The findings of the study are consistent with some previous studies, for instance, Berber and Odacı (2018) also explored the progress of psychoeducational group interventions that have decreased the levels of academic procrastination. The influence of the psychoeducation application on students' academic procrastination also has the same results in various countries (Itach, Hen, & Ferrari, 2022; Karla, Lins, Alves Freires, & Nunes Da Fonseca, 2022; Quispe-Bendezú et al., 2020). The implementation can strengthen students' knowledge (Toker & Avcı, 2015)

and also increase motivation in doing lecture assignments (Malkoç & Kesen, 2018). The religiosity value combined with the program has strong implications for reducing academic procrastination (Christanti & Anwar, 2019). Religiosity is a very positive coping mechanism for overcoming procrastination (Dinç & Ekşi, 2019). Religion-based psychoeducational interventions are modifications of two interventions designed in a program. It is a psychological intervention for respondents with religious concepts through the provision of knowledge and self-awareness.

Students' academic procrastination was different after the application of religiosity-based psychoeducation when viewed based on the Big Five personalities. The hypothesis test results showed a significance value of 0.000 < 0.005. This indicates there are differences in the reduction of academic procrastination based on personality traits. The results showed there were various tendencies for the decrease in procrastination based on personality. The highest decreasing trend was in *extraversion* ($\bar{x} = 0.529$) and *neuroticism* ($\bar{x} = 0.666$). Meanwhile, the other 3 personalities experienced an equal decrease. This is in line with Steel and Klingsieck (2016) which stated students with high *extraversion* have positive emotions, hence, will have a negative attitude toward procrastination. Students with high *extraversion* have a good interest in making friends or in groups, and also have a high level of good assertiveness. Therefore, they will be active and productive in doing their tasks or when faced with many assignments. The provision of psychoeducation makes students well-motivated. Students with this personality can overcome their academic procrastination problems well.

Meanwhile, for students with neuroticism, Johnson and Bloom (1995) stated that there is a positive relationship between *neuroticism* and procrastination behavior. Those who have these traits of personality have a higher level of procrastination. Meanwhile, those with low *neuroticism* will avoid procrastination. Another important conclusion is that students have emotional stability and instability. This makes them feel excessive anxiety, anger, and lack of self-control. With the application of spirituality-based psychoeducation, students with high neuroticism have the character of worrying easily, often feeling anxious, and having difficulty being calm or controlling emotions. Therefore, they feel worried and anxious when faced with lecture assignments or when the task cannot be carried out optimally. Students need a long time to prepare to do the assignment. The task may not be properly carried out as much time was wasted thinking about things related to the task. Moreover, college students have a higher tendency to procrastinate for reasons related to emotional control (Milgram & Toubiana, 1999). Those with *neuroticism* unlikely have a character that is more relaxed, calm, able to regulate emotions, and optimistic. Therefore, this study recommends that when students are given assignments, they should be more calm and confident to achieve timely completion. This lowers their procrastination behavior.

6. CONCLUSION

The problem of academic procrastination among students has not been handled much through innovative psychoeducation programs. However, its religiosity-based application provides benefits to students' cognitive enhancement. The reinforcement of religiosity in this program has succeeded in having an impact on changing students' learning attitudes. Students' peace of mind resulting from religiosity-based psychoeducation programs affects self-regulation abilities. Academic procrastination among students has different levels of decline, depending on the personality traits. For instance, *extraversion* and *neuroticism* have the highest tendency to decrease academic procrastination. This study showed the importance of providing education related to academic procrastination, through religiosity-based psychoeducation innovations. Strengthening the value of religiosity has an impact on the implementation of the program. Furthermore, there was a decrease in procrastination after the implementation of psychoeducation. This program can run effectively when the readiness of the teacher is related to mastery of religious values and content knowledge in the Al-Qur'an and Hadith. Therefore, an intermediate program (*microteaching*) is needed for teachers/facilitators before implementing this program in order to achieve a successful and optimal result.

This study is a follow-up step from the results of psychoeducation development. The application of Religiosity-based psychoeducation on students gives encouragement and direction in behavior. Religious values also motivate and guide them to do good deeds. Students' academic procrastination, which has only been addressed with a clinical approach through these results, can fill the gaps of previous studies' deficiencies. Religiosity-based psychoeducation can reduce the level of academic procrastination which depends on students' personality traits.

The limitations of this study lie in the subject. Academic procrastination can occur at all levels of education, namely primary, secondary, and tertiary education. Besides university students, others often experience academic procrastination. Therefore, further studies are recommended on the phenomenon that occurs among primary and secondary education students. A study using a qualitative approach will be a comparison of these results. Further findings should also be carried out holistically by using the mixed method research design. A therapeutic model is also needed to change the behavior of the students.

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