**Correlation of Scientific Attitude and Religious Literacy towards Religious Moderation Attitude**

**Abstract**

This study aims to determine the correlation between scientific attitudes and religious literacy toward students' religious moderation attitudes. This study uses a quantitative method with correlation techniques. Respondents in this study were 5th-semester students at the Faculty of Tarbiyah and Teacher Training, UIN Sulthan Thaha Saifuddin Jambi, totaling 117 people. Data were collected through test techniques and analyzed through product-moment correlation with the help of SPSS 25 software. Based on the results of the correlation test, it can be seen that scientific attitudes are positively correlated with religious moderation attitudes, with a Pearson Correlation value of 0.417 and a sig. Value of 0.00. The correlation of religious literacy to religious moderation attitudes is 0.496, and a sig. Value of 0.00. This indicates a positive correlation between scientific attitudes, religious literacy, and moderation attitudes. In other words, if students' scientific attitudes and religious literacy are good, the religious moderation attitude score will automatically improve. Likewise, vice versa, namely, if the scientific attitude and religious literacy scores decrease, then the religious moderation attitude will also decrease. In addition, based on the simultaneous test, it is known that the variables of scientific attitude and religious literacy correlate with the attitude of religious moderation. This is based on the Sig. F score of 0.000 <0.05. The correlation coefficient obtained is 0.521 with a moderate category. Based on the simultaneous test, scientific attitudes and religious literacy contribute to increasing the attitude of religious moderation by 27.1%, while other factors influence the rest. Therefore, strengthening scientific attitudes and religious literacy also means strengthening the attitude of moderation. This research has implications for developing learning models in each subject that can improve scientific attitudes and religious literacy to improve attitudes toward religious moderation.

**Keywords**: scientific attitudes, religious literacy, religious moderation, moderation attitudes.

**Introduction**

Scientific attitude is a form of learning outcome in the affective domain. Scientific attitude is closely related to scientific activities and perspectives on a particular problem. Rajendran & Anandarasu (2020), Rasyidi (2022), and Mihardi (2022) explain that scientific attitude is a thinking disposition that is a research trend that is integrated into high-level thinking skills such as critical thinking, creativity, metacognition, problem-solving and decision making and greatly determines the quality of individual students. Razak & Kamaruddin (2018), Ulfa (2018), and Eğmir & Ocak (2020) state that a scientific attitude is an attitude of being able to accept other people's opinions well and correctly, acting in solving a problem systematically through scientific steps that do not know despair and with perseverance and openness. Thus, scientific attitude is closely related to a person's success in living and working in society.

According to Siregar (2019) and, Rampean et al. (2021), Zubaidah et al. (2023), scientific attitude consists of 4 indicators, namely: (1) curiosity, (2) discovery attitude, (3) attitude of working together with others; (4) critical thinking attitude. Curiosity and discovery attitude encourage someone to continue to find out about everything around them. They tend to have a strong desire for concrete and abstract everything. This curiosity and discovery attitude ultimately lead someone to data facts and the right conclusions. The attitude of working together with others encourages someone to be able to appreciate the opinions of others, have an open mind to the ideas and ideas of others, and be able to accept the circumstances of others with an open heart. This is the basis for building this cooperation.

Meanwhile, critical thinking allows someone to analyze various problems or phenomena

. According to Astuti et al. (2024), critical thinking functions to reveal, analyze, and fix problems. Religious literacy is also known as religious literacy, namely the ability to understand and practice the values ​​of the Religion they adhere to or follow. According to Jamaludin (2023) and Suyanto et al. (2024), religious literacy is a deep understanding of religious values ​​and teachings and is the basis for someone to develop a strong and positive character. Religious literacy includes not only learning religious texts but also a deep understanding of religious practices, rituals, and moral values ​​contained in these teachings. According to Aminatus and Khoiriyah (2024), religious literacy enables individuals to recognize and appreciate religious characteristics such as honesty, compassion, justice, and responsibility. In addition, Faza et al. (2024) also stated that religious literacy includes mastery of basic religious knowledge and insight into how children use that basic knowledge to shape their orientation in the world to provide direction and meaning for their lives. Nikmah (2023) also said that religious literacy is not only limited to understanding sacred texts but also as a means for students to recognize, understand, and apply the knowledge they gain in school. Therefore, Usman (2022) and Imamah & Lee (2024) stated that religious literacy is the future direction of Islamic education and an alternative approach to Islamic education in general in Indonesia. Thus, it is clear that religious literacy is an ability related to religious norms and values.

Based on the definition or concept above, religious literacy must be developed in human life. The development of religious literacy can be done through the education process. This is as stated by Faza et al. (2024) that religious literacy is very important to be introduced and instilled from an early age and applied in everyday life. The same opinion was also expressed by Azizah & Utami (2023) and, Eric et al. (2024), Giovany et al. (2024) that religious literacy has a high urgency because most of the learning cycles are closely related to literacy skills and concerns. Mercy Rolando et al. (2024) stated that religious literacy is very much needed to reduce the moral degradation of Generation Z in the digital era. Therefore, educational institutions (schools and campuses) are important in developing religious or religious literacy skills to create a civilized society. A person's ability in terms of religious literacy can be seen from several indicators. According to Azizah & Utami (2023), the indicators of religious literacy (Islam) are as follows: 1) fixated on texts (the importance of texts can be expanded), both sacred texts such as the Qur'an and firm texts that are the consequences of rigorous thinking or testing; 2) people use these books from one generation to the next; 3) the inclusion of religious scriptures in religious ceremonies; 4) religious texts, both sacred and profane, become part of individual and group identities. In line with this, Nikmah (2023) stated that religious literacy is understanding sacred texts and relating them to the context of life. Students must be involved in discussions, reflections, and practical applications of the religious values ​​they learn. Therefore, finding out and measuring religious literacy skills can be based on several of these indicators.

In addition to scientific attitudes and religious literacy, another very important factor in human life, especially in the Indonesian nation, is the attitude of religious moderation. Conceptually, Lukman (2019) and Ali (2020) state that moderate is an adjective derived from the word moderation, which means not excessive or moderate. Furthermore, it is stated that religious moderation is a common moral good that is relevant not only to individual behavior but also to communities or institutions. Fahri & Zainuri (2019), Thoriquttyas et al. (2020), and Husna & Thohir (2020) state that religious moderation (Islam) can answer various problems in Religion and global civilization. Sutrisno (2019) states that religious moderation is a middle way to deal with differences between extreme and fundamental groups. Therefore, an attitude of religious moderation allows a person to adhere to or believe in a religion well and strongly, accompanied by an attitude of tolerance towards other people or religions.

In the context of education, the attitude of religious moderation in Indonesia is one of the important points that teachers must consider. Various materials in Islam are always closely related to the attitude of religious moderation. Ramdani et al. (2022) and Muaz & Ruswandi (2022) stated that religious moderation in Islamic education in Indonesia is mainly in the aspects of learning techniques and material content, which includes the material of the Al-Quran Hadith, Fiqh of Worship, Aqidah Akhlaq, Sharia (Islamic law) and Tarikh Islam (Islamic history). In addition, Akhmadi (2019) explained that Religion is a guideline for life and a fair middle path to deal with life and social problems. Religion is a balanced perspective and guideline between worldly and afterlife affairs, reason and heart, ratio and norms, idealism and facts, and individuals and society. Thus, Islamic religious teachers must be able to actively instill an attitude of moderation through various materials delivered during classroom learning.

Based on the description above, scientific attitude, religious literacy, and religious moderation variables are interrelated. These three variables are closely related to values, morals, tolerance, and thoughts, and they all positively impact human life. Unfortunately, no research has looked more in-depth at the relationship between these variables. Previous studies on scientific attitudes, religious literacy, and religious moderation attitudes were conducted separately. Although Umar and Hasan (2024) have stated that scientific values ​​are closely related to religious moderation attitudes, they have not seen a relationship between these variables. Research by Sukarno, Nanang, and Masquri (2024) states that there is a relationship between religious literacy, scientific attitudes, and student learning outcomes. Therefore, this study seeks to determine the correlation between scientific attitudes, religious literacy, and religious moderation attitudes. Research has the potential to provide new insights into efforts to improve religious moderation attitudes in Indonesia.

Theoretically, this research has the potential to be the basis for developing more systematic learning models to improve scientific attitudes and religious literacy together to improve students' religious moderation attitudes. This research can inspire lecturers and teachers to participate more seriously in improving students' moderation attitudes in their educational institutions.

**Methodology:**

This study uses a quantitative method with correlation techniques. Respondents in this study were 117 5th-semester students of the Faculty of Tarbiyah and UIN Sulthan Thaha Saifuddin Jambi. The students selected in this study, namely 117 people, took the "Environmental Education" course taught by the researcher directly. This course theoretically explores students' scientific attitudes and religious literacy together, so it is strongly suspected of contributing to increasing students' religious moderation attitudes. The technique used in selecting the research sample was purposive sampling. Data were collected through test techniques. Each variable, namely, scientific attitude, religious literacy, and religious moderation attitude, was tested/measured using a specific instrument. Each instrument was developed based on each indicator in each variable. The instrument's validity was determined by expert judgment, namely an assessment by an expert as a validator. In the study, the validators consisted of three people, namely science education experts (for validation of the scientific attitude instrument), religious education experts (for validation of religious literacy), and academics from the Islamic Campus (for validation of religious moderation attitude). The instrument consisted of 25 questions/statements that respondents must answer. The answers to these questions/statements use a Likert scale. Thus, the maximum score obtained by respondents on each variable is 100, and the minimum score is 25. After collecting the data, it was analyzed through product-moment correlation and continued with simultaneous testing. Data analysis was carried out with the help of SPSS 25 software.

**Result and Discussion**

Based on the test of each variable tested in this study, namely, scientific attitude, religious literacy, and religious moderation attitude with instruments that experts have validated. The data is then analyzed to determine the correlation of each variable with the help of SPSS 25 software. The results of the data analysis are as shown by the SPSS 25 output in Table 1 below:

Table 1. Results of Correlation Analysis of Each Variable

|  |
| --- |
| **Correlations** |
|  | Scientific Attitude | Religious Literacy | Religious Moderation |
| Scientific Attitude | Pearson Correlation | 1 | .578\*\* | .417\*\* |
| Sig. (2-tailed) |  | .000 | .000 |
| N | 117 | 117 | 117 |
| Religious Literacy | Pearson Correlation | .578\*\* | 1 | .496\*\* |
| Sig. (2-tailed) | .000 |  | .000 |
| N | 117 | 117 | 117 |
| Religious Moderation | Pearson Correlation | .417\*\* | .496\*\* | 1 |
| Sig. (2-tailed) | .000 | .000 |  |
| N | 117 | 117 | 117 |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). |

Based on Table 1 above, it can be seen that scientific attitudes are positively correlated with religious moderation attitudes, with a Pearson Correlation value of 0.417 and a sig. 0.00 indicates a positive correlation between scientific attitudes and religious moderation attitudes. In other words, if students' scientific attitudes are good, the religious moderation attitude score will automatically improve. Likewise, vice versa, that is, if the scientific attitude score decreases, then the religious moderation attitude will also decrease. In addition, based on Table 1 above, it can also be seen that religious literacy is positively correlated with religious moderation attitudes with a Pearson Correlation value of 0.496 and a sig. 0.00 indicates a positive correlation between religious literacy and religious moderation attitudes. In other words, if students' religious literacy is good, the religious moderation attitude score will automatically improve. Likewise, vice versa, that is, if the religious literacy score decreases, then the religious moderation attitude will also decrease. Furthermore, a regression test was conducted to determine whether the variables of scientific attitude and religious literacy are simultaneously correlated with the attitude of religious moderation. The results of the regression test can be seen in Table 2 below:

Table 2. Simultaneous Test of Variables

|  |
| --- |
| **Model Summary** |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |
| R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .521a | .271 | .258 | 10.978 | .271 | 21.218 | 2 | 114 | .000 |
| a. Predictors: (Constant), Religious Literacy, Scientific Attitude |

Based on Table 2 above, the variables of scientific attitude and religious literacy simultaneously correlate with the attitude of religious moderation. This is based on the Sig. F score of 0.000 <0.05. The correlation coefficient obtained is 0.521 with a moderate category. Table 2 shows that scientific attitude and religious literacy contribute to increasing the attitude of religious moderation by 27.1%, while other factors influence the rest.

The study results showed that scientific attitude is positively correlated with the attitude of religious moderation, with a Pearson Correlation value of 0.417 and a sig. Value of 0.00. This indicates a positive correlation between scientific attitude and religious moderation and shows that religious literacy is positively correlated with the attitude of religious moderation with a Pearson Correlation value of 0.496 and a sig. Value of 0.00. This indicates a positive correlation between scientific attitude and religious literacy with the attitude of religious moderation. In other words, if students' scientific attitude and religious literacy are good, then the score of religious moderation attitude will automatically improve. Likewise, vice versa, if the score of scientific attitude and religious literacy decreases, then the attitude of religious moderation will also decrease (Table 1).

The results of this study indicate that scientific attitude and religious literacy are closely related to the attitude of student moderation; the better the scientific attitude and religious literacy are, the better their attitude toward religious moderation. In other words, the results of this study also provide information that strengthening the attitude of religious moderation can be done by strengthening the scientific attitude and religious literacy of students. This is based on the idea that the correlation of the three variables is positive, which means that another variable follows an increase in the score of one variable. In short, strengthening the attitude of religious moderation can be done by increasing the scientific attitude and religious literacy.

According to several education experts, strengthening scientific attitudes can be done by teaching and learning from various subject perspectives and using certain learning models. For example, Sari and Lahade (2022) stated in their research that using the inquiry learning model can improve students' scientific attitudes. Meanwhile, research by Rahayuningsih et al. (2020) and Olua and Cenderawasih (2022) stated that learning science through storytelling and games also has a positive impact on improving children's scientific attitudes. According to Roheni et al. (2020), learning using the discovery learning model can also potentially improve students' scientific attitudes. In addition, learning based on practicums can also significantly improve students' scientific attitudes (Bambang et al., 2017). Therefore, efforts to improve religious moderation through developing scientific attitudes can be made in various ways and variations. Of course, this can be done by teachers, especially science teachers. As for other subject teachers, it can also be done, but further research is needed.

In addition, based on this study, efforts to improve religious moderation attitudes can also be made by increasing the score of religious literacy or religious literacy. According to experts, increasing religious literacy can be done through religious strengthening, for example, by studying the holy book (Al-Qur'an) more intensively and systematically (Komarudin & Irawati, 2023). According to Two et al. (2024), there are five strategies carried out by teachers to improve religious literacy, namely: visiting the library, asking students to read for 20 minutes before learning begins, making wall magazines, organizing literacy corners in each class, and organizing competitions related to literacy. In addition, Hasanudin (2023) also stated that increasing religious literacy can be done through learning to get used to worship. Thus, the development of religious literacy can be increased through learning activities in and outside the classroom. Various activities that have the potential to increase religious literacy are religious-based activities.

Referring to the description above, it can be understood that efforts to improve religious moderation attitudes must be carried out systematically and continuously. A meaningful learning process can improve religious moderation attitudes inside and outside the classroom. Thus, the role of teachers, both science teachers and religious teachers, becomes very important. Therefore, the government must develop policies requiring teachers to have various learning strategies or methods based on scientific attitudes and religious literacy. Teachers with the ability to carry out varied learning have the potential to improve students' scientific attitudes and religious literacy, and subsequently, students' moderation attitudes also increase.

Another implication of this study is that strong and systematic collaboration is needed between science and religious education teachers (Islam) to create innovative learning models that emphasize religious moderation attitudes more. These learning models must, of course, be adjusted to the characteristics of each subject. For example, one form of such collaboration is by implementing integrated learning (science-religion). The implementation of integrated learning allows the development of scientific attitudes and religious literacy to grow together so that religious moderation attitudes can be improved.

In Indonesia, the paradigm of integrated science-religion education has developed. Many schools, especially religious schools (Islamic boarding schools and Islamic schools), have developed integrated learning models. Unfortunately, no research has looked at and compared whether there are differences in religious moderation attitudes between these and public schools. This is important to ensure that the implementation of integrated science-religion learning has the potential to be an alternative path to improving students' moderation attitudes in Indonesia.

**Conclusion**

Based on the data and analysis, it can be concluded that scientific attitudes and religious literacy are positively correlated with the religious moderation attitudes of 5th-semester students at the Tarbiyah and Teacher Training Takultas, Sulthan Thaha Saifuddin State Islamic University of Jambi. Based on the results of the correlation test, it can be seen that scientific attitudes are positively correlated with religious moderation attitudes, with a Pearson Correlation value of 0.417 and a sig. Value of 0.00. The correlation of religious literacy with religious moderation attitudes is 0.496, and a sig. Value of 0.00. This indicates a positive correlation between scientific attitudes, religious literacy, and religious moderation attitudes. In other words, if students' scientific attitudes and religious literacy are good, the religious moderation attitude score will automatically improve. Likewise, vice versa, namely, if the scientific attitude and religious literacy scores decrease, then the religious moderation attitude will also decrease. In addition, based on the simultaneous test, it is known that the variables of scientific attitudes and religious literacy are simultaneously correlated with religious moderation attitudes. This is based on the Sig. Score. F 0.000 < 0.05. The correlation coefficient obtained is 0.521 with a moderate category. Based on the simultaneous test, it can also be seen that scientific attitudes and religious literacy contribute to increasing religious moderation attitudes by 27.1%, while other factors influence the rest. Therefore, strengthening scientific attitudes and religious literacy also means strengthening the attitude of moderation. This research has implications for developing learning models in each subject that can improve scientific attitudes and religious literacy to improve attitudes toward religious moderation.

**Disclaimer (Artificial intelligence)**

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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