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How do Islamic religious education students understand the relationship between science and religion?

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Abstract

This study aims to map the perceptions of students of the Islamic Education Study Program at Ibn Khaldun University of Bogor regarding the relationship between science and religion and analyze the influence of demographic factors on these perceptions. The research used a field research approach with a survey method through a questionnaire distributed to 155 6th semester students in the range of 2023-2025, with a simple random sampling technique. The data were analyzed based on four typologies of science and religion relations, namely pro-religion conflict, pro-science conflict, independent, and harmonious. The results showed that almost all respondents were at a high level in the pro-religious conflict typology, which indicates the strong position of religion as the main truth reference. In the harmonious typology, about two-thirds of students were in the high category, indicating an integrative tendency between science and religion. Meanwhile, in the independent and pro-science conflict typologies, the majority of students are at a moderate level, indicating a neutral and not yet fully assertive attitude. The findings also showed that the factors of gender, educational background, and school origin did not provide significant differences in perception. This study concludes that PAI students tend to view the relationship between science and religion in a normative-religious manner, with a tendency to be harmonious, and place religion as the main epistemological framework in addressing science.

Keywords: *conflict and harmony; Islamic education; student perception; science and religion*

Abstrak

Penelitian ini bertujuan untuk memetakan persepsi mahasiswa Program Studi Pendidikan Agama Islam Universitas Ibn Khaldun Bogor mengenai hubungan antara sains dan agama serta menganalisis pengaruh faktor demografis terhadap persepsi tersebut. Penelitian menggunakan pendekatan lapangan (field research) dengan metode survei melalui kuesioner yang disebarkan kepada 155 mahasiswa semester VI pada rentang tahun 2023–2025, dengan teknik simple random sampling. Data dianalisis berdasarkan empat tipologi relasi sains dan agama, yaitu konflik pro-agama, konflik pro-sains, independen, dan harmonis. Hasil penelitian menunjukkan bahwa hampir seluruh responden berada pada tingkat tinggi dalam tipologi konflik pro-agama, yang menandakan kuatnya posisi agama sebagai

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rujukan kebenaran utama. Pada tipologi harmonis, sekitar dua pertiga mahasiswa berada pada kategori tinggi, menunjukkan adanya kecenderungan integratif antara sains dan agama. Sementara itu, pada tipologi independen dan konflik pro-sains, mayoritas mahasiswa berada pada tingkat sedang, yang mengindikasikan sikap netral dan belum sepenuhnya tegas. Temuan juga menunjukkan bahwa faktor jenis kelamin, latar belakang pendidikan, dan asal sekolah tidak memberikan perbedaan persepsi yang signifikan. Penelitian ini menyimpulkan bahwa mahasiswa PAI cenderung memandang relasi sains dan agama secara normatif-religius, dengan kecenderungan harmonis, serta menempatkan agama sebagai kerangka epistemologis utama dalam menyikapi sains.

Kata kunci: konflik dan harmoni; pendidikan Islam; persepsi mahasiswa; sains dan agama

Introduction

The relationship between science and religion among Muslims experienced a post-colonialism dichotomy. Belief in revelation is just as strong as belief in that which is contrary to revelation. In social reality, the dichotomy of thought is seen in religious secularism. Religious secularism is defined by separating the affairs of the world from religion; religion is only used to regulate personal relationships with God, while relationships with fellow human beings are regulated only by social agreement (Amin, 2011). For example, human relations are regulated based on social agreements, for example, Muslims believe that *riba* is haram, but on the other hand, the Indonesian economic system is based on *riba*. This dichotomy of thought is not only about social reality, but also about physical reality. An example is the theory of evolution. On the one hand, Muslims believe that the prophet Adam was the first human being directly created by Allah. But on the other hand, Muslims are taught in school that all living things, including humans, evolved from a common ancestor (Mujahidin, Martanegara, Saefuddin, & Syafrin, 2021).

Indicators of the dichotomy between religion and science can be seen from the responses of Muslim intellectuals. The appearance of the word "Islamic" in Hossein Nasr's work, *An Introduction to Islamic Cosmological Doctrines: Conceptions of Nature and Methods Used for its Study by the Ikhwan al Safa, al Biruni and Ibn Sina* 1964 and *Islamic Science: An Illustrated Study* The year 1976 was the beginning of a response to the discussion on the relationship between science and religion. In 1977, Syed Muhammad Naquib al-Attas introduced the term "Islamization of knowledge" at the Islamic World Education Conference in Mecca which was attended by prominent Muslim scholars, such as Al-Faruqi, Nasr, Sardar, and others. Al-Attas then poured out his thoughts in his book, *Islam and Secularism*. The term Islamization of knowledge from Al-Attas was then raised and

developed by Ismail Raji Al-Faruqi into the title of the book, namely *Islamization of Knowledge* (1989). Al Faruqi and al-Attas have also placed the discussion of the relationship between science and religion in the context of education.

The idea of Islamizing science became a movement in the Islamic world as a response to the separation of the relationship between science and religion. In Indonesia, the Islamization movement occurred on Islamic campuses. In 1983, the word Islamization was introduced openly for the first time by a private Islamic university. The term was openly stated at the graduation ceremony and the XXIII anniversary in 1983 with the title "Campus and the Islamization of Science in Perspective" which became the declaration of the Islamization of Science and Campus (ISK) at Ibn Khaldun University Bogor (Ahmad, 2011).

This study seeks to map the perception of the relationship between science and religion in students of the Islamic Religious Education study program at Ibn Khaldun University Bogor. These students are prospective religious teachers in schools spread across Indonesia with a majority Muslim community. This is very important to know in order to determine policies in the development of science in the Muslim community.

This research is a follow-up research that has previously been conducted by Endin Mujahidin, Irfan Habibie Martanegara, Didin Saefuddin & Nirwan Syafrin (2021) with title *"Muslim students' perception of the relationship between science and religion at Ibn Khaldun University Bogor"* students of the Faculty of Engineering, Faculty of Teacher Training and Education, and the Faculty of Health Sciences. This study does not make students with a background in Islamic Religious Education as respondents, who incidentally have an Islamic scientific background. In fact, this needs to be done to see if there is a diversity of perception in a community that continuously studies Islam.

Another study that also examines the relationship between science and religion is Scheitle's research (2011) entitled *U.S. College Students' Perception of Religion and Science: Conflict, Collaboration, or Independence? A Research Note.* He found that although at the university level the dominant narrative is a conflict between science and religion, over time there is a change in perception in students. Students who at the first level have a perception of conflict after being surveyed with the same instrument at the final level change perception to have an Independent Perception or dialogue. In students majoring in education and business, there is a tendency to perceive conflict but is pro-religion.

Other research is research conducted by Nuryantini, Karman, and Holik (2018) which compares the ability of students of the final level Physics Education

study program from *pesantren* and non-*pesantren* to identify verses of the Qur'an that contain physics concepts. This research shows that the ability of students who have a *pesantren* background and those who do not have the same background is low. Furthermore, this study proposes that the study program add Qur'an study courses. However, this research seems to be refuted by research conducted by Kusuma (2016) which examines the correlation between the success of Tafsir learning and Physics learning. This study shows that the success of Tafsir learning in students of the Department of Physics Education, Science, Tarbiyah and Teacher Training at Walisongo State Islamic University does not automatically produce students who are able to integrate science and religion. What has an effect on the ability to integrate science and Islam are courses that do discuss the integration of science and Islam. Like research conducted by Firmansyah (2016) who conduct research on the ability of students to produce chemical research ideas based on the postulates of revelation, namely the Qur'an and hadith. This research shows that the Integration of Science, Technology and Islamic courses attended by students of the Faculty of Tarbiyah and Teacher Training of the Walisongo State Islamic University provide students with the ability to integrate science and religion.

Research Methods

This research is field research where researchers directly take data from the field using questionnaires. The respondents in this study are students of the Islamic Religious Education Study Program at Ibn Khaldun University Bogor semester VI, from 2023 to 2025. This study adopts a *Simple random Sampling design* to evaluate the perception of Islamic Religious Education students regarding the relationship between science and religion. The total population in this study is 155 people.

Table 1. Composition of Research Respondents

	Categories	**Quantity**	**%**
Gender	Male	49	32
	Female	106	68
School background	High School	36	23
	Senior High School + *Pesantren*	25	16
	Madrasah Aliyah	29	19
	Madrasah Aliyah + *Pesantren*	65	42

The following are questionnaire questions derived and simplified from the conceptual framework discussed earlier and validated in previous research. This

questionnaire is randomly delivered to students through Google Forms. The following questions have been grouped:

1. ***Independent***

a. Science comes from experimentation with nature while religion comes from the understanding of revelation. Therefore, the two cannot be met
b. Science discusses nature only while religion discusses morality only. Therefore, the discussion of the two must be separated
c. Science does not contribute to the understanding of religion, on the contrary, religion does not contribute to the understanding of science
d. Both science and religion are true, but they do not need to be linked

2. ***Pro-Science Conflict***

a. Science is scientific, while religion is not scientific
b. It is true that religious teachings can be judged by science. If it is contrary to science, then the religious teachings need to be revised (corrected)
c. Science is objective, while religion is subjective

3. ***Pro-Religious Conflict***

a. If the scriptures mention the discussion of nature, then the explanation must be true
b. Science comes from humans so it can be wrong, while Islam comes from the revelation of Allah so it must be true
c. If there is a contradiction between religion and science, then it must be true religion and false science

4. ***Harmonious***

a. Whether using the religious approach or the scientific approach, we will come to the same conclusion about nature
b. A scientific explanation of the emergence of the universe would be in line with the religious explanation of the creation of the universe
c. Scientists will be able to find scientific wisdom in a particular religious order or prohibition
d. Science and religion discuss different things but both are needed to understand all aspects of life
e. The difference in approaches and methods of science and religion will enrich the perspective

All of the above points are then scored on a scale *Likert*. Scale *Likert* It consists of five points used: 5 (strongly agree), 4 (agree), 3 (doubt), 2 (disagree), 1 (strongly disagree). The data analysis technique used in this study is descriptive and

inferential statistics, which are statistics used to analyze data by describing or describing the data that has been collected as it is without intending to make conclusions that apply to generality or generalizations (Scott, 2013).

Results and Discussion

The relationship between science and religion is derived from the typology of the relationship between science and religion initiated by Barbour (2002), namely integration, dialogue, independence, and conflict. These four Barbour typologies are rearranged so that they can be used practically into harmony (a combination of integration and dialogue), independence, pro-science conflicts and pro-religious conflicts.

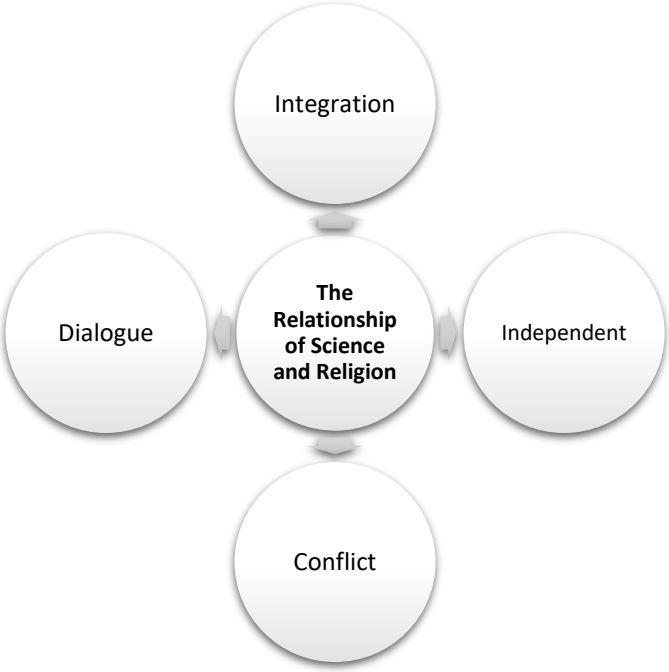

Figure 1. Typology of the relationship between science and religion Ian G. Barbour

Harmony is the simplification of operations (combined) between dialogue and integration. Dialogue means that religion and science have their own differences. Nevertheless, there are still areas of meeting between the two. Integration means that scientific and religious knowledge can be combined directly into a complete reality in which each discipline can merge with each other. Independent means that the difference in the image between science and religion does not show contradictory meanings (has their own domain). The pro-science conflict means that science and religion give different and contradictory images of nature where science is true and religion is wrong. Pro-religious

conflict means that science and religion provide different and contradictory images of nature where true religion and science are wrong.

The questionnaire results data were processed by grouping the number of students who had a total score in the categories of low (L), medium (M) and high (H). From the results of data processing, certain patterns were found in each correspondent composition.

Table 2 Students' perceptions of the relationship between science and religion (in percent)

	Independent			**Pro-science conflict**			**Pro-religious conflict**			**Harmonious**		
	L	M	H	L	M	H	L	M	H	L	M	H
General	31.6	63.9	4.5	13.5	61.9	24.5	0	1.9	98.1	0	10.3	89.7
School Background												
High School	25	66.7	8.3	11.1	61.1	27.8	0	0	100	0	22.2	77.8
Senior High School + *Pesantren*	24	76	0	12	76	12	0	8	92	0	8	92
Madrasah Aliyah	37.9	58.6	3.4	13.8	48.3	37.9	0	0	100	0	6.9	93.1
Madrasah Aliyah + *Pesantren*	35.4	60	4.6	15.4	63.1	21.5	0	0	100	0	6.2	93.8
Gender												
Male	28.6	67	4.1	20.4	67.3	12.2	0	0	100	0	12.2	87.8
Female	33	62.3	4.7	10.4	59.4	30.2	0	2.8	97.2	0	9.4	90.6

The almost identical perception of students in table 2 shows that differences in gender and school background do not affect their perception of the relationship between science and religion. This can be understood because this research was conducted in the Islamic religious education study program, so the profile of the respondents is almost similar. In terms of gender, both men and women have the same learning opportunities. This corroborates Khalick's view (2006) that gender differences have no influence on students' understanding of science concepts. The religious understanding of students with a general and religious education background is also relatively the same. As Aflalo found (Aflalo, 2013) which states that the background of science education has no influence on the perception of the relationship between science and religion, what has an influence is the understanding of religion.

From table 2, for independent typologies and pro-science conflicts, it can be seen (in the shaded columns) that the majority of students are generally at

moderate scores. Medium scores indicate that respondents do not have a firm view of the questions asked. As for the harmonious typology and pro-religious conflicts, it can be seen (in the shaded column) that the majority of students have high scores. This means that the majority of respondents already have a clear view in answering these questions. This finding is not much different from the findings of Mujahidin et al. (2021) and strengthen his research.

Basically, there is no inherent conflict between Islam and science, because both have complementary epistemological foundations. The assumption that there is a contradiction between Islam and science is actually more due to errors in understanding the nature of science and Islam's view of science itself (Mansour, 2010). Islam views science as a means of reciting verses *Squirt* God, while science works as a systematic method of understanding natural phenomena. Therefore, the ideal condition that is expected in the relationship between Islam and science is the creation of an independent typology without conflict, especially conflicts that are pro-science. In this context, ideally the majority of respondents show low scores on conflict and independent typologies, which indicates a lack of views on the dichotomy between religion and science. On the other hand, in the harmonious typology, it is expected that the majority of respondents will have a high score, as an indicator of an integrative understanding that views Islam and science as two entities that reinforce each other and do not contradict each other.

Logically, if the typology of pro-science conflict is ideally at a low score, then the conceptually pro-religious conflict typology should ideally be at a higher score. This can be understood from the fundamental difference between science and religion in terms of sources and levels of truth. Science is a product of human thought that seeks to explain natural phenomena through empirical methods, so that it is tentative, dynamic, and always open to revision as data and technology develop. Rather, religion is derived from God's revelation which is believed to have absolute truth and is unchanged by time and space. Therefore, when there is a conflict between the findings of science and religious teachings, the normative position in the perspective of faith places religion as the main reference that must take precedence (Rofiah, 2011).

This view is not intended to deny the role of science, but rather to affirm its epistemological limits so as not to go beyond the metaphysical and theological domains that are the realm of religion. A concrete example of the typology of pro-religious conflict can be seen in the debate over the theory of evolution. In the perspective of Islam, the first man was the Prophet Adam who was created directly by Allah, not the result of the process of biological evolution as

understood in Darwin's theory of evolution (Martanegara, Husaini, & Syafrin, 2019). This case shows that in conditions of conflict, religion serves as the highest framework of values and truths that guides the interpretation and acceptance of scientific findings, so that the relationship between the two remains within the corridor of faith.

Conclusion

Based on the research results, it can be concluded that the perceptions of students of the Islamic Religious Education Study Program at Ibn Khaldun University of Bogor towards the relationship between science and religion are dominated by the pro-religious and harmonious conflict typology. Almost all students are at a high level in the pro-religious conflict typology, which indicates a strong belief that religion has the highest truth authority when dealing with scientific findings. At the same time, most students also scored high on the harmonious typology, indicating an understanding that science and religion can basically complement each other and are not always in conflict. Meanwhile, in the independent typology and pro-science conflict, the majority of students are at a moderate level, indicating a relatively neutral attitude and not yet fully assertive in separating or prioritizing science independently from religion. This study also found that demographic factors such as gender, educational background, and school origin did not significantly affect students' perceptions, which can be understood due to the homogeneity of the respondents' scientific background as Islamic Religious Education students. Thus, this study confirms that the perception of the relationship between science and religion among Islamic Religious Education students tends to be normative-religious with an integrative tendency, where religion is positioned as the main epistemological framework in understanding and assessing science.

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