Influential or Influenced: Exploring Factors Affecting Academic Success of Tadris Biology Students in Islamic Higher Education

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ARTICLE INFO	ABSTRACT
	Islamic Higher Education often serves as a pivotal educational centre, cultivating knowledge and fostering academic growth. Understanding the factors influencing students' academic performance, particularly in specialized fields like Tadris Biology, holds significance in optimising educational strategies and support systems. This study aims to ascertain the variables that impact the Cumulative Achievement Index of Tadris Biology students at Islamic universities. The research methodology employed is qualitative, using Grounded Theory analysis techniques. Data was collected by administering a questionnaire and conducting in-depth interviews with 67 students. The findings indicate that prior educational experience, gender, and parental income affect GPA. Students with a scientific background, female students, and those from higher-income households tend to achieve higher GPAs. Conversely, social media usage can hurt academic performance, while involvement in extracurricular activities has no discernible effect. The benefit of this research is that it explores factors affecting the academic success of tardis biology students in Islamic higher education. This research holds inherent value in unravelling the nuanced aspects that shape the academic success of Tadris Biology students within the realm of Islamic higher education. Understanding these dynamics can pave the way for tailored interventions and support systems to enhance student outcomes in this specialised field.

INTRODUCTION

The Grade Point Average (GPA) is a crucial measure used to assess academic performance in higher education (Alangari & Alturki, 2020; Lim *et al.*, 2022; Warren & Goins, 2019). Students must achieve a high GPA to demonstrate their learning ability and mastery of their studied material (Pepe, 2012; Rafik, *et al.*, 2023). This imperative extends to undergraduate students specialising in Biology, emphasising the critical need to comprehend the determinants impacting Grade Point Average (GPA). Understanding these factors is pivotal in this academic context. Therefore, studying the factors that

affect academic performance in this context is imperative. Several factors may be the main determinants, such as previous educational background, gender, intrinsic and extrinsic motivation, learning methods, and psychological and emotional aspects (Akhdan & Aminatun, 2022; Mašić, *et al.*, 2020; Negru-Subtirica, *et al.*, 2020).

Comprehending these elements is essential in crafting enhanced educational approaches to foster improved learning outcomes and academic success within higher education settings (Al Breiki, *et al.*, 2019; Morsy & Karypis, 2019). In today's world of complex science and modern education, the Tadris Biology department has a crucial role in producing qualified biology teacher candidates. Students in this major must have a deep understanding of biology and solid educational skills. GPA is essential in assessing a student's ability to achieve these goals.

It cannot be denied that the majority of Indonesian students have a target of getting a high GPA while in college. Therefore, we must research the factors that influence the GPA of students majoring in Biology to design more effective learning programs, identify individual student needs, and provide appropriate support to achieve optimal academic success (Hepworth, *et al.*, 2018; Scherer, *et al.*, 2017; Zollanvari, *et al.*, 2017). Research on factors influencing academic success in Biology can guide effective educational strategies. It can also assist colleges in identifying individual student needs, developing appropriate support programs, and creating more relevant curricula.

The identification of student success in research will enhance the quality of higher education.. Still, they will also help produce a generation of biology teachers who are competent and able to provide high-quality education to the next generation (Dennie, *et al.*, 2019; Van Overschelde & López, 2018). The determinants of GPA for students

majoring in Biology are an exciting subject for educational researchers. In particular, previous educational background and gender have been found to play a role in GPA differences. Motivational factors, such as intrinsic and extrinsic motivation, learning methods, level of social support, and psychological and emotional aspects, such as stress or anxiety, can also influence GPA (Akhdan & Aminatun, 2022; Mašić, *et al.*, 2020; Negru-Subtirica, *et al.*, 2020).

In-depth research into the factors that influence the academic success of Biology students at Islamic universities is crucial for designing more effective and relevant educational approaches that align with spiritual values (Horwitz, 2021; Sapp, 2017). It can also help universities identify individual student needs, develop appropriate support programs, and design curricula that include a holistic approach between science and religion. Research plays a crucial role in determining the reasons that hinder student success and developing solutions to design a better educational system. This, in turn, will contribute positively to producing a generation of competent scholars who can serve society and religion with a deep understanding of both biology and Islamic religion. The benefit of such research for science and society is that it can provide an in-depth understanding of the relationship between academic achievement and its impact on individuals, such as job opportunities and community.

METHOD

Research Approach

This study utilises a qualitative approach that applies Grounded Theory analysis techniques to comprehend the factors influencing the Cumulative Achievement Index (GPA) of Tadris Biology students at Islamic religious universities. The results of Grounded Theory analysis will be validated through triangulation of data from various

sources and audited by an independent researcher to guarantee their reliability. The resulting concepts and themes will be used to create a theory that definitively explains the factors that influence the GPA of Biology Tadris students (Thornberg & Dunne, 2019).

Data collection technique

Data collection used an open-ended questionnaire to elaborate on the issue (Boparai, *et al.*, 2018; Krosnick, 2018). Respondents were selected by considering variations in their previous educational background, gender, level of study, and GPA. Interviews will be conducted in depth with structured questions to explore students' experiences, perceptions, and views on the factors influencing their GPA.

Data analysis technique

Data generated from interviews and document analysis will be analysed using initial coding techniques (Cope, 2020; Mihas, 2023). Initial coding involves assigning labels or codes to significant pieces of data that appear in interviews and documents. Then, the coded data will be compared and analysed to identify patterns and relationships between factors influencing student GPA. This will involve grouping similar codes and identifying critical concepts from the data.

RESULTS AND DISCUSSION

The results of the research show that respondents assume that several factors play a role in influencing their GPA in the Biology Tadris Department of Islamic Universities.

Department Contribution during High School/equivalent

According to some students, a student's high school major can impact their GPA. Researchers conducted a factor analysis and found that out of the 67 Biology Tadris student

respondents, 79% believed their high school major could affect their GPA, while 21% said it did not. Choosing majors in natural science (IPA) during upper secondary education can indirectly affect a student's academic performance, particularly their Grade Point Average (GPA).

This can be explained by the variation in skills and knowledge acquired by students from Natural Sciences departments compared to non-Natural Sciences departments. Students with a background in science majors generally achieve better and more stable academic results than those from non-science majors. The correlation between choosing a high school central equivalent to Biological Sciences and decreasing GPA suggests that students from natural science backgrounds have an advantage over non-science students, mainly if they have studied biology and natural science subjects in-depth during their upper secondary education. This is because they have a deeper understanding of biological principles and innate scientific knowledge, particularly those who have chosen a biology major. Students majoring in Natural Sciences (IPA) during high school tend to get more extensive exposure to science and mathematics (Yusup, 2021).

They have the ability to explore complex concepts which can provide a strong foundation for higher education, such as Tadris Biology major. In this case, the quality and quantity of knowledge they bring to college can provide a significant advantage in understanding and mastering further course material, resulting in better learning outcomes (Yusup, 2021). Therefore, differences in high school educational backgrounds can be considered an influencing factor in student academic achievement.

Gender Differences in Student Grade Point Average (GPA)

Research conducted on 51 university students showed a significant difference in the Average Achievement Index (GPA) between

male and female students. Of the respondents, 33 female students obtained high scores, while only 6 male students achieved similar achievements. On the other hand, 8 male students got poor grades compared to only four female students. These findings suggest that females tend to perform better academically than males. This result is consistent with other research that indicates that gender plays a crucial role in determining students' GPA, which can be attributed to differences in motivation between males and females (Anisa & Ernawati, 2020; Assari & Caldwell, 2018). Additionally, another research supports these findings, showing that female students tend to have a more satisfactory GPA than male students. This could be because male students often have more external motivation, while female students have more intrinsic motivation. Furthermore, differences in the level of knowledge between males and females can also be a determining factor in academic achievement (Bowman, *et al.*, 2022).

The decreased focus exhibited by males during instructional sessions contributes to the gender-based disparity in academic performance, corroborating earlier studies that underscore the heightened academic dedication observed among females (Antika & Haikal, 2019). The study reveals that males tend to pay less attention to lessons, which can contribute to the difference in academic achievement between genders. These findings are consistent with other research that shows that female students are more active and dedicated in academics than male students. Thus, it can be inferred that the level of attention and dedication to learning has implications for designing more effective learning strategies for both genders (Lundberg, 2020).

Indirect Correlation between Parental Income and GPA

The research results illustrate parental income influences students' Grade Point Average (GPA) achievement. This research revealed that around 75% of respondents, totalling 67 students, experienced a significant influence of their parent's income on their GPA. Meanwhile, approximately 25% of other respondents stated that their parents' income did not substantially impact their GPA. This shows that the parental income variable correlates reasonably strongly with student academic achievement, with most respondents feeling a real influence from this factor.

Parental income is a critical factor influencing students' financial well-being during college study. Students' success in achieving satisfactory learning outcomes often depends significantly on their ability to meet the needs of tuition fees, books, housing, food, and other costs (Enbeyle, *et al.*, 2020; Esau, 2018).

In this context, the research results explained that parental education and family income significantly support students' success in meeting their needs during the study process (Sari & Rafsanjani, 2020). Parents' level of education can influence their understanding of the importance of education, which can impact the financial support they provide their children during college. Parents' income also plays a crucial role in supporting students because they provide the funds needed to pay educational costs and meet various daily needs. The research results also confirm parental income's influence on student learning outcomes (Putriku, 2018). The income received by student parents can influence their ability to cover educational costs and meet students' living needs, which are often relatively high.

The results of this study confirm that parental income has significant implications for students' academic performance, with a widespread impact on their ability to study without excessive financial burden, which can ultimately influence satisfactory learning outcomes. The research delves into the intricate nature of the correlation between

parental income and student learning outcomes. It highlights the significance of this relationship in shaping improved financial support programs and higher education policies. This deeper comprehension aids in crafting more suitable initiatives to assist students financially and enhance their educational opportunities.

Duration of Social Media Activity and GPA

The research conducted by experts highlights the impact of social media on the academic performance of students majoring in Tadris Biology (Bimbi, 2016). This study examines the correlation between social media usage and academic performance in Tadris Biology students. The findings indicate that the duration of social media use significantly impacted students' academic achievement.

Most students allocated more time to social media activities, which harmed their academic achievements. 51 students who participated in the research, 31% spent more than 6 hours on social media, 25% spent 6 hours daily, 26% spent 4 hours, and 18% spent only 2 hours daily. The data showed that the students who spent more time on social media had poorer academic outcomes, particularly their Grade Point Average (GPA).

The results of this research are consistent with previous studies that have found that students prioritise social media over studying. Excessive use of social media has negative implications for academic outcomes (Sugiyanto & Malik, 2023). Similarly, another study showed that high social media usage was inversely related to academic achievement in biology (Fitri, 2019). Students who spent more time on social media and less time studying had poorer educational outcomes. Moreover, the research also supports these findings, showing that students with high social media usage tend to have lower learning outcomes.

The current research adds to the body of literature by confirming previous findings regarding the long-term negative impact of intensive interaction with social media on academic performance. In conclusion, the data shows that spending excessive time on social media hurts the academic performance of Tadris Biology students. The research findings indicate that students with more time for social media activities tend to have lower educational outcomes. Therefore, it is essential to educate students on the benefits of social media and the need to balance their time between social media and academic activities.

Organisational Activities

The results of this study show evidence of this participation in organizations does not have a significant influence on students' achievement of the Grade Point Average (GPA). Below is a diagram displaying the results of a questionnaire given to respondents, which provides more details.
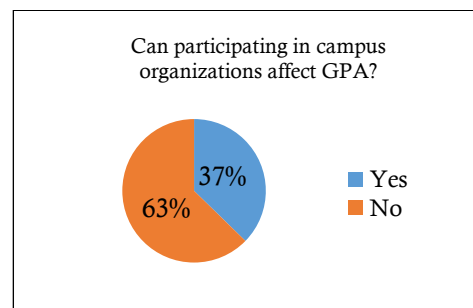
Figure 1. Perceptions of Organization Participation on GPA

This finding aligns with previous research stating that some students prioritise academic activities over non-academic ones. Thus, they focus more on lectures than pursuing interests and talents outside the classroom. Furthermore, the level of activity in organisations does not significantly impact students' GPA (Hasmayni, 2020).

The results of this study can be interpreted as an indication that the impact of participation in organisations on students' GPA can vary depending on various factors. In this context, an individual's interests and priorities toward academic and non-academic activities can play an essential role in

determining the actual impact of organisational membership. In some cases, corporate actions may influence a student positively, while in other cases, students may be more inclined to allocate their time and energy to pursuing academic success (Slavinski *et al.*, 2021). Thus, these findings provide important insights in designing support strategies and programs that suit students' preferences and needs in achieving academic success and non-academic development.

Next, it should be noted that the results of this research do not rule out the importance of participation in organisations on campus. Organisational activities can provide significant benefits regarding leadership skill development, social networking, and experiences outside the classroom. However, these findings suggest that the impact of corporate activities may not always be reflected in students' GPA achievements (Fazzlurrahman, *et al.*, 2018; Wati, *et al.*, 2017). For example, an active student in an organisation may successfully develop valuable social and leadership skills. Still, the time spent in that organisation may reduce the time available for academic study (Hasmayni, 2020).

Students must consider balancing their organisational commitments and academic priorities in making educational decisions. Universities can play a role in providing appropriate guidance and support to help students achieve a good balance between corporate activities and academic achievement (Demetriou *et al.*, 2017). That way, students can optimise their campus experience, combining skill development outside the classroom with rewarding academic achievement. In addition, further research could also explore other factors that influence the relationship between participation in organisations and student GPA, thereby providing deeper insight into the complexity of this interaction.

CONCLUSION

Factors influencing the Grade Point Average (GPA) of students majoring in Tadris Biology at Islamic religious universities have significant implications for academic achievement. Moreover, previous educational background, especially high school majors, plays a vital role in shaping students' initial understanding, where students with a science background tend to have an advantage. The results also confirmed differences in achievement between female and male students, with female students achieving higher GPAs, which may be related to stronger intrinsic motivation. Parental income also significantly impacts academic performance, with students from higher-income families having an advantage in financial support. On the other hand, intensive use of social media can be a severe distraction in pursuing academic success, considering that many students spend valuable time in online interactions. However, participation in organisations, although having essential benefits in developing social and leadership skills, does not always significantly impact GPA. Therefore, this research provides valuable insight into the complexity of the relationship between various factors that influence student GPA achievement, which can be used to design more effective educational strategies and help students achieve optimal academic success. In the increasingly complex world of higher education, it is essential to help students find the right balance between academic and non-academic activities to take full advantage of their college experience.

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