Factors Affecting Student’s Interest in Determining Majors Higher Education in Era 4.0

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Abstract

This study aimed to determine the factors that affect student interest in choosing majors in higher education in the 4.0 era. In the 4.0 era, secondary schools need to prepare students to make wise decisions in terms of choosing a college major that suits their future career goals. This research was a quantitative method with data collection techniques through observation and questionnaires to 263 class XII students of SMAN 1 Sambas. Data on graduates who worked not according to the study program showed an increase from 2017 to 2021, namely 60% to 80%. From the results of factor analysis, 7 variables formed 2 factors, namely internal environmental factors with a coefficient value of 61.06% consisting of parents, peers, personality, self-potential, and external environmental factors with a coefficient value of 12.51% consisting of opportunities for work, social environment, and future expectations. Internal environmental factors with a coefficient of 61.06% were the dominant factors that affected student interest in choosing college majors. Thus, the seven variables affected student interest in choosing majors in higher education in the 4.0 era.

How to Cite


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INTRODUCTION

High School (SMA) is a secondary education level that is oriented toward preparing students to continue their education to a higher level. Regulation of the Minister of Education and Culture (Permendikbud) No. 0186/P/1984 in Ihsan states that secondary education is education that prepares students to become members of the community with the ability to make reciprocal relationships with the environment and can develop their abilities in higher education or the world of work (Ihsan, 2013: 23). To realize the goals of national education, it is necessary to prepare various elements that support the improvement of the quality of education, especially for students, such as determining the right majors in accordance with future goals, especially careers.

Therefore, in the 4.0 era, secondary schools need to prepare students to make wise decisions in choosing a college major that suits their future career goals (Yandri, Sujadi & Juliawati, 2021). The choice of major has an important influence on academic future, life, and personality (Singh & Kumari, 2021). Many high school graduates are confused about their talents, interests, potential, and interests, so they are confused about choosing a major in college. Confusion can lead to future anxiety. As a result, students who feel unable to choose majors that match their career goals will feel anxious about their future.

Anxiety about the future has a relationship with the attitude of choosing an academic major (Maharani, 2021). In choosing a major, you must go through careful consideration, because in choosing a major, you are required to be responsible for your choice and follow the process well, so that when you graduate you are not confused in determining your career (Anthony, Sediyono, & Iriana: 2020). For grade 12 high school students, choosing a higher education major is the first step in preparing for a future career (Nelissa & Astuti, 2018). The next generation of a great nation will be formed by making the right decisions (Fadilla, 2020).

The problems that are seen and widely discussed among students today are related to confusion and mistakes in choosing college majors. In the current 21st century, which is accompanied by the 4.0 revolution, it shows the rapid development of technology and increasingly fierce competition, especially in the world of work, on the other hand, many students feel confused, not knowing what talents and interests they have. This makes them confused in choosing majors and some students choose majors carelessly (Ashila et al., 2021).

Based on the results of observations and interviews with students in schools and colleges. Students were confused in choosing a major because they did not have a clear career picture, and confused in adjusting and determining their skills and abilities. On the other hand, many students complain because they feel they have chosen the wrong major because it is not according to their career goals. There is a comparison of the background of the selection of student majors then and now.

In the past, they chose to just get the job they wanted, but now they have to optimize it so they can compete and survive in the era of the industrial revolution 4.0. Many graduates do not work according to their study program (Putranto, 2017). Minister of Education and Culture Nadiem Makarim stated that in 2017 63% of the Indonesian population did not work according to their majors or study program which increased in 2021 to 80%.

The data showed a significant increase in graduates who work not according to their study program and are likely to have an impact on others by closing opportunities for others who have the main background similar to the existing job vacancies. In addition, the careers of graduates with different majors cause confusion for each individual and in the end, there is a perception that college is not the benchmark for getting the desired career and that college is just a waste of time.

Based on the phenomena that occur and observations in the field regarding the interest of grade 12 students in determining majors.
in higher education, not a few of those who make decisions in determining majors are motivated by selective slashing in the sense of choosing which majors can accept them, then the influence of parents and peers, because they are not used to making their own decisions and not a few, choose majors by following friends so that during college they already have friends who are already known.

In addition, some students choose majors only following trends by looking at the most sought-after and most prestigious jobs. To make the right choice, students must have adequate skills because the choice that will be chosen determines their success in the future (Zamroni, 2016). Thus, grade 12 students who wish to continue to higher education must choose the right major to be able to develop their potential to be useful in the future according to their career goals.

The decision to take a major becomes a problem, starting from the coercion of parents or following friends (Syihab, 2021). Interest is one of the factors that can influence students in choosing majors. Interest is a feeling of liking or feeling interested in a thing or activity, without any order (Slameto, 2013: 180). Research by Sarkodie (2020) stated that "a combination of subjects in high school (SMA), interests, career desires, job opportunities, program recognition, and academic records were factors that could influence students in choosing a school or college".

The same opinion is expressed by Aisch & Revaldi (2010: 170) who stated that to determine the right study program or major, one must consider related factors: interest, costs, prospects, reputation, accreditation status, facilities, and quality. Then Arnita, Suwarno, & Hasanah (2021) also stated that the cost of education, interest, and motivation affected students in choosing majors in higher education. In the era of the 21st-century revolution, changes in science and technology are developing rapidly and causing changes that are so fast and competitive, so that the learning process is expected to shape, develop and improve the quality of students. Thus, interest can have an influence on student decisions in choosing majors in higher.

This research was conducted to provide an overview to students through school and higher education to motivate, guide, and prepare students to form integrity so that they can make wise decisions in determining their future. Previous research by Agusti (2018); Choemue & Mbato (2020); Nuseir & El Refae (2021), stated that students’ interest in choosing majors was influenced by 2 factors, namely external factors which include: internal drive, personality, motivation, ideas, while internal factors include the community, school or campus environment and its facilities and infrastructure. Then Mardiani and Lhutfi (2021) stated that students’ interest in choosing majors was influenced by career expectations and high salaries.

Indriyanti & Ivada (2013) suggested that the factors that influenced interest consist of self-potential, motivation, future expectations, opportunities, social environment, situations and conditions, and institutions. Furthermore, Najafian et al (2013) stated that parents, friends, teachers, university data, and mass media could influence student interest. Another research conducted by Indrianti and Sari (2017) contained internal factors, namely personal desires, and external factors, namely experiences that most influenced students’ interest in choosing majors. In addition, Agustin, Indrawati, and Gimin (2021) argued that parental attention, academic ability, and student aspirations had a significant effect on students’ interest in choosing majors.

From several previous studies that discussed the factors of students choosing schools or colleges and majors at school, when choosing college majors, especially in the 4.0 era, they had not been found. Of course, there are differences between the past and now. In the 4.0 era, accompanied by technological developments and intense competition, students must make the right decisions and understand their choices as a benchmark for planning a good future, especially in careers and competition, so students’ mindsets must be shaped
to be better so that there are no mistakes in choosing a major. Thus, researchers are interested in studying the factors that influence the interest of school students in choosing majors in higher education and the most dominant factors.

METHODS

This study was a quantitative approach with a factor analysis technique that aims to determine the factors that influence student interest in choosing majors in higher education, as well as the dominant factors. The research was conducted at SMA Negeri 1 Sambas because it was recorded by the Department of Education (Disdik) of Sambas Regency that each year the highest number of graduates went on to higher education. The population of this study was all 12th-grade students, totaling 263 students with a sampling technique, namely probability sampling type random sampling which was carried out randomly by using the Slovin formula with an error rate of 5% so that the sample obtained was 100 students from class 12.

The data was collected through a questionnaire with a Likert scale distributed via google form as the main data source and documentation as a secondary data source to obtain data on the number of students. Questionnaires are data collection techniques that are carried out by giving a set of questions or written statements to respondents to be answered (Sugiyono, 2013:199). Data analysis used Confirmatory Factor Analysis (CFA), which is an a priori technique based on concepts and theories that have been known and understood or determined on existing factors, then several factors were made to be formed and find out the variables in each factor formed.

The analysis technique used the SPSS program to determine the relationship between 7 variables from previous studies consisting of parents, peers, personality, self-potential, job opportunities, social environment, and future expectations. The steps in confirmatory factor analysis are analyzing the Kaiser Mayer Olkin (KMO) and Barlett test, anti-image, factoring, and loading factor. Based on the theoretical basis and the results of previous research, the framework of thought in this study can be seen in Figure 1.

![Figure 1. Thinking Framework](image)

RESULT AND DISCUSSION

The analysis in this study was used to determine the factors that influenced student interest in choosing majors in higher education in the current 4.0 era. This study used 7 variables, namely: parents, peers, job opportunities, self-potential, social environment, personality, and future expectations. The 7 variables consisted of 33 question indicators in the form of a Likert scale and the results obtained that 28 of the 33 indicators were declared valid.

The 28 indicators obtained a significance value of > 0.36, while the 5 indicators were invalid. Then the reliability results were obtained from the 28 indicators used with the Cronbach Alpha value obtaining 0.914 > 0.60 which indicated that the data was reliable. Thus, the distribution of the questionnaire was declared valid and reliable. Furthermore, to determine the factors formed from each variable, factor analysis was carried out in the following stages.
Anti-Image Correlation

Anti-Image Correlation showed the suitability of the data values used as a condition for further analysis. If there are variables that fail in the results of the anti-image correlation, then a re-analysis must be carried out. Based on table 2, it can be seen that there was no factor value < 0.50. Thus, it can be said that the data had meet the requirements of factor analysis, and there was no need for re-analysis because there are no variables that fall out.

Based on Table 3 above, it can be seen that the results of the Kaiser-Mayer-Okin (KMO) Measure of Sampling test showed that the data obtained was 0.833 which means that factor analysis can be continued and accounted for and factor analysis in this study was correct because the output of KMO was 0.833 > 0.50 and showed a good level of significance with a significance level of 0.000 < 0.05.

Total Varian Explained

Furthermore, some factors were analyzed. Each factor had various data from the original variable (interest in choosing a major). Total Variance Explained becomes an output that can explain the factors that will be formed as shown in Table 4.
From the Table 4, it can be seen that the analysis of variables 1 to 7 formed 1 factor that had an Eigenvalue >1. However, in this study, it was determined to be 2 factors, so it did not use the standard Eigenvalue value. Factor 1 with a value of 4.275 explained 61.065% of variation and factor 2 with a value of 0.876 explained 12.512%, while the rest was influenced by other variables that were not included in this study.

Furthermore, to find out the variables formed, you can see the contents of each variable by looking at the variable values in the component matrix table. The greater the value of the factor load, the stronger the relationship between the components formed. To make it easier to see the grouping of factors, you can see the rotation of factors. The results of this study require the formation of 2 factors, where each variable has a strong correlation with the factors formed. For more details, see the factor rotation table and scree plot in Figure 2.

Based on Table 5, it was formed into 2 factors, it can be seen that each variable has a strong correlation with factor 1 and 2. The variables of parents, peers, personality, and self-potential are included in factor 1 which

**Table 4. Total Varian Explained**

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
<td>Cumulative</td>
</tr>
<tr>
<td>1</td>
<td>4.275</td>
<td>61.065</td>
<td>61.065</td>
</tr>
<tr>
<td>2</td>
<td>.876</td>
<td>12.512</td>
<td>73.577</td>
</tr>
<tr>
<td>3</td>
<td>.718</td>
<td>10.250</td>
<td>83.827</td>
</tr>
<tr>
<td>4</td>
<td>.432</td>
<td>6.174</td>
<td>90.000</td>
</tr>
<tr>
<td>5</td>
<td>.306</td>
<td>4.368</td>
<td>94.369</td>
</tr>
<tr>
<td>6</td>
<td>.238</td>
<td>3.402</td>
<td>97.771</td>
</tr>
<tr>
<td>7</td>
<td>.156</td>
<td>2.229</td>
<td>100.000</td>
</tr>
</tbody>
</table>

Source: Processed Data (2021)

**Table 5. Rotated Component Factor Matrix**

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
<td>.710</td>
<td></td>
</tr>
<tr>
<td>Peers</td>
<td>.874</td>
<td></td>
</tr>
<tr>
<td>Personality</td>
<td>.857</td>
<td></td>
</tr>
<tr>
<td>Job Opportunities</td>
<td>.874</td>
<td></td>
</tr>
<tr>
<td>Self-Potential</td>
<td>.789</td>
<td></td>
</tr>
<tr>
<td>Social Environment</td>
<td>.679</td>
<td></td>
</tr>
<tr>
<td>Future Expectation</td>
<td>.788</td>
<td></td>
</tr>
</tbody>
</table>

Source: Processed Data (2021)

**Rotated Factor**

**Figure 2. Scree Plot**

Source: Processed Data (2021)
nality, and self-potential. Meanwhile, external environmental factors are factors that have a fairly broad reach and their existence cannot be felt, namely job opportunities, social environment, and future expectations.

The internal environmental factors including peers, parents, self-potential, and personality were the dominant factors that influenced student interest in choosing majors in higher education. Parents influenced student interest in choosing majors in higher education because students considered and mostly took parental support in terms of financial, parents’ educational background as well as the motivation or encouragement given by parents. Parents contributed 0.710. Supported by the results of Gao & Hao’s (2021) research, namely family background significantly influenced students’ priorities in deciding majors. Then Agustin (2021) said that with the attention of parents and the ambition of students, the interest in choosing a major will increase.

Peers could influence students’ interest in choosing majors in college. Peers contributed 0.874. Students tended to choose similar majors with close-knit peers and were encouraged by peer advice to consider short-term academic requirements over long-term job prospects. As stated by Pu, Yan & Zang (2021) that the selection of majors is done by following peers, but not random peers.

Personality in students affected students’ interest in choosing majors in college. Personality contributed 0.857. In line with the results of research conducted by Nelissa & Astuti (2018) that the choice of majors could be influenced by personality. Personality is related to character. A good character in the student’s personality will provide the right decision-making in determining his interest in choosing a major that is following future goals. Thus, the need for personality formation in the form of character education in students. Character education will give birth to students who can make wise and appropriate decisions (Fadilla, 2020).

Self-potential affected students’ interest
in choosing majors. Self-potential contributed 0.789. Students will adjust their talents or potentials according to the chosen majors to facilitate the learning process that is followed and will obtain satisfactory results. Supported by research, Cheisviyanny & Pratama (2020) stated that in determining a study program or college major, self-potential significantly influenced students' interest in choosing a major. Then, to develop self-potential, it must be based on the interests that exist in each individual. With interest, all activities carried out to achieve the goal of increasing self-potential will give good results. In connection with this, Alfazani (2021) said that interest affected the development of self-potential.

Job opportunities influenced students’ interest in choosing majors in higher education because students considered job vacancies, job competition, and an inadequate workforce. Job opportunities contributed 0.874. There are so many job opportunities and job opportunities that provide many benefits and provide opportunities for students to choose majors in the hope of getting a suitable job. Research conducted by Tirta (2021) regarding the interest of high school students in choosing majors stated that there was a relationship between job opportunities and student interest in choosing majors. Thus, job opportunities could influence students’ interest in choosing college majors.

The social environment influenced students in choosing majors. The presence and existence of relationships with important people aimed to gain social recognition that affected the interest in determining majors. The social environment contributed 0.679. A social environment that provides opportunities for self-actualization and can generate self-confidence provides the motivation that leads to the growth of student interest. The influence of the social environment with the presence of people who are successful in their achievements is a benchmark for achieving success even in different ways and processes. The social environment is a factor that is considered in choosing a major (Sohar, 2018).

Thus, in choosing a major in the social environment, it becomes a matter of consideration that will affect the interests of students in choosing a major in higher education.

Future expectations also influenced students’ interest in choosing majors. It was supported by research conducted by Mardiani & Luthfi (2021) which stated that students’ interest in choosing a major following the chosen major was influenced by career expectations. Future expectations are reflected by good career expectations. Because the hope for the future by getting a good job or following the desired career goals will give the spirit to succeed and get the right job and become a motivation to choose the appropriate major. In the research that the researchers conducted, future expectations contributed 0.788. Future expectations in the 4.0 era which underwent quite large changes made everyone want to get satisfactory results for personal interests and gains.

CONCLUSION

Based on the results of the study, it can be concluded that 2 factors could influence the interest of school students in choosing majors in higher education, namely internal environmental factors consisting of parents, peers, personality, and self-potential, while external environmental factors consisting of job opportunities, environment social and future expectations. The dominant factor was internal environmental factors including peers, parents, self-potential, and personality.

In the 4.0 era, decision choices must be made carefully by involving character development. Currently, students’ interest in choosing a major in higher education is based on an awareness of the desire that comes from within and awareness of their abilities along with other considerations. In this case, students must be more observant in determining the direction of their future goals so that they do not stop in the middle of the road due to choosing the wrong major which will ultimately complicate the learning process.
This research is expected to be useful for related parties including schools so that schools can help, equip and guide students in considering choosing the right major according to their interests, talents, and future career goals. For students, it is expected to be a consideration to make the right big decisions. For the academic community, it is hoped that they can enrich knowledge and literature so that they can better understand the condition of students so that they can provide input, advice, and motivation.

This research still has limitations, namely the object of research which was only carried out in 1 school of SMAN 1 Sambas and only 100 respondents, this is still not enough to describe the actual conditions, so further research needs to be done by expanding the object and respondents. In addition, the use of questionnaires sometimes respondents give answers that are not in accordance with the actual conditions.

Based on the results of the study, there are several suggestions as a form of follow-up to the results of this study, namely: (1) Teachers in schools, and parents must be informants and counselors to students so that they are wise in making decisions, especially in terms of determining the choice of majors that are adjusted and used as reference goals career. (2) Students must carefully consider the priority reasons in choosing a major. If it is needed for career purposes, then you can choose the appropriate major so that the results are maximal. (3) Students must develop and improve their quality in the 4.0 era so that they are ready to face the changes that occur through making decisions about choosing the right major in higher education by educating themselves with character education. (4) It is hoped that other researchers will conduct research on the reasons why students go to college but are not in accordance with their desires and career goals and their impact.

REFERENCES


Fadilla, P, F. (2020). Peran Pendidikan Karakter Terhadap Faktor-Faktor Pengambilan Keputusan Karier di Era Revolusi Industri
4.0. Prosiding Konferensi Pendidikan Nasional, 2(1), 212-218.