The Effect of Personal Attitude and Subjective Norm on Entrepreneurial Interest of Biology Education Students

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Abstract

Entrepreneurship learning in university becomes a bridge to build students' knowledge, interests, and skills in the entrepreneurial field. As it is to produce graduates who are creative, innovative, productive, reliable, quality, independent, having self-controlled, and competitive. This current research aimed to find out (1) the students' attitudes, subjective norms, and entrepreneurial interests; (2) the influence of subjective norms and attitudes on students' entrepreneurial interests. It was an ex post facto research with associative descriptive approach. It was conducted in the even semester of 2020 with 56 samples of students of the Biology Education, FSTT Mandalika University of Education who were selected using purposive sampling technique. The instrument administered was a closed questionnaire about attitudes, subjective norms, and entrepreneurial interests with a Likert scale and it had been validated by experts. The data were analyzed using descriptive and inferential statistics with multiple linear regression tests. The results showed that the students' entrepreneurial attitude had a mean of 3.13 in good category, the subjective norm was 3.13 in good category, and the entrepreneurial interest was 3.08 in good category. Next, the results of multiple linear regression namely (1) the F-test value fell in 16.036 and the significance value of 0.000 was greater than the alpha value of 0.05 (> 0.05). It meant that there was an influence of attitude and subjective norms simultaneously towards students' entrepreneurial interest; (2) the t-test showed that the significance value of attitude (X1) was 0.033 and the subjective norm (X2) was 0.030 which meant greater than the alpha value 0.05 (> 0.05). It meant that there was a partial influence of attitude and subjective norms on students' entrepreneurial interest; and (3) the coefficient of determination test showed the value of R Square was 0.377 or 37.7%. It meant that the attitude and subjective norms affected the entrepreneur's interest and the rest of the percentage was affected by other variables or factors.

Keywords: attitude; subjective norms; entrepreneur's interest

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INTRODUCTION

Indonesia actively encourages the community, especially the younger generation to run enterprise through the National Entrepreneurship Program on February 2011 and Presidential Decree Number 4 Year 1995 concerning the national movement to promote and cultivate entrepreneurship (Setyawan, 2016; Mirawati, Wardana & Sukaatmadja, 2016). This program is expected to be a solution to the unemployment rate due to the mismatch between job vacancies and the number of graduates at each
level of education in Indonesia. Data published by the Central Statistics Agency (BPS) on May 2020 explored that the Open Unemployment Rate (TPT) in Indonesia was 4.99% in February 2020, down compared to February 2019 of 5.01. The open unemployment rate for Diploma graduates was 6.76 and bachelors was 5.73 (BPS, 2020). It shows that university graduates contribute a high intellectual unemployment.

Accordingly, the report from BPS also shows that college graduates are insufficiently ready to be independent, so they tend to become job seekers rather than job creators. This condition illustrates the level of the workforce in Indonesia is still quite high because of expecting individuals and job opportunities (Santoso & Handoyo, 2019). They prefer to work for government-owned or private companies rather than do the entrepreneurship. Therefore, it is hoped the government will actively develop the knowledge, interests and skills of the young generation in the field of entrepreneurship for the sake of reducing unemployment and have a positive impact on the nation's economy. All in all, the requirement to be developed countries is to have a minimum of 2% entrepreneurs from the total population of the country (Listyawati, 2017; Mirawati, Wardana, & Sukaatmadja, 2016).

The development of higher education in the industrial revolution era 4.0 is expected to produce graduates who are creative, innovative, productive, reliable, quality, independent, and having self-control in order that they are ready to compete in various fields of life (Primandaru, 2017; Darmawan & Warmika, 2016; Fatimah, 2013). According to Wahyuni and Hidayati (2017), universities need broad-based development policies (Broad Based Education) and concern on life skills like entrepreneurial skills. Next, developing such skills is supposed to be appropriate and relevant for producing graduates who are creative, innovative, independent, and able to create jobs (Darmawan & Warmika, 2016; Mirawati, Wardana, & Sukaatmadja, 2016).

The government has led higher education to include entrepreneurship in its curriculum. Therefore, it is compulsory subject in the curriculum of the Biology Education, Faculty of Science, Applied, Engineering (FSTT), Mandalika University of Education. Next, it facilitates students to have entrepreneurial knowledge, perceptions, attitudes, interests and skills structurally (Muliadi, 2020; Supeni and Efendi, 2017; Setyawan, 2016). Knowledge on entrepreneurship will change students’ perceptions and attitudes and affect students' interest in pursuing entrepreneurship (Muliadi, 2020). And such opinion is in line with Muliadi (2019) and Hattab (2014) who state that the knowledge gained in entrepreneurship will affect the attitudes and interests of students’ entrepreneurs.

Students’ entrepreneurial interest is influenced by attitudes as the reflection of positive or negative belief in subjective norms and behavior (Indrawati, Herkulana, & Syharud, 2017). Such interest can be nurtured in the early age and throughout learning in school, family, and environment (Srigustini, 2014). Knowledge on entrepreneurship can be acquired through learning it and then strengthened with idea and support from experienced people in this field (subjective norms). This kind of norm is one of the factors in the Theory of Planned Behavior (TPB) affecting entrepreneurial interest which means having belief to follow someone’s suggestions to participate in entrepreneurial activities (Wijaya, 2008). In other words, student's subjective norm is to receive input from experienced entrepreneurs and such may provide mental pressure to improve students’ interest in entrepreneurship.
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(Indrawati, Herkulana, & Syharud, 2017). According to Listyawati (2017), Theory of Planned Behavior explains attitudes, subjective norms, and behavioral control are supposed to be variables preceding intention, interest, and behavior. It can be inferred that entrepreneurial interest on students of Biology Education can be influenced by their knowledge, attitudes, and subjective norms. Thus, a mapping aims to know the effect of students’ attitudes and subjective norms on the entrepreneurial interest.

**METHOD**

An ex post facto research with an associative descriptive approach was applied (Sugiyono, 2017). This kind of research aims at examining cause and effect which is not manipulated by researchers but recording data from activities that have occurred (Sugiyono, 2017; Arikunto, 2016; Singarimbun & Sofyan, 2009). Quantitative descriptive is used to describe entrepreneurial attitudes, subjective norms, and students ‘ entrepreneurial interests. However, the associative descriptive is applied to describe the influence of entrepreneurial attitudes and subjective norms on students’ entrepreneurial interest (Muliadi, 2020). Operationally, the associative consists of three variables namely entrepreneurial attitudes (X1), subjective norms (X2), and entrepreneurial interests (Y) as shown in Figure 1 below.

![Figure 1. Associative variables X1 and X2 with variable Y](image)

This research was conducted in the even semester of 2020 with 56 samples taken from Biology Education, FSTT, Mandalika University of Education who were determined by purposive sampling technique. The instrument used was a closed questionnaire with a Likert scale degradation and its validity was tested by experts (Muliadi et al., 2019). Questionnaires for entrepreneurial attitudes, subjective norms, and entrepreneurial interests was developed referring to the indicators proposed by Perwitasari (2017) which are presented in Table 1 below.

**Table 1. Indicators of attitudes, subjective norms, and interests of entrepreneurs**

| Variables               | Indicators                                                                 |
|-------------------------|-----------------------------------------------------------------------------|
| Entrepreneur Attitude   | 1. Interested in a business opportunity                                     |
|                         | 2. Think creatively and innovatively                                         |
|                         | 3. A positive view of failure                                               |
|                         | 4. Have a spirit of leadership and responsibility                           |
|                         | 5. Likes to face risks and challenges                                       |
| Subjective Norms        | 1. Believe on family’s supports                                              |
|                         | 2. Believe on friends’ supports                                              |
|                         | 3. Believe on lecturers’ supports                                            |
|                         | 4. Believe on other succeed entrepreneurs’ supports                          |
|                         | 5. Believe on important people’s supports                                    |
| Interests of Entrepreneurs | 1. Choosing to do entrepreneurship rather than working for people            |
|                         | 2. Choosing a career as an entrepreneur                                     |
|                         | 3. Improving social status as entrepreneurs                                 |
|                         | 4. Getting a better income                                                  |
The research data analysis used was descriptive and inferential statistics. The descriptive was used to describe entrepreneurial attitudes, subjective norms, and entrepreneurial interests. Next, in interpreting the entrepreneurial attitudes, subjective norms, and entrepreneurial interests, the criteria developed by the Ministry of Education and Culture (Muliadi, 2020) were administered (see Table 2).

**Table 2. Criteria for attitude, subjective norms, and entrepreneurial attitudes**

| Average score (\(\bar{p}\)) | Interpretation |
|-----------------------------|----------------|
| 3.51 – 4.00                 | Very Good      |
| 2.51 – 3.50                 | Good           |
| 1.51 – 2.50                 | Fairly Good    |
| 1.00 – 1.50                 | Not Good       |

Inferential statistics was used to determine the effect of the influence of entrepreneurial attitudes and subjective norms on students’ entrepreneurial interest. The analysis was multiple linear regression at the significance level of 5% (\(\alpha = 0.05\)). The details were (1) the normality and multicollinearity test; (2) the F-test was used to determine the effect of variables X1 and X2 simultaneously on variable Y; (3) t-test was used to determine the variables X1 and X2 partially to variable Y; (4) the coefficient of determination test was to determine the percentage of the contribution of the influence of variables X1 and X2 simultaneously to variable Y; and (5) Test of the Effective Contribution and Relative Contribution were to determine the percentage contribution of the influence of the variables X1 and X2 partially to the Y variable. Before the multiple linear regression analysis was carried out, the normality, linearity and multicollinearity test were carried out. Next, interpreting the results of multiple linear regression analysis then the statistical hypothesis formulation determined, namely H0: \(\mu_1 = \mu_2\) (there was no influence of entrepreneurial attitudes and subjective norms on students’ entrepreneurial interest) and H1: \(\mu_1 \neq \mu_2\) (there was an influence of entrepreneurial attitudes and subjective norms on students’ entrepreneurial interest). If the results of the analysis were significant or the p-value of the regression test was smaller than 0.05, then H0 was rejected and H1 was accepted or vice versa.

**RESULTS AND DISCUSSION**

The research instruments (entrepreneurial attitudes, subjective norms, and entrepreneurial interests) were fulfilled by 56 students of Biology Education, FSTT, Mandalika University of Education. They, the instruments, referred to indicators that had been developed by Perwitasari (2017). The results of the validity test showed qualitatively valid.

Data descriptions of entrepreneurial attitudes, subjective norms, and students’ entrepreneurial interests were presented in Table 3 below.

**Table 3. Data on attitudes, subjective norms, and entrepreneurial interests**

| Variables              | N  | \(\Sigma\) Score | Standard Deviation | \(\bar{p}\) | Category |
|------------------------|----|------------------|--------------------|-------------|----------|
| Entrepreneur Attitude  | 56 | 1.053            | 2.16               | 3.13        | Good     |
| Subjective Norms       | 56 | 877              | 1.92               | 3.13        | Good     |
| Interests of Entrepreneurs | 56 | 689              | 1.94               | 3.08        | Good     |

The description of the measurement above showed that Biology Education students had an average entrepreneurial attitude score of 3.13 in good category, the subjective norm of 3.13 in good category, and the interest in entrepreneurship of 3.08 in good category. It was also emphasized in figure 2.
Figure 2. Average attitude, subjective norms, and students’ entrepreneurial interests

Parametric statistical analysis was used to determine the effect of subjective attitudes and norms on students’ entrepreneurial interest, by which the normality test, linearity, multicollinearity were firstly carried out. The results were displayed in Table 4.

Table 4. The results of normality test, linearity, multicollinearity

| Normality | Linearity | Multicollinearity |
|-----------|-----------|-------------------|
| Kolmogorov-Smirnov’s test score | Sig. | Tolerance | VIF |
| X1-Y | F | Sig. | X2-Y | F | Sig. | 0.517 | 1.934 |
| 0.770 | 0.594 | 0.830 | 0.580 | 0.418 | 0.863 | |

The results of such analysis showed that (1) the data was normally distributed with the significance value of 0.594 which was greater than the alpha value of 0.05 (> 0.05); (2) there was a linear relationship between attitude (X1) and subjective norm (X2) with entrepreneurial interest (Y), with a significance value of deviation from linearity X1 of 0.580 and X2 of 0.863 greater than the alpha value of 0.05 (> 0.05); (3) there was not any multicollinearity symptom between independent variables with a VIF (Variance Inflation Factor) value of 1.934 smaller than 10 (<10).

Multiple linear regression analysis used were in the form of F-test, t-test, determinant coefficient test, effective contribution test and relative contribution. The results were consecutively presented in Table 5, Table 6, Table 7, Table 8.

Table 5. The results of simultaneous regression test (F-test)

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|-------|----------------|----|-------------|----|------|
| Regression | 78,356 | 2 | 39,178 | 16,036 | 0.000 |
| Residual | 129,483 | 53 | 2,443 | | |
| Total | 207,839 | 55 | | | |

The results above showed that there was an influence of attitude and subjective norms simultaneously on students’ entrepreneurial interest with F-value of 16.036 and the significance value of 0.000 greater than the alpha value of 0.05 (> 0.05).

Table 6. The results of partial regression test (t-test)

| Variables | Unstandardized Coefficients | Standardized Coefficients |
|-----------|-----------------------------|---------------------------|
|           | B | Std. Error | Beta | t | Sig. |
| Attitude (X1) | 0.297 | 0.136 | 0.330 | 2.188 | 0.033 |
| Subjective Norms (X2) | 0.340 | 0.152 | 0.337 | 2.236 | 0.030 |

The results above showed that (1) there was an effect of entrepreneurial attitudes on students’ entrepreneurial interest with a significance value of 0.033 greater than the alpha value of 0.05 (> 0.05) and the Beta coefficient value of 0.330, which meant...
the entrepreneurial attitude was positive, so the higher the entrepreneurial attitude, the higher the student's entrepreneurial interest; (2) there was an effect of subjective norms on students’ entrepreneurial interest with significance value of 0.030 greater than the alpha value of 0.05 (> 0.05) and the Beta coefficient value of 0.337. It meant that the subjective norm was positive, so the higher the subjective norm, the higher interest of students’ entrepreneurship.

Table 7. The result of the coefficient of determination

| Model Summary | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---------------|---|----------|--------------------|---------------------------|
|               | 0.614 | 0.377 | 0.353 | 1.56304 |

The result of the coefficient of determination test showed that the value of R Square was 0.377 or 37.7%. It meant that entrepreneurial attitudes and subjective norms affected the entrepreneurial interest by 37.7% and the rest of the percentages was influenced by other variables or factors.

Table 8. The results of the effective and relative contribution test

| Model Summary | Variables | Regression Coefficient (Beta) | Correlation coefficient | Effectivity Contribution (SE) | Relativity Contribution (SR) |
|---------------|-----------|-------------------------------|-------------------------|-------------------------------|-----------------------------|
|               | Entrepreneurial attitude | 0.330 | 0.564 | 18.6 % | 49.4 % |
|               | Subjective norm | 0.337 | 0.566 | 19.1 % | 50.6 % |

The results showed the entrepreneurial attitude had effectivity of 18.6% and the relativity of 49.4%. Meanwhile, the subjective norm had effectivity of 19.1% and the relativity of 50.6%. It meant that the entrepreneurial attitudes had 18.7% (49.4%) effect and subjective norms was 19.1% (50.6%) on students’ entrepreneurial interest.

The findings of this recent study indicated that there was influence of attitude and subjective norms simultaneously toward the entrepreneurial interest. The results was also in line with Indrawati’s (2017) research findings which stated that there is an influence of subjective attitudes and norms on students’ interest in entrepreneurship; Kritiadi, Sudarma, & Khafid’s (2016) results that attitudes, subjective norms, self-efficacy directly or indirectly affect through motivation as mediation against students' entrepreneurial intentions/interests; Mirawati, Wardana, & Sukaatmadja’s (2016) findings that attitudes, subjective norms, and perceptions of behavioral control have a positive effect on students' intention to become entrepreneurs.

The data of this current research indicated that there was an effect of entrepreneurial attitudes on students’ entrepreneurial interest. It was proved by the significance value of 0.033 which was greater than the alpha of 0.05 (> 0.05) and the Beta coefficient value of 0.330. It meant that the entrepreneurial attitude was positive, so the higher the entrepreneurial attitude, the higher the entrepreneurial interest. The average construct of students’ subjective norms was 3.13 with good category, meaning that it was reflected in the high interest of the students with business opportunities, creative and innovative thinking, having a positive view of failure in business, having a spirit of leadership and responsibility and loved to face challenges and risks. The results of this study supported the results of previous studies, including those conducted by Islam (2015) that entrepreneurial attitudes...
have a significant effect on student entrepreneurial intentions; Kritiadi, Sudarma, & Khafid (2016) that the attitude of behavior of students is very influential on the level of entrepreneurial intentions of students; Mirawati, Wardana, & Sukaatmadja (2016) that entrepreneurial attitudes have a positive and significant effect on the intention to become entrepreneurs; Darmawan & Warmika (2016) states that personal attitude has a positive and significant effect on entrepreneurial interest; Idrawati (2017) states that there is a positive influence on students' interest in entrepreneurship; Santoso & Handoyo (2019) stated that attitude has a significant effect on entrepreneurial intention/interest.

The positive influence of attitudes on the interests was in accordance with the Theory of Planned Behavior (TPB) developed by Adzen (1991) that "the theory of planned behavior can be used to predict employment status choice intention". This theory explains that behavioral attitudes, subjective norms, and self-efficacy are variables that precede intention / interest (Santoso & Handoyo, 2019). This is confirmed by the opinion of Wijaya (2008) that attitude is the basis for the formation of intention (interest). Attitude means the tendency to react effectively in response to the risks that will be faced (Andika, 2012). The attitude of entrepreneurs is based on being interested in business opportunities, a positive view of business failure, likes to face risks and challenges (Wijaya, 2008). According to Priyanto (2008), entrepreneurial interest is influenced by factors, one of which is internal factors. Internal factors originating from within the individual can be in the form of personal traits, attitudes, willingness, individual abilities that give individual entrepreneurial strength. Interests are influenced by attitudes as a form of positive and negative someone's belief in subjective norms and behavior (Indrawati, 2017).

The data indicated that there was an effect of subjective norms on students' entrepreneurial interests which was shown by the greater significance value of 0.030 comparing to the alpha value of 0.05 (> 0.05) and the Beta coefficient value of 0.337 due to the subjective norm was positive. So then, the higher the subjective norm, the higher the students' entrepreneurial interest. In addition, the construct of students' subjective norms which fell into average of 3.13 with a good category meant providing a sufficient role reflected by the support from family, friends, lecturers and people who were considered important in starting a business. Furthermore, the data shown also support the report of the previous studies conducted by Kritiadi, Sudarma, & Khafid (2016) whom uttered that it had a significant effect on entrepreneurial intentions. In line with that, Mirawati, Wardana, & Sukaatmadja (2016) found a significant positive effect of its variables on interest/intention to become entrepreneurs; Then, Darmawan & Warmika (2016) wrote a similar report that it had a positive and significant effect on entrepreneurial interest which in turn indicated the subjective norms would have an impact on increasing students' entrepreneurial interest. In Addition, Indrawati (2017) found a positive effect of subjective norms on students' interest in entrepreneurship. Further, Santoso and Handoyo (2019) stated that subjective norms had a significant effect on entrepreneurial intention/interest. At last, Listyawati (2017) reported that it had a significant influence on students’ entrepreneurial intentions.

The positive effect of subjective norms on students’ entrepreneurial interest meant that students' interest in entrepreneurship received positive support from family, friends, lecturers and others who had entrepreneurial experienced. It is in line with the Theory of Planned Behavior (TPB) developed by Adzen (1991) that "the
theory of planned behavior can be used to predict employment status choice intention”. This theory elaborates behavioral attitudes, subjective norms, and self-efficacy were variables preceding intention/interest (Santoso & Handoyo, 2019). Subjective norms mean the individual's belief to follow directions or recommendations from people to participate in entrepreneurial activities (Wijaya, 2008). Accordingly, Kritiadi, Sudarma, & Khafid (2016) stated that students need jobs in industrial field owned by entrepreneurs who have successfully managed their businesses in order that they get advice and encouragement.

Students' entrepreneurial interest in Biology Education was influenced by subjective attitudes and norms. Such attitude is influenced by their own knowledge (Setyawan, 2016; Muliadi, 2020). Next, knowledge about entrepreneurs could be obtained from various sources like learning, experiences, and environment (parents, friends, and other people). Then, the learning will provide strengthening of knowledge both structurally and systematically due to their mindset influenced perceptions, attitudes and behaviors for entrepreneurship (Supeni & Efendi, 2017; Muliadi, 2020). Strengthening knowledge through learning or bioentrepreneurship could be collaborated between experiences and people’s support which enriched students' knowledge and skills. All in all, they could become independent and competitive graduates (Nurseto, 2010; Ulwiyah, 2010; Kristianti, Bintari & Ridlo , 2012; Fatimah, 2013; Rosmiati, 2015; Agusti, 2017; Wahyuni and Hidayati, 2017).

CONCLUSION

In accordance to the findings and discussion, it could be concluded that (1) The attitude, subjective norms, and entrepreneurial interest of Biology Education students were categorized into good. It was shown by the average of entrepreneurial attitude 3.13 (Good), the subjective norm 3.13 (Good), and the interest of entrepreneur 3.08 (Good); (2) There was a simultaneous effect of attitude and subjective norms on students' entrepreneurial interest with F-value of 16.036 and the significance value of 0.000 greater than alpha-test of 0.05 (> 0.05); (3) there was an effect of entrepreneurial attitudes on students’ entrepreneurial interest with significance value of 0.033 greater than the alpha-test of 0.05 (> 0.05); (4) there was an effect of subjective norms on students’ entrepreneurial interest with significance value of 0.030 greater than the alpha-test of 0.05 (> 0.05).

RECOMMENDATION

This current research did not examine the family support and entrepreneurship education on students’ entrepreneurial attitudes and interests which are supposed to be paramount for further researches.

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