

## Research Article

# Gender Disparities in Students' Entrepreneurial Self-Efficacy (ESE) with Various Areas

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Previous research showed that entrepreneurial self-efficacy (ESE) plays an essential role in the behavior and success of a person's career in entrepreneurship. On the other hand, various reports also showed that women's participation in entrepreneurial work is still meager compared to that of men. The research examined differences in ESE and distribution among male and female students in various majors in vocational high schools from a region with a dominant ethnicity, namely, Bugis-Makassar, namely, Makassar City. This research is aimed at determining the differences between male and female students' entrepreneurial self-efficacy (ESE) from various areas of expertise at vocational high schools in Makassar. This study consisted of 812 students (331 males and 481 females), representing seven areas of expertise. They were selected using a multistage cluster sampling technique from 11 vocational high schools in Makassar, Indonesia. The applied ESE instrument was adapted from the Entrepreneur Self-Efficacy Scale. Data were analyzed using descriptive and inferential analyses, i.e., MANOVA and independent samples *T*-test. The results indicated that gender segregation is still high in the distribution of students. Furthermore, the disparity of ESE is found between male and female students in various areas of expertise at vocational high schools.

## 1. Introduction

The participation rate of women entering the entrepreneurial field is increasing worldwide [1, 2] and plays a vital role in entrepreneurship [3]. Based on the [4] the gender gap in Indonesia's labor force, participation rate in the last ten years has decreased from 34.4% in 2010 to 33.84% in 2015 and 29.26% in 2020. Based on the BPS, the level of equality between women and men in Indonesia was among the highest in the Asia-Pacific region. From this report, the ratio of entrepreneurial activity between genders in Indonesia was recorded at 1.01, increasing from 0.69 in the previous year [5]. However, the field of entrepreneurship that Indonesian women are engaged in is mainly small and microbusiness sectors indicated that 30% of businesses owned by men employ paid workers (mainly male workers), while only

8% of companies possessed by women do [6]. In addition, businesses owned by men have been formalized at a faster rate than those maintained by women. It has increased from 17% of men-owned firms that employed paid workers in 2009 to 30% in 2014.

On the other hand, it has increased from 3% to 8% in the same period for businesses possessed by women. Furthermore, workers in firms maintained by women are dominated by unpaid female workers. 80% of companies included by women rely on unpaid female workers, compared with businesses owned by men which is only 7%.

Many studies have been conducted to examine the variables that influence the intention and behavior of women and men in the field of entrepreneurship. One of them focuses on the topic of self-efficacy. Self-efficacy contributes to performance effectiveness and increases personal stability

through determination and commitment to hard work, persistence, flexibility, and resistance to pressure and depression (Badura A & [7]; Shakuna et al., 2020). More specifically, in the field of entrepreneurship, entrepreneurial self-efficacy (ESE) is essential for a person to act as an entrepreneur because it plays a critical role in entrepreneurial behavior [8] and is considered a key antecedent to entrepreneurial intentions. Various empirical studies have shown a positive relationship between ESE and entrepreneurial action.

Entrepreneurial self-efficacy (ESE) is a construct that measures individual self-confidence to be competent to perform tasks and roles successfully as entrepreneurs [9]. ESE is one of the main characteristics that influence entrepreneurial intention and behavior. ESE enables entrepreneurs to face uncertainties and challenges in the whole entrepreneurial process ([10]; Pihie & Begheri, 2011). Those who consider themselves to lack entrepreneurial skills and abilities will avoid all entrepreneurship-related activities. Conversely, individuals who have high ESE tend to show motivation and the ability to engage in entrepreneurial activities. They can see many opportunities when others see them as frightening and risky. They will start to set more challenging goals, try harder to achieve their vision, and overcome challenges and crises associated with entrepreneurship [11, 12]. The differences between men and women in terms of intention and performance based on their involvement in the entrepreneurial sector have attracted many researchers to conduct gender analyses concerning the positions of ESE between genders. Various studies have shown differences in men's and women's ESE. Most of these studies find that ESE possessed by men tends to be higher than that of women [2, 13]. However, [3] conducted a survey which showed no difference in ESE between genders. Furthermore, ([14]) examined the differences between men and women in the five ESE dimensions, showing that women's scores were significantly higher than men's scores in the innovation and marketing subdimensions of ESE. However, those scores did not differ significantly on the management, financial control, and risk-taking subdimensions.

By considering societal values, gender ideologies and practices that develop in men and women are influenced by the social context where these men and women were born and grew. Therefore, various forms of behavior shown by both genders, including ESE, may differ geographically between regions. Therefore, studies comparing ESE between men and women in different social and cultural contexts are still exciting and challenging. In this study, the research population is vocational high school students in Makassar, South Sulawesi, Indonesia, where its people are dominated by the Buginese—Makassarese ethnic group—an ethnic group with a life philosophy and ideology regarding gender that is relatively unique compared to other ethnic groups in Indonesia. Indonesia generally recognizes two gender systems: men with masculinity and women with femininity. However, Buginese people believe that there are five genders with different roles: *Orange* (male), *Makkunrai* (female), *Calalai* (women with male parts and functions), *Calabria* (men with female roles and processes), and *Bissu* (a combination of two genders: men and women in one body) [15,

16]. Social life, including those associated with gender, in the Bugis-Makassar people, is bound by several fundamental values, such as *siri* (shame), *pesse* or *pacce* (sympathy and social empathy), *Tempus* (being consistent), *getting* (being firm), *ada tonguing* (being honest or telling the truth), and *reso* (*hard work*).

The population and samples in this study were vocational high school students based on several considerations. First, vocational education is aimed at “preparing students to enter the world of work and develop the professional attitude” Indonesian Government Regulation No. 29/1990. Therefore, they are indeed prepared to have the skills and competencies to enter the world of work. Second, gender segregation in selected areas of expertise and expertise programs at vocational high schools is still familiar in society, especially in agrarian-patriarchal societies such as Indonesia. Third, through this study, the researcher emphasizes the importance of ESE for individuals at the age of adolescence because students with high ESE will be more likely to step forward more confidently into the world of entrepreneurship [3]. Furthermore, they are ideal for developing positive attitudes towards entrepreneurship while increasing entrepreneurial knowledge and abilities [17, 18]. The limitation of this research is a generalization of findings limited to the vocational school student population, while the people of adolescents of upper secondary school age in Makassar are primarily high school students. The number and proportion of the male and female student population in several majors and types of vocational schools in Makassar are not balanced, so the results of the ESE comparison analysis (different tests) according to gender need to pay attention to this condition.

## 2. Literature Review

**2.1. Entrepreneurial Self-Efficacy.** Self-efficacy is a personal quality that does not develop on its own. This subjective quality results from knowledge, responsibilities, diverse relationships, various tasks performed, and interactions with others [19, 20]. Self-efficacy arises from the gradual acquisition of cognitive, social, linguistic, and physical skills through experience (Badura A & [7]) Therefore, the quality of one's self-efficacy can be concluded as the result of learning and can be developed through the provision of appropriate experiences. By considering the importance of self-efficacy, especially in the world of work, many experts have tried to apply the concept of self-efficacy to the entrepreneurship domain, so entrepreneurial self-efficacy (ESE) emerges. In general, self-efficacy is a construct that measures a person's belief towards their ability to mobilize the motivation, cognitive resources, and appropriate actions in managing events in life [21].

Furthermore, ESE is also a construct that explicitly measures an individual's belief in their ability to successfully carry out entrepreneurial work. According to Saad et al. [22] the concept of ESE refers to an individual's perception of their ability to carry out activities related to entrepreneurship which defined the term “ESE” as the strength of one's perceived capabilities to successfully perform the roles and

tasks of an entrepreneur. Meanwhile, Pihie and Begheri (2011) defined it as a distinctive characteristic distinguishing entrepreneurship students from management and organizational psychology disciplines.

Apart from that, the ESE assessment mainly refers to self-efficacy development from Bandura's social cognitive theory. In this theory, self-efficacy is considered one of the critical concepts of the social cognitive theory [23]. Based on social cognitive theory, self-efficacy, including ESE, can be carried out by providing learning experiences, such as vicarious experiences of others, persuasion of significant others or social influence, mastery experience, and social experience [12]. Entrepreneurial self-efficacy can be developed by involving students in social learning experiences and activities [24, 25].

*2.2. Gender Disparity.* Social feminists view gender disparities between women and men due to a unique socialization process [26]. The presence of differences in the experiences of men and women since the early stages of life causes men and women to have fundamentally different perspectives in viewing life [27]. This memorable experience enables men and women to develop unique human resources, which will impact identifying opportunities in entrepreneurship [28]. There is no difference in the overall entrepreneurial potentials between men and women [29, 30]. A study also indicated that the personal characteristics of female entrepreneurs are much more similar to those of their male counterparts [31, 32]. However, some stereotypical beliefs have prevented women from showing entrepreneurial intentions, such as the traditional notion that the nature and abilities of women differ from those of men. Women are generally regarded as expressive, emotional, and indecisive, while men are more assertive, objective, aggressive, and reckless. These stereotypes further influence job choices among men and women [33, 34].

According to [35] entrepreneurial practice can be understood in the context of gender stereotypes embedded in the world of work. This gender influence can be seen in two ways. First, there is a tendency to create occupational segregation by gender. Entrepreneurship has traditionally been considered a male-dominated field. The masculine stereotypes in business (skinny, hungry, predatory, and hostile) are also often connected with entrepreneurship. Second, traditional gender norms or roles generally associate women with domestic work (taking care of the household and child-care) and men with breadwinners.

Ferdinand highlighted that multiple roles (as caretaker, wife, and child-bearer) are causal factors preventing women from engaging in entrepreneurial activities. Many female entrepreneurs have various responsibilities in both work and family. Furthermore, this gender role and identity at the microlevel affect their behavior and performance compared to male entrepreneurs [35, 36]. The experience of women facing negative responses from a society based on the low prestige and value given to women who work outside the home is also an obstacle for them to enter the world of business. Several researchers have identified that women are less likely than men to choose occupations dominated

by men because women tend to have lower perceived self-efficacy related to the job selected [37, 38].

However, this gender norm is changing. Currently, in most developed societies, many families have multiple income streams. This change process takes place gradually and takes a long time, so the increase in women's participation in the job market is not always matched by more involvement of men in household work [39–41].

Education in schools, which is expected to break the chain of socialization of unequal gender values, contributes to socializing and preserving patriarchal values, which are the source of gender inequality. Many books used as teaching materials in schools contain gender-biased text and illustrations. In addition, many teachers in South Sulawesi schools still have a shallow understanding of gender and tend to treat and distribute roles or tasks to students based on gender stereotypical performance. Understanding gender bias among teachers will play a role in providing career guidance to students. Teachers will direct students only to know the world of work and develop the career potential that is considered suitable and appropriate for them based on the gender of the students concerned.

### 3. Results

*3.1. Gender Distribution of Students in Various Expertise Programs at Vocational High Schools.* The analysis of students' data from 11 vocational high schools showed that there was still a tendency for unequal gender segregation between male and female students in various expertise programs. As shown in Figure 1, there was still a high tendency for gender stereotypes in the proportion of male and female students. Male students were still highly dominant in specialized programs traditionally stereotyped as male, such as automotive engineering, welding engineering, electrical engineering, construction engineering, energy engineering, nautical, forestry, computer engineering, and building design engineering. On the other hand, female students dominated expertise programs stereotyped as female fields, such as beauty, fashion, nursing, pharmacy, office management, dental assistance, hospitality, and online business and marketing. There were only two skill programs where the proportion of male and female students was relatively balanced: agribusiness processing of fishery products and software engineering/multimedia.

*3.2. Descriptive Statistics of Students' ESE Scores.* The results of the descriptive analysis (Table 1) generated the mean, variance, minimum and maximum scores, and the range of ESE scores for male and female students in 7 areas of expertise in vocation high schools. Descriptively, the mean ESE score of male students (73,361) was lower than that of female students (76,206). The highest mean ESE score for male students was found in technology and engineering (79,506), while the lowest was found in maritime affairs (70,760). At the same time, the highest mean ESE score for female students was found in agribusiness and agrotechnology (79,259), while the lowest was found in the field of technology and engineering (71,771).

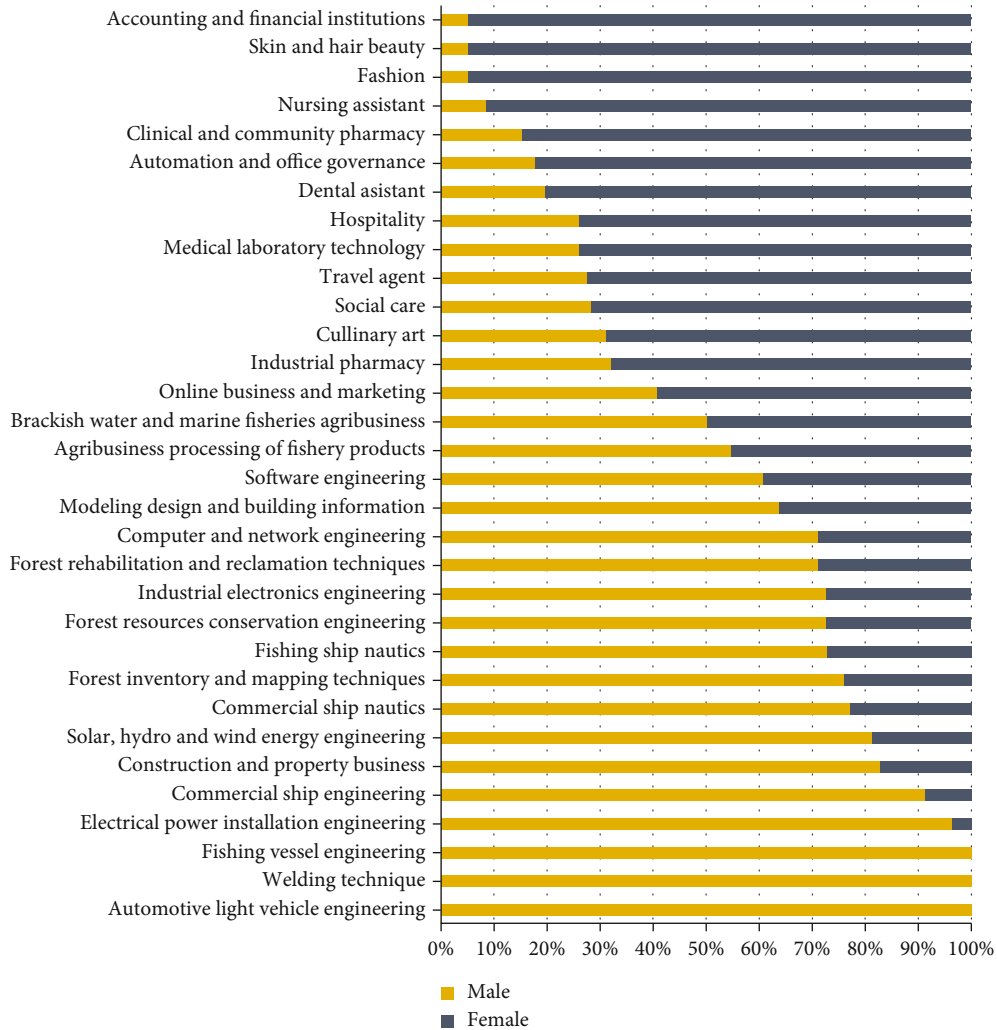


FIGURE 1: Comparison of the gender distribution of students in various expertise programs at vocational high schools in Makassar.

The male student with the lowest ESE score (36.00) was found in maritime affairs, while the female student counterpart (41.60) was found in the field of tourism. Furthermore, the male student with the highest ESE score (93.60) was found in business management, while the female student counterpart (96.80) was found in the field of health and social work.

The comparison of the mean ESE scores between male and female students in 7 areas of expertise at vocational high schools is illustrated in Figure 2. From Figure 2, it can be seen that gender disparities occurred in 5 areas of expertise: agribusiness and agrotechnology, health and social work, maritime affairs, business management, and tourism. Male students indicated higher ESE scores only in agribusiness and agrotechnology. Meanwhile, female students showed higher ESE scores in maritime affairs, business management, and tourism. In the other two fields (ICT and business management), the mean scores of these two genders were relatively balanced.

3.3. Inferential Statistics of Comparison of ESE Scores between Male and Female Students. The independent sample

*T*-test was carried out to test the significance of the differences in ESE scores between male and female students. From the results of this statistical test (Table 2), it can be seen that there was a significant difference in ESE scores between male and female students from the total samples ( $t = -3.170, p = .002$ ), in which female students showed higher ESE scores than male students. In addition, in the independent sample *T*-test on each area of expertise, there was a significant difference in ESE scores between male and female students in five areas of expertise: agribusiness and agrotechnology, health and social work, maritime affairs, and business management. ESE scores obtained by male students were higher than females in agribusiness and agrotechnology. In comparison, ESE scores obtained by female students were significantly higher than males in three areas of expertise: health and social work, maritime affairs, and tourism.

Furthermore, to test the interaction of variables of gender and variance in expertise programs on students' ESE scores, the multivariate analysis of variance (MANOVA) was performed. The results of the research (Table 3) showed that the effect of gender on ESE scores was in line with the results of the independent sample *T*-test (significance at  $\alpha$

TABLE 1: Descriptive statistics of students' ESE scores.

Areas of expertise	Gender	N	Mean	Variance	Minimum	Maximum	Range
Technology and engineering	Male	43	79.506	170.287	44.80	92.00	47.20
	Female	54	71.771	144.540	45.60	93.60	48.00
Health & social work	Male	32	70.100	206.648	40.00	92.00	52.00
	Female	111	75.560	158.554	44.00	96.80	52.80
Inform & comm. technology	Male	64	73.125	153.229	40.00	92.80	52.80
	Female	45	74.933	92.829	52.80	92.00	39.20
Business management	Male	22	77.382	173.238	40.00	93.60	53.60
	Female	90	77.547	148.865	44.00	96.80	52.80
Maritime affairs	Male	80	70.760	170.465	36.00	92.80	56.80
	Female	41	76.195	164.089	51.20	93.60	42.40
Agribusiness & agrotechnology	Male	55	72.167	78.755	56.00	93.60	37.60
	Female	14	79.259	200.805	43.20	88.80	45.60
Tourism	Male	13	70.831	295.212	36.00	88.80	52.80
	Female	128	75.313	126.042	41.60	92.80	51.20
Total	Male	311	73.361	170.069	36.00	93.60	57.60
	Female	481	76.206	140.688	41.60	96.80	55.20

$\leq 0.05$  in the fields of agribusiness and technology, health and social work, maritime affairs, technology and engineering, and the overall samples). All variances in expertise programs in 7 areas of expertise showed insignificant differences in students' ESE scores. The interaction between gender and expertise programs only showed a significant influence on students' ESE scores in health and social work.

#### 4. Discussion and Implications

The analysis results showed that there was still a high gender disparity in the distribution of students in various expertise programs at vocational high schools. Expertise programs traditionally stereotyped with men's areas still tend to be less attractive to female students. On the other hand, expertise programs stereotyped with women's areas tend to be less attractive to male students. These results have not shown any change from a study conducted 23 years previously which found that gender disparities were still high in the distribution of various expertise programs at vocational high schools in South Sulawesi, in which women were still concentrated in soft science expertise programs, while men are in complicated science expertise programs. The occurrence of gender segregation in selecting these areas of expertise can be caused by the experience of interacting with their teachers.

These results also indicated that the efforts to socialize a gender perspective in schools and society that have been intensively carried out so far have not been able to change the gender bias in the cognitive structure of students in seeing the world of work and the choice of expertise programs at vocational high schools. Therefore, this condition needs attention in the world of education.

The results of the descriptive analysis showed that the mean ESE scores of male vocational high school students

was in the range of 36.60–93.60, with a mean of 73,361 from a maximum value of 100. Meanwhile, the mean ESE scores of female vocational high school students were 41.60–96.80, with a mean of 76,206 from a maximum value of 100. This means that both genders' achievement in ESE scores is generally in the medium category. In addition, there are still students found with ESE scores that are still in the deficient category. These results align with and confirm the findings of previous studies. Considering that career self-efficacy is one of the leading personal characteristics that affect entrepreneurial intention and behavior. Special attention is needed further to improve the self-efficacy of male and female students to enter the world of entrepreneurship and to fulfill the purpose in establishing the vocational high schools, namely, "preparing students to enter the world of work and develop the professional attitude" (n.d.).

Even though previous studies indicated that there is no significant difference in ESE values between men and women. The results of the analysis for overall samples indicated that female students' ESE scores were significantly higher than male students' ESE scores ( $t = -3.170$ ,  $p = .002$ ). In a comparative analysis of students' ESE scores in 7 areas of expertise, it was found that female students' ESE scores were higher than male students' ESE scores in the fields of health and social work, maritime affairs, and tourism. Meanwhile, male students' ESE scores were higher than female students' ESE scores in agribusiness and agrotechnology. For overall samples, female students' ESE scores were significantly higher than male students' ESE scores. In two areas of expertise (ICT and business management), there was no significant difference in ESE scores for these two genders.

When associated with factors affecting self-efficacy, the disparity in ESE scores between male and female students is thought to be related to one or a combination of four primary sources, namely, performance accomplishment,

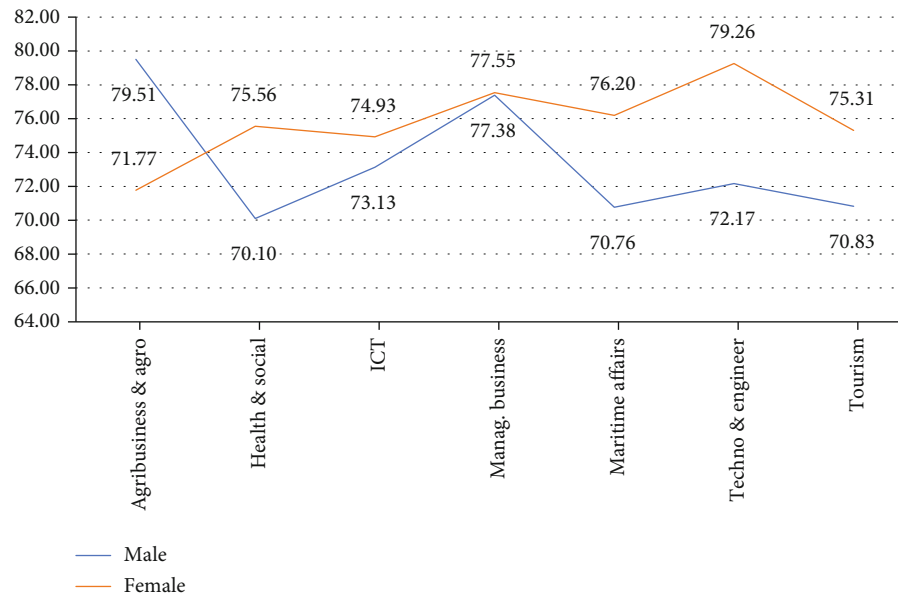


FIGURE 2: Comparison of the ESE scores between male and female students in 7 areas of expertise at vocational high schools.

TABLE 2: The results of the independent sample *T*-test on ESE scores between male and female students.

Areas of expertise	Gender	<i>N</i>	Mean	Std. deviation	<i>T</i>	Sig. (2-tailed)
Agribusiness & agrotechnology	Male	54	79.506	8.874	2.553	.013
	Female	14	71.771	14.171		
Health & social work	Male	32	70.100	14.375	-2.093	.038
	Female	111	75.560	12.592		
Inform & comm. technology	Male	64	73.125	12.379	-.820	.414
	Female	45	74.933	9.635		
Business management	Male	22	77.382	13.162	-.056	.955
	Female	90	77.547	12.201		
Maritime affairs	Male	80	70.760	13.056	-2.181	.031
	Female	41	76.195	12.810		
Technology and engineering	Male	43	72.167	13.049	-2.779	.007
	Female	54	79.259	12.022		
Tourism	Male	13	70.831	17.182	-1.298	.196
	Female	128	75.313	11.227		
Total	Male	311	73.361	13.041	-3.170	.002
	Female	481	76.206	11.861		

vicarious learning, emotional arousal, and verbal persuasion, added by the convincing motivation from others around them [23].

The results of the MANOVA showed that there was no significant difference in students' ESE scores based on the variance of the expertise programs in all areas of expertise at vocational high schools. The interaction of gender and conflict variables in expertise programs on students' ESE scores can only be found in the field of health and social work. These results do not align with the previous study that indicated that ESE scores tend to differ among students from different areas of expertise and

expertise programs. This difference is interesting to study and explore further. The implication of this research is the influence of patriarchal values, and traditional gender bias in the selection of student majors in vocational school can limit self-exploration and career options for both female and male students. Therefore, broadening their perspective on the education department in vocational school and the choice of fields of work that they can pursue requires more intensive gender awareness efforts for students of both sexes so that they can free themselves from gender bias in choosing the education major and the type of work they can enter.

TABLE 3: The results of the multivariate analysis of variance on the interaction of variables of gender and conflict in expertise programs on students' ESE scores.

Areas of expertise	Independent variables	Type III sum of squares	df	Mean square	F	Sig.
Agribusiness & technology	Gender	643.679	1	643.679	6.233	.015
	Program	126.023	2	63.011	.610	.546
	Gender * program	296.262	2	148.131	1.435	.246
Health & social work	Gender	1194.298	1	1194.298	7.513	.007
	Program	1015.126	3	338.375	2.129	.100
	Gender * program	2068.870	3	689.623	4.338	.006
ICT	Gender	117.711	1	117.711	.905	.344
	Program	52.967	1	52.967	.407	.525
	Gender * program	49.400	1	49.400	.380	.539
Business management	Gender	4.129	1	4.129	.027	.869
	Program	45.860	2	22.930	.152	.859
	Gender * program	321.527	2	160.763	1.065	.348
Maritime affairs	Gender	758.128	1	758.128	4.578	.035
	Program	934.357	2	467.179	2.821	.064
	Gender * program	12.016	2	6.008	.036	.964
Technology & engineering	Gender	825.176	1	825.176	5.534	.019
	Program	1347.911	6	224.652	1.507	.173
	Gender * program	1741.103	6	290.184	1.946	.071
Tourism	Gender	457.560	1	457.560	3.258	.073
	Program	461.520	3	153.840	1.095	.353
	Gender * program	45.751	1	45.751	.326	.569
Total	Gender	825.176	1	825.176	5.534	.019
	Program	1347.911	6	224.652	1.507	.173
	Gender * program	1741.103	6	290.184	1.946	.071

## 5. Conclusion

Based on the analysis and discussion results, it is concluded that the patriarchal value that separates the gender roles of men and women still has a big influence on the tendency of students to choose expertise programs at vocational high schools. Male and female students still tend to pick and dominate expertise programs based on gender stereotypes. In contrast to many previous studies, the results of this study showed that the ESE scores of female students were higher than the ESE scores of male students. The ESE scores of female students were higher in areas of expertise traditionally considered to be compatible with female gender stereotypes. Meanwhile, the ESE scores of male students were found to be higher in areas of expertise stereotyped as the male domain. In areas of expertise that are more gender-neutral, such as ICT and business management, the ESE scores of these two genders did not show a significant difference. For the next researches, it is recommended to examine the specific factors of female and male students choosing fields of studies in vocational school and the influence/relationship of self-efficacy of entrepreneurship students with the direction of their career planning.

## Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

## Conflicts of Interest

The authors declare that they have no conflicts of interest.

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