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ASSESSING ENTREPRENEURIAL SELF-EFFICACY AMONG SENIOR HIGH SCHOOL STUDENTS: A PRELIMINARY STUDY

Eli Hendrik Sanjaya[1], Deni Ainur Rokhim[2], Ananta Ardyansyah[3], Ratna Kumala Dewi[4], Hayuni Retno Widarti[5], Munzil[6], Muntholib[7], Yahmin[8]

[1]Faculty of Mathematics and Science, Universitas Negeri Malang, Indonesia, eli.hendrik.fmipa@um.ac.id
[2]Faculty of Mathematics and Science, Universitas Negeri Malang, Indonesia, and PKWU & Chemistry, SMAN 3 Sidoarjo, deniaianurrokhim@gmail.com
[3]Faculty of Mathematics and Science, Universitas Negeri Malang, Indonesia, Anantaardyansyah@gmail.com
[4]Faculty of Mathematics and Science, Universitas Negeri Malang, Indonesia, ratna.kumala.2203319@students.um.ac.id
[5]Faculty of Mathematics and Science, Universitas Negeri Malang, Indonesia, hayuni.retno.fmipa@um.ac.id
[6]Faculty of Mathematics and Science, Universitas Negeri Malang, Indonesia, munzil.fmipa@um.ac.id
[7]Faculty of Mathematics and Science, Universitas Negeri Malang, Indonesia, muntholib.fmipa@um.ac.id
[8]Faculty of Mathematics and Science, Universitas Negeri Malang, Indonesia, yahmin.fmipa@um.ac.id

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Kata Kunci: pendidikan kewirausahaan; efikasi diri kewirausahaan; sekolah menengah atas; siswa; pemahaman kewirausahaan, minat kewirausahaan; faktor yang memengaruhi

Keywords: *entrepreneur education; entrepreneurial self-efficacy; senior high school; student; entrepreneur understanding, entrepreneur interest; factor influencing*

Abstrak

Wirausaha semakin diakui sebagai keterampilan penting bagi siswa untuk menghadapi tantangan ekonomi dan sosial global. Namun, penelitian mengenai efektivitas diri wirausaha (entrepreneurial self-efficacy/ESE) di kalangan siswa sekolah menengah atas di Indonesia masih terbatas, padahal ESE berperan penting dalam membentuk niat dan kesiapan berwirausaha. Penelitian ini bertujuan untuk mengeksplorasi tingkat ESE serta menganalisis pengaruh gender dan pengalaman kewirausahaan terhadap kemampuan dan intensi kewirausahaan siswa. Menggunakan pendekatan metode campuran, data dikumpulkan melalui survei yang mengukur pengetahuan, minat, pengalaman, dan ESE. Hasil penelitian menunjukkan bahwa siswa memiliki tingkat pengetahuan dan minat kewirausahaan yang tinggi, dengan ESE berada pada tingkat sedang hingga tinggi. Gender memengaruhi pengetahuan, minat, dan ESE, di mana siswa perempuan cenderung menunjukkan intensi kewirausahaan yang lebih kuat. Selain itu, pengalaman kewirausahaan sebelumnya meningkatkan ESE dan minat siswa. Analisis kualitatif mengungkap bahwa siswa memandang modal, pemasaran, dan pengembangan produk sebagai kebutuhan utama dalam berwirausaha, sementara tantangan yang sering dihadapi adalah persaingan dan keterbatasan finansial. Temuan ini menekankan pentingnya pendidikan kewirausahaan yang praktis, sensitif gender, dan berbasis pengalaman untuk memperkuat ESE serta mempersiapkan siswa menghadapi tantangan dunia usaha.

Abstract

Entrepreneurship is increasingly recognized as an essential skill for students to face global economic and social challenges. However, research on entrepreneurial self-efficacy (ESE) among high school students in Indonesia remains limited, despite its crucial role in shaping entrepreneurial intentions and readiness. This study aims to explore students' levels of ESE and analyze the influence of gender

Corresponding author
Eli Hendrik Sanjaya
eli.hendrik.fmipa@um.ac.id

and entrepreneurial experience on their abilities and intentions. Using a mixed-methods approach, data were collected through surveys measuring knowledge, interest, experience, and ESE. The findings reveal that students have high levels of entrepreneurial knowledge and interest, with ESE ranging from moderate to high. Gender was found to influence knowledge, interest, and ESE, with female students tending to demonstrate stronger entrepreneurial intentions. Moreover, prior entrepreneurial experience was shown to enhance both ESE and students' interest in entrepreneurship. Qualitative analysis highlighted that students perceive capital, marketing, and product development as key needs for entrepreneurship, while common challenges include competition and financial constraints. Overall, students expressed neutral to positive sentiments toward entrepreneurial engagement. These findings underscore the importance of practical, gender-sensitive, and experiential entrepreneurship education to strengthen ESE and better prepare students for the challenges of the business world.

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INTRODUCTION

Entrepreneurship plays a crucial role in society, impacting not only the economy but also other aspects. It drives economic growth by creating jobs, boosting productivity, and fostering high-quality innovation (Van Praag & Versloot, 2007). Entrepreneurship serves as a foundation for economic development, increasingly supported by governments, public and private organizations, and communities (Deliu, 2024). Moreover, it is closely linked to democracy, supporting independent, decentralized, and autonomous decision-making, which forms the basis of democratic systems (Audretsch & Moog, 2020). Additionally, entrepreneurship influences climate change industries and societal political aspects, making it a critical subject to understand (Manne et al., 2024). To promote this, education plays a vital role, particularly by enhancing students' entrepreneurial awareness. Entrepreneurship education boosts entrepreneurial success and intent, though its impact on actual firm creation is less clear and requires further investigation (Bae et al., 2014; Shah et al., 2020).

Entrepreneurship education significantly enhances students' emotional and cognitive aspects, contributing to their interest in entrepreneurship (Krishnawati et al., 2023). Students with strong entrepreneurship education are more likely to develop an interest in entrepreneurship (Westhead & Solesvik, 2016). Furthermore, entrepreneurial competence is increasingly viewed as a critical skill for students. High school students' readiness for entrepreneurship is heavily influenced by entrepreneurial skills, leadership, and innovative adaptability (Angmani et al., 2025). Other studies highlight that students' entrepreneurial intentions are shaped by self-efficacy, family support, comprehensive awareness, and the school environment (Aggarwal & Shrivastava, 2021). Meanwhile, Mettan & Rahmawati (2024) note that entrepreneurial desire is strongly influenced by students' attitudes toward entrepreneurship. Gender also impacts entrepreneurial awareness among high school students (Kourilsky & Walstad, 1998).

The variety of research on this topic underscores the importance of entrepreneurship for students today. It is no surprise that student entrepreneurship is an emerging and growing research area (Passavanti et al., 2023). The rise in student entrepreneurship (SE) research aligns with increased studies on entrepreneurial self-efficacy (ESE) over the past two decades, as self-efficacy significantly influences entrepreneurial ventures (Gielnik et al., 2020). Students with high ESE are more inclined to pursue entrepreneurial activities (Chen et al., 1998). Thus, ESE is a critical topic for supporting entrepreneurship education development.

Entrepreneurial self-efficacy (ESE) refers to an individual's confidence in performing entrepreneurial tasks and roles. It also reflects one's capability to execute tasks that influence entrepreneurial interest and actions (Boyd & Vozikis, 1994). ESE plays a pivotal role in entrepreneurship by affecting interest, actions, and performance, and is directly linked to business ownership, motivation, intentions, and behavior (Mcgee et al., 2009). Strong ESE reflects high self-confidence,

impacting self-regulation, perseverance, motivation, and planning, ultimately enhancing performance and goal achievement. However, the relationship between ESE and performance is not always linear, yet ESE remains essential for improving individual performance (Uy et al., 2024). Factors influencing ESE include knowledge and experience, which significantly contribute to its development (Memon et al., 2019), alongside students' interest in entrepreneurship (Hsu et al., 2019). Thus, investigating ESE requires considering students' knowledge, interest, and experience.

Several studies on ESE among Indonesian students have been conducted. Viguna et al. (2024) explored the impact of locus of control (an individual's belief in their ability to control life events) and ESE on entrepreneurial intentions, finding both have a positive and significant effect. Other research indicates significant gender segregation in major selection, with male and female students exhibiting different levels of entrepreneurial confidence based on their fields of expertise (Pandang et al., 2022). Entrepreneurship education and family support also positively contribute to entrepreneurial intentions, with ESE serving as a key mediator strengthening this relationship (Rosniawati & Yunizar, 2025). However, these studies do not focus on high school students' ESE, making further research in this area crucial due to its implications for entrepreneurship education.

Entrepreneurship education is vital in shaping students' awareness, intentions, and entrepreneurial capabilities. By developing entrepreneurial self-efficacy (ESE), it not only boosts students' confidence but also prepares them for the challenges of the business world. Factors such as knowledge, experience, family support, and the school environment all contribute to building strong ESE. With growing research emphasizing the importance of student entrepreneurship, it is clear that entrepreneurship education must be prioritized in modern education systems to foster innovative and resilient entrepreneurs. To develop effective entrepreneurship education, understanding students' current ESE and its influencing factors is essential. However, studies on ESE among high school students in Indonesia are still relatively scarce and limited to certain aspects. Most existing studies focus on assessing ESE with vocational school students or university students as participants, making this research a valuable contribution by providing insights into high school students' ESE. In addition, ESE assessments are generally conducted only through quantitative measures, whereas in this study we qualitatively identified potential influencing factors using questionnaire data. Therefore, this study can provide a more comprehensive perspective on ESE. Thus, this study aims to describe students' ESE and analyze the factors affecting it. More spesifically, these are the research question of the study

1. How do gender and entrepreneurial experience influence students' entrepreneurial self-efficacy (ESE), knowledge, and interest?
2. What is the relationship between entrepreneurial knowledge, ESE, and interest among high school students?
3. What are high school students' perspectives on the needs and challenges of entrepreneurship?

This research can serve as a foundation for improving entrepreneurship education in the future. Entrepreneurship education plays a significant role in enhancing ESE, fostering an entrepreneurial mindset, with entrepreneurial attitudes acting as a key mediator supported by self-efficacy (Wardana et al., 2020). Additionally, entrepreneurship education significantly influences not only self-efficacy but also students' desire to pursue entrepreneurship (Wardoyo et al., 2025).

LITERATURE REVIEW

The entrepreneurial self-efficacy (ESE) and and its Influencing Aspects

Entrepreneurial Self-Efficacy (ESE) is defined as an individual's self-belief in their ability to perform specialized tasks involved in preparing, organizing, and developing a business, drawing from Bandura's social cognitive theory. Entrepreneurial Self-Efficacy (ESE) evolved from the broader concept of self-efficacy within social cognitive theory (Bandura, 2006). Generally, self-efficacy is defined as an individual's belief in their ability to perform a given task. In the context of Social Cognitive Theory, factors that build an individual's self-confidence are influenced by social context, observing and imitating others' behavior, personal experience, social support, and psychological conditions. Furthermore, self-efficacy is a key mechanism of agency, which refers to the psychological processes enabling individuals to exercise their agency. This can be understood as an individual's ability to make decisions, take action, and influence their own life outcomes. Beyond social cognitive theory, ESE is also connected to the Theory of Planned Behavior (TPB) (Ajzen, 1991). In TPB, ESE relates to perceived behavioral control, which is the belief in one's own control to perform an action. This factor is a crucial determinant of behavioral intentions.

ESE underpins crucial entrepreneurial capabilities such as opportunity identification, innovation, risk-taking, managerial skills, marketing, and financial management. It also represents a person's readiness to act effectively in the often uncertain and challenging world of business. The development and strength of ESE are influenced by a variety of internal and external factors. Internally, an individual's ESE can be shaped by their experiences, social influences, affective states, instrumental readiness, and risk propensity. Externally, factors like government policies, institutional support, regional

ecosystems, and academic settings play a role. Additionally, moderating factors such as gender, age, and educational background also have an impact on ESE. Psychological dynamics, such as passion, motivation, and satisfaction, also create effects that can increase ESE (Newman et al., 2019; Urban, 2020).

METHOD

This study employs a survey research design to examine the self-efficacy of high school students, the factors influencing it, and the underlying reasons in depth. A survey research design fundamentally aims to explore the characteristics of a group, in this case, high school students (Fraenkel et al., 2012). Data were collected through a closed-ended questionnaire assessing aspects of knowledge, experience, interest, and self-efficacy. The knowledge aspect reflects students' understanding of entrepreneurship fundamentals. The experience aspect is evaluated based on their history of entrepreneurial activities. The interest aspect is assessed through questions about their attraction and supportive attitudes toward entrepreneurship. Finally, entrepreneurial self-efficacy (ESE) is measured by their confidence in running a business, rated on a Likert scale from 1 to 5. The questionnaire also collects data on participants' identity and gender. These aspects were selected based on the literature review discussed in the introduction. Additionally, an open-ended questionnaire was used to explore the reasons behind their responses. The questionnaire was distributed at a high school in East Java, with 274 students voluntarily participating through convenience sampling. Since this was an exploratory preliminary study, we focused on initial findings obtained from a subset of samples determined through convenience sampling. Although this simple sampling technique has limited ability to provide generalization to the broader population of high school students in Indonesia, it is sufficient to offer an initial overview.

The collected data were analyzed using several techniques. Quantitative data from the closed-ended questionnaire were analyzed statistically, both descriptively and inferentially. Descriptive analysis was conducted to present participants' demographics and their responses. Inferential statistical analysis, using MANOVA and ANOVA, was performed to examine relationships between the aspects. The analysis was conducted with the JASP software package. To analyze the relationships between gender, entrepreneurial experience, and entrepreneurial self-efficacy (ESE) among senior high school students, both univariate and multivariate statistical approaches were employed. The analysis of variance (ANOVA) was utilized to examine whether there were statistically significant differences in entrepreneurial knowledge, interest, and self-efficacy based on categorical factors such as gender and prior entrepreneurial experience. ANOVA allowed for the comparison of group means while controlling for within-group variability, providing an initial understanding of how these factors individually influenced the dependent variables. Multivariate analysis of variance (MANOVA) was conducted to assess the combined effects of gender and entrepreneurial experience on the dependent variables (entrepreneurial knowledge, interest, and self-efficacy) as they are conceptually and empirically interrelated.. By considering the correlations among the dependent measures, MANOVA offered a more comprehensive evaluation of group differences while minimizing the risk of Type I error that could arise from conducting multiple separate ANOVAs. Both ANOVA and MANOVA analyses assumed independence of observations, homogeneity of variances (and variance-covariance matrices for MANOVA), and normal distribution of the dependent variables. The significant results obtained from these analyses provided empirical evidence that gender and entrepreneurial experience meaningfully contribute to variations in entrepreneurial self-efficacy, knowledge, and interest among the student participants.

Meanwhile, data from the open-ended questionnaire regarding students' opinions were analyzed through content analysis, which provides a broad overview of participants' views and identifies response trends (Creswell, 2012). In the questionnaire, we included open-ended questions asking participants why they chose a score between 1–5 on the ESE assessment. The responses to these questions were analyzed using content analysis. Content analysis focuses on identifying patterns through the frequency of words appearing in the responses. We analyzed the word frequencies using Orange Data Mining software. The results of this analysis were visualized in a word cloud, which effectively highlights frequently mentioned responses while also displaying the overall range of answers. Additionally, sentiment analysis was conducted to provide a broad understanding of the reasons behind the self-assessment scores on the Likert scale for entrepreneurial self-efficacy (ESE). Sentiment analysis was then used to clarify whether students' views on entrepreneurship were positive or negative, based on their reasons for selecting a particular ESE score. This sentiment analysis was conducted using Orange Data Mining software, which is equipped with a natural language processing (NLP) model that enables it to determine the emotional tone of students' responses. The results of this analysis are presented in three main parts. First, we provide a descriptive analysis of entrepreneurial self-efficacy (ESE) and any related factors. Following this, a correlation analysis explores the relationships between the various variables studied. Finally, the analysis concludes with a sentiment and perspective analysis of the students, offering insights into their views and feelings.

RESULTS AND DISCUSSION

Results of Statistical Analysis on ESE and its Influencing Aspects

The participants in this study were 11th-grade high school students, with the demographic characteristics described as follows. Of the 274 participants who took part in the survey, 38% were male, and 62% were female. Regarding business ownership, 34% of participants owned a business, while 66% did not.

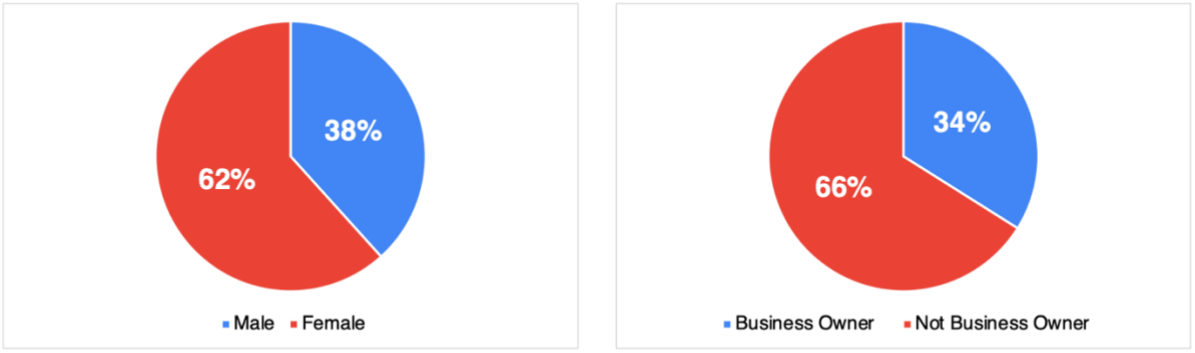

Figure 1. Participant demographics based on gender and business ownership experience.

Descriptive analysis of entrepreneurial self-efficacy (ESE) and its influencing factors is presented in the following table. Table 1 illustrates the responses provided by participants based on the aspects studied. Knowledge and interest data were measured on a 0–1 scale, derived from the average of several questions representing these two aspects. ESE data were measured on a 1–5 scale to indicate students' readiness to own a business. The descriptive analysis results in Table 1 show the distribution of scores for knowledge, interest, and entrepreneurial self-efficacy (ESE) among the 274 participants.

Table 1. Results of the descriptive analysis of understanding, interest, and entrepreneurial self-efficacy (ESE)

Descriptive Statistics

	Understanding	Interest	ESE
Valid	274	274	274
Missing	0	0	0
Mean	0.951	0.840	3.449
Std. Deviation	0.107	0.201	0.820
Minimum	0.000	0.000	1.000
Maximum	1.000	1.000	5.000

Knowledge was presented on a 0–1 scale representing participants' understanding of the studied aspects. The knowledge variable had an average score (M = 0.951, SD = 0.107), close to the maximum value of 1.000, with a range from 0.000 to 1.000. This indicates that the majority of participants had a very high and relatively homogeneous level of knowledge, as evidenced by the low standard deviation. The interest variable had a slightly lower average score (M = 0.840, SD = 0.201), with a range from 0.000 to 1.000. The higher standard deviation compared to knowledge suggests greater variation in interest levels among participants. Nevertheless, the relatively high average score indicates that participants generally had strong interest in the studied aspects. The entrepreneurial self-efficacy (ESE) variable, measured on a 1–5 scale, had an average score (M = 3.449, SD = 0.820), with a minimum of 1.000 and a maximum of 5.000. The average score above the midpoint of the scale (3.0) suggests that participants generally had a moderately high level of entrepreneurial confidence. The relatively large standard deviation indicates significant diversity in ESE levels among participants.

Based on these results, it can be concluded that participants had very high knowledge, relatively strong interest, and moderate to high entrepreneurial self-efficacy. These findings differ from other studies indicating that high school students' knowledge of entrepreneurship is at a moderate level (Yinka & Chidinma, 2025). Other research indicates that high school students possess a medium to high level of entrepreneurial knowledge, self-efficacy, and interest (Bahri et al., 2023). Consistent with these findings, another study also showed that students' entrepreneurial knowledge was at a medium to

high level, coupled with high self-efficacy and interest (Saryadi et al., 2024). The results of this study differ slightly from those of the above study, which is highly possible due to differences in various factors, such as environment, geography, and related exposure. However, this descriptive statistical pattern provides a strong foundation for further analysis of the relationships between these three variables and potential influencing factors in the context of entrepreneurship. To gain deeper insights into each aspect, a MANOVA analysis was conducted, dividing groups based on gender and business-related experience.

A MANOVA analysis was conducted to examine the effects of Gender, Experience, and their interaction on the combination of dependent variables. Based on the results of Pillai's Trace test presented in the table, several key findings emerged.

Table 2. MANOVA test result

MANOVA: Pillai Test

Cases	df	Approx. F	$Trace_{Pillai}$	Num df	Den df	p	VS-MPR*
(Intercept)	1	8007.625	0.989	3	268.000	< .001	$8.934\times10^{+257}$
Gender	1	7.894	0.081	3	268.000	< .001	803.050
Experience	1	9.095	0.092	3	268.000	< .001	3384.308
Gender ✻ Experience	1	0.539	0.006	3	268.000	0.656	1.000
Residuals	270						

The analysis revealed a significant effect of Gender on the combination of dependent variables, Pillai's Trace = 0.081, $F(3, 268) = 7.894$, $p < .001$, VS-MPR = 803.050. This indicates a significant difference in the combination of dependent variables based on participants' gender. Similarly, the Experience factor also showed a significant effect on the combination of dependent variables, Pillai's Trace = 0.092, $F(3, 268) = 9.095$, $p < .001$, VS-MPR = 3384.308. This suggests that participants' level of experience significantly influences the measured combination of dependent variables. However, no significant interaction was found between Gender and Experience on the combination of dependent variables, Pillai's Trace = 0.006, $F(3, 268) = 0.539$, $p = .656$, VS-MPR = 1.000. This indicates that the effect of gender on the dependent variables does not depend on the level of experience, and vice versa.

Regarding the assumptions underlying MANOVA, the Box's M test for homogeneity of covariance matrices showed a value of $\chi^2 = 141.712$, $df = 18$, $p < .001$, indicating that the assumption of homogeneity of covariance matrices was not met. The Shapiro-Wilk test for multivariate normality also showed significant results ($p < .001$) with a value of 0.851, indicating that the data were not multivariately normally distributed. Despite these violations of MANOVA assumptions, the analysis can proceed, considering that MANOVA is relatively robust to assumption violations with a large sample size (in this case, $n = 274$). However, the results should be interpreted cautiously due to these violations. The choice of Pillai's Trace statistic for the analysis was appropriate, as it is more robust to assumption violations compared to other alternatives.

Overall, the MANOVA results indicate that Gender and Experience independently have a significant effect on the combination of dependent variables, while their interaction does not show a significant effect. These findings align with research indicating that experience influences students' entrepreneurial knowledge and abilities (Rae & Carswell, 2001). Regarding gender, the findings are consistent with studies showing that women have stronger entrepreneurial intentions compared to men (Bae et al., 2014). In contrast to these findings, other studies have shown that women tend to have lower entrepreneurial intentions compared to men, which is supported by social role theory and gender perspectives in entrepreneurship. Additionally, gender acts as a moderator in the relationship between entrepreneurial intention and action, where men are more likely to act on their intentions than women. This is related to different social norms and expectations concerning gender roles that influence the level and type of entrepreneurial actions undertaken by men and women (Shinnar et al., 2018). Men generally have higher entrepreneurial intentions than women, though the difference isn't very significant. The factors influencing entrepreneurial intention also differ between genders. For men, entrepreneurial intention is more driven by current behavioral control, personal attitude, and social support, with social support having a significant impact. Conversely, for women, subjective norms and social support actually show a negative relationship, acting as inhibitors, while current behavioral control and perceived behavioral control play more important roles. These differences are influenced by gender socialization and cultural norms within developing economic contexts, which tend to be more restrictive for women pursuing entrepreneurial careers (Gallegos et al., 2024). Other research indicates that women tend to have lower entrepreneurial intentions than men, and self-perception and perceptual factors play a significant role in explaining this difference. Specifically, perceptions of self-efficacy, opportunity recognition, and fear of failure fully

mediate the relationship between gender and entrepreneurial intention among non-entrepreneurs. However, once an individual becomes an entrepreneur, the influence of gender on these perceptions tends to disappear, and perceptual factors are no longer the primary mediators in entrepreneurial intention (Camelo-Ordaz et al., 2016). This elucidates the discrepancies observed in the outcomes of this research. The female participants exhibited elevated business intentions compared to their male counterparts, potentially due to their prior entrepreneurial endeavors, which may have obscured the impact of gender on business aspirations.

As a follow-up to the previous MANOVA analysis, a univariate ANOVA analysis was conducted to examine the effects of Gender, Experience, and their interaction on each dependent variable (Understanding, Interest, and ESE) separately. The following is an interpretation of the ANOVA results for these three variables.

The ANOVA analysis for the Understanding variable showed a significant effect of Gender on participants' level of understanding, $F(1, 270) = 19.483$, $p < .001$, VS-MPR = 2250.582. This indicates a significant difference in understanding levels between different gender groups. However, the Experience factor did not show a significant effect on understanding, $F(1, 270) = 0.342$, $p = .559$, VS-MPR = 1.000. Similarly, no significant interaction was found between Gender and Experience in affecting understanding levels, $F(1, 270) = 0.002$, $p = .968$, VS-MPR = 1.000. These results suggest that differences in understanding are primarily influenced by gender, regardless of participants' experience level.

For the Interest variable, the ANOVA analysis revealed a significant effect of Gender, $F(1, 270) = 9.581$, $p = .002$, VS-MPR = 27.615, indicating a significant difference in interest levels between different gender groups. The Experience factor also showed a significant effect on interest levels, $F(1, 270) = 5.518$, $p = .020$, VS-MPR = 4.784. However, no significant interaction was found between Gender and Experience in affecting interest levels, $F(1, 270) = 0.402$, $p = .526$, VS-MPR = 1.000. These results indicate that both gender and experience independently influence participants' interest levels, but the effect of one factor does not depend on the level of the other.

For the ESE variable, the ANOVA analysis showed a significant effect of Gender, $F(1, 270) = 8.400$, $p = .004$, VS-MPR = 16.453, indicating a significant difference in entrepreneurial self-efficacy levels between different gender groups. Similarly, the Experience factor showed a highly significant effect on ESE levels, $F(1, 270) = 24.806$, $p < .001$, VS-MPR = 23724.444. The very high VS-MPR value indicates a strong effect of experience on ESE. However, no significant interaction was found between Gender and Experience in affecting ESE levels, $F(1, 270) = 0.787$, $p = .376$, VS-MPR = 1.000.

Overall, these inferential statistical test results indicate that gender and experience influence the knowledge, interest, and ESE of high school students. However, there is no interaction between gender and experience. Specifically, the ANOVA analysis shows that knowledge is strongly influenced by gender, while interest and ESE are influenced by both gender and experience. Gender has a significant impact on entrepreneurship overall, but experience has a more pronounced effect on interest and ESE. This research aligns with studies demonstrating that entrepreneurial experience and entrepreneurial competition experience play crucial roles in increasing students' entrepreneurial intentions and entrepreneurial self-efficacy (Malebana & Mahlaole, 2023; Wu et al., 2022). Students with entrepreneurial experience have significantly higher entrepreneurial intentions compared to those without such experience. This is consistent with social learning theory, which posits that personal experiences, including successes or failures, can strengthen or weaken self-efficacy. Thus, experience, whether through entrepreneurial practice or participation in competitions, not only enhances entrepreneurial self-efficacy but also directly and indirectly fosters students' entrepreneurial intentions by boosting their self-confidence and practical involvement in the entrepreneurial process. The results of this study, which show that ESE is influenced by gender and experience, are consistent with Bandura's original theory of self-efficacy. Self-efficacy is influenced by the social context, surrounding individual behavior, personal experiences, social support, and psychological conditions (Bandura, 2006). Regarding interest, as previously explained, gender influences a person's interest because, based on gender, there are environmental influences such as social norms and gender role expectations. An interesting finding that emerged is that knowledge, although influenced by gender, is not influenced by experience. This suggests that entrepreneurial knowledge among high school students is primarily shaped through formal education, curriculum exposure, and possibly cultural or socialization processes, rather than through hands-on entrepreneurial activities.

Therefore, these findings highlight the need to consider gender and experience separately and emphasize the importance of practical experience in enhancing ESE. Another contributing factor may be the presence of entrepreneurial parents. Students whose parents have entrepreneurial experience tend to exhibit higher entrepreneurial self-efficacy (ESE), which, in turn, boosts their entrepreneurial intentions. This aligns with human capital theory, which suggests that exposure to an entrepreneurial environment, such as through parental experience, can enhance perceived abilities and motivation to engage in entrepreneurship (Zhang & Chen, 2024).

Correlation Results of Understanding and Interest on ESE

To understand the influence of knowledge and interest on ESE, a correlation analysis was conducted to examine the relationships among these three aspects.

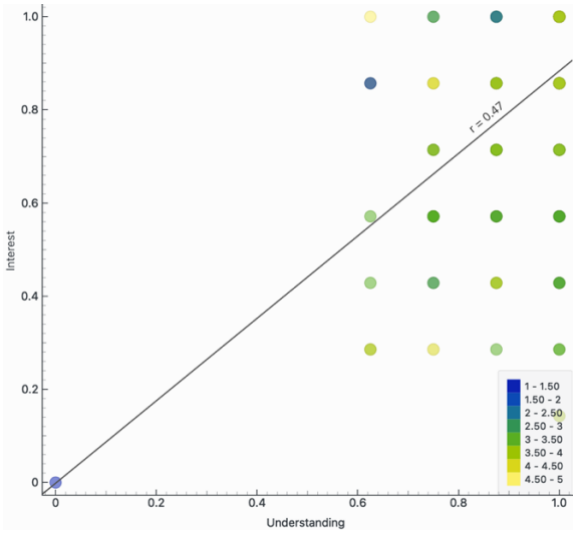

Figure 2. Correlation analysis between understanding, interest, and ESE

A scatter plot depicting the relationship between "Understanding" (x-axis) and "Interest" (y-axis) shows a positive trend with a correlation coefficient of r = 0.47, where different colors indicate the level of ESE. The data reveal Spearman correlation results between several variables, with the highest correlation between "Interest" and "Understanding" at +0.428, indicating a moderately positive relationship; higher understanding tends to increase interest, though the relationship is not particularly strong. These findings align with previous research indicating a relatively weak relationship between understanding and interest in entrepreneurship (Hidayat et al., 2021; Suryadi et al., 2024). This may be because understanding entrepreneurship does not directly influence interest in entrepreneurship but rather operates through the mediation of attitudes toward entrepreneurship and perceived behavioral control (Duong, 2022). This is further clarified by a meta-analysis showing a weak correlation between entrepreneurship knowledge and entrepreneurial intention (Bae et al., 2014). This could occur due to other variables influencing the relationship, such as gender, cultural context, and family background.

At its core, entrepreneurial understanding forms the bedrock of an individual's knowledge, skills, and cognitive framework, gained through formal education, hands-on experience, and supportive interventions, enabling them to recognize opportunities and prepare for entrepreneurial ventures (Burnette et al., 2020; Liu et al., 2019). This deep understanding then becomes the foundation for the development of Entrepreneurial Self-Efficacy (ESE), representing an individual's belief in their ability to successfully complete various entrepreneurship-related tasks like opportunity recognition, resource management, and risk-taking (Doanh & Bernat, 2019; Şahin et al., 2019). Subsequently, ESE acts as a catalyst in fostering entrepreneurial interest by shaping attitudes toward entrepreneurship, boosting intrinsic motivation, and increasing the willingness to engage in entrepreneurial activities (Dewangga Pramudita, 2021; Elliott et al., 2020). Self-efficacy (ESE) mediates the link between understanding and interest. Practical knowledge and cognitive insights from understanding instill confidence, leading to a stronger, more tangible interest in entrepreneurship (Tsai et al., 2016). To bolster ESE's mediating role, educational interventions and supportive ecosystems are crucial, providing real-world experiences, mentorship, and networking opportunities that transform abstract entrepreneurial understanding into concrete self-efficacy, which in turn sparks interest; ultimately, entrepreneurial understanding provides the cognitive foundation and skills to develop ESE, and this enhanced ESE stimulates interest in entrepreneurship.

This finding offers a clear explanation for the moderate, rather than high, positive relationship observed between understanding and interest in this study. It suggests that Entrepreneurial Self-Efficacy (ESE) plays a substantial mediating role between the two. The influence of ESE is visually evident in the graph, where students with both high understanding and high ESE scores (depicted in yellow) demonstrate greater interest, while those with low understanding and low ESE scores (in blue) show less interest. This observation aligns well with previous research that underscores the critical role of both self-efficacy and knowledge in shaping entrepreneurial interest.

Student Sentiment and Perspective Analysis Results on Entrepreneurship

An analysis of students' perspectives on entrepreneurship was conducted to help explain the findings from the quantitative data. Through a deeper understanding, more targeted interventions can be developed. This analysis is based on students' perspectives regarding the needs and challenges in entrepreneurship. Understanding these aspects can help identify not only students' knowledge but also the reasons behind their scores on the ESE Likert scale. Subsequently, a sentiment analysis was performed on the reasons provided for the ESE scale responses. The results of the sentiment analysis are presented as follows.

To assess the sentiment of students' perceptions of entrepreneurial self-efficacy (ESE), we employed the Sentiment Analysis widget within Orange, a powerful open-source data mining and machine learning platform known for its user-friendly visual programming interface. The process began by importing textual data collected from open-ended questionnaire responses, where senior high school students in East Java, Indonesia, articulated their views on entrepreneurship. These responses were loaded into Orange's workflow environment using the Corpus widget to create a structured text dataset.

The Sentiment Analysis widget, as described in the Orange documentation (https://orangedatamining.com/widget-catalog/text-mining/sentimentanalysis/), utilizes pre-trained natural language processing (NLP) models, such as VADER (Valence Aware Dictionary and sEntiment Reasoner) or transformer-based models like BERT, to evaluate the emotional tone of textual input (Demšar et al., 2013). VADER, for instance, is specifically designed for sentiment analysis of short texts, making it suitable for questionnaire responses, as it accounts for word valence, punctuation, capitalization, and emoticons to determine sentiment intensity. Transformer-based models, on the other hand, leverage contextual embeddings to capture nuanced meanings in complex sentences. These models assign each response a compound sentiment score on a scale from -1 (highly negative) to +1 (highly positive), with scores near 0 indicating neutrality.

In our workflow, the Sentiment Analysis widget processed the text data by first applying preprocessing steps, such as tokenization (splitting text into words), stop-word removal (eliminating common words like "the" or "and"), and normalization (e.g., converting text to lowercase), to ensure clean and consistent input. The widget then analyzed the preprocessed text to classify each response into positive, negative, or neutral categories based on the compound sentiment score. The results were visualized in a compound sentiment plot, with green representing positive sentiments, yellow indicating neutral sentiments, and blue denoting negative sentiments. This visualization revealed that the majority of students expressed neutral to positive sentiments toward entrepreneurship, with negative sentiments primarily associated with an ESE score of 3 (on a 1-5 Likert scale), indicating a transitional mindset where students balanced awareness of entrepreneurial opportunities (e.g., innovation, autonomy) with challenges (e.g., competition, financial constraints).

The effectiveness of Orange's Sentiment Analysis widget lies in its integration of robust, pre-trained NLP models trained on large, diverse datasets, enabling accurate detection of sentiment in varied linguistic contexts, including the informal and context-specific language used by high school students. The widget's ability to handle preprocessing and sentiment classification within a single, streamlined workflow minimized errors and ensured reliable results. Furthermore, Orange's flexibility allowed us to cross-validate the sentiment analysis outcomes with quantitative data, where the ESE variable showed a mean score of 3.449 (SD = 0.820), reflecting moderate confidence with notable variability among participants. This alignment between qualitative sentiment analysis and quantitative ESE scores underscores the widget's capability to provide meaningful insights into students' entrepreneurial perspectives, facilitating a deeper understanding of their confidence levels and attitudes.

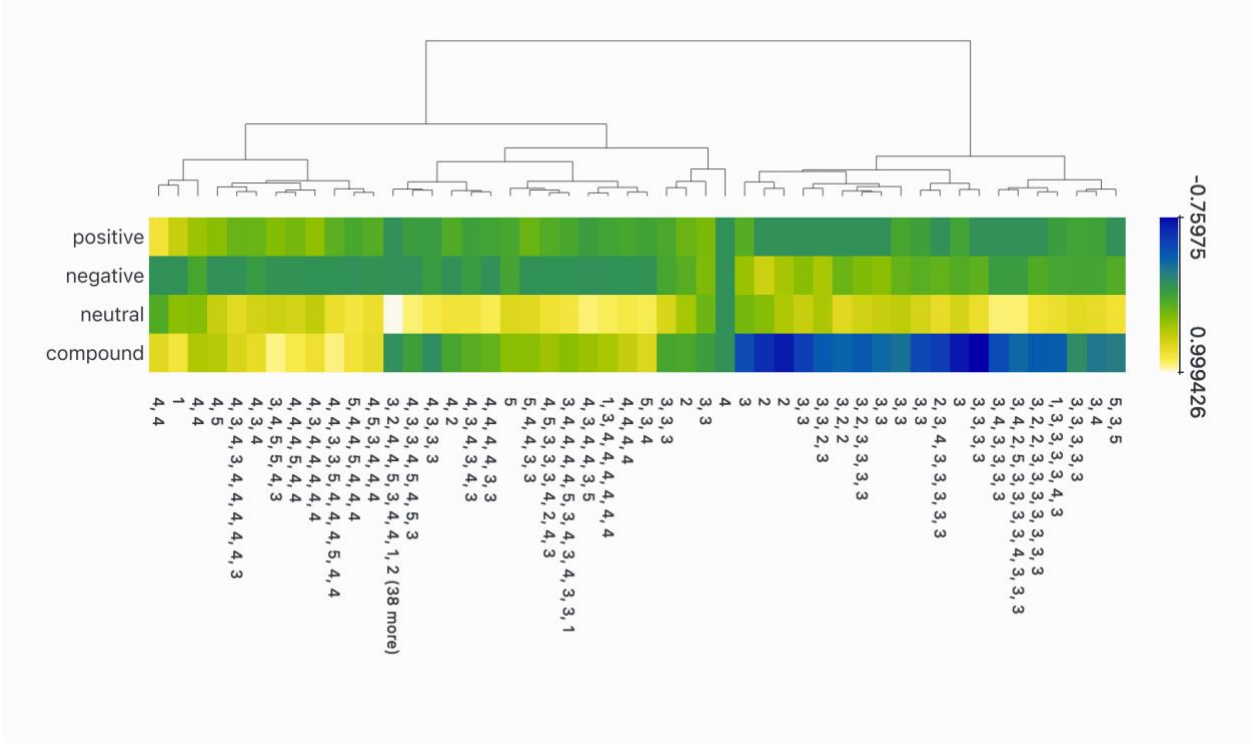

Figure 3. Sentiment analysis of students' answer

The sentiment analysis indicates that the majority of students have neutral to positive views (reasons) related to ESE aspects. This is evident from the prevalence of green and yellow colors in the compound section, which represents the total of positive, negative, and neutral sentiments. However, there are also blue sections indicating negative sentiments that influenced participants' ESE scores. Interestingly, participants who expressed negative sentiments roughly corresponded to those who rated their ESE at level three, a level also commonly associated with positive and neutral sentiments. This suggests that level three is a transitional level where students recognize both opportunities and challenges in entrepreneurship, leading to diverse opinions. On the other hand, there is an indication that most participants are not entirely confident but are aware of entrepreneurial opportunities. This is supported by the descriptive statistical data from the ESE questionnaire, which shows that the entrepreneurial self-efficacy (ESE) variable has an average score (M = 3.449, SD = 0.820).

Content analysis on the aspects of challenges and needs related to entrepreneurship revealed the following. The analysis of the "needs" aspect indicates that students identified several factors necessary for developing entrepreneurship, including capital, business, ideas, strategy, marketing, products, and markets. These words appeared at least 50 times in the students' questionnaire responses and can be directly observed in the related word cloud. These aspects are in line with several studies showing that in entrepreneurship, one needs financial capital, infrastructure, and networks (Berman et al., 2024; Cabrera & Mauricio, 2017). Moreover, one also needs innovation, market opportunities, and a regulated environment (Devece et al., 2016). This alignment indicates that the students possess good knowledge and awareness regarding the needs of an entrepreneur, which in turn underlies their level of ESE. Furthermore, their statements regarding the needs of an entrepreneur can certainly serve as a foundation for the focus of student learning, such as how to develop entrepreneurial strategies, how to build strong business ideas, how to identify markets, and so on.

Meanwhile, the analysis of the "challenges" aspect shows that students identified several obstacles in developing entrepreneurship. Words such as market, capital, competition, business, and products frequently appeared in the questionnaire responses related to "challenges," occurring at least 40 times. Several studies mention that in developing entrepreneurship, the challenges to be faced include funding, markets, effective marketing, competition, and qualified employees (Khalilsanjani et al., 2021; Shavadze, 2024). This alignment once again demonstrates the students' understanding of entrepreneurship, which ultimately underlies their self-assessment of their readiness to own a business. These 'challenges' also need to receive special attention from educators in teaching entrepreneurship in the future.

CONCLUSION

This study examined entrepreneurial self-efficacy (ESE) among senior high school students in East Java, Indonesia, revealing significant insights into how gender, experience, and knowledge influence entrepreneurial intentions. Students demonstrated high entrepreneurial knowledge (M=0.951), strong interest (M=0.840), and moderate to high ESE levels (M=3.449). Female students showed higher entrepreneurial intentions, challenging traditional gender stereotypes, while prior entrepreneurial experience substantially enhanced ESE levels, emphasizing the importance of experiential learning.

A moderate positive correlation (r=0.428) between knowledge and interest suggests that ESE mediates the relationship between theoretical understanding and entrepreneurial engagement. Qualitative analysis revealed students maintain realistic expectations about entrepreneurship, identifying capital, marketing, and product development as primary needs while recognizing competition and financial constraints as key challenges. The findings advocate for integrating hands-on learning opportunities into curricula, including business incubators and entrepreneurship competitions. Gender-sensitive approaches to entrepreneurship education are needed, along with programs that build practical skills and confidence through mentorship and real-world experiences.

Study limitations include convenience sampling from a single region and design restricting causal inferences. Future research should employ longitudinal designs, expand geographic scope, and examine additional mediating factors like family background and cultural influences. Further research on this matter could include identifying ESE levels on a larger scale to allow for generalization, as well as conducting more comprehensive qualitative studies, such as interviews, to gain a deeper understanding of the factors influencing ESE. Moreover, in the future, researchers and practitioners can collaborate in developing learning approaches that better support the development of ESE among high school students. Students can possess strong foundational entrepreneurial capabilities that can be developed through well-designed educational interventions emphasizing both cognitive knowledge and practical skills, positioning them to contribute meaningfully to economic development.

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DAFTAR PUSTAKA

Aggarwal, A., & Shrivastava, U. (2021). Entrepreneurship as a career choice: impact of environments on high school students' intentions. *Education and Training*, *63*(7–8), 1073–1091. https://doi.org/10.1108/ET-07-2020-0206

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Angmani, N., Sukkamart, A., Pimdee, P., Narabin, A., & Thongkaw, A. (2025). Exploring Factors Affecting High-School Student Entrepreneurship Competency. *International Journal of Instruction*, *18*(1), 237–254. https://doi.org/10.29333/iji.2025.18113a

Audretsch, D., & Moog, P. (2020). Democracy and Entrepreneurship. *Entrepreneurship Theory and Practice*, *46*, 368–392. https://doi.org/10.1177/1042258720943307

Bae, T. J., Qian, S., Miao, C., & Fiet, J. O. (2014). The Relationship Between Entrepreneurship Education and Entrepreneurial Intentions: A Meta-Analytic Review. *Entrepreneurship: Theory and Practice*, *38*(2), 217–254. https://doi.org/10.1111/etap.12095

Bahri, B. O. F., Marsofiyati, & Rachmadania, R. F. (2023). THE EFFECT OF ENTREPRENEURSHIP KNOWLEDGE AND SELF-EFFICIENCY ON STUDENTS ENTREPRENEURSHIP INTEREST. *Jurnal Pendidikan Ekonomi, Perkantoran, Dan Akuntansi*, *4*(1), 218–225. https://doi.org/10.21009/jpepa.0401.15

Bandura, A. (2006). Toward a Psychology of Human Agency. *Perspectives on Psychological Science*, *1*(2), 164–180. https://doi.org/10.1111/j.1745-6916.2006.00011.x

Berman, T., Stuckler, D., Schallmo, D., & Kraus, S. (2024). Drivers and success factors of digital entrepreneurship: A systematic literature review and future research agenda. *Journal of Small Business Management*, *62*(5), 2453–2481. https://doi.org/10.1080/00472778.2023.2238791

Boyd, N. G., & Vozikis, G. S. (1994). The Influence of Self-Efficacy on the Development of Entrepreneurial Intentions and Actions. *Entrepreneurship Theory and Practice*, *18*(4), 63–77. https://doi.org/10.1177/104225879401800404

Cabrera, E. M., & Mauricio, D. (2017). Factors affecting the success of women's entrepreneurship: a review of literature. *International Journal of Gender and Entrepreneurship*, *9*(1), 31–65. https://doi.org/10.1108/IJGE-01-2016-0001

Camelo-Ordaz, C., Diánez-González, J. P., & Ruiz-Navarro, J. (2016). The influence of gender on entrepreneurial intention: The mediating role of perceptual factors. *BRQ Business Research Quarterly*, *19*(4), 261–277. https://doi.org/10.1016/j.brq.2016.03.001

Chen, C. C., Greene, P. G., & Crick, A. (1998). Does entrepreneurial self-efficacy distinguish entrepreneurs from managers? *Journal of Business Venturing*, *13*(4), 295–316. https://doi.org/10.1016/S0883-9026(97)00029-3

Creswell, J. W. (2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative*

Research (4th ed.). Pearson.

Deliu, N. (2024). Role and Importance of Entrepreneurship Support. *Economica*. https://doi.org/10.53486/econ.2024.127.047

Demšar, J., Curk, T., Erjavec, A., Gorup, Č., Hočevar, T., Milutinovič, M., Možina, M., Polajnar, M., Toplak, M., Starič, A., Štajdohar, M., Umek, L., Žagar, L., Žbontar, J., Žitnik, M., & Zupan, B. (2013). Orange: Data mining toolbox in python. *Journal of Machine Learning Research*, *14*(1), 2349–2353.

Devece, C., Peris-Ortiz, M., & Rueda-Armengot, C. (2016). Entrepreneurship during economic crisis: Success factors and paths to failure. *Journal of Business Research*, *69*(11), 5366–5370. https://doi.org/10.1016/j.jbusres.2016.04.139

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to Design and Ecaluate Research in Education* (8th ed.). Mc-Graw Hill.

Gallegos, A., Valencia-Arias, A., Aliaga Bravo, V. D. C., Teodori de la Puente, R., Valencia, J., Uribe-Bedoya, H., Briceño Huerta, V., Vega-Mori, L., & Rodriguez-Correa, P. (2024). Factors that determine the entrepreneurial intention of university students: a gender perspective in the context of an emerging economy. *Cogent Social Sciences*, *10*(1). https://doi.org/10.1080/23311886.2024.2301812

Gielnik, M. M., Bledow, R., & Stark, M. S. (2020). A Dynamic Account of Self-Efficacy in Entrepreneurship. *Journal of Applied Psychology*, *105*(5), 487–505. https://doi.org/10.1037/apl0000451

Hsu, D. K., Burmeister-Lamp, K., Simmons, S. A., Foo, M. Der, Hong, M. C., & Pipes, J. D. (2019). "I know I can, but I don't fit": Perceived fit, self-efficacy, and entrepreneurial intention. *Journal of Business Venturing*, *34*(2), 311–326. https://doi.org/10.1016/j.jbusvent.2018.08.004

Khalilsanjani, A., Saparauskas, J., Yazdani-Chamzini, A., Turskis, Z., & Feyzbakhsh, A. (2021). Developing a model based on sustainable development for prioritizing entrepreneurial challenges under a competitive environment. *Journal of Competitiveness*, *13*(3), 73–91. https://doi.org/10.7441/joc.2021.03.05

Kourilsky, M. L., & Walstad, W. B. (1998). Entrepreneurship and female youth: Knowledge, attitudes, gender differences, and educational practices. *Journal of Business Venturing*, *13*(1), 77–88. https://doi.org/10.1016/S0883-9026(97)00032-3

Krishnawati, N., Nurihsan, J., Budimansyah, D., & Nurdin, E. S. (2023). The Role of Entrepreneurship Education in Shaping Students' Emotional and Cognitive Competencies for Entrepreneurship. *International Journal of Learning, Teaching and Educational Research*, *22*(2), 262–280. https://doi.org/10.26803/ijlter.22.2.15

Malebana, M. J., & Mahlaole, S. T. (2023). Prior entrepreneurship exposure and work experience as determinants of entrepreneurial intentions among South African university of technology students. *Frontiers in Psychology*, *Volume 14*. https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2023.1176065

Manne, S., Rani, S., & Kaur, M. (2024). Growing Entrepreneurs: Cultivating Success for Tomorrow's Economy. *International Journal For Multidisciplinary Research*. https://doi.org/10.36948/ijfmr.2024.v06i02.16779

Mcgee, J. E., Peterson, M., Mueller, S. L., & Sequeira, J. M. (2009). Entrepreneurial self-efficacy: Refining the measure. *Entrepreneurship: Theory and Practice*, *33*(4), 965–988. https://doi.org/10.1111/j.1540-6520.2009.00304.x

Memon, M., Soomro, B. A., & Shah, N. (2019). Enablers of entrepreneurial self-efficacy in a developing country. *Education and Training*, *61*(6), 684–699. https://doi.org/10.1108/ET-10-2018-0226

Mettan, S. V., & Rahmawati, V. (2024). Relationship of Attitude Towards Entrepreneurship To Entrepreneurial Intention Through Entrepreneurship Education (Case Study of High School Students in Surabaya). *Research In Management and Accounting*, *7*(1), 1–19. https://doi.org/10.33508/rima.v7i1.4913

Newman, A., Obschonka, M., Schwarz, S., Cohen, M., & Nielsen, I. (2019). Entrepreneurial self-efficacy: A systematic review of the literature on its theoretical foundations, measurement, antecedents, and outcomes, and an agenda for future research. *Journal of Vocational Behavior*, *110*, 403–419. https://doi.org/https://doi.org/10.1016/j.jvb.2018.05.012

Pandang, A., Umar, N. F., Akhmadharum, Hajati, K., Hamidi, B., & Hamidi, B. (2022). Gender Disparities in Students' Entrepreneurial Self-Efficacy (ESE) with Various Areas. *Education Research International*, *2022*. https://doi.org/10.1155/2022/9479758

Passavanti, C., Ponsiglione, C., Primario, S., & Rippa, P. (2023). The evolution of student entrepreneurship: State of the art and emerging research direction. *International Journal of Management Education*, *21*(2). https://doi.org/10.1016/j.ijme.2023.100820

Rae, D., & Carswell, M. (2001). Towards a conceptual understanding of entrepreneurial learning. *Journal of Small Business and Enterprise Development*, *8*(2), 150–158. https://doi.org/10.1108/EUM0000000006816

Rosniawati, D., & Yunizar, Y. (2025). Enhancing entrepreneurial intentions among vocational high school students. *JPPI (Jurnal Penelitian Pendidikan Indonesia)*, *11*(1), 66. https://doi.org/10.29210/020255012

Saryadi, S., Arini, L. D. D., & Utomo, B. P. C. (2024). The Influence of Self-Efficacy, Entrepreneurship Education, Entrepreneurial Motivation on Students' Entrepreneurial Interest . *Ijcs*, *2*(2), 75–90. https://journal.formosapublisher.org/index.php/ijcs/article/view/8440/8381

Shah, I. A., Amjed, S., & Jaboob, S. (2020). The moderating role of entrepreneurship education in shaping entrepreneurial intentions. *Journal of Economic Structures*, *9*(1). https://doi.org/10.1186/s40008-020-00195-4

Shavadze, G. (2024). Modern Approaches to Entrepreneurship Development and Prospective Challenges. *International Journal of Social Sciences*, *4*(1), 183–205. https://doi.org/10.55367/gakq6884

Shinnar, R. S., Hsu, D. K., Powell, B. C., & Zhou, H. (2018). Entrepreneurial intentions and start-ups: Are women or men more likely to enact their intentions? *International Small Business Journal: Researching Entrepreneurship*, *36*(1), 60–80. https://doi.org/10.1177/0266242617704277

Urban, B. (2020). Entrepreneurial alertness, self-efficacy and social entrepreneurship intentions. *Journal of Small Business and Enterprise Development*, *27*(3), 489–507. https://doi.org/10.1108/JSBED-08-2019-0285

Uy, M. A., Sun, S., Gielnik, M. M., Jacob, G. H., Lagdameo, J. L. D., Miclat, A. G., & Osi, E. C. (2024). Unpacking the nonlinear effect of self-efficacy in entrepreneurship: Why and under which condition more is not better. *Personnel Psychology*, *77*(1), 81–108. https://doi.org/10.1111/peps.12618

Van Praag, C. M., & Versloot, P. H. (2007). What is the value of entrepreneurship? A review of recent research. *Small Business Economics*, *29*(4), 351–382. https://doi.org/10.1007/s11187-007-9074-x

Viguna, A. I., Indriayu, M., & Noviani, L. (2024). Developing an Entrepreneurial Mindset in Youth: Investigating Locus of Control and Self-Efficacy among Students of Pringsewu Business Management Vocational School. *Neraca Keuangan : Jurnal Ilmiah Akuntansi Dan Keuangan*, *19*(2), 202–210. https://doi.org/10.32832/neraca.v19i2.17369

Wardoyo, C., Narmaditya, B. S., Qurrata, V. A., Satrio, Y. D., & Sahid, S. (2025). Are students ready for digital business? Antecedents of entrepreneurial intentions among Indonesian students using a serial mediation. *Social Sciences & Humanities Open*, *11*, 101213. https://doi.org/10.1016/j.ssaho.2024.101213

Westhead, P., & Solesvik, M. Z. (2016). Entrepreneurship education and entrepreneurial intention: Do female students benefit? *International Small Business Journal: Researching Entrepreneurship*, *34*(8), 979–1003. https://doi.org/10.1177/0266242615612534

Wu, L., Jiang, S., Wang, X., Yu, L., Wang, Y., & Pan, H. (2022). Entrepreneurship Education and Entrepreneurial Intentions of College Students: The Mediating Role of Entrepreneurial Self-Efficacy and the Moderating Role of Entrepreneurial Competition Experience. *Frontiers in Psychology*, *12*(January). https://doi.org/10.3389/fpsyg.2021.727826

Yinka, K. R., & Chidinma, A. E. (2025). Entrepreneurship among secondary school students: opportunities, challenges, and the role in fostering innovation. *Sociology International Journal*, *9*(1), 27–33. https://doi.org/10.15406/sij.2025.09.00411

Zhang, H. X., & Chen, H. (2024). Entrepreneurship Education and Entrepreneurial Intention Among Tourism and Hotel Management Students: The Mediating Role of Entrepreneurial Self-Efficacy and the Moderating Role of Grit. *SAGE Open*, *14*(2), 1–13. https://doi.org/10.1177/21582440241249119