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The Relationship Between Self-Esteem and Entrepreneurial Orientation: The Mediating Role of Self-Efficacy – A Study of Final-Year Bachelor's and Master's Students

Teher Lakhal
University of Setif 2, Algeria

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Abstract

This study aimed to investigate the relationship between self-esteem and entrepreneurial orientation among final-year university students and to examine the mediating role of self-efficacy in this relationship. It was based on the distinction between self-esteem, understood as an individual's overall evaluation of their personal worth, and self-efficacy, defined as the belief in one's ability to accomplish tasks and face challenges.

The study adopted a quantitative descriptive-correlational approach, using a questionnaire administered to a sample of 245 male and female students enrolled in Bachelor's and Master's programmes at the University Centre of Aflou. The variables were measured using Rosenberg's Self-Esteem Scale, the short form of the General Self-Efficacy Scale (GSE-6), and Bolton and Lane's (2012) Individual Entrepreneurial Orientation Scale.

The data were analysed using Pearson's correlation coefficient, simple linear regression, and mediation analysis through the PROCESS macro, Model 4, with a bootstrap resampling procedure of 5,000 samples and a 95% confidence interval.

The findings revealed high levels of self-efficacy and entrepreneurial orientation, alongside a moderately high level of self-esteem, with no statistically significant differences according to gender or academic level. The results also showed no significant relationship between self-esteem and entrepreneurial orientation and provided no support for the mediating role of self-efficacy. However, a very strong positive correlation was found between self-efficacy and entrepreneurial orientation.

The study concludes that greater attention should be given to developing self-efficacy related to entrepreneurial tasks within university programmes. It also highlights the need to verify these findings in future research through longitudinal and experimental designs, as well as the use of more specialised measurement instruments.

Keywords: Self-esteem; Self-efficacy; Entrepreneurial orientation; University students; Mediation.

1. Introduction and Research Problem

In the modern era, entrepreneurship has become one of the fundamental pillars of achieving economic development and addressing numerous social problems. This has shifted researchers' attention from the legal frameworks and financial mechanisms involved in establishing businesses towards the psychological factors that contribute to determining individuals' readiness to enter the world of entrepreneurship and business creation. Entrepreneurship is regarded as a set of intellectual and behavioural orientations based on initiative, innovation, and the exploitation of various available opportunities. It reflects a conscious willingness to transform ideas and potential opportunities into

tangible projects that generate added value, contribute to wealth creation, and provide employment opportunities. Consequently, academic interest in entrepreneurship has moved beyond economic analysis to encompass psychological and social dimensions that explain the behaviour of entrepreneurs and shape their attitudes towards entrepreneurial activity.

Entrepreneurship is not merely an economic activity or a simple tendency towards self-employment; rather, it is a behavioural response shaped by a complex interaction between psychological determinants and strategic skills (Zi-Meng Ye, 2025). Entrepreneurial activity is largely associated with an individual's psychological characteristics and value-based motivations. According to Joseph Schumpeter, an individual's value system can constitute a fundamental driving force behind the emergence of entrepreneurial behaviour, linking the entrepreneur to the function of innovation and economic creativity. The entrepreneur is considered a driving force of economic development through what Schumpeter termed creative destruction. He viewed the entrepreneur as a central figure who introduces new methods of production and assumes risks in pursuit of economic development. He also regarded the entrepreneur as an "innovative individual", characterised by broad economic perspectives and sufficient energy to break away from routine and bring about innovation, emphasising that the entrepreneur plays an irreplaceable role in the economy and society (Rabeh Abbassi, 2019).

Psychological traits represent the cornerstone in the formation and development of an enterprise. The entrepreneur is the driving force behind the entire process, and the success of a project is closely linked to possessing a personal profile characterised by flexibility and the ability to take initiative. These qualities are reflected in perceived self-efficacy, which refers to an individual's belief in their ability to exercise control over events and successfully accomplish various tasks. Self-efficacy is considered one of the most important foundations of self-confidence, as it enables entrepreneurs to make critical decisions without questioning their own ability to achieve success. This brings us to the concept of self-esteem, understood as the cognitive and emotional structure through which individuals evaluate their own worth, competence, and ability to succeed. Individuals with high self-esteem tend to be more proactive and better able to make decisions. Positive self-esteem also contributes to strengthening perceived self-efficacy and fostering achievement motivation and independence (Fabiola Gómez-Jorge, 2025). All these elements constitute the psychological foundations of entrepreneurial orientation. In other words, self-esteem can be viewed as the intellectual drive that enables individuals to move from an idea towards the actualisation of a business opportunity.

On the other hand, given the differences among individuals in their perceptions of their abilities and their willingness to take risks and face economic uncertainty, as well as the social and cultural context that may either strengthen or weaken the relationship between self-esteem and entrepreneurial orientation, this paper seeks, within a psychological and behavioural approach, to shed light on the role of self-esteem in determining entrepreneurial orientation among Algerian individuals. It also attempts to understand how this psychological variable contributes to directing individual behaviour towards entrepreneurship. In other words, the relationship between self-esteem and entrepreneurial orientation appears to be a dynamic one, involving an interaction between psychological and behavioural dimensions, through which a sense of competence is transformed into an actual readiness to engage in entrepreneurial activity.

Within the context of our societies, which have their own specific characteristics, face the challenges of unemployment, and increasingly rely on entrepreneurship as an alternative pathway to development, we therefore raise the following main research question:

To what extent does self-esteem contribute to determining entrepreneurial orientation among individuals?

To answer this main research question, we propose the following hypotheses:

There is a statistically significant effect of self-esteem on entrepreneurial orientation among final-year university students.

Self-efficacy mediates the relationship between self-esteem and entrepreneurial orientation among final-year university students.

Research Model:

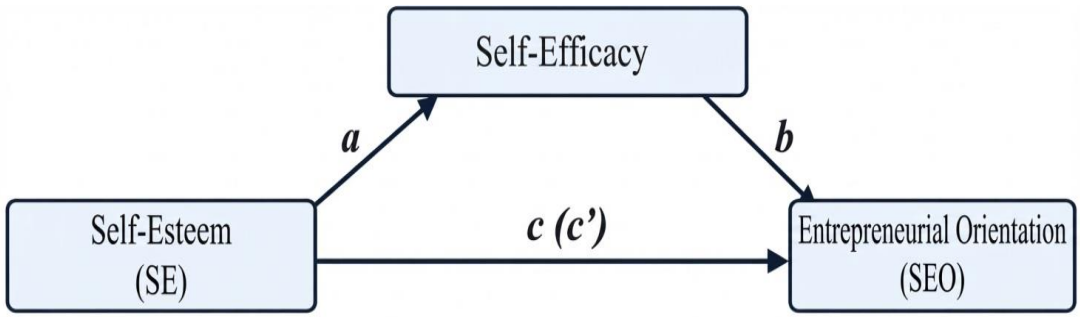


Figure (1): Illustrates the Study Model

2. Objectives of the Study

At the theoretical level, this study aims to establish clear definitions of the concepts of self-esteem and self-efficacy, while highlighting the distinction between the entrepreneurial spirit and entrepreneurial orientation.

At the practical level, and within the framework of a proposed integrative model, the study generally seeks to analyse the role of self-esteem in shaping entrepreneurial orientation, as well as the mediating role of self-efficacy. More specifically, the study aims to:

Identify the level of self-esteem among the study sample.

Assess the level of self-efficacy.

Measure the level of entrepreneurial orientation among the study sample.

Identify the nature of the relationship between self-esteem and entrepreneurial orientation, as well as the effect of self-esteem on entrepreneurial orientation among final-year university students.

Examine the mediating role of self-efficacy in the relationship between self-esteem and entrepreneurial orientation among final-year university students.

3. Significance of the Study

This study is of both theoretical and practical significance. From a theoretical perspective, it contributes to enriching the existing body of knowledge through clarifying the concepts of commonly used terms in the field of entrepreneurship, particularly entrepreneurial spirit and entrepreneurial orientation, given the terminological overlap between them. Its significance also lies in adopting an integrative model that links a psychological component, represented by self-esteem, to an economic behaviour, namely entrepreneurship.

This understanding can be further developed through the practical dimension of the study, which seeks to analyse the possible associations between self-esteem and the components of entrepreneurial orientation, with self-efficacy serving as a mediating variable. It also seeks to identify the levels of these

variables within the study sample in order to determine indicators that can be used in training programmes aimed at fostering the entrepreneurial spirit and supporting individual initiatives in business creation. This is also part of broader efforts to strengthen and promote an entrepreneurial culture among members of society.

4. Previous Studies

4.1. Zhao, Seibert & Hills (2005)

This study, entitled "The Mediating Role of Self-Efficacy in the Development of Entrepreneurial Intentions", sought to examine the mediating role of entrepreneurial self-efficacy in the development of students' intentions to become entrepreneurs.

The study was guided by a central research question: Does self-efficacy mediate the relationship between a set of variables and students' entrepreneurial intentions? It also sought to determine the extent to which self-efficacy can predict entrepreneurial intentions.

Using indirect mediation modelling based on structural equation modelling, the researchers collected data from a sample of 265 Master's students through questionnaires designed to measure the study variables.

The findings revealed that perceived learning from entrepreneurship courses, entrepreneurial experience, and risk-taking propensity had indirect effects on entrepreneurial intentions, with these effects being fully mediated by self-efficacy. In other words, these variables contribute to the development of entrepreneurial intentions only insofar as they strengthen individuals' beliefs in their ability to perform entrepreneurial tasks. By contrast, the findings regarding gender were contrary to expectations, as self-efficacy did not mediate its effect. Female students reported lower entrepreneurial intentions than their male counterparts, regardless of their level of perceived self-efficacy.

This study provides the theoretical foundation for the present research, from which we draw the rationale for positioning self-efficacy as a mediating variable within the explanatory framework. It also provides a basis for replacing environmental and experiential variables with self-esteem, a deeper psychological construct, and replacing entrepreneurial intention with a broader variable, namely entrepreneurial orientation, within a local context characterised by considerable challenges for final-year university students.

4.2. Gómez-Jorge et al. (2025)

This study, entitled "Success in Entrepreneurship: The Impact of Self-Esteem and Entrepreneurial Orientation", aimed to explore the relationship between self-esteem and entrepreneurial orientation, with particular emphasis on how self-esteem influences attitudes towards entrepreneurship, risk-taking propensity, and entrepreneurial success in newly established businesses.

The study adopted a quantitative exploratory approach based on a multiple-case study design. Semi-structured interviews were conducted with entrepreneurs and business owners operating across various economic sectors within newly established enterprises.

The researchers relied on the Gioia Method, a methodology consisting of three stages: first-order concepts, second-order themes, and aggregate theoretical dimensions. It is based on abductive reasoning to establish a connection between field observations and theoretical perspectives.

The study found significant relationships among the research variables, demonstrating that self-esteem has a positive effect on entrepreneurial orientation, which, in turn, mediates the relationship between self-esteem and entrepreneurial success. Entrepreneurs with higher levels of self-esteem were

found to display more positive attitudes towards entrepreneurship, a greater willingness to take risks, and a stronger ability to confront challenges and take initiative.

This study provides direct theoretical support for the relationship between self-esteem and entrepreneurial orientation. It also offers a methodological starting point for the present research, particularly through its recommendation to move towards quantitative verification of this relationship using a student sample in a different geographical and cultural context, while introducing an additional mediating variable.

4.3. Ben Cheikh, Boubaker Esseddik (2021)

This study, entitled "Entrepreneurial Education as a Moderator in the Relationship Between Entrepreneurial Orientation and Students' Entrepreneurial Intentions", aimed to examine the effect of entrepreneurial orientation on entrepreneurial intentions among university students, and subsequently to test the moderating effect of entrepreneurial education on this relationship.

This objective was developed in response to a central research question: Does a university student's entrepreneurial orientation influence their intention to establish a private business? Furthermore, does exposure to entrepreneurial education change the strength or direction of this relationship?

Using a sample of 371 university students, the researchers employed multiple linear regression analysis to examine the data collected through a questionnaire designed to measure entrepreneurial orientation, entrepreneurial intentions, and the level of exposure to entrepreneurial education.

The findings revealed a positive and statistically significant relationship between entrepreneurial orientation and students' intentions to establish their own businesses. The higher the student's level of entrepreneurial orientation in terms of autonomy, innovativeness, risk-taking, proactiveness, and competitiveness the stronger their entrepreneurial intentions. The findings also showed that entrepreneurial education moderates the relationship between entrepreneurial orientation and entrepreneurial intentions, highlighting the importance of specialised university training in strengthening the transformation of entrepreneurial inclinations into actual intentions.

This study shares common ground with the present research in adopting entrepreneurial orientation as a central variable among Algerian university students. This provides a basis for justifying its measurement as a dependent variable. However, the present study takes a step further by investigating the psychological determinants underlying the development of this orientation through the mediating role of self-efficacy.

4.4. Boudia & Boumedini (2025)

This study, entitled "The Relationship Between Entrepreneurial Self-Efficacy and Entrepreneurial Intention: A Field Study at the University of Tlemcen", aimed to analyse the effect of the five dimensions of entrepreneurial self-efficacy on entrepreneurial intentions among students at the University of Tlemcen. The study proceeded from the assumption that this form of self-efficacy develops through students' knowledge and previous experiences. It also sought to identify which dimensions are most capable of predicting students' entrepreneurial intentions and future career orientations.

The two researchers adopted a quantitative approach, collecting data through a questionnaire administered to a large sample of 1,706 students at the University of Tlemcen. The data were subsequently analysed using statistical regression through the JASP software programme to examine the ability of the five dimensions of entrepreneurial self-efficacy to predict entrepreneurial intentions.

The findings revealed a positive and statistically significant effect of all five dimensions of entrepreneurial self-efficacy opportunity identification, planning, resource gathering, financial resource

management, and human resource management on students' entrepreneurial intentions and future career orientations. These findings confirm that a richer range of perceived entrepreneurial experiences translates directly into psychological readiness and an intention to establish one's own business.

This study provides substantial support for the central role of self-efficacy in explaining entrepreneurial behaviour among university students. The present study, however, introduces a structural shift in the position of this variable, moving it from an independent variable to a mediating variable through which the effect of self-esteem on entrepreneurial orientation is transmitted.

5. Concepts and Terminology of the Study

5.1. Self-Esteem

The introduction of self-esteem as a concept into the field of modern psychology is largely attributed to the work of William James (1890). He viewed self-esteem as the outcome of the ratio between an individual's perceived successes and aspirations. In other words, self-esteem is equal to success divided by aspirations. The concept was subsequently expanded by Rosenberg and other scholars with the development of social psychology, eventually becoming an independent psychological construct that could be measured through psychological assessment.

In 1967, Coopersmith provided a behavioural definition of self-esteem, describing it as an evaluation that individuals hold about themselves and generally express through feelings reflecting competence, respect, and personal worth (Coopersmith, S., 1967).

As for Rosenberg (1965), he introduced one of the most influential definitions in psychological literature, giving self-esteem two complementary dimensions: a positive dimension, referring to an individual's feeling of being worthy, and a competence dimension, referring to the individual's sense of ability and acceptance.

The theoretical approaches to self-esteem can generally be examined through four major frameworks, which can be summarised as follows:

The Social Psychological Reflection Theory: Cooley (1902) described this through the concept of the Looking-Glass Self, according to which individuals develop their self-image through the way they perceive others' views of them.

Social Comparison Theory: Proposed by Festinger (1954), this theory holds that individuals construct their self-image through comparisons with others. Consequently, self-esteem is influenced by the reference group to which individuals belong or aspire to belong.

The Multidimensional and Hierarchical Model: Developed by Shavelson et al. (1976), this approach distinguishes between general self-esteem and domain-specific self-esteem. Accordingly, an individual may have high general self-esteem while experiencing low self-esteem in a particular domain.

Maslow's Hierarchy of Needs Theory: Proposed by Maslow (1943), this theory places self-esteem within the hierarchy of human needs and distinguishes between two separate needs: the need for esteem from others (respect, recognition, and status) and the need for self-esteem (competence, achievement, and mastery). The fulfilment of these needs represents an essential condition for reaching the highest level of the hierarchy, namely self-actualisation.

Self-esteem has thus come to be understood as a multidimensional construct comprising a cognitive dimension, relating to the beliefs individuals hold about their abilities and personal characteristics; an affective dimension, relating to feelings of self-acceptance and self-rejection; and a behavioural dimension, reflected in the way individuals deal with challenges and failure (Kernis, M. H., 2003).

5.2. Self-Efficacy

Self-efficacy theory has gained considerable prominence across various fields, ranging from education to health, and from sports to management. Today, it also constitutes one of the theoretical foundations for studying entrepreneurial behaviour. Bandura's work and subsequent research contributed to the development of the concept of Entrepreneurial Self-Efficacy (ESE), which refers to an individual's belief in their ability to perform tasks associated with establishing and managing an entrepreneurial venture, such as identifying opportunities, developing a new product, managing financial resources, marketing, and making decisions under conditions of risk (Chen et al., 1998).

Self-efficacy is rooted in Social Cognitive Theory (SCT), developed by Bandura (1986) as an alternative to stimulus-response theories of behaviour. This theory is based on the model of Triadic Reciprocal Determinism, which assumes a dynamic interaction between three dimensions: internal personal factors (knowledge, beliefs, and expectations), behaviour (the actions performed by the individual), and the external environment (material and social conditions). According to this theory, human behaviour can only be understood within the framework of this continuous interaction. Self-efficacy represents one of the most important mechanisms influencing this three-way relationship.

Self-efficacy plays a central role in these regulatory processes, as it determines the activities individuals choose to undertake, the level of effort they exert, and the degree of perseverance they demonstrate in the face of difficulties. The higher an individual's perceived self-efficacy, the more likely they are to undertake challenging tasks, persist in their efforts, recover from failure, and overcome obstacles.

Self-efficacy is developed through four sources, ranked according to their relative influence. The first and most influential source is Mastery Experiences, referring to an individual's previous successes in performing similar tasks. The second source is Vicarious Experiences, which individuals acquire by observing the success of others whom they perceive as similar to themselves and regard as role models. The third source is Verbal or Social Persuasion, which involves the encouragement and support individuals receive from trusted people, such as teachers, mentors, colleagues, and parents. Finally, the fourth source consists of Physiological and Affective States. Feelings of anxiety, tension, and fear negatively influence perceived self-efficacy, whereas positive emotional states and physical relaxation strengthen individuals' beliefs in their own abilities (Pfitzner-Eden, F., 2016).

5.3. Entrepreneurial Orientation

Entrepreneurial orientation refers to the processes, practices, and strategic decisions adopted by organisations or individuals to engage in new activities, whether through establishing new ventures or developing products within existing organisations.

The concept first emerged at the organisational level in the work of Miller (1983), who defined an entrepreneurial firm as one that engages in product innovation, market renewal, and risk-taking. It was subsequently developed by Lumpkin and Dess (1996), who introduced a conceptual framework distinguishing five dimensions of entrepreneurial orientation:

Innovativeness
Risk-Taking
Proactiveness
Autonomy
Competitive Aggressiveness
(Lumpkin & Dess, 1996).

Entrepreneurial orientation is therefore defined as the processes, practices, and strategic decisions adopted by organisations (or individuals) to enter new areas of activity, whether through establishing new ventures or developing new products and markets within existing organisations. The concept initially emerged at the organisational level in the work of Miller (1983), who defined an entrepreneurial firm as one that engages in product innovation and market renewal while assuming risks. It was later developed by Lumpkin and Dess (1996) in a seminal article that has become one of the most widely cited works in the field of strategic management. In this article, they introduced a conceptual framework distinguishing five dimensions of entrepreneurial orientation (Miller, 1983).

Part Two: The Practical Aspect of the Study

1. Study Population and Sample

The study population consisted of final-year Bachelor's and Master's students enrolled at the University Centre of Aflou, across various academic specialisations. The study was conducted on a sample of 245 male and female students who responded to the questionnaire items. Their distribution is presented in Table (1) below:

Table (1): Frequency Distribution of the Sample Members According to Gender and Academic Level

Variable	Category	Frequency	Percentage
Gender	Male	118	48.2%
	Female	127	51.8%
	Total	245	100%
Academic Level	Bachelor's Degree	138	56.6%
	Master's Degree	106	43.4%
	Unspecified	1	/
	Total	245	100%

2. Study Instruments

2.1. Self-Esteem Scale

The Rosenberg Self-Esteem Scale was adopted for this study. It was developed in 1965 by the American sociologist and psychologist Morris Rosenberg and is considered one of the most widely used scales in psychological and social research. The scale aims to assess an individual's sense of harmony with themselves and their ability to experience inner peace and self-satisfaction. It is used in research addressing mental health, emotions, and the self-perceptions of different communities. The Rosenberg Self-Esteem Scale typically consists of 10 short statements covering both the positive and negative dimensions of self-esteem (Jeradat, 2026).

2.2. Self-Efficacy Scale

The GSE-6 questionnaire was adopted for this study. It is a brief instrument consisting of six self-report items rated on a Likert scale to measure general self-efficacy. Designed to be suitable for cross-cultural use, it assesses respondents' beliefs in their ability to manage challenges, solve problems, and cope effectively with stressful situations. This scale is also a shortened version of the 17-item General Self-Efficacy Scale developed by Sherer et al. (1982), which aims to measure an individual's perceived ability to make an effort and succeed in accomplishing difficult tasks (Scholz et al., 2006).

2.3. Entrepreneurial Orientation Scale

The Individual Entrepreneurial Orientation (SEO) scale developed by Bolton and Lane (2012) was used to measure individual entrepreneurial orientation. It consists of nine items distributed across three dimensions: innovativeness, risk-taking, and initiative or proactiveness. The scale assesses individuals' tendency towards entrepreneurial behaviours and practices, whether within an existing organisation or in the process of establishing a new venture (Kaouache et al., 2024).

3. Psychometric Properties of the Study Instruments

A. Validity

Internal consistency validity was assessed using the corrected item-total correlation coefficient for each item. A value of 0.30 was adopted as the minimum acceptable threshold for internal consistency at significance levels of $\alpha = 0.01$ and $\alpha = 0.05$. Cronbach's alpha values after deleting each item (Alpha if Item Deleted) were also examined.

3.1. Self-Esteem

Table (2): Corrected Item-Total Correlations for the Self-Esteem Scale

Item	Corrected Item-Total Correlation	Significance Level (p)	Cronbach's Alpha if Item Deleted
SE1	0.650	< 0.001	0.906
SE2	0.687	< 0.001	0.903
SE3	0.673	< 0.001	0.904
SE4	0.692	< 0.001	0.903
SE5	0.662	< 0.001	0.905
SE6	0.679	< 0.001	0.904
SE7	0.715	< 0.001	0.902
SE8	0.714	< 0.001	0.902
SE9	0.676	< 0.001	0.904
SE10	0.652	< 0.001	0.906

The corrected item-total correlation coefficients for the Self-Esteem Scale range from 0.650 for item SE1 to 0.715 for item SE7. All correlations are statistically significant at $p < 0.001$ and exceed the reference threshold of 0.30 by a considerable margin. Furthermore, the Cronbach's alpha values expected if any item were deleted (ranging from 0.902 to 0.906) remain below the overall Cronbach's alpha value of 0.913, indicating that deleting any item would not improve the scale's reliability. The relatively high correlation coefficients, combined with the scale's relatively short length (10 items), suggest that the items measure a coherent aspect of self-esteem.

3.2. Self-Efficacy

Table (3): Corrected Item-Total Correlations for the Self-Efficacy Scale

Item	Corrected Item-Total Correlation	Significance Level (p)	Cronbach's Alpha if Item Deleted
PSE1	0.664	< 0.001	0.877
PSE2	0.720	< 0.001	0.867

PSE3	0.710	< 0.001	0.869
PSE4	0.708	< 0.001	0.869
PSE5	0.727	< 0.001	0.867
PSE6	0.707	< 0.001	0.870

The corrected item-total correlation coefficients for the Self-Efficacy Scale range from 0.664 for item PSE1 to 0.727 for item PSE5. All correlations are statistically significant at $p < 0.001$ and exceed the reference threshold of 0.30. The Cronbach's alpha values expected if individual items were deleted range from 0.867 to 0.877, remaining below the overall alpha value of 0.889. This indicates that deleting any item would not improve the scale's reliability. Given the relatively short length of the scale, the fact that each item has a correlation coefficient exceeding 0.66 suggests that every item captures a substantial proportion of the shared information underlying the construct of self-efficacy.

3.3. Entrepreneurial Orientation

Table (4): Corrected Item-Total Correlations for the Entrepreneurial Orientation Scale

Item	Corrected Item-Total Correlation	Significance Level (p)	Cronbach's Alpha if Item Deleted
SEO7	0.693	< 0.001	0.915
SEO8	0.776	< 0.001	0.910
SEO9	0.771	< 0.001	0.910
SEO10	0.716	< 0.001	0.914
SEO11	0.690	< 0.001	0.916
SEO12	0.766	< 0.001	0.911
SEO13	0.677	< 0.001	0.916
SEO14	0.724	< 0.001	0.913
SEO15	0.679	< 0.001	0.916

The corrected item-total correlation coefficients for the Entrepreneurial Orientation Scale range from 0.677 for item SEO13 to 0.776 for item SEO8. All correlations are statistically significant at $p < 0.001$. The Cronbach's alpha values expected if individual items were deleted range from 0.910 to 0.916, all of which are below the overall alpha value of 0.922. Therefore, deleting any item would not improve the scale's reliability.

B. Reliability

After verifying internal consistency at the item level, Cronbach's alpha was calculated for each scale using its valid cases (applying the listwise deletion principle within the items of each scale). Table (5) presents the results, along with an interpretation of each coefficient according to the commonly accepted criterion, which considers values of 0.90 or higher to indicate excellent reliability and values of 0.80 or higher to indicate good reliability (George & Mallery, 2003).

Table (5): Cronbach's Alpha Reliability Coefficients for the Study Scales

Scale Number of Items Cronbach's Alpha Interpretation

Self-Esteem	**10**	**0.913**	**Excellent**
Self-Efficacy	**6**	**0.889**	**Good**
Entrepreneurial Orientation	**9**	**0.922**	**Excellent**

Cronbach's alpha coefficients were 0.913 for the Self-Esteem Scale, 0.889 for the Self-Efficacy Scale, and 0.922 for the Entrepreneurial Orientation Scale. Accordingly, the reliability coefficients for self-esteem and entrepreneurial orientation are classified as excellent, while that of self-efficacy is classified as good and relatively high. These levels of reliability exceed the minimum threshold generally considered acceptable in psychometric research (0.70).

4. Statistical Analysis Methods

The Statistical Package for the Social Sciences (SPSS) was used to process the study data statistically. The following statistical methods were employed:

- Cronbach's alpha coefficient.
- Frequencies and percentages.
- Means and standard deviations.
- Simple and multiple linear regression analysis.
- SPSS PROCESS Macro, version 4.2.

The analyses were conducted using the Ordinary Least Squares (OLS) method.

5. Presentation and Discussion of the Study Results

5.1. Level of Self-Esteem Among the Study Sample

Table (6): Level of Self-Esteem Among the Sample Members (N = 244)

Indicator	Value	Level
Mean	29.68	Moderate (close to the upper limit of the category)
Standard Deviation	5.89	—
Minimum–Maximum	13.0–40.0	—
Relative Position of the Mean Within the Possible Range	65.6%	—
Low Category (10–less than 20)	11 (4.5%)	Low
Moderate Category (20–less than 30)	112 (45.9%)	Moderate
High Category (30–40)	121 (49.6%)	High

The mean self-esteem score was 29.68, with a standard deviation of 5.89, a minimum score of 13, and a maximum score of 40. The mean falls within the moderate category, which ranges from 20 to less than 30, but is very close to its upper limit (30). Its relative position represents 65.6% of the possible range. Regarding the distribution of participants, the largest proportion was classified in the high category (49.6%), followed by the moderate category (45.9%), and then the low category (4.5%).

The proportions of the moderate and high categories are quite close, with a difference of only 3.7 percentage points. This makes the most accurate description of the overall level one that is moderate, with a tendency towards high self-esteem. The relatively moderate standard deviation indicates genuine variation in participants' scores, ranging from high to low self-esteem, although the latter category includes relatively few participants.

These percentages may also be interpreted in relation to the characteristics of the study population. Final-year students have reached an advanced stage in their academic careers, during which they have accumulated experiences of success and comparative self-evaluation. This is consistent with the concentration of scores in the upper half of the range, without necessarily implying a causal explanation. Nevertheless, the mean's position close to the upper boundary of the moderate category, together with the fact that 45.9% of participants fall within the moderate category and 4.5% within the low category, indicates that the group is not homogeneous in terms of self-esteem. This variation may become relevant when examining the relationships between the study variables later on. In light of the study's research focus, this level provides a useful background for understanding the inferential findings that follow, since any weak relationship between self-esteem and entrepreneurial orientation is unlikely to result from a ceiling effect or a restricted range of scores.

5.2. Level of Self-Efficacy Among the Study Sample

Table (7): Level of Self-Efficacy Among the Sample Members (N = 245)

Indicator	Value	Level
Mean	19.71	High
Standard Deviation	3.94	—
Minimum–Maximum	8.0–24.0	—
Relative Position of the Mean Within the Possible Range	76.2%	—
Low Category (6–less than 12)	9 (3.7%)	Low
Moderate Category (12–less than 18)	61 (24.9%)	Moderate
High Category (18–24)	175 (71.4%)	High

The mean self-efficacy score was 19.71, with a standard deviation of 3.94, a minimum score of 8, and a maximum score of 24, which corresponds to the highest possible score. The mean falls within the high category (18–24), with a relative position of 76.2% of the possible range. Approximately three-quarters of the sample (71.4%) fall within the high category, compared with 24.9% in the moderate category and 3.7% in the low category.

The clear concentration of scores in the high category indicates a generally strong sense of self-efficacy among the sample members, although individual differences remain, as reflected in the standard deviation. It is worth noting that the observed maximum score reaches the scale's upper limit (24), indicating that some participants attained the ceiling score. This is a possible phenomenon in short scales with a limited number of response categories. In this context, the high level of self-efficacy is an important finding when testing the mediation hypothesis, as it shows that the proposed mediating

variable is relatively high among the students and that its distribution is negatively skewed. This finding makes it possible to examine whether self-efficacy is indeed influenced by self-esteem, as proposed by the mediation hypothesis, or whether it reflects a relatively high level that is independent of self-esteem.

5.3. Level of Entrepreneurial Orientation Among the Study Sample

Table (8): Level of Entrepreneurial Orientation Among the Sample Members (N = 245)

Indicator	Value	Level
Mean	29.72	High
Standard Deviation	5.75	—
Minimum–Maximum	9.0–36.0	—
Relative Position of the Mean Within the Possible Range	76.7%	—
Low Category (9–less than 18)	8 (3.3%)	Low
Moderate Category (18–less than 27)	64 (26.1%)	Moderate
High Category (27–36)	173 (70.6%)	High

The mean entrepreneurial orientation score was 29.72, with a standard deviation of 5.75, a minimum score of 9, and a maximum score of 36, which corresponds to the highest possible score. The mean falls within the high category (27–36), with a relative position of 76.7% of the scale range. Meanwhile, 70.6% of the participants were classified in the high category, 26.1% in the moderate category, and 3.3% in the low category.

This distribution reflects an overall high level of entrepreneurial orientation among final-year university students. It closely resembles the distribution pattern of self-efficacy, with both variables displaying an approximately negatively skewed distribution and a concentration in the upper category. This descriptive similarity between the distributions of the two variables suggests the strong relationship that will emerge in the correlation matrix, before any conclusions are drawn regarding causal modelling.

In other words, the similarity between the distribution patterns of self-efficacy and entrepreneurial orientation, together with the high levels recorded for both variables, provides an important context for assessing the study's hypotheses. High levels of both variables do not necessarily imply that a relationship exists between them; however, their descriptive similarity makes examining this relationship a relevant step in the analysis. By contrast, self-esteem recorded a moderate level tending towards high, showing a different pattern from the other two variables. This difference in the levels of self-esteem, on the one hand, and self-efficacy and entrepreneurial orientation, on the other, is consistent with the inferential analysis findings, which will reveal a statistical separation between self-esteem and the other two variables.

6. Differences According to Gender and Academic Level

Table (9): Results of Differences According to Gender and Academic Level

Demographic Variable	Study Variable	Category	Mean	Standard Deviation	Levene's Test (F, p)	t (df)	D	p	N

Gender	Self-esteem	Male	30.23	5.83	0.13, 0.717	1.41 (242)	0.18	0.160	118
		Female	29.17	5.92					126
Gender	Self-efficacy	Male	19.49	3.97	0.14, 0.713	-0.85 (243)	-0.11	0.395	118
		Female	19.92	3.93					127
Gender	Entrepreneurial orientation	Male	29.39	6.10	1.89, 0.171	-0.86 (243)	-0.11	0.390	118
		Female	30.02	5.42					127
Academic level	Self-esteem	Bachelor's degree	29.83	5.41	5.41, 0.021*	0.36 (200.6)*	0.05	0.718	138
		Master's degree	29.54	6.49					105
Academic level	Self-efficacy	Bachelor's degree	19.74	3.72	1.54, 0.216	0.19 (242)	0.02	0.848	138
		Master's degree	19.64	4.23					106
Academic level	Entrepreneurial orientation	Bachelor's degree	29.75	5.35	2.83, 0.094	0.15 (242)	0.02	0.878	138
		Master's degree	29.63	6.27					106

The results of the independent-samples t-test, following checks of distribution normality and homogeneity of variances, revealed no statistically significant differences at the 0.05 level between male and female students, or between Bachelor's and Master's students, in terms of self-esteem, self-efficacy, and entrepreneurial orientation.

The effect sizes ranged from 0.02 to 0.18, all below the conventional threshold for a small effect (0.20), indicating that the practical differences between the groups were limited.

Levene's test revealed a statistically significant difference in the homogeneity of variances for self-esteem according to academic level only ($F = 5.41$, $p = 0.021$). Accordingly, Welch's t-test was used for this comparison, while the conventional t-test was applied to the remaining comparisons. The findings indicate a relative similarity among the sample members across the three variables, with minor descriptive differences that do not reach statistical significance.

These findings support conducting an analysis of the relationships between self-esteem, self-efficacy, and entrepreneurial orientation across the entire sample. However, the absence of statistically significant differences alone should not be taken to mean that gender or academic level has no effect whatsoever.

Note: The comparisons included 243 cases for self-esteem and 244 cases for each of self-efficacy and entrepreneurial orientation, following the exclusion of the case with a missing value for academic level (Case No. 180).

7. Testing the Study Hypotheses

Before testing the two study hypotheses, the bivariate relationships among the three variables were examined using Pearson's correlation coefficient. This test was considered appropriate because the hypothesised relationships were linear, the variables were measured on a continuous interval scale, and the sample size was relatively large (N = 244, after listwise deletion of cases with missing scores on the three variables). Attention was also paid to the moderate deviation from normality, which does not substantially distort Pearson correlation coefficients at a sample size of this magnitude. Table (//) presents the correlation matrix along with the corresponding significance levels.

Table (10): Pearson Correlation Matrix Between the Study Variables (N = 244)

Variable	1	2	3
1. Self-esteem (X)	1	—	—
2. Self-efficacy (M)	-0.033 (p = 0.611)	1	—
3. Entrepreneurial orientation (Y)	-0.038 (p = 0.551)	0.902** (p < 0.001)	1

The correlation analysis revealed no statistically significant relationship between self-esteem and self-efficacy (r = -0.033, p = 0.611). Similarly, the relationship between self-esteem and entrepreneurial orientation was not statistically significant (r = -0.038, p = 0.551). The negative values, which are very close to zero, indicate a negligible linear association between these variables. By contrast, a very strong, positive, and statistically significant relationship was found between self-efficacy and entrepreneurial orientation (r = 0.902, p < 0.001). This relationship accounts for approximately 81.4% of the shared variance between the two variables. However, the strength of this correlation does not establish a causal relationship between them.

These findings provide little statistical support for the hypothesis concerning the relationship between self-esteem and entrepreneurial orientation. They also weaken the mediation hypothesis, given the lack of statistical significance in the first path linking self-esteem to self-efficacy. By contrast, the second path, linking self-efficacy to entrepreneurial orientation, may remain strong within the mediation model. The strength of this correlation calls for caution regarding possible overlap in the content of the items used in the two scales. The high correlation may also be associated with the effects of a common self-report measurement method or with unmeasured latent variables. Therefore, interpreting the final results requires examining the measurement instrument and the mediation model as a whole, rather than relying solely on simple correlation coefficients.

1. Discussion of the First Study Hypothesis

The first hypothesis states: "There is a statistically significant effect of self-esteem on entrepreneurial orientation among final-year university students."

This hypothesis was tested using simple linear regression, with self-esteem (X) as the independent variable and entrepreneurial orientation (Y) as the dependent variable. The analysis was conducted on cases with complete scores for both variables (N = 244). Tables (11) and (12) present the model summary and its coefficients.

Table (11): Summary of the Simple Linear Regression Model for Predicting Entrepreneurial Orientation from Self-Esteem

R	R^2	Adjusted R^2	Standard Error of the Estimate	F	df	p
0.038	0.001	-0.003	5.773	0.36	1, 242	0.551

Table (12): Coefficients of the Simple Linear Regression Model (Dependent Variable: Entrepreneurial Orientation)

Predictor	B	Standard Error	Beta (β)	t	p
Constant	30.83	1.90	—	16.20	< 0.001
Self-esteem	-0.038	0.063	-0.038	-0.60	0.551

The examination of the relationship between self-esteem and entrepreneurial orientation revealed a non-significant correlation coefficient ($r = -0.038$, $p = 0.551$, $N = 244$), as well as a non-significant simple regression model ($F(1, 242) = 0.36$, $p = 0.551$), with a coefficient of determination of $R^2 = 0.001$.

Accordingly, it was concluded that self-esteem has no statistically significant effect on entrepreneurial orientation at the 0.05 level. Therefore, the first hypothesis is not supported by the data.

This finding means that self-esteem, as measured in this dataset by the total score of its ten items, does not contribute to explaining variation in entrepreneurial orientation among the sample members beyond what might be attributed to sampling chance. The observed relationship is slightly negative and so close to zero that it is practically negligible. Given the high measurement reliability of both variables, the sufficient spread of their scores, and the relatively large sample size, the lack of statistical significance is unlikely to be attributable to measurement error or insufficient statistical power. Rather, it reflects the absence of an association between the two variables in this particular dataset.

This finding can be interpreted in light of the well-established conceptual distinction in the literature on self-related constructs. Self-esteem is a general evaluative construct concerning one's sense of self-worth (Rosenberg, 1965), whereas self-efficacy is a domain-specific construct relating to an individual's judgements about their ability to perform particular tasks (Bandura, 1977, 1997). Entrepreneurial orientation, in turn, concerns inclinations and readiness towards a specific domain of behaviour, namely entrepreneurship. From this perspective, a generally positive self-evaluation does not necessarily translate into a behavioural inclination towards a risky and demanding field such as entrepreneurship. Social Cognitive Theory suggests that the determinants closest to behaviour are domain-specific efficacy beliefs rather than global self-evaluations. The findings of the present study are consistent with this view: entrepreneurial orientation was strongly associated with self-efficacy but was not associated with self-esteem. Furthermore, meta-analytic findings in the literature on entrepreneurial personality suggest that the associations between general personality traits and self-evaluations, on the one hand, and entrepreneurial outcomes, on the other, tend to be modest (Rauch & Frese, 2007). This general pattern is consistent with the findings of the present study, although the cited literature does not provide a direct comparison with it.

2. Discussion of the Second Study Hypothesis

The second hypothesis states: "Self-efficacy mediates the relationship between self-esteem and entrepreneurial orientation among final-year university students."

This hypothesis was tested using Model 4 of the PROCESS macro, version 4.2 (Hayes, 2022), with self-esteem as the independent variable (X), self-efficacy as the mediator (M), and entrepreneurial orientation as the dependent variable (Y). The analysis used bootstrap resampling with 5,000 samples and a 95% percentile confidence interval. It was conducted on cases with complete scores for all three variables (N = 244).

Table (13): Paths of the Mediation Model (Model 4): Unstandardised Coefficients and Conventional Confidence Intervals

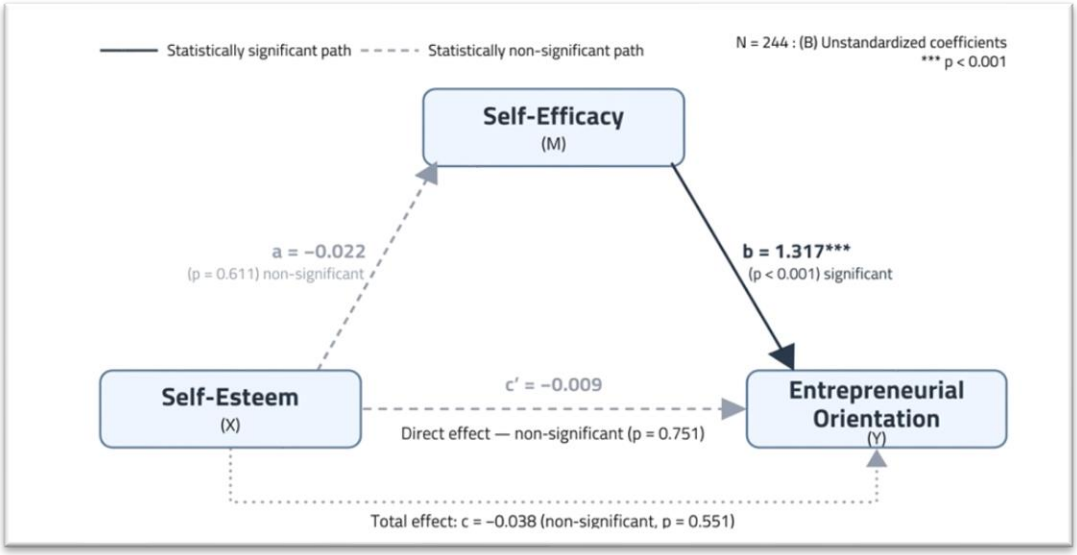
Path	B	SE	t	p	LLCI	ULCI
a: Self-esteem → Self-efficacy	-0.022	0.043	-0.51	0.611	-0.106	0.063
b: Self-efficacy → Entrepreneurial orientation (controlling for self-esteem)	1.317	0.041	32.44	< 0.001	1.237	1.396
c: Total effect (Self-esteem → Entrepreneurial orientation)	-0.038	0.063	-0.60	0.551	-0.161	0.086
c′: Direct effect (after including the mediator)	-0.009	0.027	-0.32	0.751	-0.062	0.045

Table (14): Indirect Effect of Self-Esteem on Entrepreneurial Orientation Through Self-Efficacy (5,000 Bootstrap Samples, 95% Confidence Interval)

Indirect Effect	Effect	BootSE	BootLLCI	BootULCI	Decision
Self-Esteem → Self-Efficacy → Entrepreneurial Orientation	-0.029	0.058	-0.143	0.085	Not significant (the confidence interval includes zero)

The mediation model (PROCESS Model 4, version 4.2, using 5,000 bootstrap resamples and a 95% percentile confidence interval) showed that the path from self-esteem to self-efficacy was not significant (\(a = -0.022\), \(SE = 0.043\), \(t = -0.51\), \(p = 0.611\)). The path from self-efficacy to entrepreneurial orientation, controlling for self-esteem, was strongly significant (\(b = 1.317\), \(SE = 0.041\), \(t =

32.44\), \(p < 0.001\)). The total effect was not significant (\(c = -0.038\), \(p = 0.551\)), nor was the direct effect (\(c' = -0.009\), \(p = 0.751\)). The indirect effect (\(a \times b = -0.029\)) had a bootstrapped standard error of \(0.058\), and its confidence interval included zero (upper limit = 0.085).



Since the bootstrap confidence interval for the indirect effect includes zero, the indirect effect is not statistically significant, indicating that there is no mediation, either full or partial. Accordingly, the second hypothesis is not supported by the data. This conclusion is based on the indirect effect and its confidence interval, in accordance with contemporary approaches to mediation analysis (Hayes, 2022; Zhao et al., 2010), rather than relying solely on the conditions proposed by Baron and Kenny (1986).

Therefore, the second hypothesis receives no empirical support: self-efficacy does not statistically mediate the relationship between self-esteem and entrepreneurial orientation in this sample. This conclusion is based on the bootstrap confidence interval for the indirect effect, rather than on the traditional Baron and Kenny (1986) conditions, whose methodological limitations have been demonstrated in more recent literature.

The strong \(b\) path, however, warrants careful interpretation. It confirms the association between self-efficacy and entrepreneurial orientation when self-esteem is controlled for, but it does not indicate the existence of a mediating mechanism through which self-esteem exerts an effect, since the effect that the mediator was expected to transmit is not present in the first place. Figure (2) presents the model with its actual path coefficients.

Conclusion

This study sought to examine the relationship between self-esteem and entrepreneurial orientation among final-year university students, while testing the mediating role of self-efficacy. It was based on the distinction between an individual's general evaluation of their personal worth and their belief in their ability to perform tasks and overcome challenges. The findings revealed high levels of self-efficacy and entrepreneurial orientation, alongside a moderately high level of self-esteem, with no statistically significant differences according to gender or academic level. The results also showed no statistically significant relationship between self-esteem and entrepreneurial orientation, and did not support the mediating role of self-efficacy in this relationship. By contrast, a very strong positive correlation emerged between self-efficacy and entrepreneurial orientation.

This finding reinforces the importance of distinguishing between a general sense of self-worth and the belief in one's ability to perform tasks associated with entrepreneurial activity. It is consistent with the social cognitive theory's emphasis on the role of efficacy beliefs in guiding behaviour. The study thus puts forward a concise message with policy implications: entrepreneurial orientation among final-year university students is supported by their beliefs in their ability to perform entrepreneurial tasks, rather than by their general sense of personal worth. This distinction enables educators, policymakers, and programme designers to direct limited training resources towards the effective psychological lever self-efficacy and to develop evaluation frameworks that monitor outcomes related to building efficacy rather than those related to self-esteem. These research findings also contribute to ongoing efforts to establish a sustainable entrepreneurial culture within higher education as a pathway towards development.

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