

Analysis of the influence of self-efficacy on entrepreneurial intentions

Análisis de la influencia de la auto-confianza en las intenciones emprendedoras

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ABSTRACT

This study is aimed to investigate the moderating role of gender in the relationship between self-efficacy and the development of individual intentions to become entrepreneurs in a group of people in Barranquilla-Colombia. Entrepreneurial self-efficacy (ESE) is viewed as having the capabilities that can modify a person's belief in his or her likelihood of completing the tasks required to successfully initiate and establish a new business [1]. According to expectations, the relationship between entrepreneurial intentions and self-efficacy was not moderated by gender. The author discusses practical implications and directions for future research.

Keywords: Entrepreneurship, new ventures, entrepreneurial self-efficacy, entrepreneurial intentions.

RESUMEN

El presente estudio tiene como objetivo investigar el efecto moderador del género en la relación entre auto-confianza y el desarrollo de intenciones emprendedoras de un grupo de personas en Barranquilla-Colombia. La auto-confianza emprendedora (ESE, por sus siglas en inglés) es considerada como el conjunto de capacidades que pueden modificar la confianza de una persona para desarrollar las tareas requeridas para iniciar y establecer de manera exitosa un nuevo negocio [1]. De acuerdo con lo esperado, la relación entre intenciones emprendedoras y auto-confianza no está moderada por el género. El autor propone implicaciones prácticas y directrices para investigaciones posteriores.

Palabras clave: Emprendimiento, nuevas empresas, auto-confianza emprendedora, intenciones emprendedoras.

1. INTRODUCTION

According to Global Entrepreneurship Monitor [2], entrepreneurship has an important role in a country's economy, contributing providing for the creation of new businesses or business opportunities in companies that already exist.

Therefore, entrepreneurship carries a series of advantages for the countries/regions, with the creation of new businesses that generate more investments in the local economy, creates new jobs, and increases competitiveness by developing innovative working tools. This way, this phenomenon is considered a major element in fostering the dynamics of an economy and bringing new types of competitive business [3].

Virtanen [4] considers entrepreneurship as a dynamic process aimed to create value in the market, through the exploration of economic innovations. The entrepreneur, by creating value and by exploring innovative processes, is also contributing for the growth of their business and the economy.

The conception of entrepreneurship has been analyzed from several criteria: one involves the knowledge and the individual's capacity of recognizing economic opportunities in the market, which may be exploited through the creation of a new business; other criteria involves the economic behavior and the creation of the new business in order to aggregate the economic value to knowledge [5]. Bygrave and Hofer [6] and Bygrave [7], state that entrepreneurship is a process which involves all the functions and activities related to the individuals' perception of opportunity and respective creation of enterprises in order to undertake these opportunities. Involves several precedent conditions and is started by an act of willingness, occurring at an individual level, implies a state of change and uniqueness, and its final results are sensitive to the initial conditions.

Philipsen [8] proposes that the individuals with propensity for entrepreneurship have certain characteristics which distinguishing them from the remaining individuals. These theories seek to identify the key-features of successful entrepreneurs, including psychological, sociological and anthropological variables.

Then, entrepreneurs are considered the center of new venture creation, and are individuals who capitalize intellectual and physical assets in the process of wealth creation by discovering and transforming unique opportunities into new ventures.

Different studies establish that propensity for entrepreneurship depends on several factors. In this article, I

analyze the self-efficacy as a factor that influences the individual entrepreneurial intentions.

Self-efficacy, according to Bandura [9], is the conviction that one can successfully execute the desired behavior (e.g., successfully launch a business) required to produce an outcome. Bandura [9] contended that role model influence occurs primarily through mastery of experiences (repeated performance accomplishments), observational learning (observing rather than direct involvement), and social persuasion (convincing that tasks can be performed).

Building on Shapero [10] and Ajzen [11], Krueger, Reilly & Carsrud [12] asserted that intentions predict entrepreneurship better than personality traits and situations and that "a strong intention to start a business should result in an eventual attempt, even if immediate circumstances... may dictate a long delay."

Even though, according to the Zhao, Seibert, & Hills [13] results that provided evidence that individuals choose to become entrepreneurs most directly because they are high in entrepreneurial self-efficacy—the belief that they can succeed in this role, gender was not related to entrepreneurial self-efficacy but was directly related to entrepreneurial intentions such that women reported lower intentions to become an entrepreneur than men. However, gender could play an important moderating role of the relationship between Entrepreneurial self-efficacy and entrepreneurial intentions. To summarize, the present study seeks to analyze the nature of moderation –if there is- of gender to the relationship between Entrepreneurial self-efficacy and entrepreneurial intentions.

2. SELF-EFFICACY

While relatively new to research on entrepreneurship, self-efficacy is widely recognized as a key construct in social learning theory [14], a perspective which assumes that behavior, cognitions, and the environment continually influence each other in the mindset of individuals [1,14]. Self-efficacy refers to people's judgments regarding their ability to perform a given activity [1,14,9] and is proposed to influence individual choices, goals, emotional reactions, effort, ability to cope, and persistence [15].

Bandura [9] defined self-efficacy as the task-specific consideration of perceived fitness to perform a particular activity. In the case of entrepreneurship, entrepreneurial self-efficacy may be comprised of deliberation of those tasks that relate to the initiation and development of new ventures. One way to identify these tasks is to think about the basic functional areas of business.

For instance, a study by Scherer, Adams, Carley, and Wei-be [16] operationalized entrepreneurial self-efficacy as expertise in accounting, production, marketing, human resources, and general organizational skills. However, this approach is limited because proficiency in all of areas could not be required for all new ventures.

Therefore, a different approach to clarifying entrepreneurial efficacy is to consider the broader human competencies associated with new venture development. This is based on the postulation that human competency assessments are less dependent on the specification and complexity of particular new venture entry domains. Drawing from writings by Mintzberg & Waters [17] and Chandler & Jansen [19] identified five such competencies based on the three primary roles of the entrepreneur: the entrepreneurial, managerial, and technical-functional. The idea is that both an industrial manufacturer and a hot-dog cart operator must assume all of these roles while initiating their firms, regardless of the scope or scale of their ventures.

In the entrepreneurial role, business founders examine their environment and listen to their customers to find new opportunities, and devise methods to exploit opportunities for the benefit of a new firm [17]. Two competencies are involved here. First, entrepreneurs must possess the human/conceptual competency to recognize unique opportunities, and second, they require the drive to take the venture from conceptualization through to fulfillment [18,19,20]. In the managerial role, there are also two broad competencies: leadership and organizational skills [20], and the political competence to procure the support of network members [20]. In the technical-functional role, business founders must have some specialized expertise in the industry within which the firm will operate [18,21].

On the other hand, Boyd and Vozikis [22] and Krueger and Brazeal [23] helped lodge the notion of self-efficacy firmly in the entrepreneurship literature by suggesting that perceptions of entrepreneurial self-efficacy could contribute significantly to an individual's deliberations about whether, or not, to pursue an entrepreneurial career.

Even before the appearance of these seminal pieces, Chandler and Jansen [18] conducted research on business founders' self-assessments of "proficiency in the entrepreneurial function."

A strength of this research was their development of a scale measuring five human competencies associated with the entrepreneurial, managerial, and technical-functional roles of business founders [18,21,24]. Chandler and Jansen [18] demonstrated that founders of the most successful firms in their sample rated themselves higher than others on capabilities associated with all three of these roles.

More newly, Chen, Greene and Crick [25] operationalized entrepreneurial self-efficacy (ESE) as self-assessed "certainty" in dealing with 26 specific tasks identified from prior literature and interviews with several local entrepreneurs concerning key entrepreneurial roles. After gathering self-ratings on these tasks from students and business owners/executives, they used factor analysis to combine them into five categories including marketing, innovation, management, risk taking, and financial control. They also created an overall "ESE" measure, by taking the mean over all 26 items. Their findings showed that among students, overall ESE was significantly correlated with the stated intention to start a business. Among business executives, those who were founders rated themselves higher on total ESE and particularly, on innovation and risk-taking, than did nonfounders.

2.1. Entrepreneurial Self-Efficacy and Entrepreneurial Intentions

Self-efficacy is a construct indicating that behavior, cognition, and the environment influence each other in a dynamic fashion, thus allowing individuals to form beliefs about their ability to perform specific tasks [14]. Entrepreneurial self-efficacy (ESE) is, therefore, viewed as having the capabilities that can modify a person's belief in his or her likelihood of completing the tasks required to successfully initiate and establish a new business venture [1]. More specifically, entrepreneurial self-efficacy is defined as the degree to which one believes that he or she is able to successfully start a new business venture.

Past research can be used to link entrepreneurial self-efficacy and entrepreneurial intentions. Hackett and Betz [26] projected that Bandura's [14] theory of self-efficacy may be applied to determine the vocational inclinations of individuals. In fact, career self-efficacy was found to be the most important predictor of males' intentions to pursue careers in traditionally female occupations [27]. In relation to entrepreneurship, individuals with high levels of entrepreneurial self-efficacy may also have strong occupational intentions for an entrepreneurial career. Lent, Brown, and Hackett [28] applied self-efficacy in a social cognitive framework [1] to explain three aspects of generalized career development: (1) the formation of career-relevant interests, (2) selection of a career choice option (intentions), and (3) performance and persistence in the selected occupation. Lent, et al [28] found that self-efficacy was significantly related to career interests, career choice goals (intentions), and occupational performance. However, Lent, et al [28] also found that self-efficacy is the sole mediator between a person's abilities and his or her career interests. These three findings taken together can be interpreted as meaning that self-efficacy may be used to predict the intended career-related intentions and behavior of

individuals. It has been established that self-efficacy is the major influence on career-related behavior in Bandura's [1] social cognitive theory [28].

Since social cognitive theory proposes that individuals choose to undertake tasks in which they are confident, comfortable, and perceive competence [1], this study hypothesizes that individuals who maintain relatively high entrepreneurial intentions will place significant weight on their perception of fitness for entrepreneurial competencies (highly entrepreneurial self-efficacious).

Intent is a dependable predictor of human behavior in an assortment of circumstances, and has been deemed by many to represent the most successful forecaster of human attitudes and action [11,12]. Intentions are assumed to capture the essence of stimulating factors that influence behavior. They are signals of how intensely individuals are prepared to perform and how much effort they are prepared to commit to carry out the expected behavior. Basically, the more robust the intent, the more probable it is to be able to foretell the anticipated behavior [11]. Past research [29] found that intentions explained sixty-seven percent of the variance in behavior and path analysis confirmed that the association between attitudes and behavior is fully explained by the attitude—intention and intention—behavior links [12].

Empirical findings indicate that self-efficacy is highly involved in the career decision-making process. By other hand, Zhao, Seibert and Hill [13] developed a study focused to develop and test a set of hypotheses in which entrepreneurial self-efficacy mediates the relationship between individual-level antecedent factors and entrepreneurial intentions.

The Zhao and colleagues' results provided evidence that individuals choose to become entrepreneurs most directly because they are high in entrepreneurial self-efficacy—the belief that they can succeed in this role. Also, their results supported the critical mediating role of entrepreneurial self-efficacy in entrepreneurial intentions for three of the four antecedent variables (perceptions of formal learning, entrepreneurial experience, risk propensity and gender).

However, in previous work, Boyd and Vozikis [22] developed a theoretical model in which self-efficacy was proposed as a critical antecedent of entrepreneurial intentions and behavior.

Otherwise, McGee, Peterson, Mueller and Sequeira [30] developed a study aimed to refine and standardize the Entrepreneurial Self-efficacy (ESE) measurement, because of its inclusion in several studies on entrepreneurial motivation, intentions, and behavior.

One of these personal attributes, entrepreneurial self-efficacy (ESE), appears to be a particularly important antecedent to new venture intentions [13,22,31]. ESE is a construct that measures a person's belief in their ability to successfully launch an entrepreneurial venture [30]. ESE is particularly useful since it incorporates personality as well as environmental factors, and is thought to be a strong predictor of entrepreneurial intentions and ultimately action [31,32].

By other hand, according to the Zhao and colleagues' [13] results, gender was not related to entrepreneurial self-efficacy but was directly related to entrepreneurial intentions such that women reported lower intentions to become an entrepreneur than men. Then, I state that gender does not moderate the relationship between self-efficacy and the development of individual intentions to become entrepreneurs.

Hypothesis 1. Gender does not moderate the relationship between Entrepreneurial self-efficacy and entrepreneurial intentions.

I expected to find an ordinal interaction. I expected to find a similar relationship between Entrepreneurial self-efficacy and entrepreneurial intentions reported by women and by men.

3. METHOD

Sample and Procedure

61 undergraduate students were surveyed. All students included in the sample have taken the Entrepreneurship course.

Measures

Gender. Subjects were asked to report their gender. Men were coded as 1, and women were coded as 2. I conservatively assumed perfect reliability in subsequent analyses.

Entrepreneurial Self-efficacy. To measure Entrepreneurial Self-efficacy, I elected to follow Mueller and Goic [33] by defining entrepreneurial tasks within a venture creation process model. This model was first proposed by Stevenson, Roberts, & Grousbeck [32] and divides entrepreneurial activities into four phases. These phases are named (1) searching, (2) planning, (3) marshaling, and (4) implementing personal and financial [33].

A 19-item survey instrument was administered to the sample of students. Respondents were asked to indicate on a 5-point Likert scale (1 = *very little*, 5 = *very much*) how much confidence they have in their ability to engage in each of the 19 entrepreneurial tasks. These items were taken from the McGee et al's study.

The *searching* phase involves the development of an idea and/or identification of a special opportunity. This phase draws upon the entrepreneur’s creative talents and the ability to innovate. Entrepreneurs, in contrast to managers, are particularly adept at perceiving and exploiting opportunities, before these opportunities are recognized by others [34]. The three items involved in this phase were averaged to form an overall measure ($\alpha = .829$).

The *planning* phase consists of activities by which the entrepreneur converts the idea into a feasible business plan. At this phase, the entrepreneur may/ may not write a formal business plan [33]. However, he or she must evaluate the idea or business concept and build a business model. The four items involved in this phase were averaged to form an overall measure of planning ($\alpha = .708$).

The *marshaling* phase implies assembling resources to realize the venture. To bring the business into existence, the entrepreneur looks for necessary resources such as capital, labor, customers, and suppliers without which the venture cannot exist or sustain itself [33]. The three items involved in this phase were averaged to form an overall measure of marshaling ($\alpha = .769$).

At the *implementing* phase, the entrepreneur is responsible for growing the business and sustaining the business past its infancy. To this end, the successful entrepreneur applies good management skills and principles. As an executive-level manager, the entrepreneur engages in strategic planning and manages a variety of business relationships with suppliers, customers, employees, and providers of capital. Growing an Enterprise requires vision and the

ability to solve problems quickly and efficiently. [33]. Six items were averaged to form an overall measure of personnel implementing ($\alpha = .870$). Other three items were averaged to form an overall measure of financial implementing ($\alpha = .882$).

Entrepreneurial intentions. I used four items to measure entrepreneurial intention, in order to determine how interested were students in engaging in prototypical entrepreneurial activities (starting a business, acquiring a small business, starting and building a high-growth business, and acquiring and building a company into a high-growth business) in the next 5 to 10 years. A 5-point Likert scale was used, ranging from 1 (*very little*) to 5 (*a great deal*). The four items were averaged to form an overall measure of entrepreneurial intentions ($\alpha = .820$).

4. ANALYSES

I conducted hierarchical multiple regression to test for the moderating role of gender. In step 1 of the model, I entered the predictors variables and moderator in my study: confidence in searching, confidence in planning, confidence in marshaling, confidence in personnel implementing, confidence in financial implementing, and gender. Then, on step 2, I entered the product of these variables (moderator variables was recoded and predictors were centered in order to eliminate multicollinearity problems).

Results

Means, standard deviations, and correlations for all variables are shown in Table 1.

Table 1. Means, Standard Deviations, Correlations, and Reliabilities of Study Variables

Variable	M	SD	1	2	3	4	5	6	7
1. Gender ^a	.33	.47	(1.00)						
2. Confidence in searching	3.74	.83	-.096	(.829)					
3. Confidence in planning	3.56	.69	-.041	.267*	(.708)				
4. Confidence in marshaling	3.80	.73	-.083	.403**	.358**	(.769)			
5. Confidence in personnel implementing	4.28	.58	.128	.297*	.178	.536**	(.870)		
6. Confidence in financial implementing	4.02	.95	-.266*	.073	.320*	.098	.195	(.882)	
7. Entrepreneurial Intentions	4.00	.84	-.122	.376**	.147	.177	-.178	.080	(.820)

Note. N= 61. Internal reliabilities are in parentheses.

^a Male= 1; female= 2. ^b Reliability estimated

*p< .05. **p< .01

The results of the hierarchical regression are presented below. The standardized betas and some general statistics about the two models are presented in Table 2. The variables: confidence in searching, confidence in planning, confidence in marshaling, confidence in personnel implementing, confidence in financial implementing, and gender, were entered at step 1 in the regression explain a significant amount of the variance in Entrepreneurial intentions (R^2 , $F(6, 54) = .28$, $p < .05$). Adding the product of predictor variables and gender on the last step resulted in little improvement in the prediction of Entrepreneurial intentions (R^2 , $F(11, 49) = .36$, *ns*) and $\Delta R^2 = .07$ for Step 2, *ns*.

In the first model, confidence in searching ($\beta = .41$, $p < .01$) and confidence in personnel planning ($\beta = .46$, $p < .01$) are significant predictors of entrepreneurial intentions. In the second model, these variable still being significant predictor together to confidence in marshaling ($\beta = .33$, $p < .01$). Since none of the weights associated with the interaction term is significant, I infer that gender does not moderates the relationship between Entrepreneurial self-efficiacy and Entrepreneurial intentions, then Hypothesis 1 was not supported.

Table 2. Coefficients of Hierarchical Multiple Regression Analysis

Variables		b	SE b	β
Step 1	Constant	4,017	,103	
	Gender	,027	,111	,030
	Searching	,410	,130	,406**
	Planning	-,012	,161	-,009
	Marshaling	,292	,174	,255
	Personnel Implementing	-,666	,209	-,463**
	Financial Implementing	,111	,115	,126
Step 2	Constant	4,063	,116	
	Gender	,060	,116	,068
	Searching	,388	,132	,385**
	Planning	,002	,164	,002
	Marshaling	,381	,191	,332*
	Personnel Implementing	-,766	,249	-,532**
	Financial Implementing	,141	,119	,161
	Searching* Gender	,168	,132	,166
	Planning* Gender	,094	,164	,077
	Marshaling* Gender	-,160	,191	-,139
	Personnel Implementing* Gender	-,308	,249	-,213
	Financial Implementing* Gender	,029	,119	,032

Note. $R^2 = .28$ for Step 1; $\Delta R^2 = .07$ for Step 2. * $p < .05$. ** $p < .01$

5. DISCUSSION

Zhao et al [13] found that gender was not related to entrepreneurial self-efficacy but was directly related to entrepreneurial intentions such that women reported lower intentions to become an entrepreneur than men.

My study focused on one cognitive factor: self-efficacy, determining entrepreneurial intentions mediated by gender. My results do not provide evidence to consider gender as a mediator in the relationship between self-efficacy and the development of individual intentions to become entrepreneurs. This is women and men reported equal intentions to become entrepreneur predicted from self-efficacy in terms of confidence in searching a new idea for a product or service (coming up with a new idea, design a product or service that will satisfy customer needs and wants), confidence in planning (estimate customer demand for a new product or service, determine a competitive price for a new product or service, design an effective marketing/advertising campaign for a new product or service), confidence in marshaling (get others to identify with and believe in visions and plans for a new business, and network), confidence in implementing personnel management strategies (supervise, recruit and hire employees, delegate tasks and responsibilities, inspire, encourage, motivate and train employees), and confidence in implementing financial strategies.

5.1. Theoretical and Practical Implications

Hisrich [35] stated that for the woman entrepreneur, the risk is greater as she has the additional problems of being in a male-dominated arena, having few role models, and lacking confidence in her business skills. Instead, my results provide evidence to conclude that women are self-confident in their abilities required to the initiation and development of new ventures. In conclusion, my study showed that women did not differ from men in terms of entrepreneurial self-efficacy and yet were equal likely to intend to become an entrepreneur. This is women seems to feel as capable of performing entrepreneurial tasks as men (i.e., they have the same level of entrepreneurial self-efficacy).

5.2. Limitations and Directions for Future Research

One limitation of this study is the use of only self-report measures. Although some of the constructs are conceptualized as self-reports (e.g., entrepreneurial self-efficacy), a second source of data would be particularly useful for other variables. Alumni could be surveyed in future research.

A second limitation is the use of a behavioral intention measure as the dependent variable. The link between

behavioral intention and subsequent behavior, even for complex behaviors demanding planning continuous activities, is established in theory and supported by extensive empirical research [11]. Because becoming an entrepreneur is widely viewed as an intentional behavior [36], it is important to understand the factors that produce this intention, regardless of the factors that may subsequently prevent the intention from becoming a reality [13]. However, longitudinal research that examines who, taking into account gender, actually becomes an entrepreneur from the initially surveyed is an important direction for future research.

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