
Entrepreneurial Passion and Self-Efficacy as Factors Explaining Innovative Behavior: A Mediation Model

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Abstract:

Purpose: *Dynamic and successful entrepreneurs and an enabling business environment are necessary if a company has to grow sustainably. However, research on the most important factors for entrepreneurs to be successful is still scarce. This paper analyzes the mediating effect of entrepreneurial passion - a key trait in successful entrepreneurs - on the relationship between entrepreneurial self-efficacy and innovative behavior.*

Design/Methodology/Approach: *Partial least squares structural equation modeling (PLS-SEM) was used in a sample of 358 participants in the same number of companies.*

Findings: *Results show that there is a significant complementary mediation effect of entrepreneurial passion on the relationship between entrepreneurial self-efficacy and innovative behavior.*

Practical Implications: *This finding is important in order to further advance the understanding of the direct and indirect causes of entrepreneurial behavior.*

Originality/Value: *Finally, this is especially important for understanding innovative behavior in an emerging economy with particular cultural, macro-economic and social characteristics.*

Keywords: *Entrepreneurs, entrepreneurial passion, entrepreneurial self-efficacy, innovative behavior, emerging economy.*

JEL codes: *M21.*

Paper type: *Research article.*

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1. Introduction

Business activity drives the development and economic growth of a country. The Global Entrepreneurship Monitor (2018) concludes that the necessary conditions to develop entrepreneurship are entrepreneurial education, social standards and culture. However, these conditions are focused on the business environment. It is also necessary to know what personal traits have important effects on the efficacy of entrepreneurs to innovate, and thus contribute to the creation and management of successful companies. This study was carried out in Peru at one of the most creative and successful clusters: the Gamarra textile cluster (GTC), where more than 80 thousand small, medium and large-size companies compete with formidable competitors from Asia and the rest of Latin America. The purpose of this study is to analyze the mediating effect of entrepreneurial passion (EP) - a key trait in successful entrepreneurs - on the relationship between entrepreneurial self-efficacy (ESE) and innovative behavior (IB).

While there has been extensive research on the relationship of these variables, this research aims to answer some omissions that still persist, such as the implications of EP as mediator between ESE and IB. Important research carried out by *Newman et al.* (2018) recommends the use of the variable EP as a mediator between ESE and IB, precisely the variables that motivate this research. In addition to this, research by *Ahlin et al.* (2013), *Chen and Zhou* (2017), *Hong-Da et al.* (2014), *Miao et al.* (2017a), and *Tsai et al.* (2014) highlight the need to carry out research leading to a better understand of the mediation of EP in different relationships.

The present research takes *Newman et al.* (2018) as a departing point, using data collected in 2020 from entrepreneurs in 358 medium and large companies located in the GTC. It also presents a review of theoretical models used in the research instrument used to collect the data. It then presents the empirical model used and the results, discussion and conclusions.

2. Theoretical background

2.1 Entrepreneurial Self-Efficacy

This study supports theoretical assumptions in Bandura's social cognitive theory (Bandura, 1997), which considers human behavior as a dynamic interaction of personal, behavioral, and environmental influences. In this framework, the author suggests that personal factors, behavior and environment interact within a model known as triadic reciprocity. Subsequently, Bandura (1997) found that self-efficacy influences human behavior through several different processes. First, it influences the tasks that people attempt to undertake, so that people tend to perform tasks that they believe they can complete successfully. Second, it influences the effort that a person will be willing to spend on a task, as well as their perseverance. Finally, self-

efficacy influences people's effective responses to approaching tasks, which in turn influence the degree of successful completion of the task.

The social cognitive theory of self-efficacy states that when an individual believes they can generate a desired result through their actions, they are more likely to act and to achieve them (Bandura, 1997). This is because the level of self-efficacy influences motivation, the level of effort, perseverance in the face of difficulty, emotional stability and stress levels (Bandura and Locke, 2003). For this reason, high levels of self-efficacy increase an individual's determination, leading them to perform better in their desire for success (Segal *et al.*, 2005).

One type of occupation-specific self-efficacy is ESE. In general terms, ESE is known as a person's belief in their ability to perform tasks and roles directed to business results (Chen *et al.*, 1998). Although some researchers have analyzed broader self-efficacy to understand its effects (Judge and Bono 2001), to date research on ESE has been based on theoretical perspectives from psychology, professional development and economics. Existing research on the background of ESE is generally based on social cognitive theory (Bandura, 1997).

Numerous authors have applied Bandura's theory in recent years. Studies range from analyses that measure the mediating effect of ESE (Shahab *et al.*, 2019), meta-analyses that measure ESE and business performance (Miao *et al.*, 2017b), to studies that broaden the analysis of this variable (Newman *et al.*, 2019). Lee *et al.* (2016) demonstrate that ESE is positively related to business performance, while Zhao *et al.* (2005) determine that previous experience influences ESE, since it encourages learning. Entrepreneurial education and training programs increase levels of ESE in postgraduate students (Wilson *et al.*, 2007; Kubberød and Pettersen 2017). According to Barnir *et al.* (2011), role models provide better indirect learning opportunities because they are a good source of social persuasion, which increases the security of people to pursue an entrepreneurial career.

For Wilson *et al.* (2009), women have lower levels of ESE than men. Henry *et al.* (2017) demonstrate that women have less entrepreneurial experience, and this directly impacts levels of self-efficacy. Mixed results have been found when examining whether gender moderates the relationships among entrepreneurial education, work experience and ESE (Wilson *et al.*, 2007; Shinnar *et al.*, 2014). The extent to which ESE develops among female entrepreneurs depends on the gender congruence of the industry in which they operate (Sweida and Woods 2015). Women with higher levels of ESE are more likely to generate their own employment than those having lower levels (Tegtmeier *et al.*, 2016).

Dalborg and Wincent (2015) determine that there is a positive relationship between business entrepreneurship and ESE. Among the business characteristics, some research demonstrates that strategic orientation and organizational culture are positively related to ESE, since this variable provides opportunities for indirect

learning (Cooper *et al.*, 2016). Within the institutional environment and culture, researchers have resorted to social cognitive theory to analyze whether culture and institutional environment impact ESE (Newman *et al.*, 2018). Hopp and Stephan (2012) show that performance-based cultural norms are positively related to ESE.

Additionally, ESE has a strong correlation with EP (Cardon and Kirk 2015). In the level of entrepreneurial actions and behaviors, ESE is positively related to actions and behaviors in the business arena, the strategic planning process, the choice of opportunities, and the effort on tasks and financial objectives (Newman *et al.*, 2018). ESE has positive incidence in the increase of the investment of personal funds, hours worked, the development of new businesses, encourages higher goals and commitments, impacting the organizational performance (Trevelvan 2011; Cassar and Friedman 2009). According to Brinckmann and Kim (2015), ESE also increases the belief in the ability to obtain benefits from a formal business plan.

Based on the level of business performance, research reveals a strong relationship between the ESE of the business owner and the business performance, including subjective perception of performance, innovation and growth (McGee and Peterson, 2017; Hallak *et al.*, 2011). Hechevarria *et al.* (2012) examine the impact of ESE and the formalization of a business plan, finding a positive relationship between these variables.

2.2 Innovative Behavior (IB)

Several scholars have researched the topic of innovation in recent years. Different studies (Balsmeir *et al.*, 2017; Kogan *et al.*, 2017; Ramírez-Montoya 2018; Coad *et al.*, 2016; 2018; 2019) analyze its implication in large and small companies, its importance as a business tool and its implication in the academy.

Scott and Bruce (1994) identify a three-layer process of IB, explaining how an individual innovates in the workplace. They found out that in the first stage, an individual identifies a problem and presents ideas, whether adopted or new, to solve the problem. In the second stage, the individual strives to find support for his idea within and outside the organization. In the final stage, the individual prototypes his idea and shows how the idea can be beneficial to the organization. Although the innovation process is managed, there are still conceptual and methodological challenges to the understanding of innovation. For example, the relationship between innovation and productivity becomes complex in the service sector (Coad *et al.*, 2019). But since more and more growing companies are betting on innovation, what happens if innovation is analyzed in the businesses context (Coad *et al.*, 2016) is still an open question.

Carmeli *et al.* (2006) defined IB as a multistep process in which an individual recognizes a problem, generates ideas and solutions (new or adopted), works to promote and generate support for them, and produces a prototype or model

applicable for the use and benefit of the organization or parts of it. Other researchers have found fairly similar results. Shi (2012), defines it as developing, adopting and implementing new ideas for products and working methods in the organization. Messmann and Mulder (2011) conceptualize it as the realization of innovation, declaring that IB includes observation, listening and adaptation of ideas, the construction of an action strategy, assessment through reflection and evaluation, adjusting innovation and finding allies. Later, Messmann and Mulder (2012) define IB as the exploration of opportunities, generation of ideas, promotion of ideas, realization of ideas and reflection.

IB is understood as the intentional implementation of novel and useful ideas (Anderson *et al.*, 2014). Given this, researchers have been interested in identifying personal and contextual determinants of IB. However, while the cross-sectional study of the history of IB increases, findings using longitudinal studies are scarce. Another study examined the influence of workplace stressors and the climate of organizational innovation on IB, and found that the stressors that employees tend to assess as challenges were positively related to the generation of ideas, while stressors that employees tend to assess as obstacles were negatively related to the generation of ideas (Ren and Zhang, 2015).

On the other hand, a study that integrates the theory of social network concludes that the strength of the bonds, ranging from weak to strong, can be used to describe the quality of peer relationships within the group (Granovetter 1973; Krackhardt 1992). Wang, Fang, Qureshi, and Janssen (2015) used the leader-member exchange theory (LMX) to explore the effects of three types of social relationships on the IB of employees: weak bonds outside the group, LMX and strong bonds within the group. Strong bonds within the group negatively moderated the second stage of this indirect relationship, so that LMX was positively and significantly related to IB only when the number of strong bonds within the group was low (Wang *et al.*, 2015).

Yu *et al.* (2013) studied the exchange of knowledge at the individual level and the IB of workers, the climate of organizational innovation and the interaction between the level of exchange of individual knowledge and the climate of innovation within the organization. They found a positive association between knowledge exchange and IB and a positive association between organizational innovation climate and IB. These results also indicate that the organizational innovation climate does not act as a moderator of the impact of knowledge exchange on IB. Similarly, Kwon *et al.* (2019) studied the relationship between employee commitment and IB. To do so, they used a comprehensive literature review of 34 empirical studies. They found that workers perceive a combination of reasonably high demands and high resources to be ideal for encouraging their commitment, that IB is a consequence of these interactions, and that committed employees are more likely to act innovatively by activating a strategy of coping.

Duradoni *et al.* (2019) analyzed in an exploratory fashion the relationship between extraversion, intra-entrepreneurial self-capital and IB. They engaged 120 Italian workers, and used a mediation model to assess the effects of extraversion on IB and innovation implementation behavior. The mediation analysis highlighted that intra-entrepreneurial self-capital is correlated with workers' IB.

IB is a valued and desired concept among company employees (Newman *et al.*, 2018). There is empirical evidence that links several variables as predictors of this (Hsu *et al.*, 2011; Khaola and Coldwell 2018). Its importance lies in both economic and psychological benefits through beneficial administrative, technological or social changes to the organizational *status quo* (Rank *et al.*, 2004).

2.3 Entrepreneurial Passion (EP)

EP is required to have high levels of performance and to overcome barriers to change (Woldie and Adersua 2004). There are different inspirational factors that influence people to become entrepreneurs, and the circumstances are unique to each individual (Woldie and Adersua 2004). Vallerand *et al.* (2003) introduced the concept of the dualistic model of passion (DMP), which suggests that the individual can experience passion in two ways: obsessive or harmonious passion. Passion will influence individual entrepreneurs in some way, and they will be passionate regardless of the situations and conditions of their businesses (Shane and Venkataraman, 2000). Entrepreneurs are passionate about all aspects of their lives, and entrepreneurial thoughts and behaviors, and by extension emotions, are not stable characteristics that differentiate some people from others in all situations (Shane and Venkataraman, 2000). Instead, both the individual and the company must be considered, since it is their interaction that drives business success (Shook *et al.*, 2003).

Passion has been identified as a critical cognitive attribute of entrepreneurs, relating it to business survival, growth and success (Mooradian *et al.*, 2016; Stenholm and Renko 2016). A key emotional and affective experience, EP is associated with self-concept and the identity of the entrepreneur's role, and it is invoked at different stages of entrepreneurship, such as business conception and initiation (Yitshaki and Kropp, 2016).

EP has specific dimensions of the task of inventing, founding and developing (Cardon *et al.*, 2013). The intensity of EP thus varies. Founders of family businesses experience a greater intensity of passion than non-family managers (Morris *et al.*, 2010). The centrality of the company to the identity of the entrepreneur influences the level of passion experienced (Collewaert *et al.*, 2016). EP is also based on different role identities that can evoke feelings of varying intensity. Fauchart and Gruber (2011) show that the identities of individual founders generate marked differences in the creation of new companies. Individual entrepreneurs vary greatly in the intensity and focus of their passion (Cardon *et al.*, 2013), they may vary to the

extent that the members are similar or different in their individual EPs and/or to the extent that they are able to form a shared team passion for a common identity.

On the other hand, the growth and reduction of a new risk team can affect the passion of individual members in different ways. Care must be taken in conceptualizing passion because it is multidimensional. There are many ways that EP can be experienced and team passion will likely evolve in a dynamic way over time (Breugst *et al.*, 2012; Cardon *et al.*, 2013; Fisher *et al.*, 2018). Luu *et al.* (2020) analyzed EP and innovation strategies. They found that EP has a positive effect on a company's exploratory innovation strategies and a complex inverted *U*. These results expanded the literature on business emotions, and contributed to the understanding of the social identities of entrepreneurs and the links between passion and innovation strategies.

Syed *et al.* (2020) analyzed the mediating role of innovation and the moderating role of curiosity in the relationship of business passion to business intentions. Based on the analysis of data collected from 295 surveyed individuals, they found that innovation partly mediated the relationship between passion and entrepreneurial intentions. Furthermore, the mediating effect was stronger for people who scored high on curiosity than for those who scored low.

2.4 The Model

The conceptual model presented, adapted from Newman *et al.* (2018), has the following constructs: ESE, EP and IB. It displays the approach of this research, linking ESE with IB and then showing the mediation of EP in that relationship. So this research is focused in finding out if EP mediates in the relationship between ESE and IB.

In structural equation models, research hypotheses are expressed by causal routes between latent variables. The present study proposed four hypotheses as follow:

H1: Entrepreneurial self-efficacy and innovative behavior are positively related.

H2: Entrepreneurial self-efficacy and entrepreneurial passion are positively related.

H3: Entrepreneurial passion and innovative behavior are positively related.

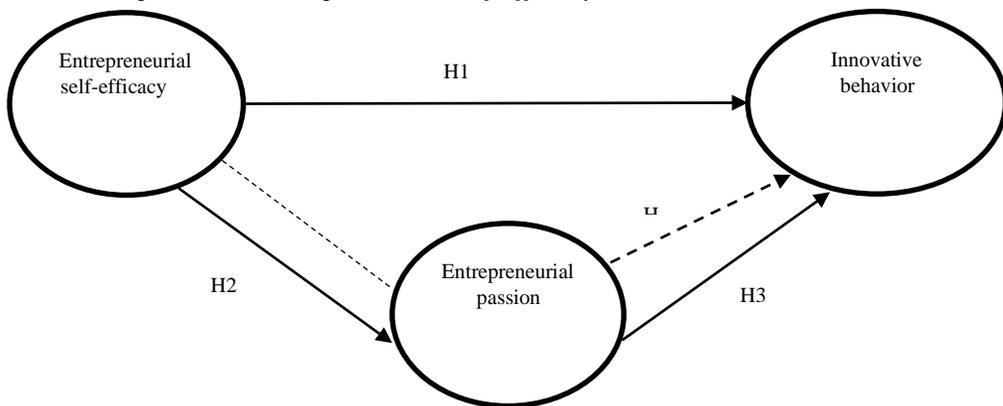
H4: Entrepreneurial passion has a mediating effect on the relationship between entrepreneurial self-efficacy and innovative behavior.

3. Methodology and Data

According to data base managed by the Municipality of La Victoria, there are 64,418 companies at the GTC, most of them dedicated to the various business lines associated with the textile industry (Table 1), while small, medium and large

companies in the textile and clothing sector in this geographical area number 40,551. However, only the companies in the textile sector were taken as the population for the purposes of this research. The study used a simple cluster sampling. The sample size was defined using the structural equation model technique (Hair, 2017; 2018). Companies with more than five years of operations and an annual net income exceeding 1,700 UIT (Peruvian Tax Unit) were chosen. The surveys were directed at owners, managers and/or entrepreneurs in the sampled companies.

Figure 1. Model that explains the mediation of entrepreneurial passion on the relationship between entrepreneurial self-efficacy and innovative behavior.



Source: Adapted from “The effects of employees’ creative self-efficacy on innovative behavior: The role of entrepreneurial leadership” (Newman 2018).

Medium companies in Peru are defined as having annual revenues between 1,700 and 2,300 UIT (US\$ 2.12 million and US\$ 3.37 million), and between 101 and 1,000 workers, while large companies have annual revenues of more than 2,300 UIT (more than US\$ 3.37 million), and more than 1,000 workers. An UIT is equal to 4,300 Peruvian soles, which would be approximately US\$ 2,250 (INEI, 2018).

ESE was measured using a research tool developed by De Noble, Jung and Ehrlich (1999) that was translated and validated in Spanish by Moriano *et al.* (2006). This instrument has been tested and used in several studies in Spanish-speaking countries. IB was measured with a scale that was used in Wan *et al.* (2005). These authors developed the determinants of IB in a path model of individual innovation in the workplace. This instrument includes reviews by several authors (Kanter, 1988). Finally, for EP variable, the three-dimensional scale of Breugst (2012) was used. These last two scales were translated into Spanish this year, adapted to Peru and tested for internal validity using a Cronbach’s alpha test. The field work included experienced, trained surveyors in charge of the *in situ* data collection, as well as of the privacy and informed confidentiality of the data. The application of the questionnaires took place during February and March, 2020. Subsequently, the data was tabulated using an Excel sheet so that it could be later processed in statistical programs.

Table 1. *Classification of the companies located in the GTC by Industry.*

Industry	Number of Companies	Small, Medium and Large Companies
Clothing sale (retail and wholesale)	45,423	36,000
Bookstores and internet booths, jewels, watches and perfumes shops	361	108
Repair and sale of spare parts for vehicles, mechanical workshop	229	92
Hardware stores, sale of plastics and household products	501	200
Auxiliary activities of financial intermediation	87	35
Machinery and construction material warehouses	753	301
Administrative offices, consultancies and company representation	752	301
Grocery stores, bakeries and bazaars	1082	433
Mattresses, furniture stores and luggage	528	211
Dressmakers for children, men, women	6250	2500
Fabric sale and distribution	3377	1351
Haberdashery and decorative trimmings	1135	454
Restaurants	1605	642
Trade and fair clothing galleries	226	90
Health food stores	410	41
Sale of machines, home appliances and spare parts	389	156
Beauty salons, barbershops and tattoo parlors	187	75
Advertising services	222	89
Licenses without specific industry	254	102
Others	647	259
Total	64,418	43,439

Source: *Data provided by the Gerencia de Desarrollo Económico (Economic Development Unit) of the Municipalidad de La Victoria in February 2020. The highlighted groups refer specifically to the textile-related companies.*

The normality of the data was determined using Shapiro-Wilk W statistic (Srivastava *et al.*, 1987). It was found that most observable variables do not have a normal distribution. Given these characteristics, partial least squares structural equation modeling (PLS-SEM) was used. Traditional structural models, based on covariance, assume that measured variables have a normal distribution. Following the guidelines established for PLS-SEM, the validation of both the measurement model and the structural equation model was done using non-normally distributed data (Hair *et al.*, 2017; Sarstedt *et al.*, 2017).

For the measurement model, the latent variable had an adequate level of reliability because the Cronbach's alpha coefficient, and the composite reliability index had values equal to or greater than 0.7. Regarding convergent validity, a value of 0.5 was used for the average variance extracted (AVE) in order to determine that the variables had an adequate convergent validity. The Fornell-Larcker criterion was used to establish the discriminant validity of the latent variables. This criterion establishes that the square root of the AVE must be greater than the correlation between the constructs, which was the case for these variables. The coefficient of determination (R^2) for each explained latent variable was obtained to assess the structural model. Furthermore, two minimum values (0.50 and 0.70, respectively)

were used to determine whether the extracted variance was moderate or satisfactory (Sarstedt *et al.*, 2016). To determine the significance and obtain the standard errors of the route coefficients, the bootstrapping procedure was used with 5,000 repetitions. The PLS-SEM analysis was done using the SmartPLS 3 and Stata SE 14 software.

4. Empirical Results

The indicators of the three latent variables shown in the model (Figure 1) show a high level of dispersion. This finding corroborates the relevance of using PLS-SEM to validate the conceptual model. The descriptive details of the data used are shown in Table 2. Most of the loads for the indicators of the observable variables corresponding to each latent variables ESE, IB and EP achieved values higher than the expected minimum of 0.70 (Table 4). With respect to internal consistency, most of the latent variables had a higher reliability, since most of them had Cronbach's alpha values above 0.70 (Table 5). The same result was obtained using the composite reliability index, most values were above 0.70 (Table 6).

Table 2. Descriptive results of the entrepreneurs.

	Category	Frequency	Percent
Gender	Male	60	40.46
	Female	295	59.54
Age	20 - 27 years	154	43.14
	28 – 36 years	112	31.37
	37 - 45 years	46	12.89
	46 - 54 years	31	8.68
	>54 years	14	3.92
Nationality	Peruvian	317	88.55
	Non-Peruvian	41	11.45
Have Children	Yes	170	47.62
	No	187	52.38
Education	Incomplete elementary school	1	0.28
	Elementary school	5	1.4
	Incomplete high school	12	3.35
	High school	130	36.31
	Technician	127	35.47
	Incomplete university	37	10.34
	University	46	12.85

Source: Created by the authors, using the results of the study.

Table 3 shows the characteristics of the companies included in the sample.

Table 3. Descriptive results of the companies.

	Category	Frequency	Percent
Obtained help from an entrepreneurial institution	Yes	60	16.76
	No	297	82.96
Used credit from a bank	Yes	50	19.16
	No	211	80.84

Main market where product are sold	International	46	12.85
	National	255	71.23
	Local (Lima only)	56	15.64
Sell in a virtual shopping center	Yes	296	82.68
	No	62	17.32
Took training / course / other similar	Yes	66	18.44
	No	292	81.56
Main advertising medium used	Internet	176	52.85
	Exhibitions or product fairs	5	1.5
	Newspaper advertising	1	0.3
	TV advertising	1	0.3
	Known references	121	36.34
	Other	29	8.71
The company uses ...	Web page	14	4.19
	Social networks (Facebook, Instagram, Twitter)	178	53.29
	Linkedin	1	0.3
	None	135	40.42

Source: Created by the authors, using the results of the study.

Table 4. *Measurement model assessment results*

Variables	Indicators	Loads
Entrepreneurial self-efficacy	Entrepreneurial self-efficacy5	0.714
	Entrepreneurial self-efficacy 6	0.745
	Entrepreneurial self-efficacy 8	0.730
	Entrepreneurial self-efficacy 9	0.729
	Entrepreneurial self-efficacy 10	0.764
	Entrepreneurial self-efficacy 16	0.716
	Entrepreneurial self-efficacy 17	0.736
	Entrepreneurial self-efficacy 18	0.730
	Entrepreneurial self-efficacy 20	0.719
	Entrepreneurial self-efficacy 21	0.731
	Entrepreneurial self-efficacy 22	0.715
Innovative behavior	Innovative behavior 2	0.793
	Innovative behavior 3	0.823
	Innovative behavior 4	0.786
	Innovative behavior 5	0.804
	Innovative behavior 6	0.815
	Innovative behavior 7	0.874
	Innovative behavior 8	0.778
	Innovative behavior 9	0.854
	Entrepreneurial passion	Entrepreneurial passion 4
Entrepreneurial passion 5		0.773
Entrepreneurial passion 2		0.823
Entrepreneurial passion 3		0.862
Entrepreneurial passion 4		0.827

Source: Based on 358 surveys. Own elaboration.

With respect to the internal reliability of constructs and divergent validity of the model's variables, the values for each variable must meet criteria of alpha, rho and

compound reliability, which in each case must be greater than 0.7. As for the AVE values corresponding to the divergent validity, they must be greater than 0.5. In both cases, the values meet these criteria (Table 5).

Table 5. *Validity and reliability*

	Cronbach	RHO	Composite reliability	AVE	R2
Entrepreneurial self-efficacy	0.913	0.915	0.926	0.533	
Innovative behavior	0.929	0.94	0.941	0.667	0.352
Entrepreneurial passion	0.881	0.885	0.913	0.678	0.195

Source: Based on 358 surveys. Own elaboration.

Table 6 shows the values for the Fornell-Larcker criterion, used to establish the discriminant validity of the latent variables, using the square root of the AVE. These values were greater than the correlation between the constructs.

Table 6. *Fornell-Larcker criterion to analyze discriminant validity.*

	1. ESE	2. IB	3. EP	($\sqrt{\text{AVE}} > \text{CLV}$)
1. Entrepreneurial self-efficacy (ESE)	0.730			
2. Innovative behavior (IB)	0.457	0.817		
3. Entrepreneurial passion (EP)	0.441	0.541	0.824	

Note: The square root of the AVE values is printed in bold on the diagonal row; other values correspond to the correlations between the latent variables (CLV). Obtained with SmartPLS 3. Algorithm for missing values = Case wise replacement. Weighted scheme for routes.

Source: Created by the authors using the results of the study.

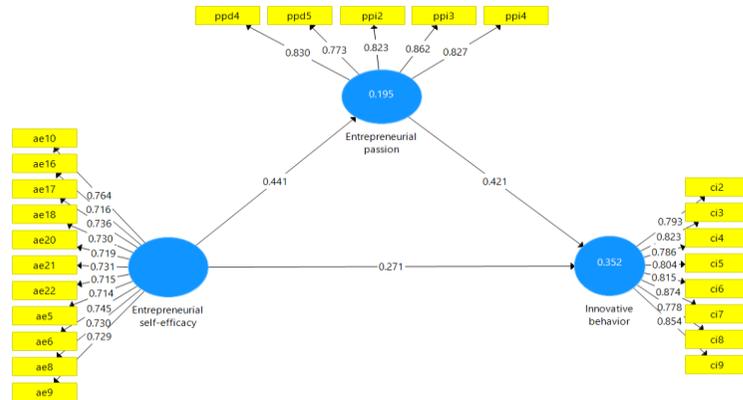
4.1 Evaluation of the Structural Model

The analysis of the structural model using structural equations showed goodness of fit indices with an explained variance of 0.352. That is, variables ESE and EP explain the IB of the GTC entrepreneurs in 36% of the cases. The PLS-SEM technique aims to maximize the amount of variance explained, so this technique is effective for latent constructs. Figure 2 presents the assessment of the structural model. It shows reflective constructs and their factor loadings, as well as the routes proposed in the hypotheses.

Results using Sobel's test (Sobel 1982) for a better interpretation of the mediating effect, as applied by Clarke and Rhodes (2020) and Wahyono (2019), to test the statistical significance of the indirect effects, confirmed that ESE has a significant indirect impact on IB through EP (Table 8). In other words, ESE's impact on IB is mediated by EP.

On the other hand, an evaluation of the significance of direct effects shows that they also exist (Table 9). Thus, there is a significant direct relationship, which is strengthened by the complementary mediation of EP.

Figure 2. Conceptual model of the factors that explain the mediation of entrepreneurial passion in the relationship between entrepreneurial self-efficacy and innovative behavior.



Note: Created with SmartPLS 3. Algorithm for missing values = Case wise replacement. Weighted scheme for routes.

Source: Created by the authors using the results of the study.

Bootstrapping was used to analyze the route coefficients and the statistical significance of the hypotheses (see table 7), with the following values: $p < 0.05$, $t \leq 1.96$.

Table 7. Path coefficients and bootstrapping results

Causal routes	Route coefficients	Bootstrapping		
		Sample mean	S. D.	P-value
ESE → IB	0.271	0.274	0.053	0.000
ESE → EP	0.441	0.445	0.037	0.000
EP → IB	0.421	0.423	0.059	0.000

Note: Obtained with SmartPLS 3. Algorithm for missing values = Case wise replacement. Weighted scheme for routes.

Source: Created by the authors using the results of the study. S. D. = Standard deviation.

Table 8. Total indirect effects of the structural components.

Causal routes	Bootstrapping		
	Sample mean	S. D.	P-value
ESE → IB	0.180	0.033	0.000

Note: Obtained with SmartPLS 3.

Source: Created by the authors using the results of the study.

Table 9. Total effects of the structural components.

Causal routes	Bootstrapping		
	Sample mean	S. D.	P-value
ESE → IB	0.463	0.044	0.000
ESE → EP	0.445	0.037	0.000
EP → IB	0.423	0.059	0.000

Note: Obtained with SmartPLS 3.

Source: Created by the authors using the results of the study.

5. Discussion

This study aims to analyze the mediating effect of EP in the relationship between ESE and IB. The research model of Newman *et al.*'s (2018) was used as a guide. Furthermore, following these authors' recommendations, one variable was replaced by EP. Based on the results of this study, the direct and indirect relationships of the variables included in the model (ESE, EP and IB) were found to be statistically significant. That is, hypotheses H1, H2, H3 and H4 were accepted. The results of the test of H1 suggests that ESE is significantly related to IB. Results found by Newman *et al.* (2018) support the direct relationship between ESE and IB. However, a study by Chen and Zhou (2017) found a negative relationship between ESE and IB. Several other earlier studies also found there to be a positive influence of ESE on IB (Anderson *et al.*, 2014; Cardon and Kirk 2015; Chen and Zhou 2017; Hsu *et al.*, 2011; Miao *et al.*, 2017a; Prihatsanti 2018; Schjoedt and Craig 2017; Spagnoli *et al.*, 2017).

In the case of H2 (the relationship between ESE and EP), studies by Bagheri and Yazdanpanah (2017), Siddiqui (2016) and Cardon and Kirk (2015) support that correlation. Although the causal routes presented in these studies differ from the hypotheses of this study, they provide insights into the approach for future studies. H3, which tested the relationship between EP and IB, was consistent with previous studies (Wei *et al.*, 2020; Hong-Da *et al.*, 2014; Ehrlich *et al.*, 2010; McGee *et al.*, 2017). Similarly, other research conducted at university students who are starting their businesses, tests the significant positive correlation of these variables (Prihatsanti, 2018). However, Kang *et al.* (2016) found that there is no direct correlation between these variables. Although researchers such as Cardon *et al.* (2017) support the importance of studying this relationship, there is no literature supporting a relationship level higher than that of a correlation.

With respect to H4, regarding the mediation of EP in the relationship between ESE and IB, this research accepted the hypothesis in the context of an emerging economy such as Peru's. Thus, EP plays a mediating role in that relationship. This finding is consistent with the results of Saif and Ghania (2020), Chabala *et al.* (2019) and Fard *et al.* (2018), who studied the mediating role of EP in in the founding and entrepreneurial Interest, small firm growth, social entrepreneurial intentions. This finding has theoretical and practical implications. On the theoretical side, it constitutes a new model to explain IB. On the practical side, it implies that if an entrepreneur possesses a high ESE and a high EP, the likelihood of being more innovative is also high. In this regard, Bellucci (2020) points out that the sustainability of companies relies on innovation in processes, as well as in the business models and the internal and external strategic decisions of the companies themselves.

Finally, the current pandemic has caused societies to be affected in core areas, including the economy and the business dynamism (Rapaccini *et al.*, 2020; Kraus *et*

al., 2020; Civelek *et al.*, 2020). The role of entrepreneurship in these difficult times is crucial (Maritz *et al.*, 2020), because leaders of many companies are being forced to innovate and even change their business models. Likewise, there are practical implications dealing with public policies, particularly in association with the governmental support for individuals to launch new business ventures.

6. Conclusion

This study is the first one to empirically examine the mediating effect of EP in the relationship between ESE and innovative behavior. Among the contributions of this research, the most important are the following:

All four research hypotheses were accepted. The three relationships tested - between ESE and IB, ESE and EP, and EP and IB - were all statistically significant. Furthermore, the mediating effect of EP in the relationship between ESE and IB was also statistically significant. Therefore, this study proposes a new model that includes these three variables in order to better understand IB, and thus to get to an important causal route that was never previously studied. However, the relationship between ESE and IB still requires further study due to the fact that there are still contradictory. Based on these findings, we identified different research gaps and proposed ideas for future research.

Although the research is cross-sectional, given the diversity of the population, this first approach provides insight into a field not yet explored by academics. Given the important characteristics of business that occur in the GTC, it is recommended that this research be repeated using a longitudinal design while researching this same population in a post-pandemic stage.

References:

- Ahlin, B., Drnovšek, M., Hisrich, R. 2013. Entrepreneurs' creativity and firm innovation: the moderating role of entrepreneurial self-efficacy. *Small Business Economics* 43(1), 101-117. <https://doi.org/10.1007/s11187-013-9531-7>.
- Anderson, N., Potočnik, K., Zhou. 2014. Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management*, 40, 1297-1333. <https://doi.org/10.1177/0149206314527128>.
- Bagheri, A., Yazdanpanah, J. 2017. Novice Entrepreneurs' Entrepreneurial Self-efficacy and Passion for Entrepreneurship. *Iranian Entrepreneurship*. DOI:10.1007/978-3-319-50639-5_5.
- Balsmeier, B., Fleming, L., Manso, G. 2017. Independent boards and innovation. *Journal of Financial Economics*, 123(3), 536-557.
- Bandura, A. 1986. *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ, Prentice-Hall.
- Bandura, A. 1997. *Self-efficacy: The exercise of control*. New York, Freeman.
- Bandura, A., Locke, E.A. 2003. Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology*, 88(1), 87-99.

- Barnir, A., Watson, W.E., Hutchins, H. 2011. Mediation and Moderated Mediation in the Relationship among Role Models, Self-Efficacy, Entrepreneurial Career Intention, and Gender. *Journal of Applied Social Psychology*, 41(2), 270-297. <https://doi.org/10.1111/j.1559-1816.2010.00713.x>.
- Bellucci, M., Bini, L., Giunta, F. 2020. Implementing environmental sustainability engagement into business: sustainability management, innovation, and sustainable business models. *Innovation Strategies in Environmental Science*. <https://doi.org/10.1016/B978-0-12-817382-4.00004-6>.
- Breugst, N., Domurath, A., Patzelt, H., Klaukien, A. 2012. Perceptions of entrepreneurial passion and employees' commitment to entrepreneurial ventures. *Entrepreneurship Theory and Practice*, 36(1), 171-192.
- Brinckmann, J., Kim, S. 2015. Why We Plan: The Impact of Nascent Entrepreneurs' Cognitive Characteristics and Human Capital on Business Planning. *Strategic Entrepreneurship Journal*, 9(2), 153-166. <https://doi.org/10.1002/sej.1197>.
- Cardon, M., Kirk, C. 2015. Entrepreneurial passion as mediator of the self-efficacy to persistence relationship. *Entrepreneurship: Theory and Practice*, 39(5), 1027-1050. <https://doi.org/10.1111/etap.12089>.
- Cardon, M., Glauser, M., Murnieks. 2017. Passion for what? Expanding the domains of entrepreneurial passion. *Journal of Business Venturing Insights*, 8, 24-32. <https://doi.org/10.1016/j.jbvi.2017.05.004>.
- Cardon, M., Gregoire, D.A., Stevens, C.E. Patel, P. 2013. Measuring entrepreneurial passion: conceptual foundations and scale validation. *Journal of Business Venturing*, 28(3), 373-396. <https://doi.org/10.1016/j.jbusvent.2012.03.003>.
- Carmeli, A., Meitar, R., Weisberg, J. 2006. Self-leadership skills and innovative behavior at work. *International Journal of Manpower*, 27, 75-90. <https://doi.org/10.1108/01437720610652853>.
- Caro, I. 1987. Revisión crítica de la teoría de la autoeficacia de A. Bandura. *Boletín de psicología*, 16(4), 61-89.
- Cassar, G., Friedman, H. 2009. Does self-efficacy affect entrepreneurial investment? *Strategic Entrepreneurship Journal*, 3(3), 241-260. <https://doi.org/10.1002/sej.73>.
- Chabala, M., Van Burg, E., Paas, L., Masurel, E., Lungu, J. 2019. How Does Passion Affect Small Firm Growth? The Mediating Role of Entrepreneurial Alertness. In *Academy of Management Proceedings*, 1-14558. Briarcliff Manor, NY, Academy of Management.
- 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](https://doi.org/10.1016/s0883-9026(97)00029-3).
- Chen, Y., Zhou, X. 2017. Entrepreneurial self-efficacy and firms' innovation behavior: The negative mediating role of social capital. *Social Behavior and Personality: an international journal*, 45(9), 1553-1562. <https://doi.org/10.2224/sbp.6734>.
- Civelek, M.E., Xiarewana, B. 2020. Effects of covid-19 on China and the world economy: Birth pains of the post-digital ecosystem. *Journal of International Trade, Logistics and Law* 6(1), 147-157.
- Clarke, S.L., Rhodes, E. 2020. Entrepreneurial apologies: The mediating role of forgiveness on future cooperation. *Journal of Business Venturing Insights*, 13. e00147.
- Coad, A., Grassano, N., Hall, B.H., Moncada-Paternò-Castello, P. Vezzani, A. 2019. Innovation and industrial dynamics. *Structural Change and Economic Dynamics*, 50, 126-131.

- Coad, A., Janzing, D., Nightingale, P. 2018. Tools for causal inference from cross-sectional innovation surveys with continuous or discrete variables: theory and applications. *Cuadernos de Economía*, 39(75), 779-807. [dx.doi.org/10.15446/cuad.econ.v37n75.69832](https://doi.org/10.15446/cuad.econ.v37n75.69832).
- Coad, A., Segarra, A., Teruel, M. 2016. Innovation and firm growth: Does firm age play a role? *Research Policy*, 45, 387-400.
- Collewaert, V., Anseel, F., Crommelinck, M., De Beuckelaer, A., Vermeire, J. 2016. When passion fades: disentangling the temporal dynamics of entrepreneurial passion for founding. *Journal of Management Studies*, 53(6), 966-995. <https://doi.org/10.1111/joms.12193>.
- Cooper, D., Peake, W., Watson, W. 2016. Seizing Opportunities: The Moderating Role of Managerial Characteristics on the Relationship between Opportunity-Seeking and Innovation Efficacy in Small Businesses. *Journal of Small Business Management*, 54(4), 1038-1058. <https://doi.org/10.1111/jsbm.12228>.
- Dalborg, C., Wincent, J. 2014. The idea is not enough: The role of self-efficacy in mediating the relationship between pull entrepreneurship and founder passion - a research note. *International Small Business Journal*, 33(8), 974-984. <https://doi.org/10.1177/0266242614543336>.
- De Noble, A.F., Jung, D., Ehrlich, S. 1999. Entrepreneurial self-efficacy: The development of a measure and its relationship to entrepreneurial action. *Frontiers of entrepreneurship research*, 1, 73-87.
- Duradoni, M., Di Fabio, A. 2019. Intrapreneurial self-capital and sustainable innovative behavior within organizations. *Sustainability*, 11(2), 322.
- Ehrlich, S.B., DeNoble, A.F., Singh, G., Galbraith, C. 2010. Corporate Entrepreneurial Self-Efficacy: An Examination of Entrepreneurial Behavior in a Global Japanese Corporation. In *United States Association for Small Business and Entrepreneurship. Conference Proceedings*, 342. United States Association for Small Business and Entrepreneurship.
- Fard, M.H., Amiri, N.S., Oboudi, M., Ramezani, S. 2018. Spiritual Intelligence and Social Entrepreneurial Intentions among students: the mediating role of entrepreneurial passion. *Entrepreneurship Education and Research in the Middle East and North Africa (MENA)*, 169-191. Springer, Cham.
- Fauchart, E., Gruber, M. 2011. Darwinians, communitarians, and missionaries: The role of founder identity in entrepreneurship. *Academy of Management Journal*, 54(5), 935-957. <https://doi.org/10.5465/amj.2009.0211>.
- Fisher, R., Merlot, E. Johnson, L.W. 2018. The obsessive and harmonious nature of entrepreneurial passion. *International Journal of Entrepreneurial Behavior & Research*, 24(1), 1355-2554. <https://doi.org/10.1108/IJEBr-01-2017-0011>.
- Garson, G.D. 2014. *Partial least squares: Regression and structural equation models*. Asheboro, NC, Statistical Associates Publishers.
- Global Entrepreneurship Monitor. 2018. *Global Report 2017/18*. Global Entrepreneurship Research Association (GERA). London, U.K.
- Granovetter, M.S. 1973. The strength of weak ties. *American Journal of Sociology*, 76(6), 1360-1380.
- Hair, J.F., Ringle, C.M., Sarstedt, M. 2011. PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*. <https://doi.org/10.2753/MTP1069-6679190202>.
- Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M. 2017. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 2 Ed. Thousand Oaks, CA, Sage. <https://goo.gl/obnsTo>.

- Hair, J.F., Sarstedt, M., Ringle, C.M., Gudergan, S.P. 2018. *Advanced Issues in Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks, CA, Sage. <https://goo.gl/b5oeuE>.
- Hallak, R., Lindsay, N.J., Brown, G. 2011. Examining the Role of Entrepreneurial Experience and Entrepreneurial Self-Efficacy on SMTE Performance. *Tourism Analysis*, 16(5), 583-599. <https://doi.org/10.3727/108354211x13202764960744>.
- Hechavarria, D.M., Renko, M., Matthews, C.H. 2011. The nascent entrepreneurship hub: goals, entrepreneurial self-efficacy and start-up outcomes. *Small Business Economics*, 39(3), 685-701. <https://doi.org/10.1007/s11187-011-9355-2>.
- Henry, C., Orser, B., Coleman, S., Foss, L. 2017. Women's entrepreneurship policy: a 13 nation cross-country comparison. *International Journal of Gender and Entrepreneurship*, 9(3), 206-228. <https://doi.org/10.1108/ijge-07-2017-0036>.
- Hong-Da, L., Chun-His, C., Chin-Tien, H., Wu-Chen, F. 2014. Relationship between Entrepreneurial Leadership and Innovative Behavior: The Mediating Effect of Entrepreneurial Self-Efficacy and the Moderating Effect of Openness to Experience and Extraversion. *Information Technology Journal*, 13, 1035-1044. <https://doi.org/10.3923/itj.2014.1035.1044>.
- Hopp, C., Stephan, U. 2012. The influence of socio-cultural environments on the performance of nascent entrepreneurs: Community culture, motivation, self-efficacy and start-up success. *Entrepreneurship & Regional Development*, 24(9-10), 917-945. <https://doi.org/10.1080/08985626.2012.742326>.
- Hsu, M.L.A., Hou, S.T., Fan, H.L. 2011. Creative Self-Efficacy and Innovative Behavior in a Service Setting: Optimism as a Moderator. *Journal of Creative Behavior*, 45(4), 258-272. <https://doi.org/10.1002/j.2162-6057.2011.tb01430.x>.
- INEI. 2018. *Perú: Estructura Empresarial*. Lima, Peru.
- Judge, T.A., Bono, J.E. 2001. Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology*, 86(1), 80-92. <https://doi.org/10.1037/0021-9010.86.1.80>.
- Kang, J.H., Matusik, J.G., Kim, T.Y., Phillips, J. 2016. Interactive effects of multiple organizational climates on employee innovative behavior in entrepreneurial firms: A cross-level investigation. *Journal of Business Venturing*, 31(6), 628-642.
- Kanter, R. 1988. When a thousand flowers bloom: Structural, collective, and social conditions for innovation in organization. *Research in organizational behavior*, 10, 169-211.
- Khaola, P., Coldwell, D. 2018. Explaining how leadership and justice influence employee innovative behaviours. *European Journal of Innovation Management*. <https://doi.org/10.1108/ejim-08-2017-0103>.
- Kogan, L., Papanikolaou, D., Seru, A., Stoffman, N. 2017. Technological innovation, resource allocation, and growth. *The Quarterly Journal of Economics*, 132(2), 665-712.
- Kraus, S., Clauss, T., Breier, M., Gast, J., Zardini, A., Tiberius, V. 2020. The economics of COVID-19: initial empirical evidence on how family firms in five European countries cope with the corona crisis. *International Journal of Entrepreneurial Behavior & Research*. <https://doi.org/10.1108/IJEER-04-2020-0214>.
- Krackhardt, D. 1992. The strength of strong ties: The importance of philos in organizations. In R. G. Eccles (Ed.), *Networks and organizations*, 216-239. Boston, MA, Harvard Business School Press.

- Kubberød, E., Pettersen, I.B. 2017. Exploring situated ambiguity in students' entrepreneurial learning. *Education + Training*, 59(3), 265-279. <https://doi.org/10.1108/et-04-2016-0076>.
- Kwon, K., Kim, T. 2019. An integrative literature review of employee engagement and innovative behavior: Revisiting the JD-R model. *Human Resource Management Review*, 100704. <https://doi.org/10.1016/j.hrmr.2019.100704>.
- Lee, C., Hallak, R., Sardeshmukh, S.R. 2016. Innovation, entrepreneurship, and restaurant performance: A higher-order structural model. *Tourism Management*, 53, 215-228. <https://doi.org/10.1016/j.tourman.2015.09.017>.
- Luu, N., Nguyen, H. 2020. Entrepreneurial passion and a firm's innovation strategies. *Journal of Small Business Management*. <https://doi.org/10.1080/00472778.2020.1729026>.
- Maritz, A., Perenyi, A., de Waal, G., Buck, C. 2020. Entrepreneurship as the Unsung Hero during the Current COVID-19 Economic Crisis: Australian Perspectives. *Sustainability* 12(11), 4612. <https://doi.org/10.3390/su12114612>.
- McGee, J., Peterson, M. 2017. The long-term impact of entrepreneurial self-efficacy and entrepreneurial orientation on venture performance. *Journal of Small Business Management*. <http://dx.doi.org/10.1111/jsbm.12324>.
- Messmann, G., Mulder R.H. 2011. Innovative work behaviour in vocational colleges: Understanding how and why innovations are developed. *Vocations and Learning* 4(1), 63-84.
- Messmann, G., Mulder, R.H. 2012. Development of a measurement instrument for innovative work behaviour as a dynamic and context-bound construct. *Human Resource Development International*, 15(1), 43-59. <https://doi.org/10.1080/13678868.2011.646894>.
- Miao, Q., Newman, A., Schwarz, G., Cooper, B. 2017a. How Leadership and Public Service Motivation Enhance Innovative Behavior. *Public Administration Review*, 78(1), 71-81. <https://doi.org/10.1111/puar.12839>.
- Miao, C., Qian, S., Ma, D. 2017b. The relationship between entrepreneurial self-efficacy and firm performance: a meta-analysis of main and moderator effects. *Journal of Small Business Management*, 55(1), 87-107. <https://10.1111/jsbm.12240>.
- Mooradian, T., Matzler, K., Uzelac, B., Bauer, F. 2016. Perspiration and inspiration: grit and innovativeness as antecedents of entrepreneurial success. *Journal of Economic Psychology*, 56, 232-243. <https://doi.org/10.1016/j.joep.2016.08.001>.
- Moriano, J.A., Palací, F.J., Morales, J. 2006. Adaptación y validación en España de la escala de autoeficacia emprendedora. *Revista de Psicología Social*, 21(1), 35-50. <https://doi.org/10.1174/021347406775322223>.
- Morris, M.H., Allen, J.A., Kuratko, D.F., Brannon, D. 2010. Experiencing family business creation: differences between founders, nonfamily managers, and founders of nonfamily firms. *Entrepreneurship Theory & Practice*, 34(6), 1057-1084. <https://doi.org/10.1111/j.1540-6520.2010.00413.x>.
- 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/10.1016/j.jvb.2018.05.012>.
- Newman, A., Tse, H.H.M., Schwarz, G., Nielsen, I. 2018. The effects of employees' creative self-efficacy on innovative behavior: The role of entrepreneurial leadership. *Journal of Business Research*, 89, 1-9. <https://doi.org/10.1016/j.jbusres.2018.04.001>.

- Prihatsanti, U. 2018. The Relationship Between Entrepreneurial Self-Efficacy, Entrepreneurial Curiosity and Innovative Behavior on Entrepreneur Students. In 3rd ASEAN Conference on Psychology, Counselling, and Humanities (ACPCH 2017). Atlantis Press.
- Rapaccini, M., Saccani, N., Kowalkowski, C., Paiola, M., Adrodegari, F. 2020. Navigating disruptive crises through service-led growth: The impact of COVID-19 on Italian manufacturing firms. *Industrial Marketing Management*, 88, 225-237. <https://doi.org/10.1016/j.indmarman.2020.05.017>.
- Ramírez-Montoya, M.S., García-Peñalvo, F.J. 2018. Co-creation and open innovation: Systematic literature review. *Comunicar. Media Education Research Journal*, 26(1).
- Rank, J., Pace, V.L., Frese, M. 2004. Three avenues for future research on creativity, innovation, and initiative. *Applied Psychology: An International Review*, 53, 518-528. <https://doi.org/10.1111/j.1464-0597.2004.00185>.
- Ren, F., Zhang, J. 2015. Job stressors, organizational innovation climate, and employees' innovative behavior. *Creativity Research Journal*, 27(1), 16-23. <https://doi.org/10.1080/10400419.2015.992659>.
- Saif, H.A., Ghania, U. 2020. Need for Achievement as a Predictor of Entrepreneurial Behavior: The Mediating Role of Entrepreneurial Passion for Founding and Entrepreneurial Interest. *International Review of Management and Marketing* 10(1), 40-53.
- Sarstedt, M., Ringle, C.M., Hair, J. 2017. Partial Least Squares Structural Equation Modeling. In C. Homburg, M. Klarmann, A. Vomberg (Eds.), *Handbook of Market Research*. Heidelberg, Springer. <https://goo.gl/8uYSib>
- Sarstedt, M., Hair, J.F., Ringle, C.M., Thiele, K.O., Gudergan, S. 2016. Estimation Issues with PLS and CBSEM: Where the Bias Lies! *Journal of Business Research*, 69(10), 3998-4010. <https://goo.gl/BsNsxt>.
- Schjoedt, L., Craig, J.B. 2017. Development and validation of a unidimensional domain specific entrepreneurial self-efficacy scale. *International Journal of Entrepreneurial Behavior & Research*, 23(1), 98-113. <https://doi.org/10.1108/IJEER-11-2015-0251>.
- Scott, S.G., Bruce, R.A. 1994. Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, 37(3), 580-607. <https://doi.org/10.2307/256701>.
- Segal, G., Borgia, D., Schoenfeld, J. 2005. Self-efficacy and goal setting as predictors of performance: an empirical study of founder-managed natural food Stores. *Journal of Business and Entrepreneurship*, 17(1), 71-83.
- Shahab, Y., Chengang, Y., Arbizu, A.D., Haider, M.J. 2019. Entrepreneurial self-efficacy and intention: do entrepreneurial creativity and education matter? *International Journal of Entrepreneurial Behavior & Research*, 25(2), 259-280. <https://doi.org/10.1108/IJEER-12-2017-0522>.
- Shane, S., Venkataraman, S. 2000. The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25, 217-226. <https://doi.org/10.5465/amr.2000.2791611>.
- Shi, J. 2012. Influence of passion on innovative behavior: An empirical examination in People's Republic of China. *African Journal of Business Management*, 6(30), 8889-8896. <https://doi.org/10.5897/AJBM11.2250>.
- Shinnar, R.S., Hsu, D.K., Powell, B. 2014. Self-efficacy, entrepreneurial intentions, and gender: Assessing the impact of entrepreneurship education longitudinally. *The International Journal of Management Education*, 12(3), 561-570. <https://doi.org/10.1016/j.ijme.2014.09.005>.

- Shook, C.L., Priem, R.L. Mcgee, J.E. 2003. Venture creation and the enterprising individual: a review and synthesis, *Journal of Management*, 29(3), 379-400. [https://doi.org/10.1016/S0149-2063\(03\)00016-3](https://doi.org/10.1016/S0149-2063(03)00016-3).
- Siddiqui, M. 2016. Entrepreneurial Passion as Mediator of the Entrepreneurial Self Efficacy and Entrepreneurial Performance, Relationship: An Empirical Study in Small Medium Businesses. *Journal of Entrepreneurship & Organization Management*, 5(3), 1-7. <https://doi.org/10.4172/2169-026X.1000200>.
- Sobel, M. 1982. Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological methodology*, 13, 290-312.
- Spagnoli, P., Santos, S., Caetano, A. 2017. A contribution toward the adaptation and validation of the entrepreneurial self-efficacy scale in Italy and Portugal. *Journal of Career Assessment*, 25(4), 670-687. <https://doi.org/10.1177/1069072716664302>.
- Srivastava, M.S., Hui, T.K. 1987. On assessing multivariate normality based on Shapiro-Wilk W statistic. *Statistics & Probability Letters*, 5(1), 15-18.
- Stenholm, P., Renko, M. 2016. Passionate bricoleurs and new venture survival. *Journal of Business Venturing*, 31(5), 595-611. <https://doi.org/10.1016/j.busvent.2016.05.004>.
- Sweida, G., Woods, J. 2015. Comparing the development of entrepreneurial self-efficacy of female entrepreneurs in male and female-dominated industries. *Journal of Developmental Entrepreneurship*, 20(3), 1550018. <https://doi.org/10.1142/s1084946715500181>.
- Syed, I., Butler, J.C., Smith, R.M., Cao, X. 2020. From entrepreneurial passion to entrepreneurial intentions: The role of entrepreneurial passion, innovativeness, and curiosity in driving entrepreneurial intentions. *Personality and Individual Differences*. <https://doi.org/10.1016/j.paid.2019.109758>.
- Tegtmeier, S., Kurczewska, A., Halberstadt, J. 2016. Are women graduates jacquelines-of-all-trades? Challenging Lazear's view on entrepreneurship. *Small Business Economics*, 47(1), 77-94. doi:10.1007/s11187-016-9727-8.
- Trevelyan, R. 2011. Self-efficacy and effort in new venture development. *Journal of Management & Organization*, 17, 2-16. <https://doi.org/10.2139/ssrn.1758993>.
- Tsai, K.H., Chang, H.C., Peng, C.Y. 2014. Extending the link between entrepreneurial self-efficacy and intention: a moderated mediation model. *International Entrepreneurship and Management Journal*, 12(2), 445-463. <https://doi.org/10.1007/s11365-014-0351-2>.
- Vallerand, R.J., Houliort, N. 2003. Passion at work: Toward a new conceptualization. In S. W. Gilliland, D.D. Steiner, D.P. Skarlicki (Eds.), *Emerging perspectives on values in organizations*. Greenwich, CT, Information Age Publishing.
- Wahyono, W. 2019. The mediating effects of product innovation in relation between knowledge management and competitive advantage. *Journal of Management Development*. <https://doi.org/10.1108/JMD-11-2018-0331>.
- Wang, X.H., Fang, Y., Qureshi, I., Janssen, O. 2015. Understanding employee innovative behavior: Integrating the social network and leader-member exchange perspectives. *Journal of organizational behavior*, 36(3), 403-420. <https://doi.org/10.1002/job.1994>.
- Wei, J., Chen, Y., Zhang, Y., Zhang, J. 2020. How Does Entrepreneurial Self-Efficacy Influence Innovation Behavior? Exploring the Mechanism of Job Satisfaction and Zhongyong Thinking. *Frontiers in Psychology*, 11, 708. <https://doi.org/10.3389/fpsyg.2020.00708>.
- Wilson, F., Kickul, J., Marlino, D. 2007. Gender, Entrepreneurial Self-Efficacy, and Entrepreneurial Career Intentions: Implications for Entrepreneurship Education.

-
- Entrepreneurship Theory and Practice. [https://doi.org/ 10.1111/j.1540-6520.2007.00179.x](https://doi.org/10.1111/j.1540-6520.2007.00179.x).
- Woldie, A., Adersua, A. 2004. Female Entrepreneurs in a Transitional Economy Businesswomen in Nigeria, *International Journal of Social Economics*, 31(1/2), 78-93. <https://doi.org/10.1108/03068290410515439>.
- Yitshaki, R., Kropp, F. 2016. Entrepreneurial passions and identities in different contexts: a comparison between high-tech and social entrepreneurs. *Entrepreneurship and Regional Development*, 28(3/4), 206-233. <http://dx.doi.org/10.1080/08985626.2016.1155743>.
- Yu, C., Yu, T.F., Yu, C.C. 2013. Knowledge sharing, organizational climate, and innovative behavior: A cross-level analysis of effects. *Social Behavior and Personality: an international journal*, 41(1), 143-156. <https://doi.org/10.2224/sbp.2013.41.1.143>.
- Zhao, H., Seibert, S.E., Hills, G.E. 2005. The Mediating Role of Self-Efficacy in the Development of Entrepreneurial Intentions. *Journal of Applied Psychology*, 90(6), 1265-1272. [https://doi.org/ 10.1037/0021-9010.90.6.1265](https://doi.org/10.1037/0021-9010.90.6.1265).