

Entrepreneurship as a multidisciplinary phenomenon: culture and individual perceptions in business creation

El emprendimiento como fenómeno multidisciplinar: cultura y percepciones individuales en la creación empresarial

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Abstract

Purpose – Entrepreneurship is presented as a vehicle for innovation and social development. Given the importance of entrepreneurship, the objective of this study was to analyze the psychological and sociological dimensions by determining the factors that explain individual perceptions and cultural support for entrepreneurship.

Design/methodology/approach – Using Global Entrepreneurship Monitor (GEM) data obtained from the Adult Population Survey (APS) ($N = 2,500$) in the region of Andalusia (Spain), a quantitative analysis was carried out, specifically a multivariate analysis based on four-stage linear regressions.

Findings – The variables examined do not explain the psychological and sociological dimensions to the same extent. The results highlight the existence of cultural homogeneity between provinces, the importance of sociodemographic variables and the influence of the entrepreneurial expectations and experiences of the population, especially in shaping individual perceptions towards entrepreneurship.

Research limitations/implications – The replication of the study at the national and international levels is proposed in order to delve deeper into the cultural differences that condition entrepreneurship. Including new variables associated with entrepreneurial human capital could also be of interest.

Practical implications – The results can help to improve the design and implementation of policies and programs aimed at fostering entrepreneurship through the promotion of favorable individual perceptions and entrepreneurial culture.

Originality/value – The originality of this study is the consideration of individual perceptions and cultural support for entrepreneurship as dependent variables, since they are normally incorporated as explanatory factors. The results contribute to the advancement of knowledge of the entrepreneurial phenomenon through two approaches, psychological and sociological.

Keywords Entrepreneurship, Business, Cultural support for entrepreneurship, Individual perceptions, GEM, Spain

Paper type Research paper

JEL Classification — J10, J23, L26

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Resumen

Propósito – El emprendimiento se presenta como vehículo de innovación y desarrollo social. Dada la importancia del fenómeno, el objetivo de esta investigación es analizar las dimensiones psicológica y sociológica del emprendimiento a través de los factores que explican las percepciones individuales y la cultura de apoyo al emprendimiento.

Diseño/metodología/enfoque – A partir de datos GEM obtenidos mediante la Encuesta de Población Adulta ($N = 2,500$) en Andalucía (España), se desarrolla una metodología cuantitativa, concretamente un análisis multivariante basado en regresiones lineales de cuatro etapas.

Resultados – Las variables consideradas no explican en la misma medida la dimensión psicológica y la sociológica. Se evidencia la existencia de homogeneidad cultural interprovincial, la importancia de las variables sociodemográficas y la influencia de las expectativas y las experiencias vinculadas al emprendimiento, especialmente en la formación de percepciones individuales.

Limitaciones/implicaciones de la investigación – Se propone la réplica del estudio a nivel nacional e internacional para ahondar en las diferencias culturales que condicionan la creación empresarial. Se considera interesante incluir nuevas variables asociadas con el capital humano emprendedor.

Implicaciones prácticas – Mejora del diseño y la implementación de políticas y programas dirigidos a potenciar el emprendimiento, a través del fomento de las percepciones individuales favorables y la cultura emprendedora.

Originalidad/valor – La originalidad reside en la consideración de las percepciones individuales y la cultura de apoyo al emprendimiento como variables dependientes, ya que normalmente se incorporan como factores explicativos. Se contribuye al avance del conocimiento sobre el fenómeno emprendedor a través de dos enfoques, el psicológico y el sociológico.

Palabras clave Emprendimiento, Empresa, Cultura de apoyo al emprendimiento, Percepciones individuales, GEM, España

Tipo de papel Trabajo de investigación

Introduction

In recent decades, entrepreneurship has been increasingly recognized as a key factor in the economic and social growth and development of countries (Ordeñana *et al.*, 2019), particularly, as a result of economic crises and growing unemployment (Álvarez *et al.*, 2011). Both scientific research and public policies follow this trend giving increasing weight to entrepreneurship, which in turn translates into an expansion of the resources allocated for this purpose (López and Álvarez, 2018; Van Praag and Versloot, 2007). In the words of Cabeza-Ramírez *et al.* (2020) “entrepreneurship is an extraordinary phenomenon. It is a field capable of bringing together the interests of institutions, scientists and society as a whole” (p. 2). Similarly, the role of entrepreneurship in society has also evolved over the past decades, responding to a growing number of social and environmental needs, thereby increasingly expanding its influence on the progress of society and humanity (Anand *et al.*, 2021). This contrasts with traditional studies on entrepreneurship, which have been undertaken mainly from an economic approach, closely related to areas such as business administration and management (Castaño *et al.*, 2015; McDaniel, 2002).

Entrepreneurship transcends the boundaries of a single discipline (Obschonka, 2017). Therefore, the present study responds to the global nature of the phenomenon and the need to examine it through a multidisciplinary lens (Turcan and Fraser, 2018), considering the suggestions from previous research (Civera *et al.*, 2021). This study integrates variables associated with both disciplines, contributing to theoretical and applied progress in the field. It first delves into individual perceptions of values and attitudes to entrepreneurship, associated with the psychological dimension (Carsrud and Johnson, 1989; Østergaard *et al.*, 2018). Then it incorporates the sociological approach, including the importance of context and culture in the social consideration of the entrepreneur and new business creation (Achim *et al.*, 2021; Steyaert and Katz, 2004).

Both the psychological and sociological aspects are treated as dependent variables, which differentiates this study from the standard practice of including them as explanatory

variables, conferring an original and innovative character to the research. This approach has been recommended by authors such as [Liñán and Fernández-Serrano \(2013\)](#). Based on this, the general objective is to analyze the psychological and sociological dimensions of entrepreneurship through the factors that explain individual perceptions of entrepreneurship and cultural support for entrepreneurship. To do this, three specific objectives are defined: (1) to analyze the influence of the environment, through interregional differences, on individual perspectives of entrepreneurship and cultural support for entrepreneurship; (2) to determine the variables that explain individual perceptions of entrepreneurship; and (3) to determine the variables that explain cultural support for entrepreneurship. These objectives are addressed using a quantitative methodology, based on the data collected by the Adult Population Survey (APS), within the framework of the *Global Entrepreneurship Monitor*, an international project to study entrepreneurial dynamics. The variables used to measure individual perceptions and cultural support for entrepreneurship are those used and validated by the Global Entrepreneurship Monitor (GEM) methodology, through its two indices: the Individual Perception of Entrepreneurship (INDSUP) Index and the Cultural Support for Entrepreneurship (CULSUP) Index.

According to the definition of the environment as a critical aspect in entrepreneurial decision-making and the relevance of the sociocultural context for the development of entrepreneurial activities ([Obschonka, 2017](#); [Urbano and Álvarez, 2014](#)), it is pertinent to limit the analysis to a specific geographical area in order to obtain results more in line with reality. The present study was conducted in the region of Andalusia (southern Spain), which is characterized by favorable rates of potential and current entrepreneurship but low business consolidation ([GEM Andalucía, 2020](#)).

The article is structured as follows: first, the multidisciplinary nature of the entrepreneurial phenomenon and the resulting need to approach its study from different perspectives is presented, introducing the relevance of the psychological and sociological dimensions. Next, in accordance with the GEM methodology, the theoretical conceptualization of the variables used in the study and their relationship with each of the dimensions is discussed in depth. Second, the quantitative methodological proposal based on linear regressions is presented followed by the results of the analysis. After further explanation of the results, considering each group of variables, the main conclusions of the study are provided, along with the theoretical and practical contributions. Finally, the future lines of research arising from the contributions of this study are described.

Entrepreneurship as a multidisciplinary phenomenon

Entrepreneurship can be understood as the creation of new products, services, processes or business models that enhance the development and competitiveness of the market and the economic system as a whole ([Schumpeter, 1934](#)). Entrepreneurial activities generate numerous collective and individual benefits; they promote innovation, productivity, economic growth and employment, enhancing the integration of individuals and their social mobility ([Acs et al., 2009](#); [Castaño et al., 2015](#); [Hisrich et al., 2007](#); [Van Praag and Versloot, 2008](#)). Thus, the entrepreneurial capacity of a society is associated with its progress ([Cuervo et al., 2007](#)). Entrepreneurship also maintains a close link with innovation and innovation with productivity and sustainability, key factors in the knowledge society ([González et al., 1994](#); [Singh and Gaur, 2018](#); [Zhao, 2005](#)). Accordingly, from a systemic point of view, entrepreneurship promotes economic, social and environmental development ([Neumann, 2021](#)).

In this process, opportunities are defined as a central element that stems from the differing ideas of entrepreneurial agents concerning the value of resources and their transformation from inputs to outputs through entrepreneurial activity ([Cuervo et al., 2007](#)). The ability to detect these opportunities conditions entrepreneurial behavior ([Bao et al., 2017](#)). The factors

that determine entrepreneurial activity are numerous (economic, individual, social and cultural), but their definition has been addressed by various studies in recent decades, highlighting the growing relevance of aspects associated with human capital and context (Brush *et al.*, 2017; Castaño *et al.*, 2015). This justifies the shift from the traditional economic approach to an increasing multidisciplinary in the study of entrepreneurship (Turcan and Fraser, 2018).

Steyaert and Katz (2004) state the need to explain the entrepreneurial phenomenon from a multiparadigmatic approach, moving from being a mere economic reality to a social phenomenon. Entrepreneurial activity can thus be analyzed through three perspectives: economic, psychological and sociological (Álvarez and Urbano, 2011; Civera *et al.*, 2021; Fernández-Serrano and Romero, 2014). This study takes a novel approach to the phenomenon from two perspectives, psychological and sociological, considering two dimensions or dependent variables associated respectively with each of these disciplines: individual perceptions of entrepreneurship and cultural support for entrepreneurship. These variables are taken as a reference by the GEM methodology to measure the psychological and cultural aspects of entrepreneurial dynamics and have been used in previous scientific studies based on GEM data (Martínez-Mateo *et al.*, 2013).

Given the importance of context in individual perceptions and, above all, in the development of cultural support for entrepreneurship, it is considered important to delimit the territory to be analyzed (Capelleras, 2019; Feldman, 2001). To this end, *Andalusia*, a region located in the south of Spain, was chosen as the geographical scope of the research.

Andalusia is the autonomous community with the largest population in Spain, with more than 8.5 million inhabitants and the second largest in terms of surface area, with 87,599 km² (INE, 2021), comprising 8 provinces. The weight of its productive sectors is distributed as follows: agriculture, livestock, forestry and fishing: 8%; industry: 10.6%; construction: 6.5%; and services: 74.9%. Among the latter, tourism is an essential activity for the region's economy (Junta de Andalucía, 2021) [1]. Nevertheless, Andalusia is one of the poorest autonomous communities in Spain in terms of per capita income (Andalusian GDP in relation to Spanish GDP: 14% in 2020).

With respect to spending on innovation, in 2020 only 0.93% of GDP is allocated to R&D (Junta de Andalucía, 2021). Unemployment is considered a structural problem and exceeds 20% (22.54%, third quarter 2021) (EPA, 2021). Nonetheless, innovation and entrepreneurship are high on the political agenda and are seen as a key resource for boosting the region's competitiveness (Andalucía Emprende, 2018). Due to both its population and the importance of the entrepreneurial activities carried out in the region, it occupies a prominent place in national entrepreneurship (GEM Andalucía, 2020). Historically, Andalusia has been characterized by a high level of potential entrepreneurship and entrepreneurial activity based on structural factors (culture and unemployment), which has led to a slow and complex evolution of the phenomenon. For this reason, it is particularly interesting to analyze entrepreneurship from the psychological and sociological perspectives. The GEM Andalusia report (2020) shows that both rates have been above the Spanish average from 2003 to 2017 and 2018, respectively. Despite this, the problem of Andalusian entrepreneurship lies in its low sustainability, due to the small number of initiatives that reach the established business phase (more than three and a half years of operation).

Given this situation, although the promotion of entrepreneurship is defined as a priority policy objective of the autonomous community as a whole, it is important to note that there are certain discrepancies in the motivations and nature of entrepreneurial initiatives at the sub-regional or provincial level within Andalusia (GEM Granada, 2019; GEM Jaén, 2019; GEM Málaga, 2019; GEM Sevilla, 2019) [2], with it being relevant to consider the possible differences in the analysis. Based on these premises, the first two hypotheses are defined.

H1a. There are provincial differences in Andalusia in terms of individual perceptions of entrepreneurship.

H1b. There are provincial differences in Andalusia in terms of cultural support for entrepreneurship.

Each of the perspectives under analysis is discussed in more detail below.

The psychological approach

Psychology is crucial for the understanding of the entrepreneurial process, and its integration in the study of entrepreneurship is very relevant today (Fatma *et al.*, 2021; Gorgievski and Stephan, 2016; Obschonka, 2017; Tang, 2020). According to this perspective, entrepreneurial activity and its success is conditioned by individuals' appraisals of their own values and aptitudes for business creation (Brush *et al.*, 2017; Fatma *et al.*, 2021). Since they are based on personal perceptions, they are subjective and may or may not be biased. Nevertheless, in one way or another, they always influence entrepreneurial decision-making (Arenius and Minniti, 2005). Some authors even maintain that this human capital and individual perceptions of it are the most relevant assets in nascent ventures (Brush *et al.*, 2001). Frese (2009) also supports the importance of the psychological perspective by arguing that any theory aimed at explaining the entrepreneurial phenomenon must begin with the study of the individual, since central to entrepreneurial activity are the people involved as active agents.

In defining the psychological dimension, this research takes as a reference the GEM methodology, which measures individual perceptions of entrepreneurship through three variables: opportunity perception, self-efficacy and entrepreneurial reference models. First, opportunity perception is linked to personal proactivity and requires alertness, a catalyst for entrepreneurial activity (Dyer *et al.*, 2008; Kirzner, 1979). So, opportunity perception shapes entrepreneurial decision-making, fostering business creation (Arenius and Clercq, 2005; Bao *et al.*, 2017). According to Shane and Venkataraman (2000), there is no favorable perception or entrepreneurship without opportunity.

Second, self-efficacy refers to the individual's favorable perception of his or her ability to perform a particular task or achieve a certain level of performance (Hsu *et al.*, 2019; Morris *et al.*, 2013). Individuals with high levels of self-efficacy or positive perceptions of their entrepreneurial capacity have higher entrepreneurial motivation and respond better to negative stimuli, such as the risk inherent in entrepreneurship or the fear of failure and are therefore more likely to start a business (Rauch and Frese, 2007).

Third, reference models are a key aspect in the field of psychology. Freud (1933) already highlighted the relevance of identifying other people as reference models, and Bandura (1977) took up the same idea in his theory of social learning. Observing other individuals, in this case entrepreneurs and identifying with their behavior contributes to shaping individual perceptions, promoting vicarious learning of entrepreneurial skills through observation and imitation. It also increases social acceptance of lifestyles associated with entrepreneurship, entrepreneurial social capital and the likelihood of adopting entrepreneurial behaviors (Abbasianchavari and Moritz, 2021; Fritsch and Wyrwich, 2014; Nowiński and Haddoud, 2019; Ramos-Rodríguez *et al.*, 2010). In short, favorable individual perceptions towards entrepreneurship are fundamental to foster entrepreneurial activity, which explains the relevance of identifying those aspects that determine or explain how these perceptions develop.

Several previous studies have addressed the relationship between experiences associated with entrepreneurship and their influence on the process of shaping entrepreneurial

perceptions and intentions (Kolvereid, 1996; Miralles *et al.*, 2017). In this sense, both experiences inherent to the process and dynamics of business creation and those that are associated (e.g. financing of business projects, intrapreneurship, entrepreneurial education and fear of failure) are considered (Arranz *et al.*, 2019; Galván-Vela *et al.*, 2021; Huang and Knight, 2017; Martínez-Martínez *et al.*, 2021). Specifically, this last factor is understood as one of the three key predictors of entrepreneurial behavior, directly affecting individual aspirations (Camelo-Ordaz *et al.*, 2016).

Moreover, although individual perceptions of entrepreneurial capabilities are associated with the psychological level, they are also influenced by the sociocultural context, the information available in the environment and sociodemographic characteristics (Hsu *et al.*, 2019; Liñán *et al.*, 2011). This latter aspect can even affect how the environment is perceived (Soria-Barreto *et al.*, 2016). Therefore, the inclusion of sociodemographic variables (e.g. gender, age, educational level or employment) is a practice shared by many authors in the study of the entrepreneurial phenomenon (Arenius and Minniti, 2005; Bohlmann *et al.*, 2017; Huang *et al.*, 2013; Koellinger and Minniti, 2006; Postigo *et al.*, 2021).

Based on the above, the following three hypotheses are defined in relation to the psychological dimension, referring to the Andalusian population:

- H2a. Differences in sociodemographic aspects such as gender, age, educational level and employment status influence individual perceptions of entrepreneurship.
- H2b. Higher entrepreneurial expectations increase favorable individual perceptions of entrepreneurship.
- H2c. Experiences linked to entrepreneurship increase favorable individual perceptions of entrepreneurship.

The sociological view

Weber (1930) stressed the importance of Sociology and, especially, of culture in understanding economic phenomena. Today, its relevance continues to emerge in numerous studies, particularly in the field of economic sociology (Granovetter, 2005). The norms and values of a country or region are considered determinants for business creation and success (Stephan, 2020; Stephan and Uhlaner, 2010) and, regarding entrepreneurship, they gain importance through the concept of entrepreneurial culture or cultural support for entrepreneurship (Hayton and Cacciotti, 2013). According to Hofstede (1980), culture is a set of shared values and beliefs that determine socially accepted behaviors in a given context. Thus, cultural support for entrepreneurship refers to the values intrinsic to a society that determine the degree to which it understands entrepreneurship as a desirable option, also linked to aspects such as risk-taking and independent thinking (Hayton and Cacciotti, 2013; Hayton *et al.*, 2002). Many authors have claimed that collective attitudes, beliefs and values determine the entrepreneurial decisions of group members and are linked to their intentions for business creation (Gorgievski *et al.*, 2018), thus influencing the level of entrepreneurship in society (Hechavarría, 2016; Shapero and Sokol, 1982; Strauß *et al.*, 2021). Numerous studies also emphasize the importance of the social and cultural conditions under which entrepreneurs enter the market for their success (Aldrich and Zimmer, 1986; Morris *et al.*, 2002; Portes, 2013; Shakeel *et al.*, 2020).

As indicated by Cabarcos *et al.* (2006), this approach emphasizes social and cultural factors in explaining entrepreneurial decisions, since individual perceptions and behaviors are largely determined by the context and the shared beliefs of society (Krueger *et al.*, 2000). Concerning entrepreneurial intention, these authors emphasize the relevance of future entrepreneurs' perceptions of the environment in which they are immersed, since

entrepreneurial intention is conditioned by individual perceptions of the social and cultural norms present in society (Krueger *et al.*, 2000).

For the definition of the sociological scope, the GEM methodology, which measures cultural support for entrepreneurship through three variables, is also used as a reference: the desirability of entrepreneurship as a professional option, the social and economic status associated with entrepreneurship and the diffusion of entrepreneurship in the media. First, society's shared belief that entrepreneurship is a good career option is linked to higher levels of entrepreneurial motivation. Specifically, Guerrero and Santamaría-Velasco (2020) show that the perception of entrepreneurship as a good career choice has a favorable impact on the intention to create a business in the short and medium term. Along the same lines, and in connection with more advanced entrepreneurial stages, Álvarez-Herranz *et al.* (2011) present this variable as the most relevant cultural determinant for business consolidation.

Second, the social and economic status associated with the entrepreneur is a relevant cultural aspect related to career choice. The status associated with any profession influences both the personal decision whether or not to pursue it and the rewards associated with its performance. Thus, it acts as an incentive for entrepreneurs derived from cultural beliefs and social approval (Fuentelsaz *et al.*, 2018; Parker and Van Praag, 2010). In the same line, and linked to nascent entrepreneurship, Sastre (2013) argues that entrepreneurs, especially those in the early stages, seek in entrepreneurship personal development to increase their social and economic status.

Third, the media transmit values and images associated with entrepreneurship through their discourse and support the promotion of entrepreneurial culture and the visibility of entrepreneurial success (Hang and Van Weezel, 2007). Their dissemination of entrepreneurial activity is crucial in the construction of culture, since their work enhances favorable perceptions of entrepreneurs and increases the legitimacy of entrepreneurs in society (Aldrich and Yang, 2012).

Academic research has placed great emphasis on determining the relevance of culture and its influence on entrepreneurial activity (Hayton *et al.*, 2002). However, the determinants of collective identity and cultural support for entrepreneurship have not been addressed in the same detail (Estrada-Cruz *et al.*, 2019), revealing the need to delve deeper into the explanatory factors from a broader perspective. The few existing studies in this line indicate that culture could be influenced by the levels of entrepreneurial activity in a given region (Krueger *et al.*, 2013). In addition, previous or current experiences and the social, economic or employment status of individuals may also affect the process of culturization and adoption of favorable values towards entrepreneurship (Engidaw, 2021; García and Jiménez, 2011). Values usually differ among different sociodemographic groups (Urban, 2006), with the inclusion of these aspects as dependent or control variables being common in studies on the subject (Knörr *et al.*, 2013).

Based on the above and in response to the need to further study the determinants of cultural support for entrepreneurship, the following three hypotheses are defined.

- H3a.* Differences in sociodemographic aspects such as gender, age, educational level and employment status influence cultural support for entrepreneurship.
- H3b.* Higher entrepreneurial expectations increase cultural support for entrepreneurship.
- H3c.* Experiences linked to entrepreneurship increase cultural support for entrepreneurship.

Finally, given the multidisciplinary approach of this research, it would be of interest to compare the results of the analysis of both dimensions. Given that all the variables used in the study are based on the GEM project and are part of the same data set, we also consider the

existence of differences in the impact of the same explanatory variables in both dimensions: psychological and sociological. As previous studies have shown divergences in the influence of the individual and collective (sociocultural) spheres on entrepreneurship (Liñán *et al.*, 2011; Moriano *et al.*, 2012), it is understood that the effect of the variables examined may differ between the psychological and sociological spheres. Thus, the following hypothesis is established:

- H4.* There are differences in the influence of sociodemographic aspects, entrepreneurial expectations and experiences linked to entrepreneurship on the psychological and sociological dimensions of entrepreneurship, measured through individual perceptions and cultural support for entrepreneurship.

Methodology

To address the above hypotheses, a quantitative methodological proposal is presented. The data used were obtained through the GEM study [3], a global benchmark in the analysis of entrepreneurial dynamics and the basis for numerous scientific studies on the subject (e.g. entrepreneurial capacity, attitude, personality or intention, start-up creation, financial resources, social legitimacy and entrepreneurial skills) (Amorós, 2011; Bakar *et al.*, 2017; Faghih *et al.*, 2019). Specifically, data were collected through the APS, which measures both individual perceptions of entrepreneurship (INDSUP Index) and entrepreneurial culture or cultural support for entrepreneurship (CULSUP Index). For more details on the methodology and GEM data, please refer to the work of Reynolds *et al.* (2005).

A multivariate analysis based on four-stage linear regressions (models: M1, M2, M3 and M4) was developed. The data are drawn from the 2018 APS conducted in the five provinces of the Andalusia region (Spain) participating in the GEM study that year (Cadiz, Granada, Jaen, Malaga and Seville). The sample ($N = 2,500$) represents individuals between 18 and 64 years old. The confidence level is 95% and the maximum indeterminacy of the variance is considered ($p = q = 50\%$). The surveys were conducted during the period June-July 2018.

Dependent variables

The study presents two dependent variables that address each of the dimensions analyzed: psychological and sociological. These variables are two indices created and validated through GEM methodology:

The first is the INDSUP Index, which represents individual perceptions of entrepreneurship through three indicators that measure opportunity perception, self-efficacy and entrepreneurial reference models. Opportunity detection encompasses the recognition of apparently unrelated trends and changes in the environment and the recognition of the links or patterns that relate them (Baron, 2006). Knowledge, skills and experiences allude to perceived self-efficacy, i.e. the belief that one has the capabilities to execute and perform entrepreneurial activities favorably (Morris *et al.*, 2013; Shane, 2003). Finally, the identification of entrepreneurial role models involves observing other entrepreneurs and identifying with their actions, learning from them and facilitating the development of similar behavior (Gómez-Araujo *et al.*, 2015). INDSUP measures individual perceptions of these issues through scores on a scale from 0 = low entrepreneurial perception to 3 = high entrepreneurial perception.

The second is the CULSUP Index, which refers to cultural support for entrepreneurship through three indicators that measure the desirability of entrepreneurship as a career option, the social and economic status of the entrepreneur and the diffusion of entrepreneurship in the media. The consideration of entrepreneurship as a good professional option is determined by

shared positive beliefs about the benefits of entrepreneurship as employment (Pinkovetskaia *et al.*, 2020). Social and economic status comprises the set of norms and values present in society that indicate that entrepreneurship brings economic and social value to the individual who undertakes it (Kalden *et al.*, 2017). The diffusion of entrepreneurship in the media alludes to the role of these channels as a support for the promotion and visibility of entrepreneurial activity and business success (Hang and Van Weezel, 2007). CULSUP collects individual opinions about contextual conditions on a scale from 0 = No cultural support for entrepreneurship to 3 = High cultural support for entrepreneurship.

Both indices meet the internal consistency criterion ($\alpha > 0.7$). The corresponding descriptive statistics and the items referring to each of the indicators are shown in Table 1.

Dependent variables <i>N</i> = 2,500	Description	Mean	Standard deviation	Indicators
Individual Perception of Entrepreneurship (INDSUP) Index	Andalusian population's perception of their values and skills for entrepreneurship	1.062	0.959	Perception of opportunities: <i>Do you perceive opportunities for entrepreneurship in the next six months?</i> Self-efficacy: <i>Do you possess knowledge and skills for entrepreneurship?</i> Entrepreneurial role models: <i>Do you know others who have started a business in the last two years?</i>
Cultural Support for Entrepreneurship (CULSUP) Index	Andalusian population's perception of their culture and its influence on entrepreneurship	1.430	0.976	Desirability of entrepreneurship as a career option: <i>Do you consider that for the majority of the population entrepreneurship is a good career option?</i> Socio-economic status of the entrepreneur: <i>Do you believe that for the majority of the population successful entrepreneurship provides high socio-economic status?</i> Dissemination of entrepreneurship in the media: <i>Do you believe that news about successful entrepreneurs is often disseminated in the media?</i>

Note(s): The scale for measuring the indicators is dichotomous (0 = No, 1 = Yes). The INDSUP and CULSUP indices include the aggregate sum of 3 indicators, so the minimum and maximum values of the indices are 0 and 3 in both cases

Source(s): Author's own elaboration. The definition of indices and indicators follows the GEM methodology previously mentioned

Table 1.
Description of dependent variables: INDSUP and CULSUP

Independent variables

The explanatory variables are divided into four categories (Table 2). The provinces are included in order to determine whether there are differences between regions regarding

individual perceptions and entrepreneurial culture. Malaga is taken as a reference since this is the region with the highest total early stage entrepreneurial activity (TEA) in relative terms according to the number of inhabitants (GEM Málaga, 2019). The inclusion of sociodemographic variables is based on previous studies that consider them relevant to this research topic (Liñán *et al.*, 2011). In relation to entrepreneurial expectations, five circumstances are considered: potential entrepreneurs, current entrepreneurs, owners of established businesses, business closures and fear of failure. The first three variables reflect the current situation of entrepreneurship and show the opinion of those who have been or are currently involved in entrepreneurial activities or show a positive predisposition towards them. The other two variables allude to the importance of business failure and the inherent fear of it (Arenius and Minniti, 2005).

Finally, experiences related to entrepreneurship take into account the importance of previous or current contact with the entrepreneurial ecosystem, highlighting three situations. The first is intrapreneurship, which refers to entrepreneurship carried out internally within an organization through the development of new products, services, technologies or strategies. It shares many characteristics with the entrepreneurial creation process, particularly in relation to innovation, competitiveness and growth (Antonicic and Hisrich, 2003; Galván-Vela *et al.*, 2021). The second is entrepreneurial education, due to its influence on the development of qualified entrepreneurial human capital and entrepreneurial competencies that foster the recognition of opportunities and business creation (Martínez-Martínez and Ventura, 2020; Peterman and Kennedy, 2003). The third factor is the financing of entrepreneurial initiatives, since the instrumental and affective bond created between entrepreneur and investor favors the development of new projects (Huang and Knight, 2017; Peterman and Kennedy, 2003).

Results

This section presents the results of the bivariate and multivariate analyses, which provide information on the factors that explain individual perceptions of entrepreneurship and cultural support for entrepreneurship in Andalusia.

Independent variables
N = 2,500

Description

Provinces	Cadiz Granada Jaen Malaga* Seville
Sociodemographic	Male gender* Female gender From 18 to 24 years* From 25 to 34 years From 35 to 44 years From 45 to 54 years From 55 to 64 years No studies Primary school * Secondary school High school/Vocational training

Table 2.
Description of
independent variables

(continued)

Independent variables <i>N</i> = 2,500	Description	
Entrepreneurial expectations	University	
	Full-time job	
	Part-time job	
	Self-employed	
	Unemployed *	
	Potential entrepreneurs	Expectations of self-employment in the next 3 years
Entrepreneurial experiences	Current entrepreneurs	Currently in business start-up phase
	Owners	Owners of established businesses
	Closure	People who have closed their businesses in the last 12 months
	Fear of failure	Influence of fear of failure on the decision to start a business
	Intrapreneurship	Development of an intrapreneurship project in the workplace as an employee
Entrepreneurial education	Entrepreneurial education	Having received some education related to business creation
	Entrepreneurial financing	Having financed someone else's entrepreneurial project in the last 3 years

Note(s): The independent variables are measured on a dichotomous scale (0 = No, 1 = Yes). The provinces and sociodemographic variables are introduced in the model considering a reference category (*)

Source(s): Author's own elaboration. The description of the variables follows the aforementioned GEM methodology

Table 2.

Table 3 shows the bivariate analysis in relation to the dependent variables, INDSUP and CULSUP. The ANOVA test allows comparison between the groups with respect to both dimensions. Statistically significant differences at a confidence level of 95% are indicated.

		Individual perception of entrepreneurship (INDSUP) index		Cultural support for entrepreneurship (CULSUP) index	
		Mean	Standard deviation	Mean	Standard deviation
Province --	Cadiz	1.048	0.967	1.364	0.985
	Granada	0.970	0.920	1.416	0.972
	Jaen	1.008	0.926	1.516	0.988
	Malaga	1.152	0.969	1.434	0.936
	Seville	1.134	0.999	1.422	0.999
	Gender */-	Male	1.207	0.968	1.463
Age */*	Female	0.918	0.927	1.398	0.960
	From 18 to 24 years	0.894	0.893	1.551	0.895
	From 25 to 34 years	1.155	0.951	1.474	0.985
	From 35 to 44 years	1.152	0.994	1.477	0.994
	From 45 to 54 years	1.110	0.965	1.330	0.961
Educational level */*	From 55 to 64 years	0.900	0.918	1.385	0.999
	No studies	0.910	0.907	1.557	1.029
	Primary school	0.809	0.897	1.455	0.984
	Secondary school	1.158	0.956	1.463	0.965

Table 3. Bivariate analysis (continued)

		Individual perception of entrepreneurship (INDSUP) index		Cultural support for entrepreneurship (CULSUP) index	
		Mean	Standard deviation	Mean	Standard deviation
	High school/Vocational training	1.187	0.929	1.304	0.944
	University	1.410	1.011	1.310	0.960
Employment status */*	Full-time job	1.079	0.953	1.399	0.988
	Part-time job	0.984	0.937	1.296	0.949
	Self-employed	1.658	0.967	1.573	0.968
	Unemployed	0.855	0.874	1.439	0.965
Potential entrepreneurs*/-	Yes	1.854	0.952	1.526	0.899
	No	1.032	0.950	1.425	0.981
Current Entrepreneurs**/*	Yes	1.838	0.952	1.686	0.993
	No	1.028	0.945	1.419	0.974
Owners */-	Yes	1.848	0.916	1.500	0.990
	No	0.993	0.931	1.424	0.975
Closure */-	Yes	1.550	1.001	1.250	0.927
	No	1.055	0.956	1.433	0.977
Fear of failure */-	Yes	0.907	0.903	1.437	0.985
	No	1.186	0.984	1.425	0.970
Intrapreneurship */-	Yes	2.400	0.754	1.450	1.050
	No	1.052	0.953	1.430	0.976
Entrepreneurial education */-	Yes	1.426	0.953	1.473	0.956
	No	0.876	0.908	1.407	0.985
Entrepreneurial financing */-	Yes	1.640	0.925	1.307	1.039
	No	1.045	0.954	1.434	0.974

Note(s): The first symbol refers to the first dependent variable (INDSUP), the second to the second dependent variable (CULSUP); *Significance level $p < 0.05$ in ANOVA test; - Significance level $p > 0.05$ in ANOVA test
Source(s): Author's own elaboration based on the results obtained from the bivariate analysis

Table 3.

There are greater differences between categories in the psychological dimension. All the variables, except the provinces, show statistically significant differences in the ANOVA test in relation to individual perceptions of entrepreneurship. With regard to cultural support for entrepreneurship, the significance of the sociodemographic variables (age, educational level and employment status) predominates. In addition, no multicollinearity problems are observed. The variance inflation factor (VIF) presents values lower than 2.6 for all the variables (Mean VIF: 1.54).

The results of the multivariate analysis of both dependent variables are presented below. Regarding the psychological dimension, Table 4 shows the four-stage linear regression on individual perceptions.

First, some interprovincial differences are observed. However, these are minor, since, although the first model is significant ($X^2 = 0.0089$), the significance level of the provincial variables is reduced when other variables are introduced. Granada is the only province that retains a high level of significance in the final stage. In this sense, being from Granada reduces the favorable perception by 0.168 points. Therefore, with respect to the psychological domain, *H1a* (There are provincial differences in Andalusia in terms of individual perceptions of entrepreneurship) is statistically accepted.

Independent variables	M1	M2	M3	M4	Entrepreneurial culture and perceptions
<i>Provinces</i>					
Cadiz	-0.104*	-0.086	-0.060	-0.071	
Granada	-0.182**	-0.170**	-0.134*	-0.168**	
Jaen	-0.144*	-0.102*	-0.066	-0.089	
Seville	-0.018	-0.051	-0.055	-0.061	
<i>Sociodemographic</i>					
Female gender		-0.254***	-0.241***	-0.215***	
From 25 to 34 years		0.185**	0.164*	0.175**	
From 35 to 44 years		0.144*	0.138*	0.180**	
From 45 to 54 years		0.143*	0.120*	0.154*	
From 55 to 64 years		0.001	-0.035	0.010	
No studies		0.001	0.016	0.035	
Secondary school		0.253***	0.213***	0.165***	
High school/Vocational training		0.311***	0.278***	0.221***	
University		0.435***	0.387***	0.279***	
Full-time job		0.0585	0.060	0.055	
Part-time job		0.104	0.090	0.105	
Self-employed		0.104***	0.279***	0.296***	
<i>Entrepreneurial expectations</i>					
Potential entrepreneurs			0.396***	0.364***	
Current entrepreneurs			0.482***	0.399***	
Owners			0.497***	0.431***	
Closure			0.417**	0.306*	
Fear of failure			-0.208***	-0.198***	
<i>Entrepreneurial experiences</i>					
Intrapreneurship				0.686***	
Entrepreneurship education				-0.319***	
Entrepreneurial financing				0.444***	
R ²	0.0054	0.1279	0.1708	0.2103	
Note(s): Significance level: *** <i>p</i> < 0.001; ** <i>p</i> < 0.01; * <i>p</i> < 0.1 Reference categories: provinces (Malaga), Sociodemographic variables (Male gender, Age 18–24 years, Primary school, Unemployed). <i>N</i> = 2,500. <i>X</i> ² M1 = 0.0089; <i>X</i> ² M2, M3, M4 = 0.0000					
Source(s): Author's own elaboration based on the results obtained from the multivariate analysis					

Table 4.
Linear regression analysis. Dependent variable: INDSUP

Second, the sociodemographic aspects are the most relevant in the definition of the INDSUP Index, increasing the explanation of the model by 12.25%. The influence of gender and educational level is highlighted. Being a woman reduces favorable entrepreneurial perceptions by 0.215 points. The effect of age is smaller but also significant. Taking young people (18–24 years) as a reference, it is observed that favorable perceptions increase with age, although the effect is highest between the ages of 35 and 44 years (0.180). Subsequently, it decreases, ceasing to be significant in people over 55 years of age. Considering those with a primary education as the reference group, an increase in educational level produces an increase in favorable perceptions of entrepreneurship which, moreover, grows as the stage in the educational system rises (secondary school = 0.165; vocational training (VT) and high school = 0.221; university = 0.279). In relation to employment status, only self-employment improves individual perceptions of entrepreneurship (0.296).

Third, the inclusion of the entrepreneurial expectations variables increases the explained variance of the model by 4.29%. It can be seen that individual attitudes towards entrepreneurship grow as the business project is consolidated. Thus, being a potential entrepreneur increases entrepreneurial favorable perceptions by 0.364 points compared to

those who are not. Being immersed in an entrepreneurial project also entails an increase, in this case somewhat higher, 0.399 points. Finally, owning a business, i.e. having successfully established a business initiative, leads to higher favorable individual perceptions of entrepreneurship, specifically by 0.431 points, compared to people who are not in this situation. Even having closed a business in the last 12 months has a positive influence on the psychological sphere, increasing the favorable perceptions by 0.306 points with respect to a person who does not meet this condition. Fear of failure has the opposite influence, decreasing positive perceptions of entrepreneurship by 0.198 points.

The incorporation of the block of variables on experiences linked to entrepreneurship increases the level of explanation of the model by 3.95% ($R^2 = 0.210$). Intrapreneurship is the variable with the greatest effect on favorable perceptions. These increase by 0.686 points in individuals who have undertaken this type of project compared to those who have not. Having participated in the financing of entrepreneurial activities also has a positive influence (0.444), while education in entrepreneurship has a negative effect. Having received this type of training reduces positive perceptions by 0.319 points. These quantitative results allow us to accept respectively *H2a* (*Differences in sociodemographic aspects such as gender, age, educational level and employment status influence individual perceptions of entrepreneurship*), *H2b* (*Higher entrepreneurial expectations increase favorable individual perceptions of entrepreneurship*) and *H2c* (*Experiences linked to entrepreneurship increase favorable individual perceptions of entrepreneurship*), since the three dimensions considered significantly influence the psychological domain studied.

Regarding the cultural dimension, [Table 5](#) provides the results of the four-stage linear regression analysis on cultural support for entrepreneurship.

Independent variables	M1	M2	M3	M4
<i>Provinces</i>				
Cadiz	-0.070	-0.083	-0.081	-0.080
Granada	-0.018	-0.036	-0.028	-0.031
Jaen	0.082	0.047	0.049	0.051
Seville	-0.012	0.007	0.010	0.012
<i>Sociodemographic</i>				
Female gender		-0.054	-0.054	-0.050
From 25 to 34 years		-0.044	-0.041	-0.039
From 35 to 44 years		-0.053	-0.047	-0.038
From 45 to 54 years		-0.194**	-0.193**	-0.186**
From 55 to 64 years		-0.162*	-0.152*	-0.139*
No studies		0.068	0.067	0.074
Secondary school		-0.023	-0.028	-0.036
High school/Vocational training		-0.150*	-0.154*	-0.164*
University		-0.175**	-0.191**	-0.203**
Full-time job		-0.049	-0.046	-0.044
Part-time job		-0.173*	-0.171*	-0.167*
Self-employed		0.140*	0.119	0.123
<i>Entrepreneurial expectations</i>				
Potential entrepreneurs			0.068	0.071
Current entrepreneurs			0.246*	0.249*
Owners			-0.021	-0.037

Table 5.
Linear regression
analysis. Dependent
variable: CULSUP

(continued)

Independent variables	M1	M2	M3	M4	Entrepreneurial culture and perceptions
Closure			-0.197	-0.204	
Fear of Failure			0.021	0.022	
<i>Entrepreneurial experiences</i>					
Intrapreneurship				-0.070	
Entrepreneurship education				-0.072*	
Entrepreneurial financing				-0.120	
R^2	0.0025	0.0198	0.0232	0.0250	

Note(s): Significance level: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.1$. Reference categories: Provinces (Malaga), Sociodemographic variables (Male gender, Age 18–24 years, Primary school, Unemployed). $N = 2,500$. X^2 M1 = 0.1774; X^2 M2, M3, M4 = 0.0000

Source(s): Author's own elaboration based on the results obtained from the multivariate analysis

Table 5.

In general, the variables analyzed lose significance at the cultural level. The provinces are not a significant aspect in explaining entrepreneurial culture, so *H1b* cannot be accepted with respect to the sociological dimension (*There are provincial differences in Andalusia in terms of cultural support for entrepreneurship*).

The results of the sociodemographic variables show, on the one hand, that gender is no longer a relevant factor. On the other hand, the findings indicate that increasing age, especially from the age of 45 years onwards, reduces perceived cultural support for entrepreneurship (from 45 to 54 years = -0.186 ; from 55 to 64 years = -0.139). With regard to education, taking primary education as a reference, an increase in educational level also reduces the perception of entrepreneurial cultural support (VT and high school = -0.164 ; University = -0.203). Employment status is only significant in the case of part-time employment. Having this type of job reduces favorable cultural perceptions (-0.167), taking unemployment as a reference. This block increases the explanation by 1.73%. Compared with the psychological dimension, the significance of this group of variables is reduced. Nevertheless, the influence of age, education and employment status is statistically demonstrated. This allows us to partially accept *H3a* (*Differences in sociodemographic aspects such as gender, age, educational level and employment status influence cultural support for entrepreneurship*), with the nuance that gender, in this case, is not an influential aspect in the dependent variable under study.

Of the third set of variables, only current entrepreneurial status is significant in explaining the cultural support for entrepreneurship. Entrepreneurs have more favorable cultural perceptions (0.249) than non-entrepreneurs. However, other aspects of entrepreneurial dynamics, such as having the intention to become an entrepreneur or owning an established or closed business in the last year, do not affect the cultural sphere. Similarly, whether or not there is a fear of failure is not a determining factor in shaping cultural support for entrepreneurship ($p > 0.1$ in all cases). The increase in the explanation of the model in this case is 0.34%. These results lead to a partial acceptance of *H3b* (*Higher entrepreneurial expectations increase cultural support for entrepreneurship*), based on the relevance of the entrepreneurial condition in the cultural construct.

Of the fourth block, only entrepreneurial education significantly explains the model, reducing the perceptions of cultural support by 0.072 points. The other two experiences linked to entrepreneurship considered in the research are not significant at the cultural level ($p > 0.1$). In other words, carrying out intrapreneurial or financing activities does not affect the cultural support for entrepreneurship Index. This last group increases the explanation of the model by 0.18% ($R^2 = 0.025$). Based on these results, and following the trend of the previous

blocks of this dimension, *H3c* is partially accepted (*H3c: Experiences linked to entrepreneurship increase cultural support for entrepreneurship*), given the relevance of entrepreneurial education in the cultural construct.

Comparative results

In comparative terms, the results of the linear regressions show that the independent variables have a clear and diverse influence on the two dimensions explained (INDSUP: $R^2 = 0.2103$; CULSUP: $R^2 = 0.025$ points), which allows us to accept *H4* (*H4: There are differences in the influence of sociodemographic aspects, entrepreneurial expectations and experiences linked to entrepreneurship on the psychological and sociological dimensions of entrepreneurship, measured through individual perceptions and cultural support for entrepreneurship*). The most relevant differential aspects from the joint interpretation of the results shown in [Tables 4 and 5](#) are presented below.

While some interprovincial differences are observed at the psychological level, there is similarity at the cultural level. That is, the individual perceptions of the Andalusian population differ between some provinces while cultural support for entrepreneurship remains homogeneous. Concerning sociodemographic characteristics, gender is significant only at the psychological level (-0.215 ; with the reference category “male gender”), not at the sociological level. That is, men and women individually perceive entrepreneurship differently although both groups, culturally, appreciate the same support for entrepreneurship. This indicates that the gender differences lie in the key aspects that make up INDSUP, opportunity perception, the knowledge and skills for entrepreneurship and the reference models.

Age affects both dimensions differently. Individuals perceive entrepreneurship more favorably with increasing age up to 55 years (from 25 to 34 years = 0.175 ; from 35 to 44 years = 0.180 ; from 45 to 54 years = 0.154). After this age, the passing of time ceases to be relevant in the formation of individual perceptions. However, it is still important at the cultural level. In this dimension, after the age of 45, an increase in age implies a more unfavorable cultural conception of support for entrepreneurship (from 45 to 54 years = -0.186 ; from 55 to 64 years = -0.139).

Another differential aspect between the two dimensions is the influence of educational level. The results show that secondary education only explains individual perceptions. In addition, VT and university education have an opposite influence comparatively speaking. While a higher educational level improves individual perceptions of entrepreneurship (VT = 0.221 ; University = 0.279), it worsens cultural support for entrepreneurship in the population (VT = -0.164 ; University = -0.203). With respect to employment, only self-employment influences the psychological domain, fostering favorable perceptions towards entrepreneurship (0.296). In the case of entrepreneurial culture, this is only affected by part-time employment, with the effect being negative (-0.167).

The influence of entrepreneurial expectations also differs between the two dimensions. While all its variables present a statistically significant and positive effect on individual perceptions, only being a current entrepreneur significantly affects the cultural construct. The effect of this relationship is positive (0.249), although smaller than in the psychological domain (0.399).

Finally, regarding the effect of experiences linked to entrepreneurship, differences are again observed between the two dimensions. The three variables examined have an influence with the highest level of significance ($p < 0.001$) on shaping individual perceptions (intrapreneurship = 0.686 ; entrepreneurial education = -0.319 ; entrepreneurial financing = 0.444), while only entrepreneurial education affects cultural support for entrepreneurship (-0.072). The direction of this effect is the same in both cases, although its level of significance is lower in the cultural sphere ($p < 0.1$).

Discussion and conclusions

Understanding the entrepreneurial phenomenon in a comprehensive way is of paramount importance for the design and effective implementation of strategies that foster entrepreneurship (Turcan and Fraser, 2018). The innovative nature of this study lies in its multidisciplinary perspective; it is uncommon to analyze entrepreneurship from two approaches that are distinct from each other and different from the economic perspective. In addition, by considering individual perceptions and cultural support for entrepreneurship, not as explanatory variables but as explained variables, brings originality to the work and responds to suggestions from previous research (Civera *et al.*, 2021).

The GEM project offers a wealth of information on entrepreneurship, and a growing number of high-impact publications address the phenomenon using its data (Romani *et al.*, 2021). Nonetheless, most of these studies focus mainly on aspects such as intention, entrepreneurial activity or economic growth (Bakar *et al.*, 2017; Dvoutely and Orel, 2020; Wong *et al.*, 2005). Similarly, the research conducted by Urbano *et al.* (2010), Álvarez and Urbano (2011) and Álvarez *et al.* (2014) on GEM-based studies included in Thomson Reuters' *Social Sciences Citation Index (SSCI)/Journal Citation Report (JCR)*, during different periods, illustrates the predominance of works with an institutional or economic focus, analyzing the determinants of entrepreneurial activity, intention or opportunity detection. The gender variable also plays an important role in many of these studies. Even so, use of the INDSUP and CULSUP indices is less common (Fernández-Laviada *et al.*, 2020; Martínez-Mateo *et al.*, 2013), and there is no evidence of previous studies having considered them as explained variables. Therefore, placing the focus on the characteristics that describe these dimensions is an original proposal and in line with the trend of studying the phenomenon from psychological and sociological perspectives. In accordance with the specific objectives, the factors that have proved to be most relevant in explaining each of the dimensions are discussed in more detail below.

The sociodemographic aspects (gender, age, educational level and employment) stand out. In terms of gender, being a woman implies more unfavorable perceptions about entrepreneurship, results that are in line with numerous studies carried out in recent decades that show the presence of gender stereotypes in the entrepreneurial phenomenon (Camelo-Ordaz *et al.*, 2016; Gupta *et al.*, 2008). Although the trend in terms of entrepreneurial activity seems to be reversing (GEM Global, 2020), gender differences continue to influence many aspects linked to the phenomenon. In relation to the psychological dimension, Langowitz and Minniti (2007) state that perceptions are a universal conditioning factor for female entrepreneurship, since women show a strong tendency to perceive both their own entrepreneurial capabilities and the characteristics of the environment less favorably than men. In this line, the results of this study show that in Andalusia, in addition to supporting the entrepreneurial activity of women (GEM Andalucía, 2020), it is necessary to promote actions that foster their favorable perceptions of entrepreneurship. Previous research has demonstrated the importance of improving this aspect through education (Faisal *et al.*, 2017; Lockyer and George, 2012). At the cultural level, however, no gender differences are observed; the entrepreneurial culture in Andalusia is perceived in the same way by men and women. In this regard, previous studies show contradictory results (Achim *et al.*, 2021; Shinnar *et al.*, 2012), which highlights the importance of context in the analysis of this issue (Obschonka, 2017).

With respect to age, individual attitudes towards entrepreneurship improve mainly up to the age of 45. The literature in this area indicates that the first attempts at entrepreneurship usually occur between the ages of 25 and 34 years (Delmar and Davidsson, 2000), with the optimal age for starting a successful entrepreneurial activity being 40 years, after which entrepreneurial intention starts to decrease (Bönte *et al.*, 2015). The positive relationship with age can be explained by an increase in social networks over time, due to interactions and

experience, which enhances the possibilities of access to information, the resulting detection of opportunities and the availability of external resources for the implementation of business ideas (Stuart and Sorenson, 2005). Similarly, it has been shown that entrepreneurship requires a variety of skills accumulated over the years, rather than specific theoretical knowledge (Lazear, 2004). Individual perceptions of entrepreneurship are also influenced by career choice. In this sense, the risk and opportunity cost that a person is willing to assume varies with age, affecting decisions regarding entrepreneurship (Lévesque and Minniti, 2011). Young people are more prone to take risks, although this decreases as family burdens increase (Liang *et al.*, 2018). From the age of 55 onwards, age ceases to be relevant in explaining perceptions but acquires importance on a cultural level. In this case, from age 45 onwards, this factor has a negative effect on the perception of cultural support for entrepreneurship, which may be problematic in societies with increasing life expectancy (Bönte *et al.*, 2015). In line with the above, older societies have lower rates of entrepreneurial activity (Liang *et al.*, 2018).

The educational level has an opposite relationship with the psychological and cultural spheres. In relation to the former, a higher educational level leads to an increase in favorable perceptions of entrepreneurship. Higher levels of education, apart from transferring knowledge, increases self-confidence and social capital and reduces perceived risk (Jiménez *et al.*, 2015). Nevertheless, the relationship between education and the cultural factor is inverse, which could be explained by a greater development of reflective thinking. In turn, awareness of job opportunities enhanced by education may lead to a less favorable view of entrepreneurship as a career option (Jiménez *et al.*, 2015). In addition, higher levels of education lead to higher qualifications and, consequently, more diverse and superior quality job opportunities. This, in comparative terms, may influence the conditions inherent to entrepreneurship to be perceived as less attractive and contrary to social desirability. However, this is an issue for future studies.

Regarding the employment situation, and consistent with previous assessments, the influence of self-employment is observed in both dimensions, although its significance and effect is greater in the psychological sphere. This relates to the enhancement of individual perceptions favorable to entrepreneurship based on the knowledge, skills and experiences acquired (Miralles *et al.*, 2017). In addition, entrepreneurs detect opportunities more easily than people who are not immersed in the entrepreneurial ecosystem, which also contributes to improving their perceptions of entrepreneurship (Burke *et al.*, 2008).

Entrepreneurial expectations and experiences associated with entrepreneurship also contribute to the definition of individual perceptions and culture. In this sense, four relevant aspects stand out.

First is the positive influence of cases of failure (closure) on the psychological level. Although fear of failure, in line with previous studies on entrepreneurial intention, curbs the development of favorable individual perceptions (Ng and Jenkins, 2018), materialized failures, i.e. closures, produce the opposite result. Thus, having ever initiated a business project, regardless of its success, enhances the development of favorable perceptions of entrepreneurship. These results bring novel evidence to the study of failure consistent with the findings of Burke *et al.* (2008), who indicate that entrepreneurial persistence is not related to the survival of the firm but rather to personal attitude and the non-pecuniary benefits that this employment option brings.

Secondly, whereas being a current entrepreneur influences both dimensions, the rest of the variables considered in the entrepreneurial expectations dimension (potential entrepreneurs, owners, closures and fear of failure) prove to be influential aspects in the psychological sphere but not in the cultural sphere. These differences are relevant, above all, at the applied level.

The third point to emphasize is the importance of intrapreneurship (previous experience linked to entrepreneurship), as this factor has the greatest positive effect on the INDSUP

Index (0.686). Intrapreneurship recognizes the development of entrepreneurial skills through work for others (Galván-Vela *et al.*, 2021) and highlights the importance of promoting the participation of workers in activities that foster the development of innovative ideas aimed at creating value in the organization in which they work (Antoncic and Hisrich, 2003), opening up a range of possibilities for intervention in both the public and private sectors. However, it is relevant and novel to point out that this variable does not have an influence at the cultural level.

The final aspect examined in depth is entrepreneurial education, which yields contradictory results with prior studies that affirm its relevance in increasing the entrepreneurial attitudes of the population and the levels of business creation (Lockyer and George, 2012; Potter, 2008; Raposo and Paço, 2011). The results of the analysis show that entrepreneurship training has a negative influence on individual perceptions (-0.319) and on cultural support for entrepreneurship (-0.072). Further analysis of these aspects is needed to draw conclusions about the causes and consequences arising from the direction of this relationship. Previous studies show the importance of the quality and content of entrepreneurial training for its positive effect, focusing on the development of favorable attitudes and perceptions rather than the transmission of knowledge, in order to overcome individual and social barriers to entrepreneurship (Raposo and Paço, 2011). Continuing to explore the reasons behind these results is of utmost relevance for improving education and its real impact on entrepreneurship in the region.

Theoretical contributions

This study presents theoretical contributions to the advancement of knowledge about the entrepreneurial phenomenon from two dimensions that are not usually addressed jointly, the psychological and the sociological, meeting the demands for multidisciplinary approaches raised by previous research in the field (Turcan and Fraser, 2018). The results offer valuable information on the influence of a wide range of explanatory variables related to individual perceptions and cultural support for entrepreneurship, furthering the knowledge of two aspects that until now had not been studied as dependent variables. Thus, a theoretical contribution is made to defining the determinants of each dimension. The joint interpretation of both analyses also reveals the differences between these factors in terms of their influence at the psychological and cultural levels, thus advancing the theory from a comparative perspective. Likewise, the results complement previous studies on each group of explanatory variables, demonstrating their relationship with the construction of entrepreneurial perceptions and culture.

Previous studies have confirmed the positive effect of favorable individual perceptions of entrepreneurship on entrepreneurial activity (Martínez-Mateo *et al.*, 2013). The present research shows that entrepreneurial expectations and having previous or current experiences related to entrepreneurship in turn increase the likelihood of developing positive individual perceptions toward entrepreneurship. This denotes that individual perceptions and entrepreneurial activity form a virtuous cycle that provides positive feedback. Along the same lines, and with a greater effect, the role of intrapreneurship should be highlighted. The results of this research encourage further study of intrapreneurship as a key determinant in shaping individual perceptions.

The use of GEM data addresses the recommendations of various authors who highlight the usefulness, robustness and legitimacy of this project and its methodology, encouraging the use of its data for conducting scientific research (Álvarez and Urbano, 2011). This study adds to previous works based on GEM methodology, from a multidisciplinary and novel approach, focusing on studying aspects that had previously only been considered in an explanatory manner. The results of the present research show the potential of the GEM data

and their indices to further deepen the knowledge of the entrepreneurial phenomenon and its psychological and sociological spheres.

Implications for practice

Understanding the determinants, their significance and the direction of their effect also allows us to extract relevant evidence for the applied field. Until now, the importance of individual perceptions and culture in promoting entrepreneurial activity had been shown, but there had been no in-depth study of the aspects that contribute to improving these perceptions or culture. Through the study of the determinants of both dimensions, the results of the present research can help to improve the design, implementation and development of policies and programs for this purpose. Thus, their relevance at both the political and educational levels is demonstrated for the government, public and private institutions fostering entrepreneurship, universities and other educational centers. The following is a more detailed description of the applied scope considering each set of variables.

In addition to what has been described throughout the discussion section with respect to the sociodemographic variables, emphasis is placed on the importance of considering heterogeneity in terms of age and the relevance of gender. Concerning the latter, the development of initiatives aimed at promoting favorable perceptions of women's entrepreneurship is recommended. In Andalusia, this can be enhanced in the entrepreneurship promotion actions and programs already existing in the region (e.g. Andalusia's integral entrepreneurship strategy, ifempower, entrepreneurial camps and hackathon intracentros) ([Andalucía Emprende, 2021](#)) or through the design of ad hoc initiatives.

With regard to entrepreneurial expectations, the need for contact with the entrepreneurial ecosystem as a strategy for promoting entrepreneurship is highlighted, as well as the destigmatization of the fear of failure. Furthermore, in relation to experiences, in order to encourage entrepreneurship from the psychological perspective, initiatives associated with project financing, quality entrepreneurial education and intrapreneurship are recommended.

Finally, it is important to note that given the nature of the variables that affect the psychological sphere, the time frame of the interventions is flexible. However, initiatives aimed at strengthening the cultural domain should be addressed in the long term, due to the fact that culture is stable and changes are slow ([Liñán et al., 2020](#)). It can be concluded that the empowerment of both dimensions, psychological and sociological, is fundamental since, as [Gibb \(1993\)](#) points out, individual qualities predispose subjects to initiate entrepreneurial activities, but external factors have a great weight in determining whether they are finally carried out.

Looking to the future

In future studies, it would be of interest to further explore the cultural dimension to identify additional determining factors. In this regard, and given the tradition of public employment and wage employment in the Andalusian region, it could be helpful to examine in greater depth the determinants of labor choice linked to culture.

In view of the existence of national and international GEM data, the replication of the study in other regions is also proposed. A comparative perspective, in addition to offering greater knowledge of the psychological and sociological dimensions of entrepreneurship, would also allow the context to be analyzed by including other types of variables (e.g. economic and political). Similarly, the nature of the GEM methodology also makes it possible to replicate this study longitudinally.

Finally, we propose the inclusion of new explanatory variables associated with entrepreneurial social capital, human capital or the entrepreneurial personality itself (Bird, 1989; Littunen, 2000; Weiss *et al.*, 2019), such as having entrepreneurial family members, being the first-born child or having been an immigrant at some point, which may contribute to improving the explanation of individual perceptions and cultural support for entrepreneurship.

Acknowledgments

The author gratefully acknowledges the Master of Applied Sociology of the University of Malaga, especially the helpful support of Professor Dr. Luis Manuel Ayuso Sánchez throughout the research process. This study has been awarded with the Prize of Honor at the I Juan del Pino Award. The author would also like to thank Dr. Verónica de Miguel Luken for her valuable recommendations on the methodology, as well as GEM Spain team, Red GEM España - Observatorio del Emprendimiento, for facilitating the data collection process and supporting the research, in particular Dr. Rafael Ventura Fernández coordinator of the GEM Malaga team. Also, a special thanks to Dr. Isabel María Adad Guerrero for her support. This study was financed by Cátedra Andalucía Emprende 2018-2020 (Government of Andalusia) and by the Ministry of Universities (Government of Spain) (FPU20/07018). This research is also part of the project UMA20-FEDERJA-015 named "New strategies for the socioeconomic development of Andalusia", financed by the Andalusia ERDF Operational Program.

Management area: Strategy and entrepreneurship

Notes

1. For more information on the Andalusian economy and its evolution, please consult the Economic Reports prepared by the Regional Government of Andalusia. Department of Economy, Finance and European Funds. Available at: <https://www.juntadeandalucia.es/organismos/transformacioneconomicaindustriaconocimientoyuniversidades/areas/economia/situacion/paginas/informes-economicos.html>
2. For more information on the entrepreneurial dynamics of the region of Andalusia and its provinces, please consult the GEM Reports available at: <https://www.gem-spain.com/informes-regionales/>
3. <https://www.gemconsortium.org>

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