Student Perception of Competencies and Skills for Social Entrepreneurship in Complex Environments: An Approach with Mexican University Students

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Abstract: The aim of this article is to present the results of a diagnostic study carried out on a group of Mexican university students regarding their perceived achievement of social entrepreneurship competence and its subcompetences. By means of a multivariate descriptive statistical analysis, it was possible to evaluate the perception of this group on their level of perceived achievement considering the variable age. The results show a positive perception on the personal subcompetences and a low perception on the subcompetences of social innovation and business management. This article concludes with the need to promote projects and training programs that improve students’ perception of the achievement of the economic and administrative subcompetences linked to the management processes of the social entrepreneurship competence. This will allow future social entrepreneurs to develop an optimistic view of their professional tools when it comes to materializing their projects.

Keywords: professional education; educational innovation; future of education; social entrepreneurship; complex environments; higher education

1. Introduction

According to the United Nations Development Program (UNDP 2022), the new millennium not only requires us to face challenges unsolved in recent decades but also presents a complex reality that requires the participation of all social agents: Government, Business, and Civil Society. This approach means that each stakeholder needs to redefine the work they have been doing in the light of specific environmental problems since indifference and procrastination are no longer acceptable positions (Bega et al. 2021).

For universities, social responsibility is configured within a double helix of response because, on the one hand, organizations must face the demands of their environment and, on the other hand, their objectives as generators of knowledge, research, and training of new generations poses them the challenge of educating and providing skills and competencies for future decision makers (Vázquez-Parra and Ortiz 2018). Thus, beyond being educational centers, universities are projected as environments for the acquisition, training, and development of competencies needed to address the reality of a complex world (Ali et al. 2021).

According to the international institution Ashoka, competencies such as entrepreneurship and social innovation are valuable skills needed to face global and local challenges, offering more viable, focused, and sustainable alternatives than philanthropy or altruism (Vázquez-Parra et al. 2021). Its Ashoka U program aims to guide universities in training new social entrepreneurs in the face of complex realities (Ashoka 2022).
However, what knowledge, skills, and attitudes do students need to be social entrepreneurs? How prepared do students in regions with high rates of social problems, such as Latin America, feel when it comes to entrepreneurship?

This paper aims to present the results of a diagnostic study carried out on a group of Mexican university students who were questioned about their perceived achievement of the social entrepreneurship competence and its subcompetences. By means of a multivariate descriptive statistical analysis, we seek to identify the strengths and areas of opportunity perceived by the selected population. As a goal, we seek to identify students’ overall perception of their entrepreneurial competences in a country such as Mexico, considering that this may be valuable when generating training programs in entrepreneurship or related public policies.

1.1. Universities as Promoters and Trainers of Social Entrepreneurship

Discussing entrepreneurship inevitably forces us to focus on people’s attitudes toward planning, organizing, and proposing innovative projects (Gupta et al. 2020). Landström (2019) suggests there are multiple definitions of entrepreneurship; most come from the administrative sciences, focused primarily on the generation of companies. However, the social and intellectual evolution in entrepreneurship has given rise to a broader horizon, in which talking about entrepreneurship and innovation in education is a necessity due to the nature and formation of the entrepreneur (Kumar et al. 2021).

Thus, many educational institutions emphasize triggering entrepreneurial proposals oriented socially, consciously, and responsibly among their students (Hockerts 2018). In a complex, diverse world with increasingly demanding challenges, the process of entrepreneurship should no longer focus solely on developing good ideas with exclusively financial results but should also consider how innovation can respond to environmental problems. Studies such as those of Saebi et al. (2019) show the relevance of social entrepreneurs in developing their communities, especially in seeking inclusive growth and attention to local problems. Agustina et al. (2019) also highlight the role of social entrepreneurship in improving citizens’ quality of life.

Therefore, the international organization Ashoka (2022), a specialist in social entrepreneurship, has worked with universities since the 1980s in the formative processes associated with social entrepreneurship, considering that educational institutions are crucial for the generation of new entrepreneurs and the scaling of their projects. Ashoka suggests that anyone can be an agent of change and have innovative ideas with social impact; however, they must have the tools and specialized support to turn their ideas into something tangible (Bublitz et al. 2020). Through its university support program, Ashoka U (2022), social entrepreneurship is fostered through the development of competencies in social entrepreneurs, looking beyond projects to people, and valuing that an agent of change can be revolutionary for their environment when they exercise their skills and capacity for action to solve social problems, regardless of their nature.

1.2. The Perception of Entrepreneurship in a Complex World

Based on the information above, it could be assumed that any institution committed to social entrepreneurship should be able to develop programs to promote and scale the performance level of this competency and its related skills; however, the reality is not so simple (García-González and Ramírez-Montoya 2021). One of the most significant challenges these institutions face is that not all have the training, economic, and human resources to trigger ideas for social entrepreneurship and start up new projects that allow them to meet specific objectives and goals. According to the Global Entrepreneurship Monitor report (Babson College 2022), countries’ political, social, and economic situations can influence the desire for entrepreneurship, whether social or traditional, and the perception of entrepreneurs regarding their capabilities and possibilities for entrepreneurship.
According to this report, factors such as the possibility of financing, government support, accessibility to infrastructure, the nature of domestic markets, facilitative regulations, the entrepreneurial culture, and, of course, the support of related university programs are essential when it comes to entrepreneurship. These factors can differentiate between starting or not starting a business (Babson College 2022). According to the 2022 report, the country with the best characteristics for entrepreneurship is the United Arab Emirates, followed by the Netherlands, Finland, and Lithuania. In the Latin American region, the best qualified is Colombia, followed by Uruguay.

Despite the Mexican government’s and universities’ intention to promote entrepreneurship, the country is ranked 33rd out of the 50 economies considered in the report. Although this seems a poor position, it is still above the average of other low-income economies ranked in the GEM (Quezada et al. 2020). The aspects negatively assessed in Mexico included its financing conditions, which showed much volatility during the pandemic years. Governmental bureaucracy also creates lag and the difficulty of paying taxes, a process that is just beginning to be digitalized. The physical, commercial, and professional infrastructure are among the best-evaluated points in Mexico, related to the digitalization and communication efforts that project a solid growth in recent years. Unfortunately, in terms of research and development transfer, the country has a lower performance than other Latin American countries, which corresponds to the deficiency in the exchange of knowledge necessary to undertake and train entrepreneurs and the palpable lack of specialized personnel in educational institutions (Babson College 2022).

However, although this data could provide a benchmark for the national entrepreneurship index and individuals’ interest in entrepreneurship in the country, the reality of the environment does not always align with the perception of future entrepreneurs. Focusing on the university environment to promote and develop entrepreneurial skills, planners may see a different reality because even though some countries do not have formal entrepreneurship structures, the students can still desire to become entrepreneurs (Ndou 2021).

According to the Global Student Entrepreneurship 2021 report, conducted by the University of St. Gallen and the Swiss Institute for Small Business and Entrepreneurship (Sieger et al. 2021), although more than half of the students considered have not had a direct formative approach to entrepreneurship (formal university course), they do perceive themselves as having knowledge related to the generation of business ideas, which influences the perception of the entrepreneurial university environment. In this sense, specifically Mexico, despite not being well-positioned in the GEM, is considered the country with the best student perception toward entrepreneurship in the Latin American region, since 68% of the students surveyed see entrepreneurship as a career option, and more than 70% feel that they have the knowledge, skills, and experience to be entrepreneurs (Quezada et al. 2020).

The latter opens the need to explore what students consider necessary when it comes to entrepreneurship because, as can be seen, even if the environment is not the most suitable, this does not prevent young people from developing an entrepreneurial spirit, which for Cardella et al. (2021), includes the motivation and ability of a person to identify opportunities, fight for them, and carry out a change, with intuition, flexibility, and openness. Considering that the focus of this paper is on the perception of achievement, aspects such as intention, motivation, and interest in entrepreneurship (entrepreneurial spirit) are fundamental issues to be considered.

It is essential to point out that existing studies focus on data on entrepreneurship in general, with no analysis of a concrete vision of social entrepreneurship. Therefore, this article seeks to delve deeper into this matter, describing what could be seen as an ideal profile of the social entrepreneur to evaluate the university students’ perception of the level of achievement of these competencies or skills.
1.3. Profile of the Social Entrepreneur

The social entrepreneur has been conceptualized as a person committed to an idea or initiative that addresses a social problem in their environment, seeking to make it sustainable over time (Jardim et al. 2022). This notion seems to focus on the commitment and social responsibility of the entrepreneur above all things; however, at the end of the day, social entrepreneurship must involve sustainable projects, which implies good management of human, economic, and even temporal resources (Alvarez de Mon et al. 2021). Although authors such as Shapovalov et al. (2019) raise the importance of the entrepreneurs’ social vision as a distinctive feature, they consider that one cannot lose sight of the need to have sufficient skills to identify, create, and develop opportunities, aspects that are shared with other, more traditional entrepreneurs. Gandhi and Raina (2018) point out that social entrepreneurs are characterized by their motivation to solve social problems, but that, regardless of this, they require having skills and knowledge about the economic reality that is necessary for any entrepreneurial proposal, such as motivation, effective communication, the search for financing, personal relationships, and even the ability to take risks in uncertain environments. In other words, although there are differences between traditional entrepreneurs and social entrepreneurs, their profiles share common characteristics.

In concrete terms, we can find research such as that of Sáenz-Bilbao and López-Vélez (2015), who, based on a study conducted in educational institutions with programs focused on social entrepreneurship, point out the importance of all entrepreneurs having personal characteristics such as the ability to set goals, innovate, be creative, and manage time. The social characteristics include leadership, teamwork, communication, and organization. Ethical characteristics are critical thinking, ethical sense, and awareness of others, while developmental characteristics include autonomy, perseverance, self-confidence, and responsibility. In this same sense, Orhei et al. (2015) propose a three-dimensional model based on competencies proposed by the European Commission for social entrepreneurship: cognitive, functional, and social. Portugal Castro et al. (2018) add that social entrepreneurship competency should consider behaviors and attitudes, the passion for entrepreneurship, orientation to sustainability, and identifying opportunities. In the university context, Velasco et al. (2019) point out three components related to social entrepreneurship: instrumental, interpersonal, and systemic aspects.

Combining these different contributions, García-González et al. (2020) point out that the social entrepreneurship competency is comprised of five subcompetencies with 22 related indicators, which include personal aspects, leadership, social innovation, social value, and entrepreneurial management. Unlike the previous proposals, this current work focuses on features related to social entrepreneurship and considers personality traits that define the entrepreneur, adhering to the vision of agents of change proposed by Ashoka (2022).

Thus, it can be seen that the profile of the social entrepreneur, although sharing similarities with traditional entrepreneurs, also raises specific aspects that mark differences at the time of entrepreneurship (García-González and Ramírez-Montoya 2019). Valuing these differentiating elements is a determining factor for educational institutions that promote social entrepreneurship among their students, as this can improve or affect the level of success of their projects. Having clarity about this social entrepreneur profile allows for the focusing of efforts on the development of entrepreneurs and not as much on ventures, opening up greater possibilities for resilience (García-González and Ramírez-Montoya 2021).

Based on the above, it can be understood how, despite being in economies not ideal for entrepreneurship, students’ high perception of their possibilities for entrepreneurship exists because educational institutions develop the profile of the social entrepreneur adequately; thus, future entrepreneurs can perceive themselves as qualified, regardless of where they undertake their ventures or the problems they address.

Therefore, based on this frame of reference, we present the results of a diagnostic study conducted among a group of Mexican university students who were questioned
about their interest in social entrepreneurship and the skills they have to carry it out. The intention was to measure this sample group’s perception of their level of mastery of the social entrepreneurship competency and relevant skills at the time of venturing. The objective was to identify their general perception of their interest and possibility of entrepreneurship in Mexico and what personal strengths they possessed, and the areas of opportunity they saw.

2. Materials and Methods

2.1. Participants and Procedure

The sample of 328 students in a private university in Mexico included 165 men and 163 women (Table 1). The selected university is a private urban technological educational institute located in the city of Guadalajara. Students from different semesters were considered, as well as from the disciplinary areas of engineering, business, health sciences, and humanities and social sciences. Considering the characteristics of the selected institution, most of the students are from a medium and medium–high socioeconomic profile.

The study was conducted between October and November 2021 with a convenience sample of students from various courses unrelated to entrepreneurship or social entrepreneurship. A self-administered questionnaire answered through Google Forms was applied, and the students answered it voluntarily.

Table 1. Data of participants by age and gender.

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th></th>
<th>Women</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>18–20</td>
<td>65</td>
<td>47</td>
<td>74</td>
<td>53</td>
<td>139</td>
<td>42</td>
</tr>
<tr>
<td>21–22</td>
<td>82</td>
<td>53</td>
<td>72</td>
<td>47</td>
<td>154</td>
<td>47</td>
</tr>
<tr>
<td>23–24</td>
<td>18</td>
<td>51</td>
<td>17</td>
<td>49</td>
<td>35</td>
<td>11</td>
</tr>
</tbody>
</table>

Source: Created by the authors.

2.2. Instrument

To measure the perception of achievement of the social entrepreneurship competency and its associated indicators, the instrument entitled *Profile of the Social Entrepreneur* (González et al. 2020) was used (Table 2), which uses a scale with 28 questions evaluated with a Likert scale: 1: strongly disagree, 2: disagree, 3: neither agree nor disagree, 4: agree, 5: strongly agree. This instrument considers 5 subcompetencies: personal (items 1, 2, 3, 4, 5, 6), leadership (items 7, 8, 9, 10), social innovation (items 11, 12, 13, 14, 15, 16, 17, 18), social value (items 19, 20, 21, 22, 23), and entrepreneurial management (items 24, 25, 26, 27, 28).

The questions asked focused primarily on measuring students’ perceptions of their abilities. They did not delve into the particular characteristics of the projects they would like to carry out.

Table 2. Items of the instrument.

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>When I am passionate about something, I do what I can to achieve my goals.</td>
</tr>
<tr>
<td>2</td>
<td>I have the ability to identify the strengths and weaknesses of the people I work with.</td>
</tr>
<tr>
<td>3</td>
<td>When I am passionate about my work, I do my best to complete it even if I face adverse circumstances, lack of time, or distractions.</td>
</tr>
<tr>
<td>4</td>
<td>I consider myself skilled at communicating my ideas in front of a group of people.</td>
</tr>
<tr>
<td>5</td>
<td>I feel that people pick up on my ideas by sharing them with them.</td>
</tr>
<tr>
<td>6</td>
<td>It is common for me to convince others of my ideas and actions.</td>
</tr>
</tbody>
</table>
I am facilitated to delegate activities to my team members according to their profiles.

I have the ability to spread out daily activities over time to maximize results.

I am facilitated to collaborate actively in a team to achieve common goals.

I consider that all members of a team can make valuable contributions to the achievement of the objectives.

I am able to identify problems in the social or environmental environment in order to generate innovative solutions.

I like to search for reliable information on topics I have not yet mastered.

I believe that making mistakes offers us new learning opportunities.

I know strategies to create new ideas or projects.

I am tolerant of ambiguous situations or situations that generate uncertainty for me.

I show a commitment to participate in social aspects of my environment.

I know how to establish assessment criteria and measure the results of social impact.

I know strategies to develop a project, even with scarce resources.

I am interested in leading an initiative with favorable results for society and the environment.

My actions and behavior are guided by moral standards based on respect and care for people and the environment.

I am aware of the impact my actions have on society.

My actions are often characterized by an ecological awareness.

I am passionate about working in favor of social causes.

I have the accounting and financial knowledge for the development of a business.

I am familiar with marketing strategies.

I have knowledge of the logistics of running an organization.

I have the knowledge to manage the administration of an organization.

I have the ability to set a clear goal and the steps to achieve it.

Source: Created by the authors.

2.3. Analysis of Data

The data were analyzed using R (R Core Team 2013) and RStudio (RStudio Team 2022). As a first step, an exploratory analysis of the data was performed to observe and find patterns of students in the development of subcompetencies. The BoxPlot technique was used (also known as the box and whiskers diagram). This tool allows one to visually identify and compare groups of data by grouping the information by quartiles (or percentiles) and outliers to know the dispersion and symmetry in the distribution of students by subcompetencies (McLeod 2019; Williamson et al. 1989).

Second, a Principal Component Analysis (PCA) was performed. This tool allows us to gain more insight into how students’ observations differ by reducing the complexity of the raw data. We identified a set of independent and uncorrelated variables called principal components to avoid collinearity problems (Cruz-Sandoval et al. 2020). The values of the principal components of each observation (students) were calculated from the original variables. There could be as many principal components as variables analyzed (subcompetencies) (O'Sullivan and Unwin 2002). Likewise, PCA was complemented with the BiPlot graph (Gabriel 1971). This tool allows us to observe the distances between our observations (students) per the variables (subcompetencies), differentiate them by age ranges, and observe possible grouping behaviors. In our case, we used the BiPlot of form (i.e., $\alpha = 1$) to favor the visualization of our observations (students). Finally, the arithmetic
mean and standard deviation were calculated for each item corresponding to each subcompetency and for each indicator used to measure the subcompetencies.

3. Results

The overall arithmetic mean was calculated for each item evaluating social entrepreneurship competency. The mean obtained was 3.81 with a deviation(s) of 0.51. Table 3 shows the means of each item by indicators and by type of subcompetency. As a complement, Figure 1 illustrates the results better. As can be seen, the students have a high level of development of the personal subcompetencies, especially in the motivation items of the indicator.

On the other hand, the results showed that students developed subcompetencies corresponding to entrepreneurial management to a lesser extent. This is observed in the indicator items for value generation in social organizations and financing and administration. Broadly, it could be said that the most-developed subcompetencies by students were personal, leadership, and social value (means of 4.12, 4.06, and 4.07, respectively). The perception regarding the least-developed subcompetencies corresponded to social innovation and entrepreneurial management (means of 3.64 and 3.22, respectively).

Table 3. Mean values and standard deviation of indicators by subcompetencies.

<table>
<thead>
<tr>
<th>Ref</th>
<th>SubComp.</th>
<th>Indicator</th>
<th>Item</th>
<th>Mean</th>
<th>Sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>I1</td>
<td>Personal</td>
<td>Communication</td>
<td>4, 5</td>
<td>3.86</td>
<td>0.89</td>
</tr>
<tr>
<td>I2</td>
<td>Personal</td>
<td>Knowledge of the other</td>
<td>2</td>
<td>4.18</td>
<td>0.69</td>
</tr>
<tr>
<td>I3</td>
<td>Personal</td>
<td>Motivation</td>
<td>1</td>
<td>4.64</td>
<td>0.51</td>
</tr>
<tr>
<td>I4</td>
<td>Personal</td>
<td>Perseverance</td>
<td>3</td>
<td>4.36</td>
<td>0.72</td>
</tr>
<tr>
<td>I5</td>
<td>Personal</td>
<td>Persuasion</td>
<td>6</td>
<td>3.87</td>
<td>0.77</td>
</tr>
<tr>
<td>I6</td>
<td>Leadership</td>
<td>People management</td>
<td>7</td>
<td>3.82</td>
<td>0.95</td>
</tr>
<tr>
<td>I7</td>
<td>Leadership</td>
<td>Time management</td>
<td>8</td>
<td>3.73</td>
<td>0.99</td>
</tr>
<tr>
<td>I8</td>
<td>Leadership</td>
<td>Collaborative work</td>
<td>9, 10</td>
<td>4.36</td>
<td>0.76</td>
</tr>
<tr>
<td>I9</td>
<td>Social Innov.</td>
<td>Learning and adaptability</td>
<td>12, 13</td>
<td>4.34</td>
<td>0.78</td>
</tr>
<tr>
<td>I10</td>
<td>Social Innov.</td>
<td>Generation of creative ideas</td>
<td>14</td>
<td>3.41</td>
<td>0.99</td>
</tr>
<tr>
<td>I11</td>
<td>Social Innov.</td>
<td>Manag. limited resources and</td>
<td>18</td>
<td>3.15</td>
<td>1.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td>risk models</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I12</td>
<td>Social Innov.</td>
<td>Identify opport. in the face of</td>
<td>11</td>
<td>3.62</td>
<td>0.89</td>
</tr>
<tr>
<td></td>
<td></td>
<td>problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I13</td>
<td>Social Innov.</td>
<td>Social involvement</td>
<td>16</td>
<td>3.7</td>
<td>1.02</td>
</tr>
<tr>
<td>I14</td>
<td>Social Innov.</td>
<td>Tolerance, uncertainty, and</td>
<td>15</td>
<td>3.51</td>
<td>0.96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ambiguity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I15</td>
<td>Social Innov.</td>
<td>Assessment of ideas, results,</td>
<td>17</td>
<td>3.11</td>
<td>1.03</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and impacts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subcompetency</td>
<td>Description</td>
<td>Mean</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>----------------</td>
<td>---------------------------------------------------------------</td>
<td>------</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>I16</td>
<td>Social Value</td>
<td>Code and ethical sense</td>
<td>20, 21</td>
<td>4.39</td>
<td>0.7</td>
</tr>
<tr>
<td>I17</td>
<td>Social Value</td>
<td>Empathy with the unmet needs of others</td>
<td>19</td>
<td>4.07</td>
<td>0.92</td>
</tr>
<tr>
<td>I18</td>
<td>Social Value</td>
<td>Sustainability orient. and ecol. comp.</td>
<td>22</td>
<td>3.72</td>
<td>0.87</td>
</tr>
<tr>
<td>I19</td>
<td>Social Value</td>
<td>Passion and entrepreneurial identity</td>
<td>23</td>
<td>3.78</td>
<td>0.99</td>
</tr>
<tr>
<td>I20</td>
<td>Entr. Manag.</td>
<td>Basis for value generation in social org.</td>
<td>24, 25, 26</td>
<td>3.01</td>
<td>1.17</td>
</tr>
<tr>
<td>I21</td>
<td>Entr. Manag.</td>
<td>Strategic development</td>
<td>28</td>
<td>4.03</td>
<td>0.81</td>
</tr>
<tr>
<td>I22</td>
<td>Entr. Manag.</td>
<td>Financing and administration</td>
<td>27</td>
<td>3.07</td>
<td>1.11</td>
</tr>
</tbody>
</table>

Source: Created by the authors.

Figure 1. Bar chart. Arithmetic mean and standard deviation of indicators by subcompetencies. Source: Created by the authors.

On the other hand, the BoxPlot in Figure 2 shows the distribution of the mean values of the 328 students by type of subcompetency. This analysis showed that the students developed the subcompetencies corresponding to leadership, personal, and social value to a greater extent. Approximately 50% of the students acquired a mean value of 4.0 out of 5.0 in each subcompetency. On the other hand, students had the lowest average values for the subcompetencies of entrepreneurial management and social innovation, where the average value fell between 3.0 and 3.5 on the measurement scale.
Part of the Principal Component Analysis performed on the social entrepreneurship competency revealed that PC1 and PC2 explain 52% and 16% of the data variability. These two components together explain about 68% of the variability of the data (Table 4). In this sense, PC1 and PC2 describe their correlation with the subcompetencies. First, PC1 has a high correlation with the subcompetency of social innovation, indicating that this component explains the aspects of learning, adaptability, creativity, resource management, opportunity identification, involvement, tolerance, and valuing ideas. On the other hand, PC2 negatively correlates with the subcompetency of entrepreneurial management, indicating that this component mainly measures students’ strategic development, value generation, and financing and management capacity.

![Figure 2. Boxplots of the distribution of mean values of students by type of subcompetency. Source: Created by the authors.](image)

<table>
<thead>
<tr>
<th></th>
<th>PC1</th>
<th>PC2</th>
<th>PC3</th>
<th>PC4</th>
<th>PC5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial Management</td>
<td>0.40</td>
<td>−0.63</td>
<td>0.41</td>
<td>−0.38</td>
<td>0.32</td>
</tr>
<tr>
<td>Social Innovation</td>
<td>0.51</td>
<td>0.11</td>
<td>0.24</td>
<td>−0.06</td>
<td>−0.80</td>
</tr>
<tr>
<td>Leadership</td>
<td>0.43</td>
<td>0.23</td>
<td>−0.67</td>
<td>−0.52</td>
<td>0.15</td>
</tr>
<tr>
<td>Personal</td>
<td>0.45</td>
<td>−0.36</td>
<td>−0.38</td>
<td>0.71</td>
<td>0.05</td>
</tr>
<tr>
<td>Social Value</td>
<td>0.41</td>
<td>0.62</td>
<td>0.40</td>
<td>0.23</td>
<td>0.46</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.61</td>
<td>0.91</td>
<td>0.82</td>
<td>0.70</td>
<td>0.61</td>
</tr>
<tr>
<td>Proportion of Variance</td>
<td>0.52</td>
<td>0.16</td>
<td>0.13</td>
<td>0.10</td>
<td>0.07</td>
</tr>
<tr>
<td>Cumulative Proportion</td>
<td>0.52</td>
<td>0.68</td>
<td>0.82</td>
<td>0.93</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Source: Created by the authors.
Although it is difficult to understand what happens to our data in Table 4, the BiPlot analysis allows us to understand the behavior of the transformed observations and the original variables (Figure 3). In the BiPlot, the angle between the variables (subcompetencies) gives an idea of their correlation. The smaller the angle, the higher the correlation. Conversely, the greater the angle between them, the lower the correlation. The subcompetency of social innovation and leadership is shown to be correlated, while social value and entrepreneurial management show a lower correlation.

For the present analysis, it is of interest to know the behavior of the observations per the subcompetencies. So, the students color-coded the age range to which they belonged. The students who were close to the origin showed average behavior. On the other hand, the students who were close to a subcompetency and in its direction indicated that they had developed that competency the most. On the contrary, students trending in the opposite direction to the subcompetencies and farther away indicated that they lacked development in these subcompetencies.

Figure 3. Principal Component BiPlot explaining 68% of the variability in our data. BiPlot of form (α = 1). Source: Created by the authors.

4. Discussion

The results presented make it possible to answer the questions posed in the introduction (What are the strengths or areas of opportunity perceived by students in terms of the development of the social entrepreneurship competence and its subcompetences?) Furthermore, we can see how the perception of achievement of certain subcompetencies and indicators can influence the general perception and capacity at the time of entrepreneurship.

First, the results show those competencies that are best perceived by the sample (Table 3), with the subcompetency related to personal values standing out. Indicators such as communication, knowledge of others, motivation, perseverance, and persuasion are undoubtedly fundamental elements of the social entrepreneur profile (Shapovalov et al. 2019), although they are not sufficient at the time of entrepreneurship. It is important to
note that the indicators with the best means (Motivation, Perseverance, Collaborative Work, Learning and Adaptability, and Code and Ethical Sense) are values that relate to what is known as entrepreneurship, i.e., characteristics that drive the person and motivate him/her to solve a problem innovatively (Gandhi and Raina 2018). However, these indicators can be considered generic since, by themselves, they do not contribute concrete tools to materialize ideas, as could indicators such as financing and administration, value generation, the management of limited resources, or the valuation of results and impact, which were indicators that, notably, had the lowest averages. Thus, as a first conclusion, the results allow us to appreciate that the sample of students as a group perceived themselves with great entrepreneurial intentions. However, they also perceived themselves as having limited practical, administrative, and implementational knowledge. Supporting this, Figure 2 allows us to corroborate that the personal, leadership, and social value subcompetencies were those that more than 50% of the sample developed above the satisfactory level (4.0), in contrast to those of social innovation and entrepreneurial management, which on average still reflected an opportunity for development (3.0).

These data may explain the dissonance between the Global Student Entrepreneurship 2021 report (Sieger et al. 2021) and the GEM country results (Quezada et al. 2020), since, although Mexico is not one of the best places for entrepreneurship in terms of its financial or infrastructural characteristics, its students are strongly motivated. The latter can be understood by appreciating their high index of personal values and low index of competencies related to the economic and administrative reality of their environment. Table 4 shows the high correlation of social innovation and leadership subcompetencies to learning, adaptability, creativity, and tolerance indicators. It also shows the negative correlation between social value and entrepreneurial management subcompetencies in which strategic development, financing, and management capacity and value generation are found.

As a second aspect, Figure 3 (Principal Component BiPlot) allows us to delve more deeply into concrete situations perceived by the students about their development. The first thing to note is that the data reveal a contradictory result between the students’ perception of achievement and their ages. It would be expected that students who are more advanced in their formative process would perceive higher achievement, as they consider themselves more capable of starting a social enterprise. However, 9.35% of the 18 to 20-year-old group members perceived themselves as lacking, compared to 14.28% in the 21-to-24-year-old group and 11.5% in the 23-to-24-year-old group. These results may be due to two factors. The first may be related to the low averages in the professionalizing indicators (strategic development, financing, and management capacity), which argues why students who are close to graduation perceive themselves as less capable of facing the challenges of the environment beyond their desire and motivation for entrepreneurship. In the entrepreneurial process itself, entrepreneurship is promoted before implementation tools, which also seems to be reflected in the sample’s age and stage of development.

On the other hand, specifically regarding the selected population, it is noteworthy that the selected institution is currently adopting a new competency-based educational model. At the time of data collection, students from the first to sixth semesters participated under this new model, while those in the seventh to ninth semesters were enrolled under the previous model. These results open the possibility to consider whether the new model influences the improvement of the students’ perception of achievement, who conceive their education based on the development of competencies rather than on the acquisition of knowledge.
5. Conclusions

This article aimed to present the results of a diagnostic study carried out among a group of Mexican university students who were questioned about their interest in social entrepreneurship and the skills they perceive they have for it. The results showed a predisposition and tendency to promote and develop personal competencies, which allows us to understand the sample’s high level of entrepreneurial spirit, and which can respond to similar results found in international reports. However, the data show the importance and the tendency of the sample’s perception of certain subcompetencies and indicators at the time of entrepreneurship and how the students’ perception may vary as their professional development progresses. Although, in the beginning, students may perceive that the most important thing is the desire and passion for entrepreneurship, as they progress, they discover that to put these ideas into practice, they must have economic and administrative skills that their professions often do not foster ideally.

This work has limitations, as it considers a sample of students from a single university and does not have a more balanced population by age range. In addition, there is the limitation of not having information related to social intervention processes that could influence the level of student perception, such as social service, which is part of the university education system in Mexico. This was not considered as part of the questionnaire, as the students are from different semesters and therefore, not all of them have carried out this requirement of the institution. However, we consider the results valuable because they show a process that can be easily replicated in other environments and produce accurate contextual results, whether it is conducted in a university or not. The fact that some of the students in the sample are studying under a different educational model can be questioned. However, as pointed out in the discussion of the results, these data are valuable due to this differentiation because they raise the need for additional studies that consider comparative samples between students graduating from both models. There are no graduates of the new model, which impeded this precision in the present article.

Finally, the practical implications of this article regard the need for universities and public policies aimed at promoting social entrepreneurship in countries such as Mexico to focus not only on the development of entrepreneurship and its associated indicators but also on the need to develop projects and training programs of an economic and administrative nature that provide entrepreneurs with practical tools. Only in this manner will good ideas give way to realistic and sustainable projects, thus improving the survival rate of these ventures.


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**Conflicts of Interest:** The authors declare no conflict of interest.
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