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Student Perception of Their Knowledge of Social Entrepreneurship: Gender-gap and Disciplinary Analysis of an Ashoka Changemaker Campus in Latin America

Design/methodology/approach: We evaluated the perception of knowledge about social entrepreneurship of a group of students from a university certified as Ashoka Changemaker Campus, to check if there are differences by gender and disciplinary area. The population was 140 students, to whom a validated instrument was applied.

Purpose: The objective of the study was to analyze the perception of knowledge and experience development in social entrepreneurship in students of a university certified by Ashoka as a Changemaker campus, to identify data that argue for equitable training among all students regardless of gender and discipline studied.

Findings: The results shed light on the few differences among students in the Business, Engineering, and Health Sciences disciplines compared to those enrolled in the Humanities and Social Sciences concerning knowledge and experience in social entrepreneurship. The findings also indicate gender equality in the perception of knowledge and experience of innovation and social entrepreneurship.

Research limitations/implications: The sample size in the different disciplinary areas is a limitation of this research. However, the findings are valuable in terms of gender and the study being conducted in the first university certified as a Changemaker Campus in Latin America.
**Practical implications:** Underlying the statistics and the hypotheses are the importance of improving students' experience and expanding their equitable opportunities to learn about and implement innovative proposals for social entrepreneurship projects.

**Social implications:** Training in equality and inclusion contributes to an equitable and socially just society, especially when this training aims to bring new possibilities to society. This study links with those that have been conducted in other institutions, where conscious efforts have been made to reduce the gender gap or differences by disciplinary area when undertaking social entrepreneurship projects that connect sectors for social benefit. This research also argues for the need to identify the impact of other cultural elements, in addition to the knowledge provided by universities, that reduce the gap among their students.

**Originality/value:** This study is original because of its hypotheses about university students' social entrepreneurship projects, being conducted in a special environment (Ashoka Changemaker campus) in Latin America. The data were analysed under hypothesis testing, contrasting the empirical evidence with the theoretical assumptions.

**Keywords:** Social Entrepreneurship, Social enterprise, Female entrepreneurs, Entrepreneurship Education, Higher Education, Educational Innovation.

**Article classification:** Research Paper

**Introduction**

Entrepreneurship brings up paradigms deeply rooted in people's imagination; they tend to relate words such as "undertake" or "entrepreneur" in the areas of business and technology to men. These conceptions have been studied in university settings. For example, Gilmartin
et al. (2019) analysed the gap in business intentions between women and men who are engineering and business students, emphasizing the personal importance that future professionals attach to starting a new business or organization. In this regard, there is a line of entrepreneurship linked to social innovation that has a heavy presence of humanistic, environmental, and health factors; the majority participation is by women (Hsieh et al. 2019). Arredondo Trápero, Vázquez Parra, and Velázquez Sánchez (2016) identified that Latin American university women showed a greater tendency to make contributions of a social nature in innovation and entrepreneurship, participating little in technology or efficiency improvement in companies. Their conclusions point out that, culturally, Latin American women limit their intentions to develop ventures in technological or business areas. When they consider marriage and the desire to have children, they conclude that these conflict with such projects. Therefore, they decide to develop social projects, which they believe align more conveniently with their personal lives. However, despite this belief, the gender gap, even in social enterprises, remains wide: of the 210 fellows or cases included by the Ashoka organization on its website in the Mexico section, only 90 are women, demonstrating the strength of male presence.

How true is it to say that university women have majority participation in developing entrepreneurship and innovation proposals of a social nature? According to a 2016 study published on the Escuela Superior de Administración y Dirección de Empresas (ESADE, 2016), this is misleading. Yes, there is a greater tendency for women to participate in entrepreneurship and social innovation projects within universities, but few have economic support. While close to 46% of male social entrepreneurs get the necessary funding, only 26% of women do (ESADE, 2016). To reduce this gender gap, organizations
such as Ashoka U work with young students from middle and higher educational institutions. They start when the students begin to conceive entrepreneurial and innovative projects because all the necessary support must be provided for project germination to overcome many paradigms and prejudices surrounding traditional and social entrepreneurship. Through its Ashoka U program, Ashoka University promotes entrepreneurship and social innovation regardless of gender or educational discipline, providing opportunities that benefit anyone who seeks to become an agent of change.

Thus, this research diagnoses a sample of students attending a Mexican university certified within the AshokaU program on the perceptions of their knowledge of entrepreneurship and social innovation. The intention is to demonstrate whether there are real arguments that these institutions support Ashoka's vision that all people can be agents of change capable of proposing innovative social entrepreneurship projects, regardless of gender or discipline. To achieve this objective, this paper develops a theoretical framework focused on social innovation and entrepreneurship, as well as showing Ashoka's particular vision on the training of social entrepreneurs in universities. In its methodological section, the paper focuses on the sample population of a Mexican university certified as an Ashoka Campus. It concludes that there is an equal perception of knowledge, with few differences between students based on gender or area of study. It is acknowledged that the main limitation of this study is the limited sample population in some of the disciplinary areas (Humanities and Social Sciences), however, this is due to the proportion of students in these areas on the campus where the study was conducted. Even so, the results are valuable in terms of having been carried out at the first university certified as a Changemaker Campus in Latin America.
Literature review

Social innovation and entrepreneurship

Innovation is an important driver of entrepreneurship. When talking about entrepreneurship, we usually discuss the attitude that people have toward planning, organizing, and proposing new projects as they seek to establish a structured process that allows them to achieve their goals (Marulanda Valencia and Morales Gualdrón 2016).

Landström (2019) presents an interesting journey through the definitions of entrepreneurship and its social and intellectual evolution in education. At present, the subject of entrepreneurship seems to be quite common in universities and centres of education that value professional training and leadership skills that result in planning and possibly implementing specific projects (Rodríguez Garnica 2016).

Entrepreneurial possibilities have boomed increasingly in the academic disciplines in universities. Working collaboratively with educational institutions, Latin American governments pay much attention to entrepreneurship, launching various projects to encourage and promote their regions' entrepreneurs and ideas (García Cabrera, García Soto, and Dias Furtado 2015). Thus, new notions become included in the language of educational institutions to promote entrepreneurship. Aspects such as innovative entrepreneurship, the generation of business cells and incubators, and the impact that a good coaching system can bring to new ventures are considered. The Latin American economy's reliance on micro, small, and medium-sized enterprises (MSMEs) is accompanied by the universities' promotion and support of innovative, entrepreneurial models (García Cabrera, García Soto, and Dias Furtado 2015).
Entrepreneurship has made strides within the framework of social innovation. It has become increasingly common in the last decade to find innovative and entrepreneurial projects that aim to solve social or human problems (Padilla et al. 2016). This is social innovation. It involves entrepreneurship that seeks innovative solutions for society's existing problems, such as poverty, hunger, unemployment, discrimination, and the environment. Thus, social innovation promotes community development (Naranjo Rivera, 2015). To confront these problems, social entrepreneurs must understand the social, economic, political, and cultural contexts underlying them; this requires having a vision external to the project or the proposed organization (Nikulin et al. 2017). Saebi, Foss, and Linder (2019) provide important insights into the role of social entrepreneurship in fostering the growth of inclusivity and institutional change; also, Agustina et al. (2019) highlights its influence on people's quality of life. However, when considering social entrepreneurship projects, one must identify the specific challenges to them, such as the lack of a leader in the area, stakeholders' expectations, the lack of administrative and financial knowledge, and the country's regulations (Cinar 2019).

Difficulties in socially innovative ventures have hindered their consolidation and growth. Unfortunately, according to Stewart (2002), only 40% of social initiatives endure more than five years of life after their foundation. This is twice the survival rate of the Latin American regions' MSMEs and continues to be a highly challenging parameter for entrepreneurs (Fernández Guerrero, Revuelto Taboada, and Simón Moya 2018). The economic and human resources invested become a loss in the medium and long terms if the projects do not continue after a few years (Sepulveda Rivas and Gutiérrez Walter 2016).
From this perspective, training institutions see these challenges as an interesting area of opportunity to address various factors involved in the failure or survival of social projects.

Wanyoike and Maseno (2021) conducted research in East Africa where they found that the personal experiences of entrepreneurs have a determinant impact on the development of social entrepreneurship proposals, which also, according to Ahmed, Islam and Usman (2020), can be influenced by the family support that entrepreneurs have. Emotionally speaking, Darmanto and Pujiarti (2020) warn that emotional intelligence can affect several areas such as self-efficacy, intention, and support for the environment, among others, when carrying out social entrepreneurship projects.

Considering the above, how can educational institutions provide innovation and entrepreneurship training that makes a positive social impact? Social entrepreneurship is of utmost importance in meeting the needs of vulnerable sectors of society. Therefore, to help these sectors, universities must create an efficient support system that encourages their students to enter social entrepreneurship (Bazan et al., 2020). Various universities are investing in new ways to structure their innovation and entrepreneurship programs by providing opportunities within the general curricula for students in any discipline to develop the necessary skills and transversal competencies such as social commitment and responsibility, collaboration, social intelligence, and community development (Oliver, Galiana and Gutiérrez Benet 2016). Therefore, universities, beyond the development of disciplinary competences, work to promote environments in which their students develop an entrepreneurial spirit, since, as Islam (2019) points out, beyond knowledge, there are other factors that can be key to the development of this type of project.
Inter-connectivity with other sectors and organizations is highly important. For example, *Social Entrepreneurship MX* is an organization of social entities that seek to support talented university students who desire to design solutions to social problems. According to its website, it promotes networking and training to generate entrepreneurial projects that increase social impact. For Liu, Xiao, Jiang and Huen (2020), building strong collaborative networks is fundamental for the development of entrepreneurship at an early age, which can also be strengthened by a culture of altruism (Stirzaker, Galloway, Muhonen and Christopoulos, 2021). It is also not easy to discuss innovation and social entrepreneurship at the international level without mentioning the work that the Ashoka organization carries out with universities and other secondary and higher education institutions. Through its Ashoka U program, it promotes innovation and social enterprises under the vision that everyone, regardless of their characteristics or knowledge, can be an agent of change (Álarez Arregui and Rodríguez Martín 2015).

**Innovation and social entrepreneurship. Ashoka U's vision.**

According to Ashoka, social innovation is more efficient and sustainable than philanthropy and altruism to solve social problems. In addition to confronting social and human challenges, it generates value for society, leading to economic and humanistic development. Ashoka is a non-profit organization founded in the United States in 1980, being a consultant in innovation and social entrepreneurship. It has currently triggered more than 3,000 social enterprises and counts on the support and participation of 300 educational institutions in different parts of the world. The Ashoka U website refers to universities that have gone through a rigorous selection process to join a collaborative international network of "Changemaker Campuses." The basis of its proposal is that people must solve social
problems since they know the problems present and their implications (Canton and Garcia 2018). Ashoka U believes that innovation and social entrepreneurship are within reach of everyone, as long as they have sufficient and appropriate tools to turn their ideas into a reality (Rahman, Herbst and Mobley 2016). Thus, Ashoka has built a network of innovators called "agents of change" or "change agents" in more than 90 countries, including Mexico. These change agents have managed to trigger their projects within innovative environments or ecosystems such as educational institutions, according to Ashoka Mexico's website1.

Ashoka U, or the Changemaker Campus program, groups together institutions it certifies that integrate social innovation and entrepreneurship into the educational disciplines they provide as an added value offering to all their students. To achieve this, the program guides universities through a certification process of education in entrepreneurship and social innovation, implementing academic designs guided by new visions expressed in the institutions' curricula. In this way, Ashoka grants the designation of "Changemaker Campus" to those leading institutions that have demonstrated a commitment to developing education in innovation and social entrepreneurship. In Mexico, there are three, namely, Tecnologico de Monterrey (Guadalajara Campus,) the University of Monterrey, and the Autonomous Popular University of the State of Puebla, according to information presented on the Ashoka U website.

Something relevant to point out is that, beyond promoting entrepreneurship as a discipline to be developed in certain areas of knowledge, Ashoka shows universities the need to promote innovation and social entrepreneurship as a professional value that all their

1 https://www.ashoka.org/es-mx
students can access. Therefore, it directs attention to changing the paradigms and prejudices often surrounding entrepreneurship, that in business or engineering schools, mostly males participate. Changing this concept must be one of the priority objectives for any institution certified as an AshokaU Campus, especially in those countries and some disciplinary areas with cultural barriers to female entrepreneurship.

There are multiple research studies based on Ashoka's vision for university education, considering the importance of the multidisciplinary relationship of entrepreneurship and the impact this can have on students. Griffin, Jaggard, Singh and Turak (2017), link the vision of an Ashoka university to the development of positive psychology programmes, which is like the proposal of Sud, Narayan and Agarwal (2019), who demonstrate the linkage that entrepreneurship and liberal arts can have in an Ashoka university in India, revolutionising higher education in the Haryana region.

Furthermore, Haski-Leventhal (2020) considers that the training provided at Ashoka universities allows for holistic approaches where disciplinary knowledge can be developed alongside a focus on responsibility, ethics, and sustainability in students. This is closely related to the findings of Gomez and Demuner (2019), who state that the vision of Ashoka universities not only enables the training of new entrepreneurs, but also has an impact on the local development of communities.

**Contextual framework**

The study presented here took place at the Tecnológico de Monterrey, Campus Guadalajara, a private higher-education institution that has developed an action model for innovation and social entrepreneurship. The model seeks to strengthen ethical and civic-
commitment competencies through curricular subjects and co-curricular experiences, among social service and student groups, for example. Its objective is for students to learn to reflect upon and analyze their reality, respect people and the environment, and develop supportive and inclusive actions that solve problems in their society. The Guadalajara campus was certified as a Changemaker Campus in 2011, becoming the first educational institution in Mexico and Latin America to obtain this designation, reaffirming its commitment to carry out actions and accompany its students in the process of turning them into change agents.

Campus Guadalajara of Tecnológico de Monterrey shares Ashoka's vision that higher education should become the next global driver of social change, making the educational experience a space to trigger and promote innovation and social entrepreneurship to all students, as can be read on the Ashoka U website. Approaching the tenth anniversary of its certification as a Changemaker Campus, the institution continues to promote innovation and social entrepreneurship. It has reached a point where it is possible not only to measure results but also changes in the paradigms that are usually associated with the work and implications of social entrepreneurship. Thus, it is necessary to assess students' perceptions of their knowledge of entrepreneurship and social innovation to argue whether the institution's work to promote Ashoka's vision has been successful.

This institution's selection was influenced by its being the first certified institution in Latin America, a region where entrepreneurship encounters prejudices in disciplinary

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4 https://ashokau.org
areas and its entrepreneurs' perceptions. Compared to the other two certified institutions in Latin America, the chosen institution is the only one with sufficient years of experience to be able to carry out this measurement. The selection of a Latin American institution responds to the cultural imaginary that often limits the participation of young university women in certain entrepreneurial ventures.

**Research methodology**

This study used a quantitative methodology with hypothesis testing to corroborate two primary assertions that support Ashoka's vision that everyone can be a change agent. The two assertions are a) whether the perception of social innovation and entrepreneurship issues is imparted equitably to both genders, and b) if this perception of social innovation and entrepreneurship is proportionately equitable in the disciplinary areas of the students.

For the determination of these assertions and their corresponding hypotheses, the study considered the vision proposed by Ashoka for its certified universities, as well as studies conducted in other Ashoka universities where the importance of multidisciplinary in the training of social entrepreneurs is raised (Griffin, Jaggard, Singh and Turak 2017; Sud, Narayan and Agarwal, 2019; Haski-Leventhal, 2020). Additionally, studies by Lortie, Castrogiovanni, and Cox (2017), Anggahegari, Yudoko, and Rudito (2018), and Vázquez, García, and Ramírez (2020), who posit the relevance of social entrepreneurship development independent of student gender, are considered.

**Hypothesis**
H1. The perception of knowledge that students at Tecnológico de Monterrey, Campus Guadalajara declare to have on social innovation and entrepreneurship issues is equally proportional between men and women.

H2. The perception of knowledge that students at Tecnológico de Monterrey, Campus Guadalajara declare to have on social innovation and entrepreneurship issues is equally proportional among the different training areas offered.

Instrument

The instrument was a validated social entrepreneurship questionnaire (García González et al. 2020) comprised of categories of which, in this study, the results of three categories were analysed, namely, personal aspects, perception of knowledge and experience in entrepreneurship issues, and evaluation of competencies. The first area included answers related to age, country of origin, gender, and the academic discipline the student was pursuing. The second included three questions that sought to establish the level of experience or perception that respondents had about their knowledge of social innovation and entrepreneurship issues. Finally, the third section had 28 questions that measured competencies related to innovation and entrepreneurship. The questions in the second and third sections had a closed-answer format with a Likert-type scale of options.

For a more efficient application, the instrument was digitised and implemented by Google Form. This process was carried out during the period 17-28 February 2020. For the purposes and objectives of this diagnosis, this text focuses on just three questions of the instrument, two in the first section (gender and discipline) and one in the second (knowledge or experience in innovation and social entrepreneurship activities).
purpose is to identify whether students' perception of their knowledge of social entrepreneurship, regardless of gender or subject area, is the same.

**Population and sample**

To carry out this diagnosis, we applied the instrument to a population of 140 students in different semesters and curricula to obtain various views and perspectives (Table 1). To achieve a balanced sample, we applied the instrument within the class, *Ethics, People, and Society* (H1018). It is a subject taken by all students; it does not directly relate to social innovation and entrepreneurship. Being in the second one-third of the curriculum, it provides us an objective view of the work that the Campus does. (Students in more advanced semesters would have answers coming from previous knowledge).

The following inclusion criteria were used for the selection of this sample:

- That they were active students in some disciplinary career of the Tecnológico de Monterrey, Campus Guadalajara.
- That they had not previously studied any subject directly related to social innovation or entrepreneurship.
- That they answered the entire instrument.

In keeping with ethical principles and respect for the information of the student participants in the sample, the instrument was preceded by information related to the purpose of the research. The invitation to participate in the study was voluntary and the anonymity of the answers provided was assured.

*[Insert Table 1 here]*

Some data to highlight:
- Business and Engineering and Science make up 70% of the sample.
- Of the total number of male students more than half are in Engineering and Science.
- Of the total number of female students, more than 64% are registered in Business and Architecture and Design.
- Women make up 46% of the total sample.

Note that in Table 1, although at first glance it appears that there is no balance in the numbers, they turn out to be proportional to the populations that each disciplinary area or school has. Although the Humanities area appears to be underrepresented, that department has only one curricular program on campus (Communication), and its population is very small. This is also true of the Social Sciences area, whose population on campus is very limited. This contrasts with the School of Business or the School of Engineering, which have seven full academic programs each, and Health Sciences offers five curricular programs.

**Results**

Once the instrument was applied, it was possible to determine that 70% of the participating students who participated were in Engineering and Business programs, and 5% of all students were enrolled in Social Sciences and Humanities (see Table 1). Also, 82.7% of the male students were studying Engineering and Business vs. 55.4% of the female students.

Of all students, the programs least represented were Social Sciences and Humanities with 1.3% and 9.2%, respectively. Almost 80 percent of the participating engineering students were men, and in two areas (*Architecture, Art and Design*, and *Business*), 55.4 percent of women in the sample were registered.

*Insert Table 2 here*
In terms of students’ perception of their knowledge of social entrepreneurship and experience with entrepreneurship, those belonging to the disciplines of Business, Engineering, and Health Sciences presented few differences in contrast to those enrolled in Humanities and Social Sciences. Also, although the results show a clear tendency that these students had a better perception of the knowledge about the topic, most did not have the experience, which is more usual in Business and Engineering students (see Table 3).

[Insert Table 3 here]

An analysis of variance was performed on the PRE means of Men (M) for the variables of family experience and expectations regarding social entrepreneurship (Table 2) and it was found that at least one of the means of the variables mentioned above is statistically different. To prove it, an Analysis of Variance with a type I error of 0.05, 2 degrees of freedom of the numerator and 225 degrees of freedom of the denominator was carried out. The F obtained was 13.97 with a p=0.00.

Similarly, an analysis of variance was performed on the means of the ERP of Women (W) for the variables of family experience and expectations regarding social entrepreneurship (Table 2) and it was found that at least one of the means of the variables mentioned above is statistically different. To prove this, an Analysis of Variance was carried out with a type I error of 0.05, 2 degrees of freedom of the numerator and 189 degrees of freedom of the denominator. The F obtained was 14.55 with a p=0.00.

[Insert Table 4 here]

Finally, analysis of variance and hypothesis tests were performed on the samples of men and women, finding the following data (Table 5)
(a) Analyses of variance by gender were carried out (see Table 4) and a significant difference was found between the means of the three variables of experience and expectations. Additionally, hypothesis tests were performed to determine the significance between the means of the same variables between W and M. The result was that there was no significant difference between them.

(b) Two-tailed hypothesis tests were performed, using the t-student test statistic with type I error of 0.05 and assuming unknown but equal population variances. The result is that only item 5 is different between W and M. The subcompetence Personal is also different between W and M.

(c) Two-tailed hypothesis tests were performed, using the t-student test statistic with type I error of 0.05 and assuming unknown but equal population variances. The result is that only item 9 is different between W and M. The Leadership subcompetency is also different between W and M.

(d) Two-tailed hypothesis tests were performed, using the t-student test statistic with type I error of 0.05 and assuming unknown but equal population variances. The result is that only item 16 is different between W and M. The Innovation subcompetence is also different between W and M.

(e) Two-tailed hypothesis tests were performed, using the t-student test statistic with type I error of 0.05 and assuming unknown but equal population variances. The result is that ALL items in this sub-competency are significantly different between W and M. The Social Value sub-competency is also different between W and M.

(f) Two-tailed hypothesis tests were performed, using the t-student test statistic with type I error of 0.05 and assuming unknown but equal population variances. The
result is that only item 26 is different between W and M. The Management subcompetence is also different between W and M.

As a general result, it can be stated that women perceive themselves as having a higher degree of competence than men in all subcompetencies at the time of applying the pretest instrument.

[Insert Table 5 here]

Discussion on Findings

From the results of the application, and having performed a hypothesis test, it can be argued to confirm only the first hypothesis:

- H1. The perception of knowledge that the students of the Tecnológico de Monterrey, Campus Guadalajara declare to have on social innovation and entrepreneurship issues is equally proportional between men and women.

Indeed, the results from the survey sample displayed in Table 2 show that the means between men and women regarding the perception of their knowledge about innovation and social entrepreneurship are equal. The hypothesis that the means of males concerning the perception of their knowledge about social entrepreneurship and the experience of undertaking a project or business is proportionally equal to that of females is not rejected. It has a significance level of .05 in a two-tailed test with p=.308; therefore, it is accepted that the means are proportionally equal.

As for ignorance and lack of experience, there is an equal proportion of men and women, with a significance level of .05 in a two-tailed test and p=.322. Therefore, it is accepted that the proportional averages between men and women are equal.
Further elaboration on each of the answers that make up this hypothesis point to some additional findings:

- The perception of knowledge about social entrepreneurship and the experience of entrepreneurship among men and women are equal (significance level .05, p=.3094).
- Ignorance about social entrepreneurship without the experience being considered among men and women is equal (significance level .05, p=.1056).
- The assertion that women's proportional average about their perception of knowledge of social entrepreneurship and experience with entrepreneurship is equal to that of men is false (significance level =.05, p=.005).

Interestingly, of the nine enterprises considered successful on the Campus, males predominate in six. It would be important to review why. Although women start more socially innovative enterprises and consider they have the knowledge to carry them out, not all their ventures become success stories.

- **H2. The perception of knowledge that students at Tecnológico de Monterrey, Campus Guadalajara declare to have in social innovation and entrepreneurship is equally proportional among the different areas of training offered.**

In the case of this second hypothesis, it can be said that it is only partially fulfilled.

In the results shown in Table 3, one can see that the students' perception of knowledge of social entrepreneurship and their experience with entrepreneurship were the same only in the disciplinary areas of Business, Engineering, and Health Sciences, having significant differences from those students in Humanities and Social Sciences.
Furthermore, although the students knew about social entrepreneurship, more than two-thirds (67.9%) had no experience. Only 7.1% of the students who did not know about social entrepreneurship had no experience. 80% of the students who did not know about social entrepreneurship and had no experience belonged to the Business and Engineering areas. Specifically, 74.8% of Engineering and Business students who answered the survey said they knew about social entrepreneurship but had no experience.

In one aspect, if there were significant differences, it was related to the entrepreneurial experience, which was notably higher in Health Sciences than in Social Sciences, Engineering, and Humanities. It would be relevant to analyze the data further because six of the nine successful ventures were in Engineering. Here, it would be interesting to probe in which third of their curriculum the engineering students begin to undertake enterprises because this could mean that there is a trigger factor we are overlooking in the present analysis.

When analysing the successful cases on the Campus, it will be necessary to conduct a more precise analysis that examines the Engineering and Health Sciences areas. In these two programs offered by the institution, there are cross-utilizations of physical spaces and academic staff because, in some areas of Engineering, such as Biotechnology and Agrifood Biosystems, there is a strong relationship with the School of Health Sciences in the projects they carry out.

Independent of these considerations, it is important to recognize that the percentage of male and female students who say they know nothing about innovation and social entrepreneurship is minimal. This allows us to establish that the work being done at the institution as a Changemaker Campus provides good results. Indeed, the institution
promotes Ashoka's vision by developing in most of its students the perception that they all
know how to be change-makers.

Theoretical implications

Although our initial objective in this research was to analyze the Tecnológico de
Monterrey, Campus Guadalajara, after having ten years of certification as a Changemaker
Campus, we came to understand that its results go beyond simply identifying facts and
realities. Underlying the statistics and the hypotheses is the importance of improving the
students' experiences and expanding their opportunities to learn and implement innovative
proposals for social entrepreneurship projects. Thus, we saw in this research that we could
identify (Table 2) that there are no significant differences between the knowledge that men
and women have regarding social entrepreneurship issues (p=.3094), and no significant
differences in their level of ignorance (p=.1056). Although the results also identify a level
of similarity by disciplines (Table 3), this is only demonstrated in the areas of Business,
Engineering, and Health Sciences. However, this finding is not conclusive due to the
limited sample size of students in Humanities and Social Sciences. Therefore, we conclude
that the institution's effort has been fruitful in reducing the gender gap in entrepreneurship
issues. This conclusion aligns with studies by Warnecke (2018), Nicolás, Rubio and
Fernández-Laviada (2018) and Rosca, Agarwal and Brem (2020), who show the conscious
efforts that some educational institutions have made to reduce the gender gap by
undertaking social entrepreneurship projects and ventures.

Practical implications, limitations, and future directions
The study found that women perceive themselves as having a higher degree of competence than men in all subcompetencies at the time of applying the pretest instrument (Table 5).

This has an implication for educational practice in several ways: (a) the instructional design of the training activities should contemplate examples of women entrepreneurs, in order to raise awareness with success stories, (b) the practical entrepreneurship activities carried out by teams should contemplate a balance of men and women among its members to take advantage of the potential of men and women in the creation of new projects, (c) analyze the ventures postulated by the students, from a gender perspective, to locate the social value they are working on and relocate the areas where new visions are required.

This research is limited by the small sample size and the limited participation of students in certain disciplinary areas. However, the findings are valuable in terms of gender and belonging to the first Latin American university certified as an AshokaU Campus. As previously mentioned, although this study argues that the perception of knowledge and experience in entrepreneurship and social innovation among men and women in the second one-third of their education does not show a significant gap, it would be necessary to make a subsequent analysis to identify other factors that end up widening the gap at the time ventures are implemented. This would deepen understanding the higher failure rate of female ventures. This is a point of high practical relevance turned up by this research for universities that provide entrepreneurial training. It argues the need to carry out new studies that identify those elements that widen the gender gap and know why, despite men and women having equal knowledge and intention, the ventures by females develop less successfully.
Thus, this paper achieves findings that would allow diagnosing the status of Tecnológico de Monterrey, Campus Guadalajara, as a Changemaker Campus after ten years of certification. Also, it concludes that being a Changemaker Campus effectively promotes innovation and social entrepreneurship regardless of gender, at least in terms of the students' perceptions and intentions. With this writing, recommend further investigation to analyze the impact of social entrepreneurship training and all the factors that could limit the implementation of such projects.

Conclusion

Considering that innovation and social entrepreneurship turn out to be efficient and powerful tools to solve social problems, it is extremely relevant that more people join in proposing and developing these types of projects. Universities should consider that, when developing transversal competencies, such as leadership, ethics, and citizenship, their students should commit to carrying out proposals for concrete actions that truly promote social change. Social entrepreneurship is a highly relevant and impactful competency for young university students. They seek tools from their institutions that truly help them innovate, regardless of their gender or disciplinary area. Ashoka is aware and unafraid to propose that everyone can be agents of change and that the institutions designated as Changemaker Campuses should focus on providing their students the tools they require.

References


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Tables

Table 1: Characteristics of the sample population, by sex and disciplinary school enrolled.

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<th>% Female</th>
<th>% Total</th>
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<td>Humanities</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>0</td>
<td>6</td>
<td>6 invent</td>
</tr>
<tr>
<td>Engineering</td>
<td>42</td>
<td>11</td>
<td>53</td>
</tr>
<tr>
<td>Business</td>
<td>20</td>
<td>25</td>
<td>45</td>
</tr>
</tbody>
</table>

Source: Own elaboration

Table 2: Results showing item responses by gender and disciplinary school.

<table>
<thead>
<tr>
<th>Disciplinary School</th>
<th>Men I</th>
<th></th>
<th>Women II</th>
<th></th>
<th>Total III</th>
<th></th>
<th>IV</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture, Art and Design</td>
<td>50.00%</td>
<td>1 11.11%</td>
<td>9.3%</td>
<td>5 55.6%</td>
<td>14.3%</td>
<td>1</td>
<td>11.11%</td>
<td>9</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>0.00%</td>
<td>0 0.00%</td>
<td>0.0%</td>
<td>0 0.0%</td>
<td>0.0%</td>
<td>0 0.0%</td>
<td>0 0.0%</td>
<td>1 33.33%</td>
</tr>
<tr>
<td>Humanities</td>
<td>0.00%</td>
<td>0 0.00%</td>
<td>0.0%</td>
<td>0 0.0%</td>
<td>0.9%</td>
<td>1 100.0%</td>
<td>0.0%</td>
<td>0 0.0%</td>
</tr>
<tr>
<td>Engineering</td>
<td>50.00%</td>
<td>1 2.4%</td>
<td>61.1%</td>
<td>33 78.6%</td>
<td>57.1%</td>
<td>4 9.5%</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>0.00%</td>
<td>0 0.00%</td>
<td>27.8%</td>
<td>15 75.0%</td>
<td>14.3%</td>
<td>1 5.0%</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>2 2.7%</td>
<td>100.0%</td>
<td>54 72.0%</td>
<td>100.0%</td>
<td>7 9.3%</td>
<td>75</td>
<td></td>
</tr>
</tbody>
</table>
I know about social entrepreneurship, and I have already had the experience of entrepreneurship.

I know about social entrepreneurship, and right now, I'm in the process of getting started.

I know about social entrepreneurship, but I have no experience.

I don't know about social entrepreneurship, and I don't have any experience.

Table 3: Results by Disciplinary Area (School)

<table>
<thead>
<tr>
<th>Disciplinary Area</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of the disciplinary area that has that component</td>
<td>% of the disciplinary area that has that component</td>
<td>% of the disciplinary area that has that component</td>
<td>% of the disciplinary area that has that component</td>
<td></td>
</tr>
<tr>
<td>Architecture, Art, and Design</td>
<td>18.2%</td>
<td>4</td>
<td>16.0%</td>
<td>38.5%</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>27.3%</td>
<td>6</td>
<td>60.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
<td>7.7%</td>
</tr>
<tr>
<td>Humanities</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Engineering</td>
<td>27.3%</td>
<td>6</td>
<td>11.3%</td>
<td>15.4%</td>
</tr>
<tr>
<td>Business</td>
<td>27.3%</td>
<td>6</td>
<td>13.3%</td>
<td>38.5%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>22</td>
<td>15.7%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Own elaboration
Table 4.

Analysis of variance in the PRE means of Men and Women for the variables of family experience and expectations regarding social entrepreneurship.

<table>
<thead>
<tr>
<th>Groups</th>
<th>PRE-Men: 76</th>
<th>PRE-Women: 64</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Account</td>
<td>Sum</td>
</tr>
<tr>
<td>Do you have experience in social entrepreneurship activities?</td>
<td>76</td>
<td>173</td>
</tr>
<tr>
<td>Family experience with entrepreneurship</td>
<td>76</td>
<td>151</td>
</tr>
<tr>
<td>Family expectations regarding entrepreneurship</td>
<td>76</td>
<td>116</td>
</tr>
</tbody>
</table>

**ANALYSIS OF VARIANCE (ANOVA)**

<table>
<thead>
<tr>
<th>Origin of variations</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>F</th>
<th>Probability</th>
<th>Critical value for F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>21.75</td>
<td>2.00</td>
<td>10.85</td>
<td>13.97</td>
<td>0.00</td>
</tr>
<tr>
<td>Within groups</td>
<td>175.13</td>
<td>225.00</td>
<td></td>
<td>0.78</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>196.88</td>
<td>227.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Groups</th>
<th>PRE-Men: 76</th>
<th>PRE-Women: 64</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Account</td>
<td>Sum</td>
</tr>
<tr>
<td>Do you have experience in social entrepreneurship activities?</td>
<td>64</td>
<td>152</td>
</tr>
<tr>
<td>Family experience with entrepreneurship</td>
<td>64</td>
<td>115</td>
</tr>
<tr>
<td>Family expectations regarding entrepreneurship</td>
<td>64</td>
<td>101</td>
</tr>
</tbody>
</table>

**ANALYSIS OF VARIANCE (ANOVA)**

<table>
<thead>
<tr>
<th>Origin of variations</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>F</th>
<th>Probability</th>
<th>Critical value for F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>21.70</td>
<td>2.00</td>
<td>10.85</td>
<td>14.55</td>
<td>0.00</td>
</tr>
<tr>
<td>Within groups</td>
<td>140.97</td>
<td>189.00</td>
<td></td>
<td>0.75</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>162.67</td>
<td>191.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PRE comparison between H and M in the three variables of interest:**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Woman</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you have experience in social entrepreneurship activities?</td>
<td>2.38</td>
<td>2.28</td>
</tr>
<tr>
<td>Family experience with entrepreneurship</td>
<td>1.80</td>
<td>1.99</td>
</tr>
<tr>
<td>Family expectations regarding entrepreneurship</td>
<td>1.58</td>
<td>1.63</td>
</tr>
</tbody>
</table>

n_woman = 64.00  
n_male = 76.00
Table 5.

Analysis of variance and hypothesis tests were performed on the samples of men and women.