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Closing the Digital Gender Gap among Foreign University Students: The Challenges Ahead

Hayet Kerras [1,*], Susana Bautista [2], Danilo Santos Piñeros Perea [3] and María Dolores de-Miguel Gómez [1,*]

[1] Departamento de Economía de la Empresa, Escuela Técnica Superior de Ingeniería Agronómica, Universidad Politécnica de Cartagena, 30203 Cartagena, Spain
[2] Escuela Politécnica Superior, Universidad Francisco de Vitoria, Ctra. Pozuelo-Majadahonda Km 1.800, 28223 Pozuelo de Alarcón, Spain
[3] Universidad Nacional de Colombia, Carrera 45 # 26-85, Edif. Uriel Gutiérrez, Bogota 111321, Colombia
* Correspondence: hayet.kerras@edu.upct.es (H.K.); md.miguel@upct.es (M.D.d.-M.G.); Tel.: +34-674562221 (H.K.)

Abstract: In today's world, new and advanced forms of technology are increasingly providing great changes in universities, thus generating new possibilities and impacting pedagogy and learning methodology. Unfortunately, not all students can use these tools in the same way and with the same ability. Not only are there digital gender gaps that limit women from enjoying these learning opportunities, but there are also digital gaps between foreign and natives' students who have been trained in these technologies in their countries of origin, which impedes the achievement of the sustainable development goals planned for 2030. This study addresses theoretical foundations on the digital gender gap in university studies and provides an econometric analysis, through a simple linear regression, on the existence of a correlation between this digital gender gap and the university study gap by gender. A more specific analysis is also presented on the digital gender gap in the case of foreign students from four groups of countries, according to their income. The results show, on one hand, that differences in the access and use of technologies represent one of the factors that affects the percentage of graduates in higher education by gender; on the other, that there is a highly visible digital divide between countries with high income, compared to low- and lower-middle-income countries.

Keywords: ICT; higher education; digital gender divide; foreign students; inclusion

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1. Introduction

The digital revolution is transforming the world, but some groups of people are falling behind. The World Summit on the Information Society [1] (pp. 2–3) states, to this effect, that: "In building the Information Society, we shall pay particular attention to the special needs of marginalised and vulnerable groups of society, including migrants, internally displaced persons and refugees, unemployed and underprivileged people, minorities, and nomadic people. We shall also recognise the specific needs of older persons and persons with disabilities." [2]. Information and communication technologies (ICT) are considered the tools that currently allow for the reduction of barriers between these categories of people and encourage adaptation to rapid globalization and digitalization. [3].

In recent decades, the educational field, specifically universities, registered a constant vast increase worldwide, with a huge flow of qualified international migrants. The term qualified international migrants or highly skilled international migrant refers, according to Weinar et al. [4], to individuals which are subject to national immigration policy and law. They often enjoy easier access to an entry visa and/or residence permit than their lower-skilled brethren, but none of them are exempt from these requirements. This category of people is generally composed of students, foreign workers researchers, entrepreneurs, or volunteers in NGOs [5,6] from countries where tens of millions of people live without

an internet connection or sound knowledge of how to operate many modern forms of technology. This jeopardises both their successful integration and mental health, since ICT can ensure constant communication with loved ones [7], provide information and training (inclusion and education), help people look for a job, manage procedures, access health, and allow for, thanks to the social media, interaction with people of the same origin about their respective experiences before and after their arrival to the host country; doing this would allow them to be considerably better prepared to face the challenges of migration [8]. It is, therefore, necessary for people across all levels of education to have better access to this new technology [9–13].

In fact, a media bureaucracy has been created, and it requires access and a strong grasp of technology to be able to access and carry out procedures, such as: requesting and processing identity documents, recognition of documents, banking transactions, invoice receipt and payment, geographical location checking, social and medical benefits, checking of public transport timetables, and many more. Difficulties regarding these digitalised processes are a real handicap for foreign students facing a digital divide who find themselves with limited capabilities that prevent them from getting organised and integrating into the society [14].

In this way, Baron et al. [7] and Nemer [15] indicate that the digital divide means much more than just providing neutral access to technology. It is also related to equal access to public space, and it is the reason why it is considered an essential condition for citizenship. This definition of the digital divide is reflected in the case of foreign vs. native's student's, who have access to ICTs (first digital divide) and the technological skills to use them (second digital divide). According to Castells [16] and Benítez [17], the digital divide among diasporic or transmigrant communities implies not only disparities of income lever, gender, ethnicity, education, language, generation, and geographical location, but also the social distribution of knowledge, power, and network capacity in the information society.

Along these lines, Segura [18] pointed out the difficulty that immigrants encounter, when the host country is more technologically developed than the country they come from, and he commented that this digital gap is more difficult to identify in groups of people whose countries are in full digital expansion. This situation applies perfectly to foreign students who, in addition to living far from their country and families, find themselves facing the new challenge of adapting to the technological development of the host country, if it is different from their own.

Conversely, Tosi et al. [19] indicated that foreign students describe university as "the unknown", since they face new classmates, forms of teaching, and ways of bonding with others, etc. This difference is more visible in the case of foreign students who arrive from countries less developed than the host country, since technology is an area in which it is essential to be at the same level as one's peers. This is because timetables are posted online, all documentation is shared on virtual platforms, and all information, regarding exams, work experience, vacations, databases, and free computer systems, are shared on university websites. Furthermore, the students need to process their immigration papers, create a bank account, prepare the equivalences of documents and diplomas, and apply for a health card electronically, without previously having this know-how or experience [12].

This digital divide, also defined as the third divide, considers the barriers that make it impossible for certain categories of people to benefit from what the use of ICTs brings them. Specifically, it prevents the achievement of digital inclusion of migrants, particularly of foreign students, which is one of the categories of migrants who are most in need of the use of ICTs [20]. According to Deursen and Helsper [21], these technological inequalities create a gap in terms of education, especially in university studies (the level at which the use of ICTs is most required), thus limiting their access to the labour market and social life, and, consequently, holding back the improvement of their living conditions. Indeed, digital literacy is closely associated with university studies, since students with fewer opportunities to use technology have worse results in certain subjects, which negatively affects their university success [22,23].

Torcomian [24] points out that migrating to study requires a combination of adaptation both to the city and university and is, therefore, a simultaneous process. This experience encourages the individual to generate autonomy, manage time and space, adjust their economy, relate socially, maintain affection to their origin, and advance in the academic field, for which, they have three possibilities: study obsessively, escape, or return.

Many authors have pointed to the danger of digital segregation, indicating that exclusion negatively impacts individuals across all facets of their lives, including educationally, professionally, and even social inclusion [25–28]. Digital inequalities are effectively grounds for exclusion, based on the knowledge society has, as well as promoting the creation of social and personal marginalisation [29].

This research focuses on a specific group of migrants, which is a group of foreign students, who decided to pursue a university career outside their country of origin, hoping to find a better quality of education or exchange of information to complement the training that they already have. However, they must face many difficulties, in terms of integration and adaptation to the educational system of the host country, as it is more digitised. Additionally, the study is oriented towards the digital gender gap, since it is considered that women, in some countries, suffer even more as a result of this issue. Therefore, the objective of this work could be explained by posing the following questions: (a) Does the digital gender gap affect the achievement in university studies? (b) Do foreign students have the same access and skills to use technology as native students in the host country? (c) Does the level of income affect this digital divide?

2. State of the Art

Given the changes that education has undergone, due to the presence of ICTs, there is no doubt about the role that these technologies have played in improving the training process, with a contribution that is highly visible. Several authors, including Guzmán [30], Suarez Escaño [31], and Aizpurua-Aguirre et al. [32], cited the following among the contributions of ICTs: the promotion of greater diversity in communication channels, either among the students themselves or between them and the teachers; the guarantee of some advances in the development of new teaching models; the breaking of space and time barriers in the teaching–learning process; and the offer of a wide range of training possibilities.

Although technology has now been part of our daily lives for decades, it should be noted that the digital transformation in the education process, also called "educational technology (ET (UNESCO (2013) [33] defines the concept of ET as the implementation of information and communication technologies in education, in order to support learning processes at different levels, both formal and non-formal education), is relatively new (virtual reality, e-books, class blogs, use of learning-centred games, internet searches and research, audio-visual teaching, etc.). Indeed, ET emerged in the US in the 1950s by influence from American military training and the prospect of providing the classic teaching model with a technical/rational approach. This onboarding of technology into education has been developed in three stages: the first when ET was conceived as an introduction to the teaching of new instruments and machines; the second when it was posed to streamline learning; and the third when it was seen as a systematic approach towards education [34–37].

Borges and Vizoso [38], meanwhile, defined education as a process of individuals socialization, whose result allows them to assimilate and learn information, entailing cultural and behavioural awareness. To qualify the alignment between technology and education, the authors add that ICT is also part of this awareness and a way to acquire modes of being.

We should acknowledge that educational technologies bring several benefits: firstly, they allow us to increase student motivation and interaction; secondly, they are more attractive and get students' attention, which improves performance and promotes the development of critical thinking. However, Guzmán [30] underlines an important nuance, indicating that, in the educational context, ICT is not considered responsible for the evolution or quality of the educational process but that the educational process is responsible

for harnessing ICT to evolve and deliver excellence in education. García et al. [39] said that information and communications technology in university education represents new learning environments and generates life skills; it supports touchpoints with teaching activities that integrate the visual, novel, and interactive. This method of learning also encourages the use of apps, platforms, and social networks; it promotes forms of teaching, facilitates the search for information and communication, and allows for the simultaneous connection and collaboration of several people.

However, educational technologies also have their disadvantages, among them, "The digital gap" that constitutes the theme of our study.

The fact is that, while studying abroad can be enjoyable and rewarding for some people, for others, it causes a burden that is difficult to overcome [40]. Indeed, integrating into a new society and becoming accustomed to the way a new city operates is not easy for foreign students, particularly if their home country is less developed than the host nation [41–43]. This difficulty is not only due to the change of language (when it exists) or the fact that they are away from their families [44,45]. There are other adaptation difficulties, such as those related to the access and use of ICTs, which have brought about transformations at all levels in the information society. Along these lines, Olivera [46] indicated that legal, social, cultural, economic, and digital restrictions play an important role when analysing the inclusion of foreign female student in contemporary network societies.

This close relationship that links the promotion of equal access and use of technology and success in higher education was confirmed during the COVID-19 pandemic, where the progressive loss of the face-to-face role negatively affected people, marginalizing them for neither having the appropriate computer equipment nor digital skills [47–50], which caused certain difficulties for them to continue being educated. This was in stark contrast to those who had the appropriate tools and skills to continue through networks, screens, and data, as well as training and challenging the old educational structures [51]. Villalonga [52] suggested that quality education must be ensured to meet the huge challenge of the digital divide in distance education, which requires the availability of a necessary technological infrastructure and technical skills among trainers and users.

It should be stressed that women experience this integration problem to a greater extent and are more severely impacted by the digital divide than men. Türktan [53] said, to this effect, that the digital gender divide (the digital gender gap or divide refers to the difference between the percentage of men and the percentage of women, according to the use of ICT indicators (internet use in the last three months, frequent internet use, internet purchases) [54–56]) leads to poorer-quality education for women, and closing the gap could deliver more positive academic outcomes. This would allow for the achievement of several of the sustainable development goals (SDG), either in the host country or country of origin, such as SDG4: Education, SDG5: Equality, SDG8: Decent Work and Economic Development, SDG10: Reduction of Inequalities, SDG17: Alliances to Achieve the SDGs [57–59]. Additionally, Mariscal et al. [60] emphasise out that the difference women suffer in levels of education and training inhibit their ability to digitise. These "old" problems urgently need to be addressed to meet "new" digital challenges.

This difficulty is also highlighted also by Robus [61], who stipulated that the digital gender gap is most prominent among migrants who, as both foreigner and women, face a double disadvantage that is consistently confirmed by research. The author explains this by using cultural gender stereotypes as the role of women and discrimination (conscious and subconscious) that limits their learning.

Of course, participation in the information society requires the availability of ICT equipment, as well as informal literacy, which is defined as the ability to access, know where to find, evaluate, and leverage information from across a wealth of sources. It entails having communication and critical-thinking skills and problem-solving abilities [62,63].

Unfortunately, women, in general, and migrant women, more specifically, are still lagging in their ability to access, use, and afford digital tools, given that they face cultural constraints and stereotypes that affect their expectations, which may lead them to choose

career paths that are not adapted to the labour market, which is becoming increasingly digitised and interconnected [64]. Fry [65] commented that, despite the notable improvement in the educational level of migrant women since the 1980s, which stand out for their greater participation in secondary and university education, there is still a differentiating percentage in the access and use of ICTs between migrant women and native citizens of a country, from the moment of landing and throughout the integration process [66]. This is largely due to the lack of resources that allow for the acquisition of technological tools in some countries with low- or middle-low-incomes, but also to socioeconomic factors in the countries of origin. By way of example, Mariscal [67] indicated that, in some South Asian and/or Arabic communities, there are some cultural traditions, such as the restriction of women in public spaces (among them cybercafés and computer centers) that can act as a barrier to accessing internet and training facilities. On the other hand, Mutula [68] pointed to the example of Sub-Saharan African women, who because of low economic development, face barriers to accessing technology. This theory has also been established by Rojas [69], who claims that computers are devices that are far removed from the daily culture of Peruvian women. Depending on the country and its degree of digitization, sometimes this situation is not unique to women, although they are in a worse position than men. The author indicated that, in general, the migrants' women have a phobia of ICTs; they are afraid of breaking the equipment and facing the repair costs, and they cannot have access to this innovation, due to the traditional roles, motherhood, and housework that constitute a barrier that restricts their movement. Vancea and Boso [70] and Ragnedda [20] suggested that the digital gender divide is, in turn, reproduced in the case of immigration, since migrants are often in a worse socioeconomic situation, and that this partly explains the differences in equipment and use of digital media, adding that this handicap creates a certain degree of isolation from society among migrant women. It is important to reflect that these gaps limit foreign students more than other categories of migrants [11,71,72].

Indeed, academia and, above all, the world of higher education is becoming more and more tech-savvy and requires all students to have pretty much the same technological skills to be contenders in a highly competitive environment [73]. Not having the necessary skillsets can penalise foreign female students and limit their search for information, access to course media, data analysis, job applications, email dispatches, interaction with teachers, etc. [74–76].

Mettler [77] and Hawash and Lang [78] stressed the need to bolster education strategies, especially higher education, bearing in mind the role of information technology in improving self-learning skills, although the author considers this process to be a real challenge for developing countries, who generally suffer from more gender inequalities [79].

Peromingo and Pierson [80] said there is an increasingly strong correlation between level of digital skills and educational fulfilment. This means that groups with low-level digital skills are trapped in a vicious circle that restricts their educational abilities.

Being able to take advantage of the potential of digital transformation on an equal basis is the cornerstone of the most sustainable and inclusive economies and societies, even more so when it comes to forming a generation, whose identity is totally digitised, with very different characteristics to the generation that was not educated in such a developed digital world [81–85].

Therefore, it is essential to be aware of women's contributions to society, in general, and the values generated by immigration at an economic and social level [86]. It is also vital to raise awareness of the importance of training and education by relating them to digital skills, since they promote the use and learning of ICTs and provide quality education to all people, including girls and women who live in, or come from, disadvantaged areas. This entails an empowerment of people and turns them into active agents of social change [87–89].

3. Materials and Methods

3.1. Research Design

This study covers two types of analysis, the first aims to examine the existence of a correlation between the gap in the rate of higher education and the digital gender gap, through a simple linear regression; the second consists of the analysis of data from a survey on the digital gender gap of foreign students from different countries and levels of development. These two complementary analyses have been chosen to find out, first, if the gender gap affects foreign students' achievement of university education, and then to see if it affects all categories of foreign students in the same way. There is no separation by income level in the databases used for the regression.

The analysis of the percentage of graduates in higher education by gender is based on the definition specified in the World Economic Forum [90], which indicates that the gap in the rate of university studies is the difference between the rate of university studies rate for men (HERM) minus the rate of university studies for women (HERW), where:

$$\text{HERW} = \frac{\text{Female Tertiary Studies}}{\text{Total women}} * 100$$

$$\text{HERM} = \frac{\text{Male Tertiary Studies}}{\text{Total men}} * 100$$

As for the digital gender gap, it will be carried out according to the definition offered in The Economic Intelligence Unit [91], which specifies that the digital gender gap is the average of the gender gap in internet access (GDIA) and gap of gender in smartphone access (GGSA) where:

$$\text{GDIA} = \frac{\text{Men's Internet access } - \text{Womens Internet access}}{\text{Mens Internet access}} * 100$$

$$\text{GGSA} = \frac{\text{Men's smartphone access} - \text{Women's smartphone access}}{\text{Men's smartphone access}} * 100$$

3.2. Analysis of the Correlation between the Gap in the Rate of Higher Education and the Digital Gender Gap

To analyse the relationship between these variables, statistical and macroeconomic data have been collected from the websites of "The Economist Intelligence Unit" [90] and the "World Economic Forum" [90], containing information from 192 countries. However, for the year 2020, there was no information for all these countries, which is the reason why only data from 81 countries, from different continents and income levels, were considered, which has allowed for performing the simple linear regression of this study. We start from the hypothesis that Y (Higher Education Gender Gap—HEGG) is the dependent variable and X is the independent variable (Digital Gender Divide—DGD), as well as following Gil [92], who defined the linear regression as a useful method for predicting a quantitative response Y, starting from a single independent or predictor variable X. Mathematically, this linear relationship is represented as:

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

where: Y is the dependent variable, X is the independent variable, β_0 (constant), β_1 (slope, signifies an increase of Y associated with the increase of X) in one-unit, and ϵ is the error (difference between what was observed and estimated by the model) is a random and independent component of X [93].

To analyse the correlation between the variables, the Pearson coefficient is chosen, which is the most used correlation coefficient, and represents a measure of linear dependence and confirms the significance of the correlation between these variables or degree to which they are associated [94,95].

The Pearson correlation coefficient, denoted by $\rho_{x,y}$, is defined as:

$$\rho_{X,Y} = \frac{\sigma_{XY}}{\sigma_X \ \sigma_Y} = \frac{\mathrm{Cov}\ (X,Y)}{\sqrt{\mathrm{Var}(X)\mathrm{Var}(Y)}}$$

where σ_{xy} is the covariance of (x, y), σ_x is the standard deviation of variable X, and σ_y is the standard deviation of variable Y.

In an analogous way, we can calculate this coefficient on a sample statistic, denoted by r_{xy} as:

$$r_{X,Y} = \frac{\sum x_i y_i - n\bar{x}\ \bar{y}}{(n-1)S_x S_y} = \frac{n\ \sum x_i y_i - \sum x_i\ \sum y_i}{\sqrt{n\ \sum x_i^2 - (\sum x_i)^2}\ \sqrt{n\ \sum y_i^2 - (\sum y_i)^2}}$$

The value of the correlation index varies in the interval [−1,1], the sign indicating the direction of the relationship. If r = 1, there is a perfect positive correlation. If r = −1, there is a perfect negative correlation. If r = 0, then there is no linear relationship, but this does not necessarily imply that the variables are independent. There may still be non-linear relationships between the two variables studied. If 0 < r < 1, then there is a positive correlation. If −1< r < 0, there is a negative correlation.

Ávila [95] argued that digital education and training, although it has a socioeconomic background, should not necessarily be associated with the academic level.

Chong González [96] also indicated that, even though students have greater and better access to ICTs, with a wide educational offer and access to different types of scholarships, this does not translate into a substantial improvement in their performance.

Therefore, the null hypothesis of relationship is stated as follows:

H_0. *This hypothesis assumes there is no correlation between our dependent and independent variables.*

However, Hatlevik and Christophersen [97] counteract the relationship between educational level and digital technology skills. They claim that it is the socioeconomic and cultural backgrounds of the students that are the ones that have a positive correlation with digital competence, while academic aspirations are negatively correlated.

Carter et al. [98] indicated, on the other hand, that the learning of university students decreases the more devices there are in their classrooms.

This reflection leads to a second hypothesis of a negative relationship.

H_1. *This hypothesis assumes there is a negative correlation between the dependent variable (gaps in higher education) and the independent variable (digital gender gap).*

There are more authors who point out the existence of a positive relationship, such as Cruz et al. [99], who commented, in this regard, that education is considered a crucial factor in the adoption of ICT (by adoption of technology, Cruz refers to its penetration rate in a country, which represents, according to Rogers [100,101], a crucial element for measuring the degree of incorporation of ICTs, going through a cycle of uncertainties or acceptance of the tool, which is generally achieved in a progressive way, requiring a certain time for some categories and groups of people going through the phase of knowledge, persuasion, decision, implementation, and confirmation), since more educated people are more competent to understand the increasing complexities of technological artifacts; at the same time, they are more conditioned to the use of ICT in personal and professional life.

On the other hand, Mariscal et al. [60] pointed out that the fact that men and women do not enjoy the same educational opportunities is one of the main causes of digital gender gaps. The OECD [102] justifies this correlation by two elements: "The gender gap tends to be greater when the female educational level and income are relatively low, and they are especially so in relation to the costs of mobile telephony, telephones, digital devices or data".

UNESCO [43] indicated in this sense that: "Both the delivery and the content of education are affected by rapid changes in the way in which technology affects daily life, in the public and private sphere, throughout the social, political, and economic dimensions".

This problem is analysed in the third and following hypothesis:

H_2. *This hypothesis assumes there is a positive correlation between our dependent variable and the independent variable.*

$$HEGG = \beta_0 + \beta_1 BDG_1$$

In which HEGG is the dependent variable, β_0, constant, and β_1 coefficient of the independent variable DGD. Values reflected in Table 1.

Table 1. Simple linear regression model.

Variable	Coefficient	Std.Error	t-Statistic	*p* Value
Y = HEGG				
X1: DGD	0.60224	0.090505	66.542	3.3984×10^{-9}
Interception	−15.521	14.451	−10.74	4.1559×10^{-17}
Number of observations: 81, error degrees of freedom: 79 Root mean squared error: 10.5 R-squared: 0.366, adjusted R-squared: 0.358 F-statistic vs. constant model: 45.5, *p*-value = 2.26×10^{-9}				

Source: Authors' own compilation based on data from the World Economic Forum [90] and Economic Intelligence Unit [91].

3.3. Analysis of Survey Data

The second part of the study consists of a qualitative study, through a survey of the digital gender gap, in the case of foreign students in France and Spain, with these two countries generally being home to foreign students (especially African students, in the case of France, and South American students, in the case of Spain, in addition to Asian students, who have many agreements with both countries, and Northern Europeans students that usually select these two countries due to their favourable climate). The idea of this study is to confirm the existence of differences in the use and access of the internet technology among students from countries with different levels of development, as indicated in the literature. For this purpose, it was specified in the survey that all the questions had to do with the access and availability of technological tools after their arrival in the host country and not in the country of origin.

This survey, which consisted of 18 questions, was carried out in the period between 14 April 2022 and 22 May 2022, during which 394 responses were obtained from foreign students in France and 393 from foreign students from Spain, for a total of 787 responses. This represents an amount greater than the minimum number of responses required (384) for the sample to be considered reliable and representative, according to the "Sample Size Calculator" (www.surveysystem.com) (accessed on 1 April 2022) [103] used to determine the minimum sample size, based on the number of foreign students in each country, which gives us a minimum sample size of 384.

The survey has been carried out in a mixed way:

(a) In person, at four universities in the two host countries: Cartagena and Barcelona in Spain; and Toulouse and Paris in France.
(b) Through social networks, with an anonymous form (Google form), especially aimed at groups of foreign students in both countries (Erasmus for example), foreign student associations, etc.
(c) By email, through the international services of several French and Spanish universities, to distribute it among their foreign students.

The participants were selected randomly, regardless of their level of income, gender, age, educational background, or language. The survey has been designed in 4 languages (Spanish, French, English, and Arabic). The objective of this random survey was the selection of a maximum variety of foreign students. SPSS and NVivo 11 were used as data analysis tools.

To carry out this survey, the anonymity of the participants has been ensured, and the responses collected in accordance with the provisions of articles 40 of the data protection law 3/2018 [104].

4. Results

4.1. Results of the Linear Regression

After applying the methodology described in the previous section, Table 1 shows the results of the simple linear regression function.

This table analyses the hypotheses, which consider the higher education gender gap (HEGG) and digital gender divide (DGD).

The first variable considers the percentage of higher education (university) graduates by gender [90]. As for the digital gender divide, it measures the gap between men's and women's access to the internet and smartphones [91]. The idea is to explore whether these foreign students (women and men) have obtained the same academic results and confirm the existence of a connection between these two gender gaps. The correlation is presented in Figure 1.

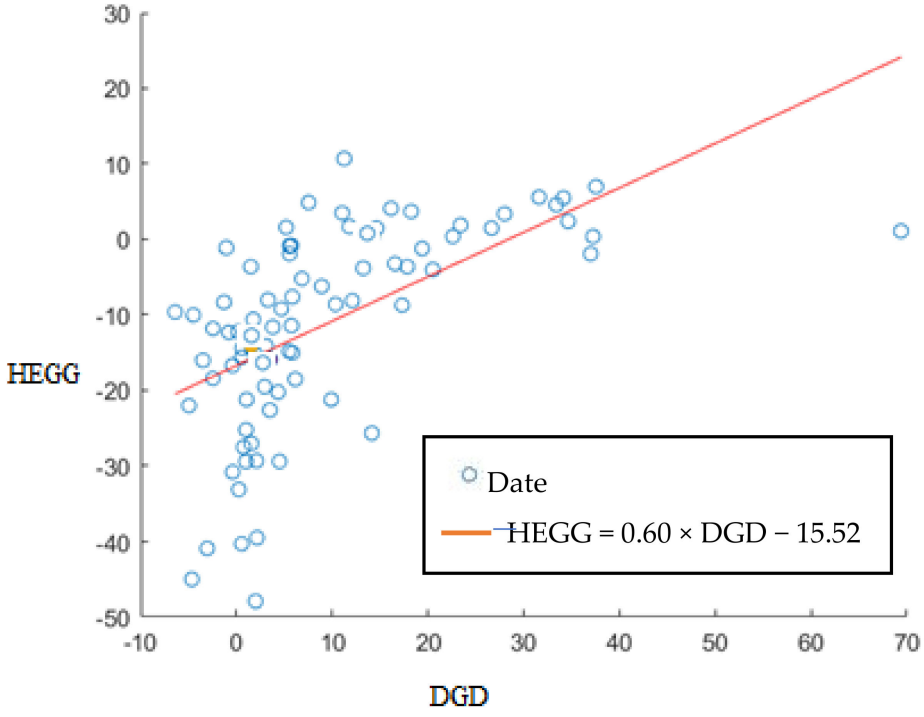

Figure 1. Influence of the digital gender gap on the gender gap in university/tertiary studies. Source: authors' own compilation, based on data from the World Economic Forum [90] and Economic Intelligence Unit [91].

Figure 1 clearly shows the existence of a positive correlation between the gap of university/tertiary studies by gender and the digital gender gap. This correlation is significant and positive, which is shown in the ascending straight line, which indicates that, the greater the digital gender gap, the greater the gap in higher education.

The *p*-value for this variable is also lower than the low *p*-value (0.05), thus confirming our hypothesis H_2, which affirmed the existence of a positive correlation between the two gaps and rejecting the hypotheses H_0 and H_1.

Therefore, the equation would be expressed as follows:

$$\text{HEGG} = 0.60 \times \text{DGD} - 15.52$$

According to the results obtained through the statistical analysis of the data, it is evident that:

The HEGG shows a correlation with the DGD with a Pearson correlation coefficient of 0.60, a significant correlation, as the p value is 2.26×10^{-9}, a value much lower than the level of significance with which its calculation was made (0.05).

With the previous model and according to the analysed data, we could explain 36.6% of the HEGG data, which leads us to think that the digital gender gap affects the gender gap of university/tertiary studies to a certain extent, but it is not the only influential factor; there will be other factors, which can be social, economic, or cultural.

4.2. Results of the Survey Analysis

The result of the linear regression leads us to confirm the theory of Hatlevik and Christophersen [97], which counteracted the relationship between the educational level and digital technology skills and indicated that socioeconomics factors also correlated with the digital competences. This was the reason why it has been decided to analyse the digital gender gap for the case of foreign students from countries at different levels of development and incomes. It should be noted that this division of countries has been defined and calculated by the World Bank [105], based on the Gini per capita, which classifies the economies of the countries, according to the distribution of income or consumption among individuals into four groups: (1) low-income countries when their GINI per capita is less than $1045; (2) lower-middle-income economies are those with a Gini per capita between $1046 and $4095; (3) upper-middle-income economies are those with GINI per capita between $4096 and $12,695; (4) high-income economies, which are those with GINI per capita of $12,696 or more.

4.2.1. Sample Analysis

Before analysing the three elements that compose the digital gender divide, it is important to examine the sample obtained entirely in the host country of students.

First, we will start with the analysis of the income level, as illustrated in Figure 2.

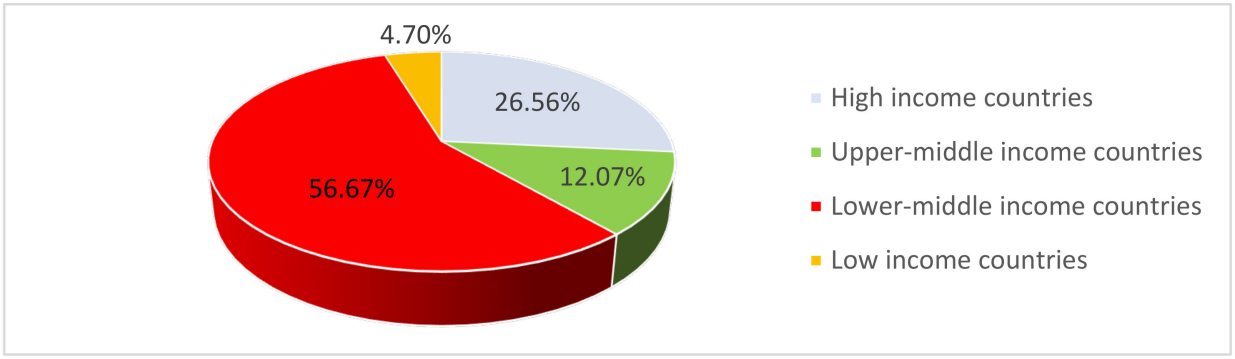

Figure 2. Distribution of foreign students according to the income level of their countries of origin. Source: Authors' own compilation, based on data obtained from the survey.

Regarding the distribution by gender and by age group, it has been observed (see Figure 3) that, in the case of men, as well as women, the age group that dominates the most is that of under 21 years old, which represents 40.32% (men) and 43.97% (women), followed by the category between the ages of 21 and 25 years, which represents 32.57% and 30.46%, respectively, while the least common is that of those over 30 years of age, in the case of men, and the category between 25 and 30 years, in the case of women.

This result explains the fact that the sample is made up mostly of people who have obtained a bachelor's or master's degree (35.38% and 33.03%, respectively), as can be seen in Figure 4.

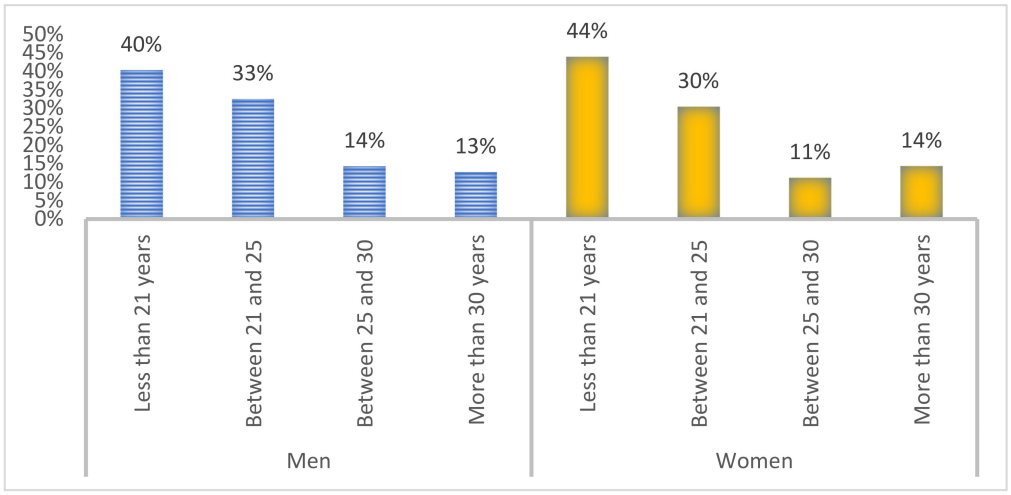

Figure 3. Sample by gender and age group. Source: authors' own compilation based on data obtained from the survey.

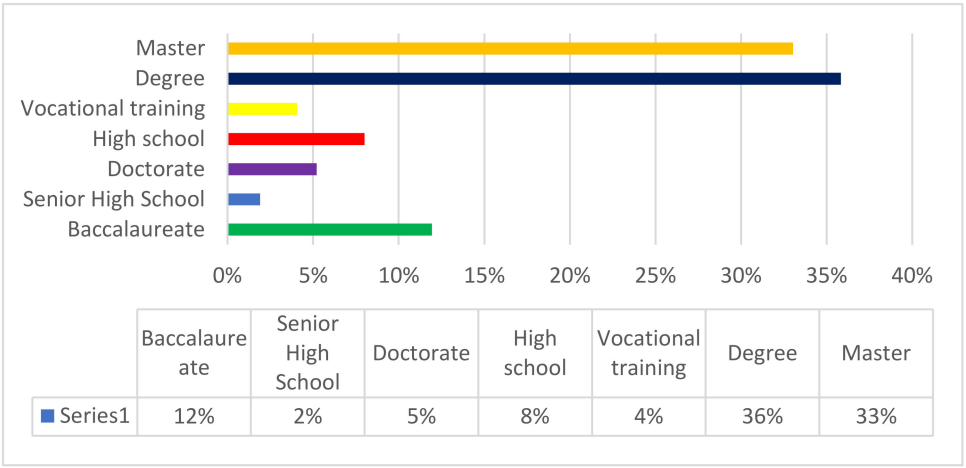

Figure 4. Last level of studies achieved. Source: authors' own compilation based on data obtained from the survey.

Figure 5 analyses the trend of studies in the sample.

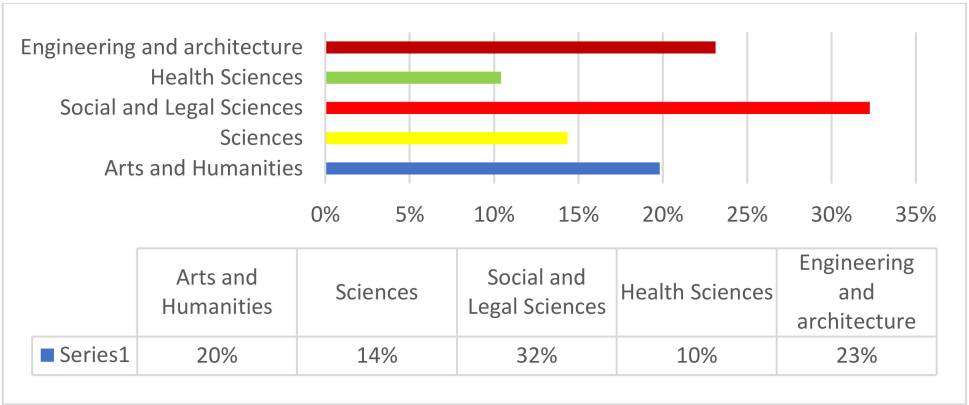

Figure 5. Branches of knowledge of the studies of foreign students. Source: authors' own compilation based on data obtained from the survey.

Figure 5 displays that 32.27% of the foreign students surveyed carry out their studies in social and legal sciences, 23.12% in engineering and architecture studies, 19.82% is arts and humanities, 14.35% in sciences, and 10.41% in health sciences.

This analysis of the sample has shown that the profiles of the respondents are very diverse, whether in terms of income level, age, level of training, or the branch chosen.

4.2.2. Analysis of the Gender Attitude towards Technology

To analyse the digital gender gap between foreign students in France and Spain, the element of gender attitudes have been considered.

Figure 6 shows the differences, in terms of attitude towards ICTs, i.e., attraction, motivation, security, comfort, indifference, and frustration, which have been assessed on a Likert scale from 1 to 5, where 1 was the minimum and 5 was the maximum rating.

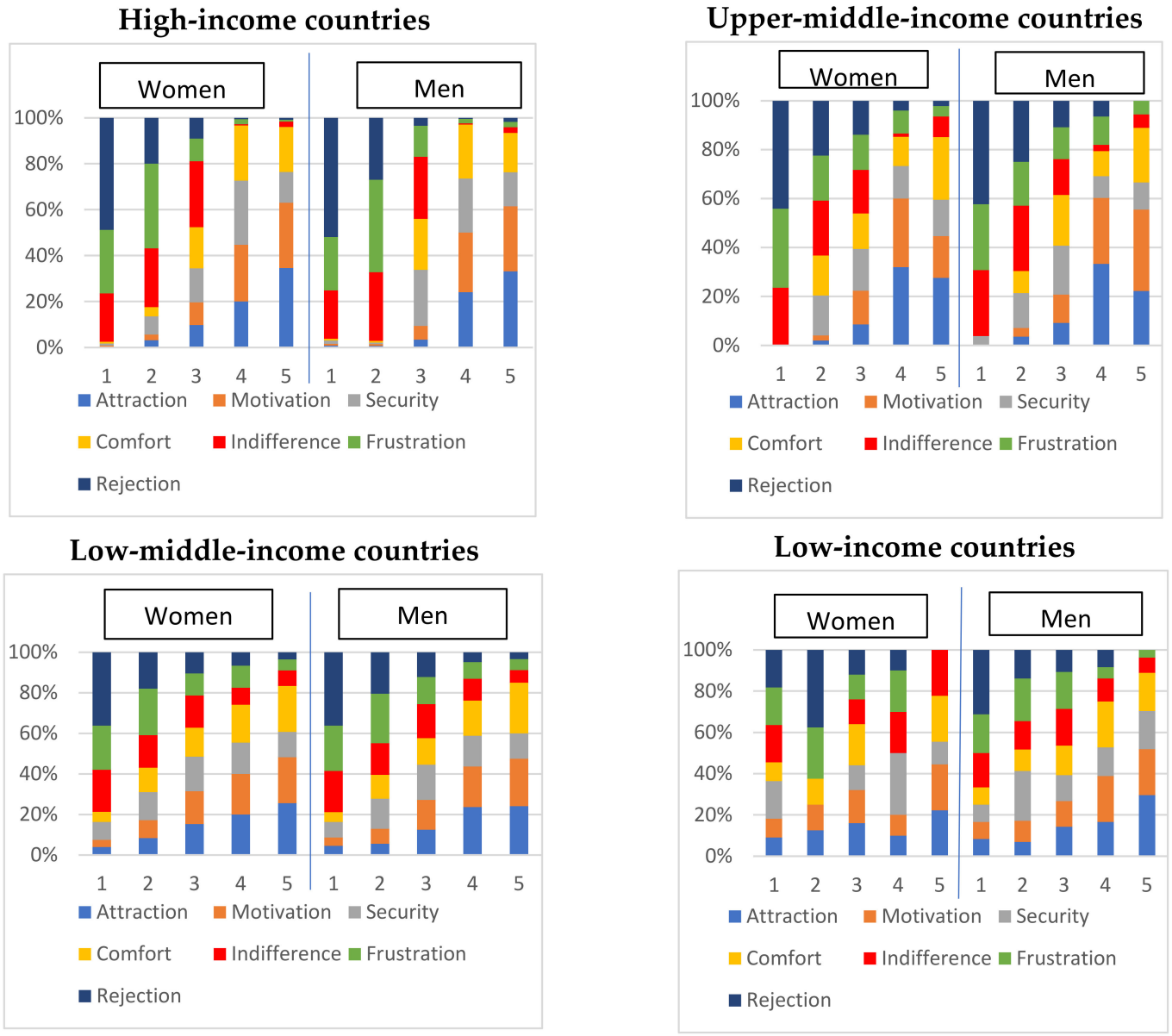

Figure 6. Attitude towards ICTs. Source: authors' own compilation based on data obtained from the survey (see Appendix A).

Figure 6 shows that the student attitude of "Attraction" towards technology is greater in high-income countries, compared to low-income countries. On the other hand, it is seen that men have scored the attraction higher, compared to women (49.56% vs. 45.83% with a score of 5 and 44.25%, compared to 37.50%, with a score of 4), except in upper-middle-income countries, where it is women who scored this attitude the highest. The same happens with "Motivation", where it was observed that students from countries with high incomes are the ones that scored the best for this variable (37.50% of women have given it the maximum score of 5, compared to 42.48% of men), while, in the three other categories of countries, the percentage of maximum scores provided by the students did not exceed 23% for either of the genders. Concerning the "Security", students from high-income countries scored it best (22% of men compared to 17.71% of women), except in the case of upper-middle-income countries, in which women showed a higher attitude towards security. As for the "Comfort" variable, the maximum score did not vary much among students from different countries, since we observe that 26.04% of women from high-income countries give it a 5 vs. 25.66% of men, with 23.53% of women vs. 9.09% of men in upper-middle-income countries, while 19.79% of women, compared to 23.62% of men, give it 5 in countries with low-middle-income, and 22.22% of women, compared to 17.86% of men, from low-income countries. On the other hand, it is observed that the note that predominated in the "Indifference" variable was 3 in all the countries. Contrary to the attitude of "Frustration", where a lower score was observed in the answers of students from high-income countries, compared to low-income countries. However, in terms of "Rejection", there was a difference in the percentage scores for this attitude by foreign students in various categories, it was the attitude with the lowest score, generally between 1 and 3.

4.2.3. Analysis of Female Access to Technology

On the other hand, and to further clarify this relationship between technology and student income, it is analysed in Figure 7 the access to ICTs.

Figure 7 shows the availability of technological tools at the time of arrival of foreign students in their host countries. First, it was observed that the "Internet" availability rate of students from high-income countries exceeded 99%, while, in upper-middle-income countries, it was between 94% and 98%. Regarding the low-middle-income, it reached 90%; in low-income countries, the percentage was 82% for men and 89% for women. In terms of "Computer" availability, a very clear difference was observed between the answer of students from high-income and low-income countries, always with a superiority of men, compared to women. In the case of the "Printing machine", it was observed that it was one of the lowest rates of technological tools available in the four countries, with a higher rate of use by women in three groups of countries, except for low-middle-income countries, where men dominated with almost three points. Contrary to the "Mobile phone" availability, since the percentage of women who had this tool was lower than that of the men in three groups of countries, in contrast to the countries with low-middle-income, where women took a point to men. It was also observed that the availability of mobile telephony was higher in high-income countries, compared to low-income countries. Concerning the availability of "Microsoft licenses", it was noted that, in high- and upper-middle-income countries, it was men who predominated, with a very visible difference, unlike in low- or low-middle-income countries, where it was women who ruled, although the difference was minimal. There was also a decreasing difference between the four categories of countries. Regarding the "Data analysis tools licence", the percentages of availability were also descending, according to the category of countries, with a quite visible student male predominance in high- and low-middle-income countries and a student female superiority that leaned towards equality in countries with upper-middle-income and low-income. On the other hand, it was observed that the difference, in terms of "Antivirus" availability, was very visible between high-income countries, compared to low-income countries (85% of women and 93% of men from high-income countries had antivirus, unlike low-income countries, where

they represent only 44% of women and 50% of men). Regarding the "USB" availability, which shows that in three of the four categories of countries, men are the ones that have the most USBs, with the exception coming in low-income countries, where women are the ones that have the most of this tool, with a difference of two points. Additionally, it was noted, in the case of "External hard drive" availability, that the countries with the highest income are the ones that have the most access to external hard drives, and the difference by gender varied between each category of the countries. Contrary to the "Collaborative tools licence", where it was shown that, in the four groups, it was the men who had the most of these tools, with greater availability in high-income countries.

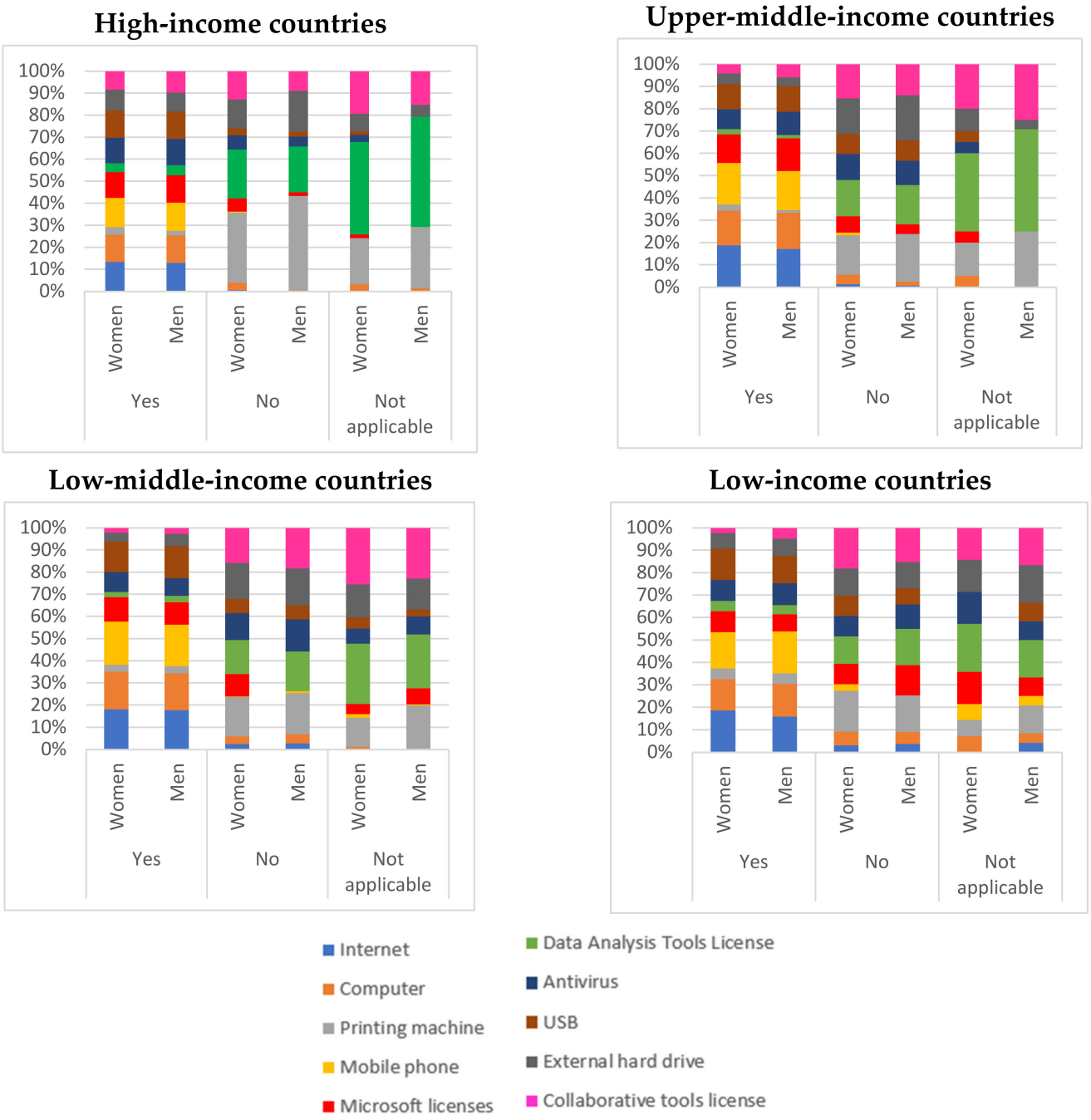

Figure 7. Access to ICTs. Source: authors' own compilation based on data obtained from the survey (see Appendix B).

To summarise, Figure 7 shows that the most available technological tools in low-middle- and low-income countries are summarized in the availability of the internet, computers, mobile phones, and USB; even these tools are not as accessible as in upper-middle- or high-income countries.

Finally, the lack of necessity for access to ICTs has been considered, as reflected in the "not applicable" section, which means that they did not need them. This must be differentiated from "No", which means that they did not have them.

4.2.4. Analysis of the Use of Technology by Gender

Next, the digital gender gap was analysed through the use of ICTs, in terms of the skills to access the university platform and consult content, send an email, search for information on the internet, manage an administrative procedure, see a GPS location, make an appointment at a health centre, make an electronic payment, and make a purchase online, which were assessed on a Likert scale from 1 to 5, where 1 was the minimum assessment, and 5 was the maximum assessment.

Like the two previous figures, Figure 8 shows some differences in the use of technologies between the different categories of students, on the one hand, and between men and women on the other. First, it was observed that, in terms of the task "Access the university platform and consult content", almost 70% of women and men from high-income countries rated this task with a 5 (highest score on the Likert scale), whereas the other three groups of countries that did not exceed 30%, with a higher score for men, compared to women. The same thing happens with the task of "Send an email", the students of high-income countries gave the highest score (5) to this task, compared to the students of the other groups of countries. However, the gap was in favour of men in the two countries with high- and upper-middle-income (85% of women and 95% in the case men from high-income countries, compared to 73% of women and 84% of men from upper-middle countries), and in favour of women in the countries with low- or low-middle-income (59% of women and 54% of men from low-income countries and 44% of women and 36% of men from low-income countries). Concerning the task of "Search information on the internet", the countries with the highest income are the ones that scored the best on this task. A gap in favour of men in high-income countries was observed (85% in the case of women and 95% of men from high-income countries, compared to 71% of women and 84% of men in upper-middle countries) and a gap in favour of women in the two groups of countries with lower incomes (55% of women and 47% of men from low-middle-income countries and 33% of women and 32% of men from low-income countries). Regarding the "Management an administrative process", there was almost gender equality in high- and medium-low-income countries, in terms of maximum score, as opposed to the other two, where a greater management by women was observed (10% of women, compared to 2% of men in upper-middle-income countries, and 22% of women, compared to 7% of men in low-income countries). On the other hand, it was highlighted that, regarding the "Visit a GPS location", students in high-income countries were better at handling geolocation technologies. It was also observed that men scored better on this task than women in three groups of countries (85% of women vs. 95% of men in high-income countries, 41% vs. 32% in upper-middle-income countries, 33% vs. 36% in low-middle-income countries, and 11% vs. 25% in low-income countries).

As to "Make an appointment at a health administration", it was noted that countries with higher incomes scored better on their ability to request a health appointment, with gender gaps that differed from one group of countries to another. In fact, 68% of women and 79% of men in high-income countries rate their ability to perform this task at 5, while, in upper-middle-income countries, it was 31% of women, compared to 20% of men; in low-middle-income countries, they represented 18% of women, compared to 25% of men. Finally, in low-income countries, 11% of women, compared to 11% of men. The same thing happens with the task of "Make an electronic payment": where it is seen that, in three of the four groups of countries, the men scored the best for this task (5). It was also observed that the more income the country has, the better the internet payment capacity

scored (83% of women, compared to 91% of men, in high-income countries, 41% of women vs. 30% of men in upper-middle-income countries, 24% of women vs. 35% of men in low-middle-income countries, and 11% of women, compared to 18% of men, in low-income countries). Ultimately, the "Make a purchase online" variable showed that countries with the highest-incomes were the ones that have the least difficulties in making a purchase over the internet, although the gender gap favoured one gender or the other, regardless of their income category. This was noted through the maximum mark (5) given to this task and that it had a percentage of 83% by women and 92% by men in high-income countries, 43% of women and 34% of men in upper-middle-income countries, 28% of women and 33% of men in low-middle-income countries, and 22% of women, compared to 14% of men in low-income countries.

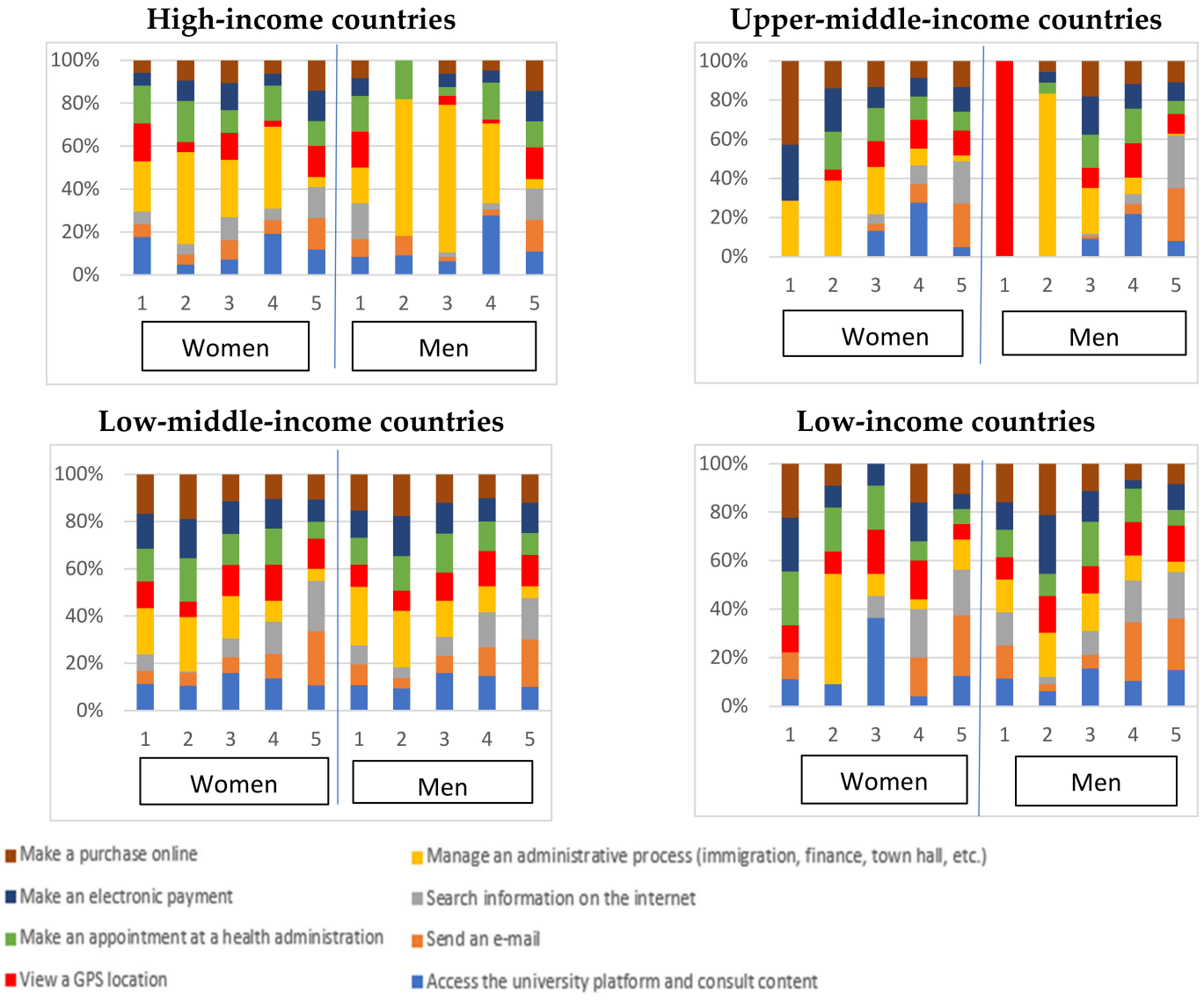

Figure 8. Use of ICTs. Source: authors' own compilation based on data obtained from the survey (see Appendix C).

Finally, Figure 9 shows the link between the use of English and ICTs.

In Figure 9, it can be observed that the countries that do not have English as their first language are the ones that most indicate that this language hinders the use of ICTs.

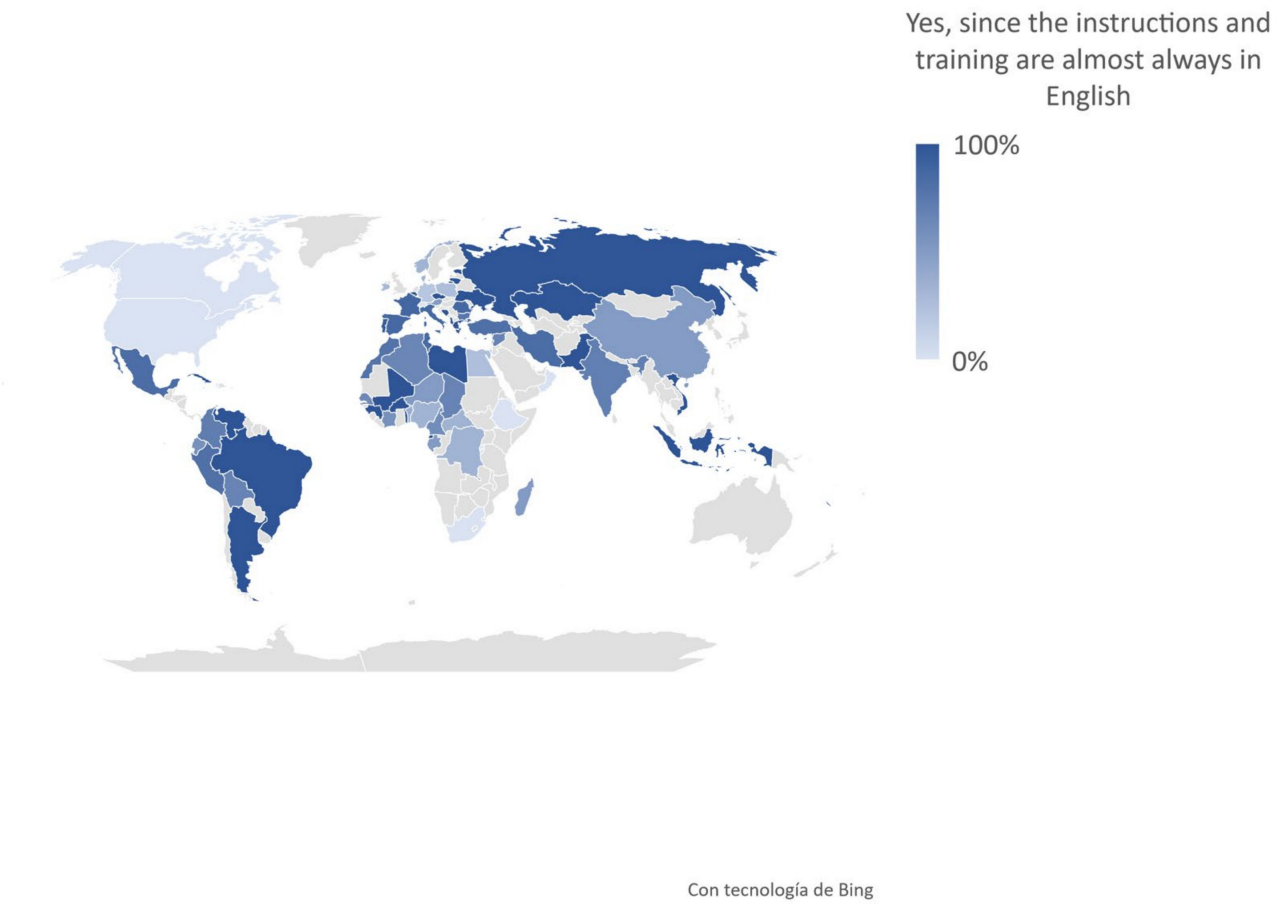

Figure 9. The impact of the English language on the use of ICTs. Source: Authors' own compilation based on data obtained from the survey.

5. Discussion

The results show a significant and positive correlation between the higher education gender gap and digital gender divide. Indeed, education faces the challenge of reducing the digital divide, thus easing the social gap it creates. This is achieved by leveraging the digital literacy resources and processes promoted by different governments [106,107].

The OECD [108] supports this hypothesis (H2) and indicates that the use of ICT tools is closely linked to higher education. Silver and Miller [109] added that it is essential to understand the ICT needs and requirements of migrant's community, in order to identify factors that can enable them to adopt technology to enhance their access to information in daily activities, such as education, employment, and health.

It is important to note that, not only does the digital gender divide affect the higher education gender gap, but the reverse is also true. Indeed, educational attainment impacts the digital gender divide, since the more that people are trained in technologies, the more use they can make of them. This is so much the case that almost all people with a university or advanced vocational qualification use them, while, by contrast, the gender gap also tends to fall as the level of education rises [110]. Similarly, Santiago [111] said that, as people are given more training, the percentage who use a computer and the internet also increases.

However, it should be noted that education is not the only element affecting the digital gender divide. Indeed, as has been seen in the theoretical framework and linear regression, the cultural and socioeconomic factors of some countries (phobia of technology, division of roles by gender, problems of conciliation, and co-responsibility, etc.) also affect the achievement of equal opportunities, either in terms of education or ICT-specific training [112–116].

The findings of this analysis allow for an increased awareness of the role that technology plays in higher education and vice versa and shows how essential it is to have all people prepared to use them, regardless of their gender. Nowadays, digital literacy and technological competence are considered as needs in any university education [117]. This imposes the challenge of onboarding ICT across all education processes, starting with changes in curricular structures, technological infrastructure retrofitting, research on the teaching application of technology in education, and teacher and student training [118]. Lack of training and prior exposure to technology drives inequalities [119], such as women's underrepresentation in strategic education sectors and ICT- and engineering-related research and employment [120].

On the other hand, the results of the survey showed the existence of a digital divide between the different countries, according to their incomes. Apart from the socioeconomic factors indicated above, this gap is mainly due to the degree of adoption of technology, which makes it difficult for foreign students from low- or middle-low-income countries to integrate and adapt to the education system of the host country. This is especially apparent if the host country has more developed technological capabilities and more digitised learning methodologies.

6. Conclusions

The existence of a correlation between the gender gap in higher education and the digital gender gap shows the need to guarantee access and use of technology to all university students, regardless of their gender or origin, in order to allow them the access to higher education, as well as the achievement of better academic results. Thus, the mobilization of all is required for the implementation of inclusive education policies, based on the promotion of digitization.

The results highlight not only the need to ensure equal access between male and female university students, but also equal opportunities between natives and foreigners, in order to allow them a better integration into the labour market after finishing their studies and greater inclusion that promotes the generation of added value in the host country, as well as a know-how in the country of origin.

In this way, it is essential to call attention to the importance of closing some gaps, such as digitization or education, in order to contribute to the achievement of several of the SDGs, such as the elimination of inequalities or the achievement of equal education for all, consequently providing decent jobs to every citizen.

On the other hand, it has been observed that the digital gender gap is not the same among foreign students from high-income countries as it is among those with low- or medium-incomes, which indicates the need to implement egalitarian policies and strategies that allow for the digital inclusion of women and men, as well as natives and foreigners alike, since the incorporation of foreign students into education benefits the system [121].

Finally, it should be noted that this work had limitations, in terms of the sample, since the initial idea was to consider all the countries of the world, but the availability of the data for all the variables in the same year was not possible, so it was limited to 81 countries. As for the survey, it would have been interesting to carry out the survey in more developed countries than France and Spain and another in less developed nations than these countries to see how the adoption of technology in each of these countries affects the digital gender gap in the case of foreign students. These limitations could be addressed in future research, in which a specific survey could be developed in more countries to better analyse the technology adoption.

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Institutional Review Board Statement: The survey carried out has been validated by the Ethics Committee of the Polytechnic University of Cartagena through resolution CEI22-002.

Informed Consent Statement: The research was not carried out on human beings; however, the data was obtained through a survey that was approved by the Ethics Committee of the Polytechnic University of Cartagena, and was carried out anonymously and in accordance with the data protection law (3/2018).

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

Appendix A

Table A1. Attitude towards ICTs.

Country Categories	Gender	Likert Scale	Attraction	Motivation	Security	Comfort	Indifference	Frustration	Rejection
High-income countries	Women	1	0.00%	1.04%	1.04%	1.04%	26.04%	34.38%	60.42%
		2	4.17%	3.13%	10.42%	5.21%	33.33%	47.92%	26.04%
		3	12.50%	12.50%	18.75%	22.92%	36.46%	12.50%	11.46%
		4	37.50%	45.83%	52.08%	44.79%	1.04%	4.17%	1.04%
		5	45.83%	37.50%	17.71%	26.04%	3.13%	1.04%	1.04%
	Men	1	0.88%	0.88%	1.77%	0.88%	23.89%	26.55%	59.29%
		2	0.88%	0.88%	0.88%	0.88%	36.28%	48.67%	32.74%
		3	4.42%	7.96%	31.86%	29.20%	35.40%	17.70%	4.42%
		4	44.25%	47.79%	43.36%	43.36%	0.88%	3.54%	0.88%
		5	49.56%	42.48%	22.12%	25.66%	3.54%	3.54%	2.65%
Upper-middle-income countries	Women	1	0.00%	0.00%	0.00%	0.00%	15.69%	21.57%	29.41%
		2	1.96%	1.96%	15.69%	15.69%	21.57%	17.65%	21.57%
		3	25.49%	41.18%	50.98%	43.14%	52.94%	43.14%	41.18%
		4	47.06%	41.18%	19.61%	17.65%	1.96%	13.73%	5.88%
		5	25.49%	15.69%	13.73%	23.53%	7.84%	3.92%	1.96%
	Men	1	0.00%	0.00%	2.27%	0.00%	15.91%	15.91%	25.00%
		2	4.55%	4.55%	18.18%	11.36%	34.09%	22.73%	31.82%
		3	27.27%	34.09%	59.09%	61.36%	43.18%	38.64%	31.82%
		4	59.09%	47.73%	15.91%	18.18%	4.55%	20.45%	11.36%
		5	9.09%	13.64%	4.55%	9.09%	2.27%	2.27%	0.00%

Table A1. *Cont.*

Country Categories	Gender	Likert Scale	Attraction	Motivation	Security	Comfort	Indifference	Frustration	Rejection
Low-middle-income countries	Women	1	4.17%	3.65%	9.38%	5.21%	21.88%	22.92%	38.02%
		2	11.98%	12.50%	19.79%	17.19%	22.92%	32.81%	25.52%
		3	36.46%	39.06%	40.63%	34.38%	38.02%	26.04%	25.00%
		4	25.00%	25.00%	19.27%	23.44%	10.42%	13.54%	8.33%
		5	22.40%	19.79%	10.94%	19.79%	6.77%	4.69%	3.13%
	Men	1	4.72%	4.33%	7.87%	5.12%	21.26%	23.23%	37.80%
		2	6.69%	8.66%	17.72%	14.17%	18.50%	29.13%	24.41%
		3	27.17%	32.28%	37.80%	28.74%	36.61%	29.13%	26.77%
		4	38.58%	32.68%	24.80%	28.35%	17.72%	13.39%	7.87%
		5	22.83%	22.05%	11.81%	23.62%	5.91%	5.12%	3.15%
Low-income countries	Women	1	11.11%	11.11%	22.22%	11.11%	22.22%	22.22%	22.22%
		2	11.11%	11.11%	0.00%	11.11%	0.00%	22.22%	33.33%
		3	44.44%	44.44%	33.33%	55.56%	33.33%	33.33%	33.33%
		4	11.11%	11.11%	33.33%	0.00%	22.22%	22.22%	11.11%
		5	22.22%	22.22%	11.11%	22.22%	22.22%	0.00%	0.00%
	Men	1	14.29%	14.29%	14.29%	14.29%	28.57%	32.14%	53.57%
		2	7.14%	10.71%	25.00%	10.71%	14.29%	21.43%	14.29%
		3	28.57%	25.00%	25.00%	28.57%	35.71%	35.71%	21.43%
		4	21.43%	28.57%	17.86%	28.57%	14.29%	7.14%	10.71%
		5	28.57%	21.43%	17.86%	17.86%	7.14%	3.57%	0.00%

Appendix B

Table A2. Access to ICTs.

Classification by Group of Countries	Access to ICTs	Gender	Internet	Computer	Printing Machine	Mobile Phone	Microsoft Licenses	Data Analysis Tools License	Antivirus	USB	External Hard Drive	Collaborative Tools License
High-income countries	Yes	Women	98.96%	91.67%	25.00%	98.96%	87.50%	30.21%	85.42%	92.71%	69.79%	62.50%
		Men	100.00%	98.23%	15.04%	100.00%	97.35%	35.40%	92.92%	96.46%	67.26%	76.11%
	No	Women	1.04%	6.25%	61.46%	1.04%	11.46%	42.71%	12.50%	6.25%	25.00%	25.00%
		Men	0.00%	0.88%	67.26%	0.00%	2.65%	32.74%	7.08%	3.54%	29.20%	14.16%
	Not applicable	Women	0.00%	2.08%	13.54%	0.00%	1.04%	27.08%	2.08%	1.04%	5.21%	12.50%
		Men	0.00%	0.88%	17.70%	0.00%	0.00%	31.86%	0.00%	0.00%	3.54%	9.73%
Upper-middle-income countries	Yes	Women	94.12%	78.43%	13.73%	94.12%	64.71%	11.76%	45.10%	56.86%	23.53%	21.57%
		Men	97.73%	93.18%	6.82%	100.00%	84.09%	9.09%	59.09%	65.91%	22.73%	34.09%
	No	Women	5.88%	19.61%	80.39%	5.88%	33.33%	74.51%	52.94%	41.18%	72.55%	70.59%
		Men	2.27%	6.82%	79.55%	0.00%	15.91%	65.91%	40.91%	34.09%	75.00%	52.27%
	Not applicable	Women	0.00%	1.96%	5.88%	0.00%	1.96%	13.73%	1.96%	1.96%	3.92%	7.84%
		Men	0.00%	0.00%	13.64%	0.00%	0.00%	25.00%	0.00%	0.00%	2.27%	13.64%
Low-middle-income countries	Yes	Women	90.10%	84.90%	15.10%	97.40%	54.69%	11.98%	44.27%	68.75%	19.79%	11.46%
		Men	90.55%	85.04%	16.14%	96.85%	51.57%	14.57%	40.94%	74.41%	28.35%	14.17%
	No	Women	9.90%	14.06%	72.92%	1.04%	41.15%	63.02%	49.48%	26.56%	66.67%	65.10%
		Men	9.45%	14.96%	66.54%	2.76%	42.13%	64.17%	51.97%	22.83%	59.45%	65.75%
	Not applicable	Women	0.00%	1.04%	11.98%	1.56%	4.17%	25.00%	6.25%	4.69%	13.54%	23.44%
		Men	0.00%	0.00%	17.32%	0.39%	6.30%	21.26%	7.09%	2.76%	12.20%	20.08%
Low-income countries	Yes	Women	88.89%	66.67%	22.22%	77.78%	44.44%	22.22%	44.44%	66.67%	33.33%	11.11%
		Men	82.14%	75.00%	25.00%	96.43%	39.29%	21.43%	50.00%	64.29%	39.29%	25.00%
	No	Women	11.11%	22.22%	66.67%	11.11%	33.33%	44.44%	33.33%	33.33%	44.44%	66.67%
		Men	14.29%	21.43%	64.29%	0.00%	53.57%	64.29%	42.86%	28.57%	46.43%	60.71%
	Not applicable	Women	0.00%	11.11%	11.11%	11.11%	22.22%	33.33%	22.22%	0.00%	22.22%	22.22%
		Men	3.57%	3.57%	10.71%	3.57%	7.14%	14.29%	7.14%	7.14%	14.29%	14.29%

Appendix C

Table A3. Use of ICTs.

Country Category	Gender	Likert Scale	Access the University Platform and Consult Content	Send an E-Mail	Search Information on the Internet	Manage an Administrative Process (Immigration, Finance, Town Hall, etc.)	View a GPS Location	Make an Appointment at a Health Administration	Make an Electronic Payment	Make a Purchase Online
High-income countries	Women	1	3.13%	1.04%	1.04%	4.17%	3.13%	3.13%	1.04%	1.04%
		2	1.04%	1.04%	1.04%	9.38%	1.04%	4.17%	2.08%	2.08%
		3	4.17%	5.21%	6.25%	15.63%	7.29%	6.25%	7.29%	6.25%
		4	21.88%	7.29%	6.25%	43.75%	3.13%	18.75%	6.25%	7.29%
		5	69.79%	85.42%	85.42%	27.08%	85.42%	67.71%	83.33%	83.33%
	Men	1	0.88%	0.88%	1.77%	1.77%	1.77%	1.77%	0.88%	0.88%
		2	0.88%	0.88%	0.00%	6.19%	0.00%	1.77%	0.00%	0.00%
		3	2.65%	0.88%	0.88%	29.20%	1.77%	1.77%	2.65%	2.65%
		4	25.66%	2.65%	2.65%	34.51%	1.77%	15.93%	5.31%	4.42%
		5	69.91%	94.69%	94.69%	28.32%	94.69%	78.76%	91.15%	92.04%
Upper-middle-income countries	Women	1	0.00%	0.00%	0.00%	3.92%	0.00%	0.00%	3.92%	5.88%
		2	0.00%	0.00%	0.00%	27.45%	3.92%	13.73%	15.69%	9.80%
		3	21.57%	5.88%	7.84%	39.22%	21.57%	27.45%	17.65%	21.57%
		4	62.75%	21.57%	21.57%	19.61%	33.33%	27.45%	21.57%	19.61%
		5	15.69%	72.55%	70.59%	9.80%	41.18%	31.37%	41.18%	43.14%
	Men	1	0.00%	0.00%	0.00%	0.00%	2.27%	0.00%	0.00%	0.00%
		2	0.00%	0.00%	0.00%	34.09%	0.00%	2.27%	2.27%	2.27%
		3	15.91%	2.27%	2.27%	40.91%	18.18%	29.55%	34.09%	31.82%
		4	59.09%	13.64%	13.64%	22.73%	47.73%	47.73%	34.09%	31.82%
		5	25.00%	84.09%	84.09%	2.27%	31.82%	20.45%	29.55%	34.09%
Low-middle-income countries	Women	1	8.33%	4.17%	5.21%	14.58%	8.33%	10.42%	10.94%	12.50%
		2	10.94%	5.73%	0.52%	23.96%	6.77%	19.27%	17.19%	19.79%
		3	28.13%	11.98%	14.06%	31.77%	23.44%	23.44%	24.48%	20.31%

Table A3. *Cont.*

Country Category	Gender	Likert Scale	Access the University Platform and Consult Content	Send an E-Mail	Search Information on the Internet	Manage an Administrative Process (Immigration, Finance, Town Hall, etc.)	View a GPS Location	Make an Appointment at a Health Administration	Make an Electronic Payment	Make a Purchase Online
		4	25.52%	19.27%	25.52%	16.67%	28.65%	28.65%	23.44%	19.79%
		5	27.08%	58.85%	54.69%	13.02%	32.81%	18.23%	23.96%	27.60%
	Men	1	6.30%	5.12%	4.72%	14.57%	5.51%	6.69%	6.69%	9.06%
		2	8.27%	3.94%	3.94%	21.26%	7.48%	12.99%	14.96%	15.75%
		3	29.92%	13.39%	15.35%	28.74%	22.44%	31.10%	24.41%	22.83%
		4	28.35%	23.62%	28.74%	21.65%	28.74%	24.41%	19.29%	19.69%
		5	27.17%	53.94%	47.24%	13.78%	35.83%	24.80%	34.65%	32.68%
Low-income countries	Women	1	11.11%	11.11%	0.00%	0.00%	11.11%	22.22%	22.22%	22.22%
		2	11.11%	0.00%	0.00%	55.56%	11.11%	22.22%	11.11%	11.11%
		3	44.44%	0.00%	11.11%	11.11%	22.22%	22.22%	11.11%	0.00%
		4	11.11%	44.44%	55.56%	11.11%	44.44%	22.22%	44.44%	44.44%
		5	22.22%	44.44%	33.33%	22.22%	11.11%	11.11%	11.11%	22.22%
	Men	1	17.86%	21.43%	21.43%	21.43%	14.29%	17.86%	17.86%	25.00%
		2	7.14%	3.57%	3.57%	21.43%	17.86%	10.71%	28.57%	25.00%
		3	39.29%	14.29%	25.00%	39.29%	28.57%	46.43%	32.14%	28.57%
		4	10.71%	25.00%	17.86%	10.71%	14.29%	14.29%	3.57%	7.14%
		5	25.00%	35.71%	32.14%	7.14%	25.00%	10.71%	17.86%	14.29%

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