

## Profiles of Online Students and the Impact of Their University Experience

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Article abstract

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# Profiles of Online Students and the Impact of Their University Experience

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## Abstract

In recent decades, there has been a steady growth in the population who enter higher education in both brick-and-mortar and, in particular, online universities. This has led to an increase in heterogeneous student profiles in a relatively short period of time. The purpose of this paper was to explore the student profiles at a university that gives all its courses online, namely the Universitat Oberta de Catalunya (UOC), and analyse students' perceptions of their university experience. With this goal in mind, we constructed a student typology based on their social conditions and backgrounds using multiple correspondence analysis. Subsequently, an analysis of variance (Kruskall-Wallis test) was run to detect whether there were any differences in students' perceptions of the impact of their university experience ( $N = 1850$ ). Although the prevailing profile of students in the online university continues to reflect students with responsibilities outside of the university (e.g., work and/or family), new profiles have been observed, made up of younger students without any work or family responsibilities. In turn, younger students' distinct perceptions of their university experience has been observed, depending on student profiles, with older students having more intrinsic perceptions, focused on learning and the acquisition of theoretical knowledge.

*Keywords:* online education, online university students, student profiles, distance higher education, impact, social conditions

## Introduction

In the last few decades, a large number of studies have analysed university students' admission, participation, and graduation, taking into account their social conditions. The conclusions showed an increase in student participation in university as a result of the expansion of education, which in turn has increased the heterogeneity of university student profiles (Ariño Villaroya, Hernández Pedreño, Llopis Goig, Tejerina Montañana, & Navarro Susaeta, 2008; Soler Julve, 2013; Troiano & Torrents, 2018). Some of the more salient features of this research pointed to a greater frequency in terms of age (older students), social background, educational access routes, previous educational experience, place of residence, students with external responsibilities (work or family), ethnic minorities, and so on. This trend may have been influenced by a series of changes and innovations that have introduced, creating new rules of play in higher education. The reforms enacted with entry into the European Higher Education Area (EHEA), the abolition of admission quotas for students who have completed higher vocational education and training programmes, and increased university fees have had an impact on opportunities for young people and their strategies for adapting to the new university context (Troiano, Torrents, Sánchez-Gelabert, & Daza, 2017).

With the implementation of the EHEA (also known as the Bologna Process), changes such as an obligation to be physically present at the university or the use of continuous assessment have had detrimental effects on those students who need to combine their studying with other activities, whether work- or family-related (Elias, Masjuan, & Sánchez-Gelabert, 2012). As a result of these changes, non-traditional students may find themselves forced to leave university or look for more flexible educational options or systems such as an online university. Although university enrolments have shown a clear upwards trend, most of this growth has been in institutions that offer online courses rather than in those that only offer face-to-face teaching (Ashby, Sadera, & McNary, 2011). Even so, some authors have stressed that admission and participation processes, as well as student profiles, are not the same in brick-and-mortar and online universities; they have concluded it is unlikely that online education is cannibalizing on-site students in significant numbers (Cavanaugh, 2005).

The dynamic pace of change is particularly apparent in distance education, to the point of redefining the profile of distance university students who have traditionally had to combine their studies with other responsibilities outside of university. In line with this outlook, some studies performed in the 1990s in countries where distance education was more consolidated, such as Canada, have shown that major changes in the type of students choosing this option have taken place in a relatively short period of time (11 years; Wallace, 1996). Specifically, the results showed an increase in participation by younger students who study full-time at the university and live in urban environments. Some of the explanations proposed by Wallace (1996) attribute the increased economic pressure among students with more responsibilities to the recession and university fee hikes.

Given this background, recent changes in the Spanish context may have triggered an increase or shift of certain student profiles towards the so-called distance universities, which in turn has led to a growing internal diversity of students enrolled in these universities. The importance of these changes lies in the fact that they may generate a new conception of higher education, and a new way of understanding the university experience among the different profiles of students who choose to study at distance universities.

This research pursued a two-fold purpose. First, it sought to explore the profile of distance university students based on their social conditions, factoring in sociodemographic aspects, external responsibilities, prior education, and social background. Our goal was to identify the sociodemographic composition and internal heterogeneity of distance university student profiles. Second, it proposed to explore the impact of the university experience on different aspects of students' personal and professional lives, and to analyse whether the impact varied among different student typologies.

## The Traditional Profile of Distance University Students

By definition, one of the main features of a distance university is the flexibility it offers, in a broad sense (e.g., schedule, geographical location, hours of study), and the fact that it facilitates participation by a specific student profile that has difficulty attending a brick-and-mortar university. In this respect, some studies highlighted the role of the distance university in the case of students who live in rural areas, geographically remote places, or who must travel long distances to get to a brick-and-mortar university (Bocchi, Eastman, & Swift, 2004; Cavanaugh, 2005; Dutton & Dutton, 2002). The existence of distance universities may also increase participation by students who have some type of disability, by avoiding possible interaction problems that may arise at brick-and-mortar universities (Moisey, 2004; Richardson, 2009).

However, over all these factors, the possibility of combining studying with other responsibilities outside of the university, such as work or family, has been the central factor in this notion of flexibility offered by the distance university (Bocchi et al., 2004; Dutton et al., 2002; Sikora, 2002). In this respect, empirical findings have shown that the likelihood of participating in distance universities is higher among students who do not depend financially on their family (Sikora, 2002), and students who combine studying with full-time (Cavanaugh & Jacquemin, 2015; Hillstock & Havice, 2014) or part-time employment (Wallace, 1996). Students who combine studying with work has had a clear translation in sociodemographic terms, with online students' average age higher than that of students enrolled at brick-and-mortar universities (Johnson, 2015; Ortagus, 2017).

In parallel with the need to work, some studies have pointed to gender as one of the most discriminating features for distinguishing internally between different distance student profiles (Yukselturk & Top, 2013). Distance students were characterized by a higher proportion of female students among the university population (Latanich, Nonis, Sarath, & Hudson, 2001; Wojciechowski, 2004). As an explanation for this increased participation by women, some studies have pointed to the preponderance of women in care-related tasks and the possibility of combining these with more flexible education options (Ortagus, 2017), although other studies questioned whether female students enrolled at distance universities aligned with the stereotype of the full-time mother (Johnson, 2015).

The results in the Catalan context were similar in terms of the increased proportion of female students who stayed at university (Grau-Valldosera & Minguillón, 2014). Specifically, in the case of students who dropped out in the first semester, we have seen that the likelihood of coming back and staying is higher among women and students who had prior experience in the subject studied. Women's greater ability to return to university and stay also contributed to the increased proportion of women in the distance education population.

Regarding family social background, studies have shown that a large number of students at distance universities are the first in their family to enter university (Stone, O'Shea, May, Delahunty, & Partington, 2016). These students have exhibited specific features and needs when it comes to meeting and responding to the institution's requirements.

Although these empirical findings have shown similar patterns, some studies suggested that it was difficult to establish conclusive results due to the incomplete, segmented approaches used in analysing the profile of distance students (Stewart, Bachman, & Johnson, 2010). Accordingly, the authors proposed a multivariate analysis of online and traditional programmes in which they analysed students' motivation to participate on the basis of a set of sociodemographic variables and the interactive effects among these variables. Among other results, the authors showed the complexity of the online university reality and the existence of interactive effects. In the case of age and gender, for example, the authors stated that young males showed differences in their reasons for entry and participation, and were more motivated intrinsically to complete their studies than were women of the same age (Stewart et al., 2010).

However, this prototypical profile is not static and seems to have shown evidence of change in recent decades. This may have made partial approaches even more confusing. Some studies have suggested a change from mainly older, employed students with clear goals and intrinsic motivations towards a more diverse, dynamic, younger profile that responds rapidly to technological changes (Dabbagh, 2007), or to a rejuvenation process among the population entering distance university education (Wojciechowski, 2004).

To find an answer to these recent changes, researchers have explored lifestyles, perceptions of the institution, and personal attributes as identifying elements of online students (Hillstock & Havice, 2014). Their results have shown greater participation by women and also by students belonging to majority racial groups (i.e., white, Caucasian students). As regards lifestyles, most students indicated that they were working while studying and that this was their main source for financing their studies (Cavanaugh, 2005; Cavanaugh & Jacquemin, 2015; Sikora, 2002). In addition, most of them said that they had children and, in about half the cases, children under 18 living in the same home. Thus, students' prototypical profile continues to be characterized by specific life factors: students with responsibilities outside of university such as work and family who choose distance education because it offers flexibility and the possibility of combining studies with other activities.

## **The Impact of Higher Education**

Many studies have shown the multiplicity, interconnection, and diversity of university's impact. Seeking to identify and conceptualize the different types of impact, some authors have identified different dimensions or factors that differentiate between impacts—short- and long-term, monetary and non-monetary, intentional and non-intentional, individual and societal (Brennan, Durazzi, & Tanguy, 2013; Brennan et al., 2010, 2013; McMahon, 2009; Woodall, Hiller, & Resnick, 2014). Some authors have said that it is not correct to attribute the impact solely to the university experience, and that other factors may be involved such as students' own maturing process or the pressure to choose a profession, among many others (Pascarella & Terenzini, 2005, p. 534).

The impact of university on the economic dimension, namely career development and the likelihood of being employed, has been frequently analysed. The results seem to be clear in this respect and have

shown that a higher level of income and a greater likelihood of being employed are both impacts of having entered and graduated from university (McMahon, 2009; Organisation for Economic Co-operation and Development, 2019; Pascarella & Terenzini, 2005). This phenomenon has also been analysed in the case of distance universities. According to the results, graduating from a distance university course has a positive effect on increased salary, although this varies depending on the programme or degree completed (Castaño-Muñoz, Carnoy, & Duart, 2016).

Regarding the economic dimension, one of the main motivations expressed by university students for going to university is related to future career and financial aspirations, and the possibility of finding a job or improving future work conditions (Dziewanowska, 2017; Machado, Brites, Magalhães, & Sá, 2011; Soares et al., 2018). However, many rationales have been involved in distinguishing between the impact that their university experience may have had, both in professional and career terms, and in terms of learning and skill acquisition (Arquero, Byrne, Flood, & Gonzalez, 2009; Balloo, Pauli, & Worrell, 2017; Byrne & Flood, 2005).

These results revealed some interesting variations and differences when students' profiles were taken into account, which has led some authors to talk about the differential role played by age in the reasons for studying at university, and the expectations regarding the impact of the university experience (Balloo et al., 2017; Bye, Pushkar, & Conway, 2007; Rothes, Lemos, & Gonçalves, 2017). In general, the results have shown that older students tended to express a higher degree of intrinsic motivation than did their younger fellow students. For their part, younger students were more interested in social dimensions such as making friends at university. In turn, differences were observed when other variables were included, such as students' gender. In sum, male adult students had lower autonomous motivation, while female adult students were overrepresented in a high-quality motivation group, with high values of autonomous motivation and low values of controlled motivation (Rothes et al., 2017). Studies that focused specifically on adult learners stated that the most common motivation for re-engaging in education was related to extrinsic motivations such as career development and performance in the labour market (Jenkins, 2017).

Beyond the economic or work aspects, other empirical findings have pointed to a great diversity of individual impacts attributable to the university experience associated with (a) academic, cognitive, and psychosocial aspects; (b) attitudes and values; (c) moral aspects; (d) quality of life; and (e) economic and career aspects (Pascarella & Terenzini, 2005). Likewise, some authors stated that for most students, the university experience was associated with increased self-confidence, independence, communication skills, understanding other people, and maturity (Brennan et al., 2010).

However, as other studies have pointed out, the impacts vary between older and younger students, as the former may have already acquired some of these competencies or skills in other contexts prior to entering university (Brennan et al., 2010). Other authors have said that students' social conditions or responsibilities—work or family responsibilities—may have influenced the impacts of university experience among university students (Brennan et al., 2010; Pascarella & Terenzini, 2005). This was particularly significant in the case of distance universities, where the dominant profile was that of older students and/or students who combined studying with other responsibilities outside of university.

The increased heterogeneity of the students enrolled in distance universities may have led to greater diversity in students' understanding and conception of university, and the motivations or objectives they expected from their university experience. These changes, both in the students' profiles and in the

conceptions of and motivations for university education, may have given rise to differential perceptions of the impact of university experience.

## Methodology

### Research Goals and Procedures

Our first goal was to explore students' main characteristics and draw up a distance student typology, taking into account their life circumstances. Thus, we performed a multiple correspondence analysis (MCA) to identify the most significant factors differentiating students. A series of variables were introduced in the analysis to put all the students in a space that allowed us to identify groups of similar students based on their proximity to other students. Table 1 shows the variables that defined this space (i.e., active variables) and their values (i.e., modalities or categories). Having defined the main factors, these were used to carry out a classification analysis to identify different groups of students with similar features. This enabled us to explore the university's internal heterogeneity with respect to students' social conditions and characteristics.

Our second goal was to analyse whether belonging to a particular type of student typology was associated with a differential assessment of the perceived impact of the university experience. We used the Kruskal-Wallis test—a non-parametric equivalent of the analysis of variance (ANOVA)—to determine student typology-specific differences.

### Sample

The data came from a survey of current and former students at the Universitat Oberta de Catalunya (UOC) in order to analyse this distance university's impact on Catalan society and the Catalan economy. The survey was delivered online through the Qualtrics platform ([www.qualtrics.com](http://www.qualtrics.com)). A link in the invitation e-mail provided participants with access to a consent form for the processing of personal data. Respondents' explicit consent was a condition sine qua non for participation in the survey. A total of 5,732 respondents completed the survey out of a population of over 50,000 eligible students enrolled at UOC at the time of data collection. For the analysis proposed here, we excluded graduates and dropouts. Thus, we narrowed our focus to students who, at the time of performing the survey, were still at the university studying for a university degree ( $N = 1,850$ ). Quota sampling was used to ensure the same proportions of students in relation to gender and age.

### Measures

In order to explore students' life circumstances, we introduced a series of variables that defined the factorial space. Thus, as shown in Table 1, the variables described various student features such as (a) personal characteristics (e.g., sociodemographic, disability); (b) place of residence; (c) responsibilities outside of university (e.g., family situation, children, current work situation, work situation at the time of admission to the university); (d) previous educational level; and (e) social background (i.e., the family's educational and occupational level).

Table 1

*Eleven Active Variables and 38 Categories: Absolute (n) and Relative (in %) Frequencies*

Variable	n	%	Variable	n	%	Variable	n	%
<b>Gender</b>			<b>Educational level at admission</b>			<b>Family's educational level</b>		
Male	786	42.5	Below baccalaureate	166	9.2	Up to primary education	629	38.9
Female	1064	57.5	Baccalaureate	347	19.2	Compulsory education	248	15.3
Total	1850	100	Higher vocational education and training	505	28.0	Post-compulsory secondary education	350	21.6
<b>Age groups</b>			Uncompleted university	443	24.5	University studies	391	24.2
Up to 25	27	1.5	University	244	13.5	Total	1618	100
26–30	207	11.2	Postgraduate	101	5.6	<b>Family's occupational level</b>		
31–35	270	14.6	Total	1806	100	Highly skilled white collar	321	30.9
36–40	275	14.9	<b>Job at admission</b>			Low-skilled white collar	395	38.1
41–45	328	17.7	Yes	1691	91.6	Highly skilled blue collar	109	10.5
46–50	336	18.2	No	156	8.4	Low-skilled blue collar	213	20.5
Over 50	407	22.0	Total	1850	100	Total	1038	100
Total	1850	100	<b>Family situation</b>			<b>Present situation</b>		
<b>Disability</b>			Single	690	38.2	Unemployed	121	6.8
Yes	350	19.0	Married	1028	56.9	Retired	47	2.6
No	1490	81.0	Divorced or separated	89	4.9	Working	1612	90.6
Total	1850	100	Total	1807	100	Total	1780	100
<b>Place of residence</b>			<b>Children</b>					
Catalonia (Spain)	1448	78.3	Yes	587	31.7			
Rest of Spain	324	17.5	No	1263	68.3			
Abroad	77	4.2	Total	1850	100			
Total	1850	100						

### Perceptions of the Impact of Higher Education

In order to analyse students' opinions regarding the impact of university on different aspects of their personal and professional life, the survey included the following question: "Please state which of the following items best describes the impact that studying at the UOC is having." This was followed by a



drop-down list with eight different items (see Table 2) and respondents were asked to rate each one on a five-point scale ranging on ranging from 1 (*no impact*) to 5 (*a big impact*).

Table 2

*Respondents' Perceptions of the Impact of Studying at UOC*

Impact	Mean	SD	n
Increase my chances of finding a job	3.39	1.237	1823
Improve my theoretical knowledge	4.15	0.841	1838
Improve the practical knowledge that I use in my job	3.23	1.276	1827
Progress in my career	3.71	1.135	1828
Acquire new concepts and new knowledge	4.28	0.795	1836
Consolidate concepts and broaden previous knowledge	4.07	0.905	1837
Improve my personal development (self-assertion, self-discipline)	4.11	0.961	1840
Gain an interdisciplinary, cross-cutting vision	3.92	0.965	1838

In order to simplify this information and find common dimensions, an exploratory factor analysis was carried out, applying the principal component extraction method with varimax rotation. The Kaiser-Meyer-Olkin (KMO) sample adequacy statistic was used to estimate the model's significance and relevance (KMO = 0.851). The principal component analysis established a factorial structure that consisted of two components with a total cumulative explained variance of 62.9%.

The rotated component matrix enabled us to identify each item's extraction and contribution to the different components (Table 3).

Table 3

*Rotated Component Matrix of the Exploratory Factor Analysis*

Impact	Component	
	1	2
Acquire new concepts and new knowledge	0.810	0.179
Improve my theoretical knowledge	0.794	0.219
Gain an interdisciplinary, cross-cutting vision	0.772	0.142
Consolidate concepts and broaden previous knowledge	0.726	0.291
Improve my personal development (self-assertion, self-discipline)	0.681	0.158
Progress in my career	0.272	0.828
Improve the practical knowledge that I use in my job	0.213	0.759
Increase my chances of finding a job	0.122	0.749
Quality of measures and average variance	1	2

Explained variance	37.6%	25.4%
Composite reliability	0.87	0.82
Average variance extracted	0.57	0.61

*Note.* Extraction method: principal component analysis. Rotation method: Varimax with Kaiser normalization. The rotation has converged in 3 iterations.

As we can see, the first component was composed of indicators associated with an intrinsic dimension of the university experience, associated in turn with knowledge acquisition and personal development. The second component contained a more extrinsic dimension related to improvement in work and professional terms, both in relation to knowledge acquisition and improved opportunities. Both components yielded values of composite reliability (CR) and average variance extracted (AVE) above the corresponding cut-offs (CR > 0.7; AVE > 0.5).

## Results

### Discriminating Factors in Distance Education Students' Profiles

The first step after performing the MCA was to select the factors that defined the space formed by students' life circumstances. The factors were defined by the eigenvalue, through which we calculated the inertia or variance; this inertia decreased progressively in each of the factors. Following the instructions given by LeRoux and Rouanet (2010), the modified ratios were calculated using Benzécri's proposal, and this enabled us to identify the importance of each factors and their explained variance. Thus, ACM allows us to explore and visualize the spatial relationships between the variables. The factors can be understood as the axes of the visual representation and are interpreted by assessing the variables' relevant contributions to the factor. The interpretation given here used the first two factors, which account for about 90% of the total. The first factor accounted for 76.7% of the total explained variance, the second for about 13%, and the next two accounted for less than 10% each (7.5% and 3.2%, respectively).

Table 4

#### *MCA with Selection of Active Variable*

Factor	Eigenvalue	Corrected eigenvalue	% explained inertia	% cumulative inertia
1	0.2130	0.015	76.7	76.7
2	0.1406	0.002	12.7	89.3
3	0.1290	0.001	7.5	96.8
4	0.1158	0.001	3.2	100.0

When we analysed the variables' contribution to the first factor, we saw that the three variables related to age, having dependent children, and family situation contributed most to explaining the first factor

(Table 5). Thus, there was a correspondence between this first factor, and family responsibilities and the life cycle. These modalities associated with these three variables contributed more than 73% to explaining this factor. Since these variables refer to the students' family sphere, the factor was called family responsibilities.

Table 5

*Contributions of Variables and Modalities to Factors*

Variable		Modality (positive coordinates)		Modality (negative coordinates)			
Label	Contr.	Label	Contrib.	Label	Contrib.		
<b>Factor 1: Family responsibilities</b>							
Age	28.1	over 50   46–50	9.7	3.2	26–30   31–35	8.8	5.4
Children	23.6	Yes	16.7		No	6.9	
Family situation	22.7	Married   Separated/divorced	7.5	2.5	Single	12.8	
Family educat. level	9.7	Up to primary education	4.8		University education	3.0	
Prior educat. level	5.5	Below baccalaureate	2.8				
Present situation	3.8	Retired	2.7				
Family occup. level	3.4				Highly skilled white collar	2.3	
<b>Factor 2: Social and educational background</b>							
Family occup. level	31.4	Low-skilled blue collar	10.4		Highly skilled white collar	19.3	
Family educ. level	27.1	Up to primary   Compulsory Higher Voc. Educ.	4.5	2.7	University education	19.6	
Prior educ. level	20.7	Training	11.0		University   Postgraduate	5.0	2.2
Age	9.3				Over 50	6.1	
Present situation	5.8				Retired	5.1	

Figure 1 provides a visual illustration of the contraposition among the variables' modalities: the negative values of the first factor (x) correspond to younger students, either single or with other family situations (other than being in a couple and being divorced or separated).

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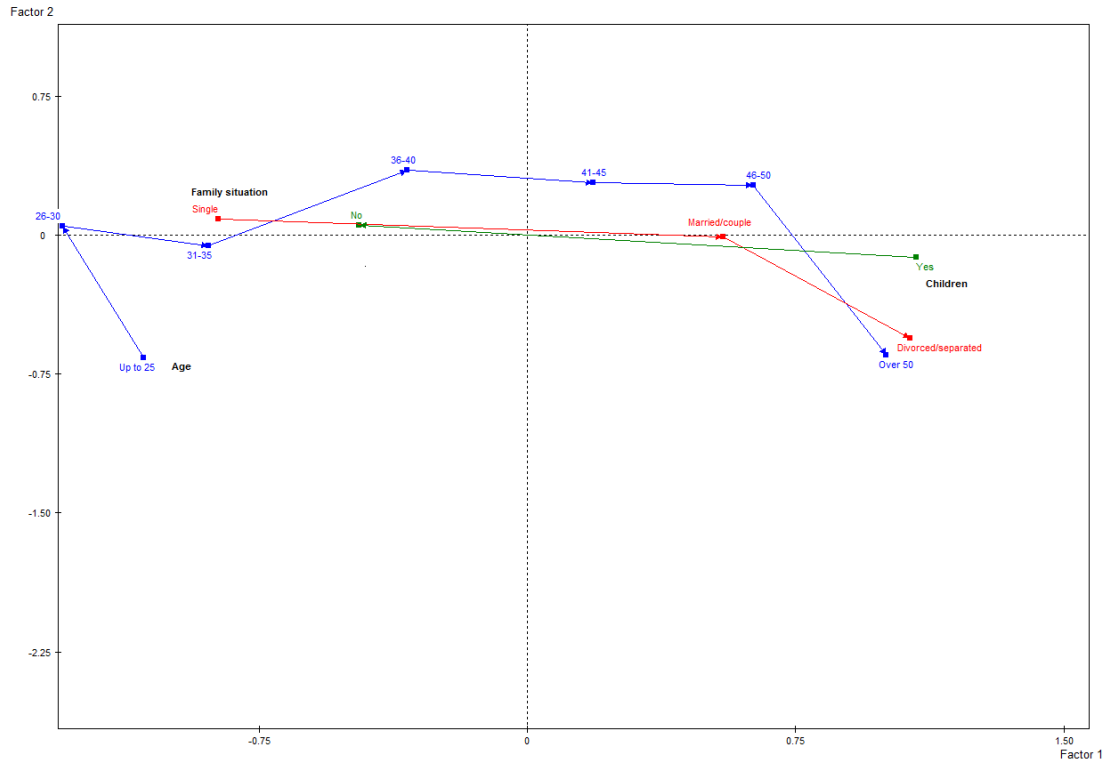


Figure 1. Projection of the variables and modalities that contribute most to factor 1.

As regards the interpretation of the second factor, Table 3 shows that the modalities referring to the students' social background were the most relevant. Both the family educational level and the family occupational level have modalities that contributed more than 50% of the total to this second factor. Contributing less, but still relevant, the modalities referring to the students' previous educational level contributed about 16% to the second factor.

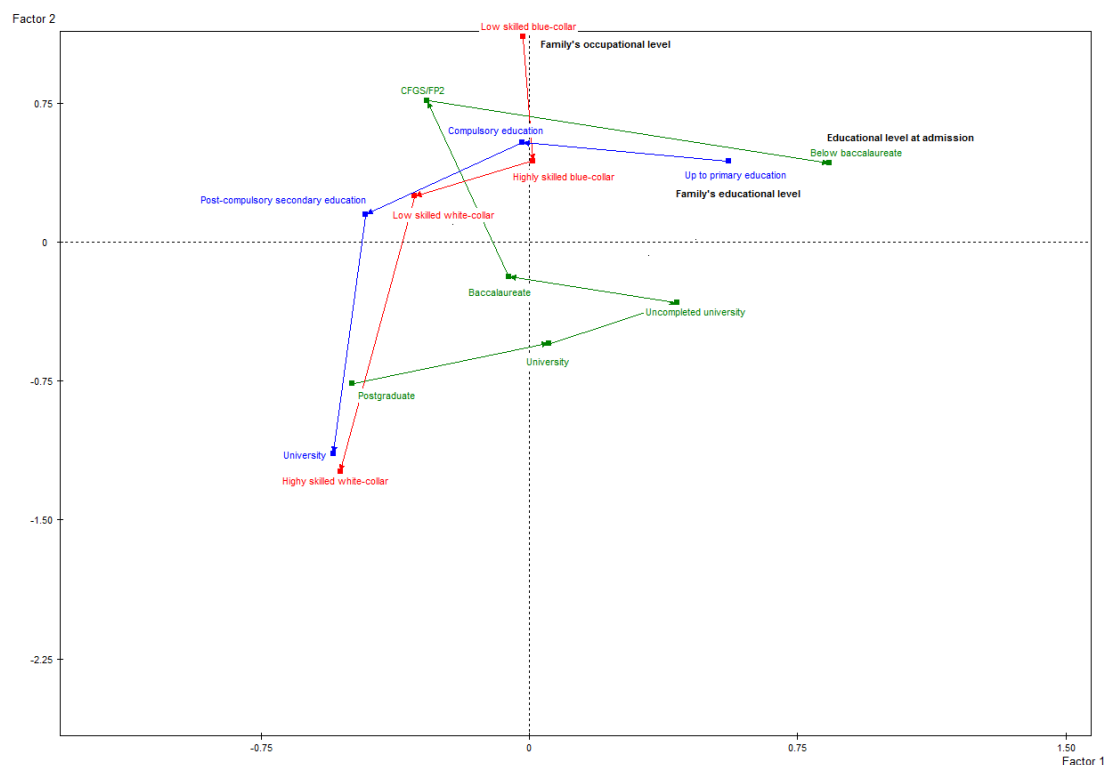


Figure 2. Projection of the variables and modalities that contribute most to factor 2.

Figure 2 shows that the positive coordinates of the second factor (y) included the modalities that refer to families with lower educational (up to post-compulsory studies) and occupational (blue collar and low-skilled white collar) levels. In contrast, the negative coordinates corresponded to the modalities referring to higher family educational and occupational levels (completed university studies and highly skilled occupations).

In addition, there was a relationship between family social background and students' educational level at the time of entry. This showed a contrast between students with lower educational levels (compulsory and higher vocational education and training) in the factor's positive coordinates and students who enter with a baccalaureate or some prior university experience.

### A Distance University Student Typology

From the results of the cluster analysis and taking into account the level of aggregation at each level of the histogram, a typology consisting of five student types was chosen, based on each type's social conditions. Figure 3 shows the scatter of individuals within the space defined by the first two factors described above.

The first group—employed students—represented more than a third of the sample ( $n = 647$ ) and was composed of students aged between 30 and 40, single, without children, and working at the time of entry in university. They entered university through profession-focused forms of admission (i.e., higher vocational education and training) and, to a lesser extent, with a previous university degree. They were related to families with a social background characterized by a high educational level (i.e., university

studies) and high occupational levels (i.e., highly skilled white collar). This type had a weak association with male students.

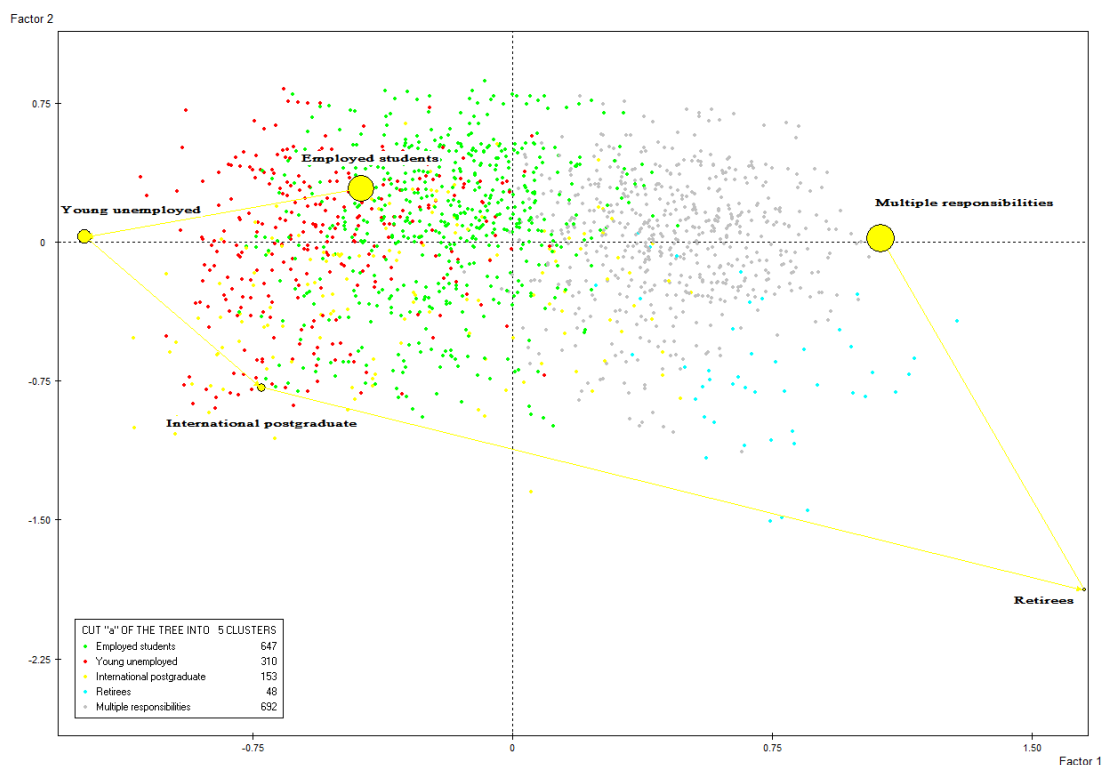


Figure 3. Student typology by social condition.

A second group—young unemployed—corresponded to the group of younger students (i.e., 26–30 years) who were unemployed, and had no work or childcare responsibilities outside university ( $n = 310$ ; 16.8%). They entered university from baccalaureate studies, and their family’s social background was characterized by parents with average education and occupation levels (i.e., post-compulsory education, low-skilled white collar). This is the only group that was associated with students with any kind of disability. It showed a slight female bias.

International postgraduate students represented 8.3% of the sample ( $n = 153$ ) and were characterized by students in postgraduate studies who resided in a foreign country. They come from highly educated families with high occupational levels (i.e., highly skilled white collar and highly skilled blue collar). As in the previous case, this group had a slight female bias.

The group of retired students was the largest minority, with slightly less than 50 students who represented 2.6% of the total ( $n = 48$ ). These were mainly students over 50 years old, male, and, to a lesser extent, with other university degrees obtained prior to entering the distance university.

Finally, the last group—multiple responsibilities—was the most numerous and represented 37.4% of the total ( $n = 692$ ). As their name suggests, these students had both work and family (i.e., dependent children) responsibilities. They were associated with low previous educational levels (i.e., below baccalaureate) or with uncompleted university experiences, and low family educational levels as well (i.e., up to primary education).

## The Impact of the University Experience by Student Profile

Finally, we analysed the impact perceived by different types of students as a result of their university experience. The results of the Kruskal-Wallis test (Table 6) revealed that the differences by student type in their ratings of university impact were statistically significant both in relation to the intrinsic dimension associated with knowledge acquisition ( $\chi^2(4) = 42.525$ ;  $p < 0.000$ ) and in relation to the extrinsic dimension related with career improvement and acquisition of professional competencies ( $\chi^2(4) = 34.518$ ;  $p < 0.000$ ).

Table 6

### Results of the Kruskal-Wallis Test

Component	Student typology	<i>n</i>	Average range	Post-hoc pair-wise comparison
Intrinsic dimension / knowledge	Employed students	633	835.60	Retirees**; Multiple responsibilities**
	Young unemployed	305	843.88	Retirees**; Multiple responsibilities*
	International postgraduate students	147	841.42	Retirees**
	Retirees	42	1217.60	
	Multiple responsibilities	663	968.03	Retirees*
	Total	1790		
Extrinsic dimension / professional	Employed students	633	924.94	Retirees**
	Young unemployed	305	930.94	Retirees**
	International postgraduate students	147	855.15	Retirees**
	Retirees	42	458.83	
	Multiple responsibilities	663	887.70	Retirees**
	Total	1790		

Note. \*  $p < 0.05$ . \*\*  $p < 0.001$ .

Specifically, the students with multiple responsibilities and, most especially, the retired students showed a greater average range in the intrinsic dimension score associated with the acquisition of theoretical knowledge. There was also an age-related pattern, with older students (i.e., students with multiple responsibilities and retirees) showing significant differences compared with the younger students, whether unemployed or working.

With respect to the dimension associated with professional competencies, it was seen that retired students had a significantly lower score compared to their fellow students. Indeed, the pair-wise comparison found significant differences between the retired students and the other distance student profiles.

## Conclusion and Implications

The results show the importance of social conditions as a differentiating factor for today's online distance university students. Students can be differentiated by their life cycle and, specifically, by their family situation and external responsibilities, such as having dependent children and work responsibilities. This is in line with the findings of other studies on distance students (Cavanaugh & Jacquemin, 2015; Dutton et al., 2002; Sikora, 2002). In turn, the introduction of social background enables us to identify a second factor for differentiating and discriminating among students on the basis of their family social background. Students with a higher social background—families with university education who are highly qualified—are differentiated from the rest of the students, revealing a new internal differentiating factor in the case of the distance university. This brings to light a certain degree of diversity in UOC students' social background, although students who are the first in their family to enter university still make up the majority, as other studies have suggested (Stone et al., 2016).

Different student types emerge from these two factors, hinting at a certain degree of internal heterogeneity in the distance students' profile, with a total of five student types. Although differences and features are observed that are specific to each profile, two of the five types (i.e., employed students and multiple responsibilities) account for three out of four students, and become a core student profile in the distance university. However, alongside these two groups, three other student types are observed that contribute further heterogeneity to distance students: retired students, on the one hand, and international postgraduate students and young unemployed, on the other. The last two groups bring to light the existence of a substantial group of students who share similarities with the traditional student profile in brick-and-mortar universities, namely, young students, without any family or work responsibilities, who enter university through academic pathways. This group's relative weight is by no means insignificant, as it accounts for 16.8% of the total sample. These students may account for the recent rejuvenation of the distance university student profile that has been observed by other international studies as a result of recent social and institutional changes (Dabbagh, 2007; Wallace, 1996; Wojciechowski, 2004). These results may point to the existence of a new relationship between the brick-and-mortar and distance university models, in that the distance university may be attracting a student profile that traditionally studied at the brick-and-mortar university, diverging from the trends suggested by other studies (Cavanaugh, 2005).

The importance of this diversity in the distance university student profile lies in the fact that it leads in turn to a differential perception of university's impact on different aspects of students' personal and professional life. Thus, older students, whether those who have multiple responsibilities or, especially, those who are retired, show a more intrinsic conception of university's impact. For instance, they refer more often to aspects associated with the acquisition and consolidation of new knowledge and with improving their personal development.

On the other hand, with respect to the more extrinsic or professional dimension, retired students give significantly lower scores than the other student types analysed, insofar as the younger students and the employed students perceive that university has a greater impact in professional or extrinsic terms. These results are consistent with studies that showed the role played by age in the reasons for studying at university and the expectations regarding the university experience's impact (Balloo et al., 2017; Bye et al., 2007), and specifically in the trend shown by older students towards a higher degree of intrinsic motivation than their younger fellow students.



The internal diversity of distance students and the impacts of the university experience indicate a degree of heterogeneity that goes beyond the traditional conception of distance education. In turn, this scenario enables us to delineate or infer multiple rationales for university entry and participation in university, driven by student profiles who traditionally did not consider this education option. For example, second opportunity rationales are observed by which students without any prior higher education and who come from low or intermediate family educational levels are able to acquire a university qualification. These upward social mobility strategies can be observed both among the students with family and work responsibilities (i.e., multiple responsibilities) and among those who are unemployed.

In addition, the decision to study at a distance university may be driven by expressive motivations and the acquisition of knowledge in different subjects at different times in life, such as demonstrated by *retirees*. This portrays distance education as an institution for lifelong education. These rationales coexist with other more accreditation-focused, career-focused, or specialization-focused rationales, expressed by young students with prior university experience (i.e., international postgraduate students), with work responsibilities (i.e., employed students), or the unemployed (i.e., young unemployed).

Within the framework of this university population rejuvenation process, it would be interesting to delve into the reasons and motivations for studying at a distance university. The economic recession and increased university fees may have had an impact on the educational decisions of the students who opt for distance education as a strategy for reducing the indirect cost of studying. It is also possible that the younger population has acquired new conceptions of university and education. That is a naturalization of the online environment and distance learning which is no longer an obstacle to entering university. These results show that the distance university has become established as a lifelong educational institution, irrespective of the students' age and their social conditions, and it may satisfy a considerable diversity of needs.

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