Cyberbullying in first-year university students and its influence on their intentions to drop out

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University dropout is a phenomenon of growing interest in the knowledge society. However, it is a complex phenomenon in which a variety of academic and social variables interact with each other. Cyberbullying is also something that has been the subject of increased research recently, and although it has most often been studied in primary and secondary education, it cannot be discounted from higher education. Because of that, the objective of this study was to determine whether there was a relationship between intentions to complete higher education or not and having been the victim of cyberbullying. We used a sample of 1653 students at a university of Spain who were asked to respond to an adaptation of the University Violence Questionnaire (UVC), analysing the data collected via descriptive statistics and the decision tree test. The results indicated that there was a relationship between having been the victim of cyberbullying and the intention to drop out of a university course, especially when the bullying behaviour was social exclusion, impersonation, or spreading sexual images without consent. This study aimed to enhance understanding of university dropout, looking at how being the victim of cyberbullying interacted with the likelihood of students finishing their courses.

Keywords: cyberbullying; intention to dropout; higher education; social integration; persistence.

1. Introduction

Dropping out of higher education has a significant impact, not only affecting the students who drop out and their families, but also the proper development of the society in which they live (Casanova et al., 2021). The high rates of university dropout in the countries making up the Organization for Economic Co-operation and Development (OECD, 2019), described as the percentage of students who enter a university programme and who don´t graduate from it a given number of years later, are a common denominator for all of their university systems, with rates as high as 24% worldwide. According to OECD data, in Spain in 2019, 17.2% of students doing in-person courses at publicly funded universities dropped out. Spain is one of the European Union countries with the highest rates of dropout, along with Ireland (20%) and the UK (21%). Portugal, the Netherlands, Austria, and Belgium have the lowest rates of

dropout, less than 10%, whereas countries such as Switzerland, France, Finland, and Norway have rates between 10% and 15%.

Defining dropout is also complex. There have been various forms of understanding this concept in recent years. University dropout may cover various situations such as: temporary, short-term, or permanent interruption of courses being taken, changing course, or changing university (Díaz-Mujica et al., 2019). With that in mind, university dropout can be defined as not enrolling on one's original course in the two years following the last enrolment (Gury, 2011).

The definition of university dropout can be viewed from a descriptive perspective, analysing the variables that have influenced a student's decision to drop out, or from a predictive perspective, where the aim is to identify the variables that influence it in order to anticipate it (Díaz-Mujica et al., 2019). This can also include studying the intention to drop out, which would allow evaluation of the variables involved in planning to drop out, even if the student has not yet done so.

Performance is one of the most widely-studied variables in the academic area, and the variable that explains the greatest proportion of the decision to drop out. Various studies have found that academic performance, both prior to entering university and during the first year of the course, is one of the variables that most influences the intention to drop out and actually dropping out (Tuero et al., 2020a). In this regard, the results from Bernardo et al. (2015) showed that students who dropped out were those with the lowest mean scores in the university entrance exams and the lowest number of credits gained during the first year of their course. Self-regulation of learning is another variable associated with academic performance which has been widely studied due to its influence on performance, and in turn on university dropout. Recent studies have concluded that a lack of competency in self-regulation strategies for learning causes lower expectations and worse academic performance, increasing the intention to drop out (Díaz-Mujica et al., 2019).

In addition, affective-motivational variables have also been fundamental in understanding university dropout. One of these is satisfaction with the chosen course, which is the variable with most influence over the intention to drop out according to the study by Bethencourt et al. (2008), explaining 58% of the criterion variable, the

intention to drop out. Another affective-motivational variable that has often been studied by researchers is whether prior expectations have been met (Rodríguez-Gómez et al., 2014). According to the study by Pérez-Padilla (2015), meeting expectations explains 36% of the variance in the satisfaction dimension and 12% of the variance in students' academic performance, both of which are variables that, as noted above, are related to staying on a course. Finally, another affective-motivational factor, academic motivation, also has a certain weight when it comes to deciding to drop out, in the same way as academic performance. According to Rump et al. (2017), intrinsic motivation is the sole predictor of dropout for 56.7% of students, which indicates that feeling motivated by the course that one is doing is one of the best predictors of the variable we are examining in this study.

However, these academic and affective-motivational variables are not the only ones to have been studied. Relational and socio-affective variables also have a certain weight when it comes to predicting university drop out (Gairín et al., 2014), particularly the level of integration with classmates and adaptation to the university environment.

Being academically well prepared for university, getting good marks on the course, adapting well to the institution, and feeling integrated with classmates are variables that allow the explanation of up to 72% of student persistence on a course (Tuero et al., 2020a). That said, as education is an open process, new variables seem to gain importance depending on the particular spatio-temporal context. In this regard, cyberbullying, traditionally linked to primary and secondary education, has begun to appear at university (Bernardo et al., 2020). This means that, if socio-affective variables such as integration into the class group notably affect the decision to drop out or remain, it seems logical to think that cyberbullying (which directly impacts psychological wellbeing and proper integration in the classroom) may also affect students when it comes to deciding to drop out. For this reason, in this study we wanted to raise and analyse this possibility.

Having outlined the phenomenon of university drop out and the main variables that have been studied in relation to it, the next step is to define cyberbullying. Cyberbullying is when a person or group repeatedly engages in behaviours, via digital or electronic means of communication, through which they transmit hostile or aggressive messages in order to harm others or to make them feel uncomfortable

(Tokunaga, 2010). It is one of the most worrying phenomena for the teaching community, not only because of the serious consequences, but also because it is indirect and continuous. Cyberbullying has been studied and analysed from the perspective of the victim and the perspective of the witness (who sees it but is not a direct victim). It has become more prevalent in recent years. The percentage of students who report having felt the victim of this type of behaviour has risen to 22.1%, but if we measure the incidence from an observer's perspective, the rate goes up to 29.3% (Dobarro et al., 2017).

From the victims' perspectives, written bullying and impersonation are the most common types of cyberbullying, representing 17.5% and 10% respectively. Written bullying means getting threatening or insulting messages or other harassment through social networks and other means of communication. Impersonation is when a person pretends to be someone else for malicious reasons, such as illegally gathering data, cyberbullying, or grooming (gaining the trust of a minor in order to be able to sexually abuse them). From the witness's perspective, the most common type of cyberbullying is social exclusion, which reaches rates of 21.1% in the university population (Dobarro et al., 2017). It is the chronic curtailing of opportunities of access to various groups or spaces in which students are involved, whether academic or social.

While it is true that cyberbullying continues at university, the frequent, early use of electronic devices has allowed researchers to study variables that perpetuate it from very early ages, in primary as well as secondary school. For example, cyberbullying behaviour has been found to be more common in boys and being a victim of cyberbullying has been found to be more common in girls, although statistically significant differences by gender have not been found (Álvarez-García et al., 2017). Other commonly-studied variables include age and school year, with cyberbullying more common between children aged 14 to 17 and less so in children aged 10 to 14. In other words, cyberbullying is more common in school years corresponding to adolescence (Álvarez-García et al., 2017; Lee et al., 2020; Tokunaga, 2010). In fact, cyberbullying has been portrayed as a rising 'epidemic' amongst children and adolescents, considering a phenomenon that extends far beyond the school doors so as well as the traditional forms of bullying (Wolke et al., 2017).

Academic variables have also been examined in relation to cyberbullying, these include performance and problems with courses (Björklund et al., 2020; Peled, 2019), variables which, as noted above, have significant weight in predicting university dropout (Rump et al., 2017).

These are not the only variables that have been looked at, as psychological and socio-affective variables such as self-esteem, pro-social behaviour, a sense of belonging, positive life experiences, anxiety, and depression have also been examined in relation to cyberbullying. These variables are affected when the student is a victim of cyberbullying, increasing the likelihood that the student will drop out (Chan & Wong, 2020; Peled, 2019). Furthermore, it has been observed that having been a victim of cyberbullying at school is related to receiving it at the university and with dropping out, in such a way that college students who have been cyberbullied have presented a greater probability of dropping out, as well as a higher probability of suffered it while in school (Washington, 2014).

It is also important to understand that the use of electronic devices is extremely common at university. Various studies have attempted to determine whether there is a relationship between time spent on social networks and the probability of being a victim of cyberbullying. They have noted that the more time spent on social networks and the more varied they are, the greater the likelihood of a student being a victim of cyberbullying, and the more likely it is that an aggressor engages in bullying behaviour through those devices (Álvarez-García et al., 2017; Peled, 2019).

Given all of that, there are many consequences of cyberbullying. At the academic level, the victim may see their performance drop, with figures in some cases of up to 6% of variance explained (Peled, 2019), which may lead to them dropping out from their course, either temporarily or permanently (Souza et al., 2017). At the social level, victims of cyberbullying may have problems integrating or the perception of poor social skills, which may reach up to 11% of the variance explained (Peled, 2019).

At the psychological level, the consequences are more serious still. Victims of cyberbullying may suffer from anxiety (Reijntjes et al., 2010) or depression. Students who perceive themselves as victims of cyberbullying have been seen to be more likely to suffer from early depression. However, when it is witnesses who identify students as

victims of cyberbullying, the victims tend to be more likely to suffer from severe early-onset depression or serious late-onset depression (Zwierzynska et al., 2013). In addition, frequent feelings of unhappiness, loneliness, isolation, anger, and a desire for revenge may lead victims of cyberbullying to engage in vengeful behaviour towards their aggressors and other students. In other words, students may become enmeshed in a cycle in which being the victim of cyberbullying and cyberbullying behaviour itself may overlap (Souza et al., 2017). In some cases, students may even exhibit a tendency towards self-harm or suicidal ideation. These figures range from 4% to 11%, and are between 4.17 and 7.78 times more common if the victims are students from multicultural contexts (Lee, 2019).

Despite all of this, cyberbullying has not been extensively studied in higher education institutions, as it has often been linked with primary and secondary education. Nonetheless, according to recent studies, it is present in higher education (Barratt-Pugh et al., 2018; Björklund et al., 2020; Sinkkonen et al., 2014; Souza et al., 2017; Vergel et al., 2016).

It is also worth noting that cyberbullying can occur in various ways and formats, with the main subtypes being overtly-aggressive or relational. Overtly-aggressive bullying is usually through electronic text, such as sending threats and other types of verbal aggression whereas relational behaviour may include tricking someone (sharing confidential, personal, or embarrassing information about the victim with people that they do not want to share it with), impersonation, shaming (posting the victim's personal information, rumours, or embarrassing photos), or exclusion (Chan & Wong, 2020).

Given all of the above, and given that if a student is the victim of cyberbullying, academic variables such as performance, socio-affective variables such as a sense of belonging to the group-class, and positive academic experiences at university will be affected, we assume that the risk of dropping out will also increase where there is cyberbullying. This is because all of these variables are part of the explanations given both by researchers and students when explaining why students drop out.

In this context, the objective of our study is to examine the relationship between being a victim of some type of cyberbullying at university and the intention to drop out.
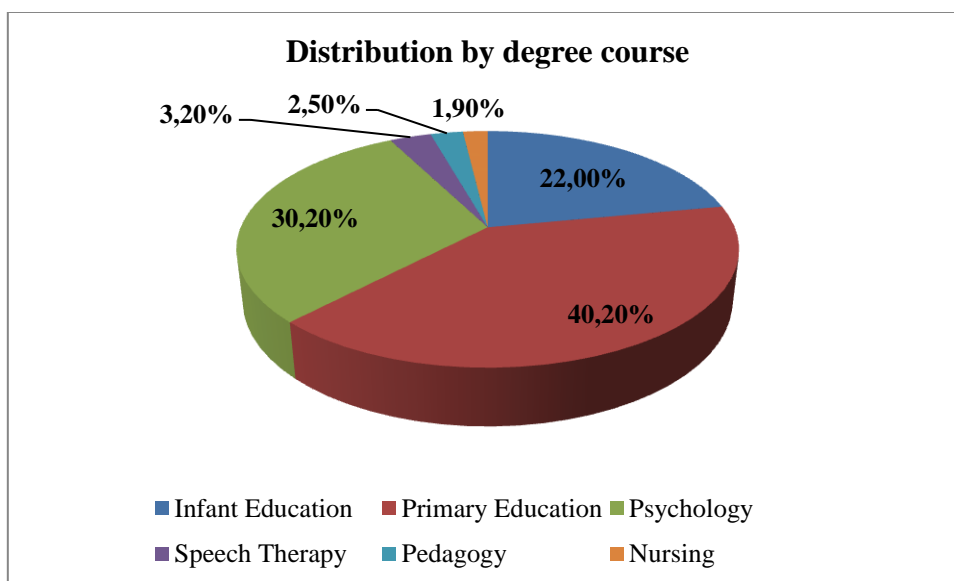
We expect that students who have suffered some kind of cyberbullying, whether aggressive or relational, will demonstrate greater intention to drop out of the courses they have enrolled on.

2. Method

The research design selected was Cross-sectional Survey Design, group comparisons type. The questionnaire has been implemented through the one on one individual interview. In addition, the selected sample was a convenience non-probabilistic, both in terms of the students selected and the selected subjects in which the questionnaire was implemented (Creswell, 2004).

2.1. Sample

The study sample was selected incidentally (Taherdoost, 2016), and started from the contact with the different faculties of the higher education institution where the study was developed, which in turn facilitated communication with the professors interested in participating in the study research, being them teachers in first year subjects. After the collaboration received, the teachers gave access to a sample that was made up of 1653 first-year students at a university in the north of Spain. Their mean age was 19.44 years old (SD = 3.4), and there were more women (75.5%) than men (24.5%). This disparity is influenced by the characteristics of the courses, which are traditionally more popular with female students. The distribution of courses is shown in Figure 1.

Distribution by degree course

- Infant Education: 22,00%
- Primary Education: 40,20%
- Psychology: 30,20%
- Speech Therapy: 3,20%
- Pedagogy: 2,50%
- Nursing: 1,90%

Figure 1. Distribution of students by degree course.

Despite that, there were no significant differences between the sexes in terms of belonging to drop-out or victimized groups, at a significance level of .01.

2.2. Instrument

The instrument we used was the University Violence Questionnaire (UVC), which is a combination of two prior tests: the Questionnaire about Online Victimization at University and the Questionnaire about Observed-online Violence at University, which take the perspectives of victims and witnesses respectively (Dobarro et al., 2018).

The first part of the questionnaire, based on the model from Nocentini et al. (2010), has 21 items aimed at determining how often students experience certain types of aggression. The students respond to each item using a Likert-type response scale in which 1 = Never, 2 = Occasionally, 3 = Often, and 4 = Always. The second part has the same structure, but contains 26 items from the perspective of a witness.

The items from the Questionnaire about Online Victimization at University whose variables were used in this study included items related to: insulting or threatening behaviour ("I have received threatening messages from another student in private via the internet—email, WhatsApp, Facebook, etc.—" and "I have been insulted or made fun of by my classmates in private via email, social networks or instant messaging services such as Snapchat, Facebook, Instagram, etc."), impersonation behaviour ("a student has published comments on the internet pretending to be me in order to harm me" and "another student has created a false profile in my name on the internet to hurt me or to make fun of me"), behaviour which threatens personal privacy ("a classmate has spread sexually suggestive photos or videos of me on the internet without my consent" and "some classmate has used the internet—chat, social networks, etc.,—to spread secrets that I had shared in confidence in order to hurt me", abusive behaviour ("a classmate has made unwanted sexual comments towards me via the internet—WhatsApp, Snapchat, Facebook, Instagram, etc,—", and behaviours relating to exclusion and shunning ("some classmates have given me the silent treatment in chats or social networks—WhatsApp, Snapchat, Facebook, Instagram, etc,—" and "I

feel ignored or excluded in the class group or at university because of my ethnic or cultural background").

We added other items to our questionnaire related to personal and sociodemographic variables such as: course, year, sex, age, residence type, entry route to university, mean grade in upper secondary school or vocational training, university grades, etc. We also added a series of items specifically related to dropping out ("on occasion I have thought about dropping out of the course") and social integration ("extra-curricular activities you have participated in", "the teachers give me sufficient academic support", "during the academic year I have had good classmates", "I have made good friends at the university", etc.).

In addition, a series of specific items taken from Bernardo et al. (2018): one directly related to the measure of the intention to drop out of university ("on some occasion I have considered dropping out the degree") and another eight related to variables of an academic and social nature that have traditionally influenced this fact: "I attend class regularly", "extra-academic activities in which you have participated", "I receive adequate academic support from the teaching staff ", "I have established a fluid relationship with the teaching staff", "I have received enough information and support from the university orientation", "I have received support from some group of students", "during the course I have had good colleagues" and "in the university I have made good friends".

The resulting instrument had good reliability (Cronbach's Alpha = .897) and each of the two subtests: Online Victimization University Questionnaire and the Observed Online Violence University Questionnaire has a factorial structure that consists of three factors: verbal-written violence, sexual violence and social exclusion (Dobarro et al., 2018).

2.3. Procedure

We first sent an email to various university faculties asking them to collaborate in the project, leading to meetings with those who showed an interest in order to explain the objective of the study and the instrument to be used. Implementation of the instrument was coordinated with the teachers of each subject who had decided to participate.

Members of the research team visited the classrooms at the beginning of classes on agreed dates.

The instrument was administered on paper. Before asking the students to complete it, the members of the research team explained the study objectives and answered any questions, reminding students that the study complied with data protection legislation and the usual ethical principles in this type of study, and that their data was confidential. The printed instrument had a specific paragraph summarizing this through which the student gave their consent to participate in the study.

2.4. Data analysis

We used SPSS 24.0 to analyse the data, carrying out descriptive analysis and the Student t test for independent samples to determine whether there were gender-based differences. We also used classification trees, a predictive data-mining technique which creates a classification model based on flow diagrams which make it easier to interpret, explaining the behaviour related to a decision and reducing the number of relevant independent variables. The use of the decision tree has been selected over other techniques given that it not only allows establishing associations between related variables, but also goes beyond mere association given its predictive nature, at the same time that it allows prioritizing the importance of the different variables according to their influence on the criterion variable and classify the subjects of the sample according to the different values of the predictor variables (Berlanga et al., 2013).

To produce the classification trees we dichotomized the variables about dropout and the assignment to the victims of cyberbullying group. The student response to the item about whether they had on occasion thought of dropping out from their course was on a Likert-type scale from 1 to 4 based on how much they agreed with the statement. Values of 1 and 2 (completely disagree and disagree) were the no intention to drop out option, whereas values of 3 and 4 (agree or completely agree) made up the intention to drop out option. In a similar way, for assigning membership to the group of victims of cyberbullying, we divided the students into those who scored above the 75th percentile, which covered all those who scored at least one standard deviation above the mean of the scale, and those who did not, with the former being the victims of cyberbullying group.

3. Results

First, we performed descriptive analyses which showed which were the most common bullying behaviours (Table 1). A little more than 30% of the sample said that they had experienced sexually suggestive photos or videos of theirs being spread and the publication of comments on the internet impersonating them in order to harm them. Less common behaviours were: being made fun of in public with offensive or insulting content via social networks or messaging groups (4.5%), getting unwanted sexual comments via social networks (4.1%), and being the victim of shunning by classmates in chats and social networks (3.3%), with the remaining behaviours being less common still.

Table 1. The most common cyberbullying strategies victims suffer from

Most representative cyberbullying behaviors		
	Yes (scores 3 & 4)	No (scores 1 & 2)
Sexually suggestive photos or videos of me have been spread on the net without my consent	68.9%	31.1%
Comments impersonating me have been posted on the internet in order to hurt me	69.1%	30.9%
Making fun of me publicly with offensive or insulting comments via social networks (e.g., Facebook, Instagram, WhatsApp…)	4.5%	95.5%
Some classmates have given me the silent treatment in chats or on social networks (WhatsApp, Snapchat, Facebook, Instagram)	3.3%	96.7%
Unwanted sexual comments via the internet (WhatsApp, Snapchat, Facebook, Instagram…)	4.1%	95.9%

Growth method: CHAID

Following that, we took university dropout as the criterion variable, classifying students according to whether they had considered dropping out of the course that they initially enrolled on (dropout group), or whether they intended to stay on it (remain group). As Table 2 shows, we validated a model that correctly predicted membership in the remain group for 95.5% of subjects, and correctly predicted 75.4% of those with the intention to drop out.

Table 2. Classification tree prediction

	Predicted		
Observed	NO	YES	Corrected percentage
NO	922	39	95.9%
YES	170	522	75.4%
Percentage	66.1%	33.9%	87.4%

Growth method: CHAID

As the classification tree shows (Figure 2), the cyberbullying-related predictor variable that most determined whether a subject belonged to one of the two groups (remain or drop out) was spreading sexually suggestive photos or videos of the affected student on the internet without consent ($\chi^2 = 914.139$; df = 1; p < .001). If this variable was scored as negative, indicating that students had not suffered from this type of behaviour, 84.4% of those students were classified as being in the remain group, whereas if the variable was scored in complete agreement, 93% of those students were categorized as being in the drop out group.

However, at a second level, there were two variables that seemed to have modulating effects. Feeling ignored or excluded by the class group or the university due to academic performance increased the likelihood of being in the dropout group in those who said that they had *not* experienced images of theirs with sexual content being spread ($\chi^2 = 24.800$; df = 1; p < .001). In fact, if the score was >1,35% were classified in the drop-out group, whereas if it was = 1, only 14% were classified that way. On the other hand, the variable that had an influence on those who *had* seen their images with sexual content shared was the publication of content on social networks by someone impersonating them ($\chi^2 = 46.645$; df = 1; p < .001). If this happened regularly (scores of 3 or 4), the students tended to be placed in the drop-out group (95.7%), otherwise (scores of 1 or 2) that percentage fell to 73.1%.
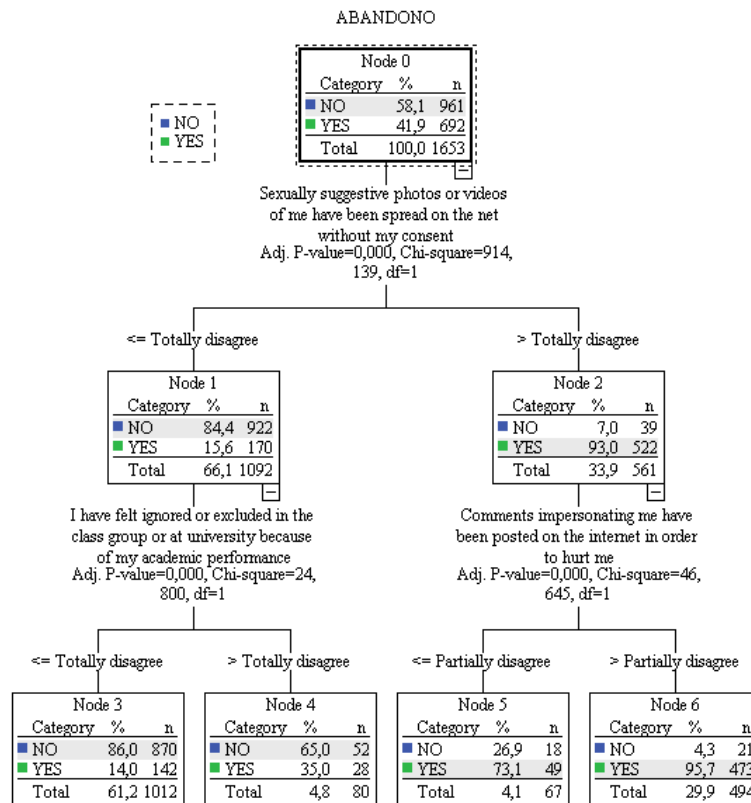
Figure 2. Classification tree.

Despite the results from the general model, it is nonetheless important to analyse any gender-based differences since, although some studies show that there are no such differences (Monks et al., 2012), according to others (Smith et al., 2010) they would occur, with some harassment and cyberbullying behaviors being differential based on this variable. In the present study, the Student's t test has been applied for independent samples and, as can be seen, these differences did not affect whether a subject belonged to the dropout group or the remain group, but they did affect one of the predictor variables. As Table 3 shows, the perception of being excluded from the group or in the university due to performance seems to have been more marked in men (M=1.13) than women (M=1.07), with statistically significant differences.

Table 3. Student t test for the variables in the model

	Test for independent samples					
	Levene's test		t test for equivalence of means			
	F	Sig.	t	df	Sig.	Dif. means
Belonging to the drop-out group	2.137	.144	.792	1645	.428	.022
Sexually suggestive photos or videos of me have been spread on the net without my consent	1.266	.261	.075	1645	.941	.005

I have felt ignored or excluded in the class group or at university because of my academic performance	32.184	.000	2.587	565,560	.100	.058
Comments impersonating me have been posted on the internet in order to hurt me	.333	.564	-.228	1645	.820	-.016

There seem to be generalized cyberbullying behaviours, such as those related to spreading sexual images and impersonation, whereas other behaviours only affected a limited number of students, and it is the spreading of sexual images variable that was the most reliable indicator of the students' subsequent intention to drop out.

4. Conclusions

Various factors in students' educational lives, including academic, and social and affective aspects, influence dropping out from university. Hence the objective of this study was to analyse the relationship between socio-affective variables related to cyberbullying and university dropout, as the negative effects of both dropping out and being the victim of cyberbullying harm university students' quality of life, their families, and the society they live in.

In the study, we analysed the social variables that influence drop out, understanding that being the victim of cyberbullying would negatively affect students' proper adaptation and integration into university life, and therefore make it more likely for the student to consider dropping out. In addition, our study gains additional significance when one considers what numerous studies have already observed, the phenomenon of cyberbullying has reached university classrooms.

Many studies in various countries have shown that it is increasingly important to study the numbers of young people who suffer or witness cyberbullying at university (Barratt-Pugh & Krestelica, 2018; Bernardo et al., 2020; Björklund et al., 2020; Sinkkonen et al., 2014; Souza et al., 2017; Vergel et al., 2016), a phenomenon that exists and is perpetuated via electronic devices (Tuero et al., 2020b). As the information and communication society has become embedded in the university environment, electronic devices have become a means of communication and socialization for young people, as well as being essential tools for their day to day academic activity. And while it is true that these device have significant benefits in terms of interacting as part of a group which may be new within the university context, inappropriate use of this

technology can lead to negative consequences that can continue over time as it is anonymous (Álvarez-García et al., 2017) and often not easy for university staff or families to detect (Barratt-Pugh & Krestelica, 2018).

In the same way that these electronic devices form an essential part of the university teaching-learning process, it seems reasonable that the same technological tools are a central element in the establishment and maintenance of social relationships between students, going beyond the in-person environment and producing a dynamic unique to contact through online tools. Because of that, a phenomenon like cyberbullying is expected to also affect university students.

In fact, our study indicates that the phenomenon of cyberbullying affects a large proportion of first-year university students (more than 30%), who reported experiencing some type of cyberbullying, either aggressive or relational. Other studies, such as Johansson & Englund (2020), have shown that there are many types of bullying behaviours that make up cyberbullying and that relational bullying is the type that has the most negative effect on young people's self-evaluations of their quality of life. Another study providing evidence about this phenomenon is from Sinkkonen (2014), which reported that at least 5% of the students interviewed had been victims of cyberbullying, while 11% had witnessed bullying behaviour towards other students. The studies from Vergel et al. (2016) showed that at least 11.11% of higher education students interviewed had been victims of some kind of cyberbullying, with women being more affected by these behaviours. Therefore we can state that cyberbullying has arrived in university classrooms and is no longer a phenomenon that is exclusive to primary or secondary education.

In this regard, it appears that being a victim of cyberbullying is related to a greater risk of suffering psychological consequences such as episodes of depression over both the short and long term, developing antisocial behaviours, and even having suicidal thoughts or intentions (Johansson & Englund, 2020). It may also result in academic problems linked to academic commitment or engagement with the institution where the student is studying, such as poor performance (Chan & Wong, 2020) and ultimately, with the intention to drop out of higher education.

Because of this, the variables we examined in this study, such as spreading images with sexual content, exclusion, and impersonation have demonstrated their capacity to predict the probability of dropping out, as indicated in studies by Vergel et al. (2016), Tokunaga (2010), Sinkkonen et al. (2014) and Lee et al. (2020). Victims whose sexual images have been shared online, victims of social exclusion, and victims who have been impersonated at some time during their higher education are more likely to drop out of the course they are doing.

As noted previously, university dropout is a multicausal phenomenon in which a variety of academic and socio-affective variables interact with each other, variables which can often be the product of the different aggressions in the university context. Variables about the academic environment are just as important as performance in predicting dropout, these include variables about the socio-affective environment such as a feeling of belonging to the institution and social integration with classmates (Díaz-Mujica et al., 2019; Fourie, 2018; Sandoval-Palis et al., 2020). There is no doubt that this feeling of belonging and social integration will be negatively affected if the student is a victim of cyberbullying.

The results of our study indicate that students who have been victims of some kind of cyberbullying, whether aggressive or relational, are more likely to drop out of their university courses, as also demonstrated in the study by Lee et al (2020). In addition, our study shows that the type of cyberbullying that seems to best predict the intention to drop out is relational, in other words, the cyberbullying which is made up of behaviours aimed at hurting the victim but carried out indirectly: spreading sexually suggestive images of a person without their consent, exclusion of certain classmates from groups for academic reasons, and impersonation. These are behaviours that are occasionally not seen as bullying or are considered less important than direct bullying. This is an important factor to bear in mind, considering that relational cyberbullying behaviours are often not perceived as behaviours that need the application of some kind of protocol, or about which there should be some support offered, as they are not seen as cyberbullying behaviours in and of themselves (Álvarez-García et al., 2017; Chan & Wong, 2020).

Our study has looked deeply into the phenomenon of university dropout and how phenomena such as cyberbullying can aggravate it. Nonetheless, we also feel that

that it is important to continue with the research at a university level. It is also important for universities themselves to begin to recognize the problem of cyberbullying and how it affects students in higher education, even so far as to affect their decision to drop out of their courses, hindering not only their life choices, but also their proper development as adults. This will be essential to be able to determine and carry out future interventions (Barratt-Pugh & Krestelica, 2018).

Despite having a large sample of students in our study, there are some limitations that future studies should bear in mind. It would be useful to increase the sample, extending it to more Spanish students and students in other countries. This will give the generalization of the results better external validity.

Finally, we can outline some recommendations to prevent or mitigate the phenomenon of university drop out, for example, putting actions in place that encourage adaptation to the university environment such as orientation days (Fourie, 2018) or programs to encourage retention via tutoring programs, mentoring, preparatory courses, seminars in the first year, recovery courses, circular learning communities, learning support services, and the use of technology to make teaching more flexible and motivating for students (Sandoval-Palis et al., 2020). These and other measures may encourage better social adaptation for students, which would in turn involve better reporting and support mechanisms to avoid students dropping out when they are the victim of cyberbullying or witness a classmate suffering from it. This will make an effective contribution to students reducing their intentions to drop out of higher education and even alleviate the serious consequences noted previously, some of which are irreversible.

Disclosure Statement

The authors report no conflicts of interest.

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