# Cyberstalking victimization among university students: The influence of social networks

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ABSTRACT: Criminal behaviors in the online context, such as cyberstalking, are becoming more and more prominent. This study was carried out to determine the prevalence of cyberstalking victimization among university students and its relationship with social media usage. A quantitative exploration study was carried out through a questionnaire. Through the statistical analysis of 310 responses, it was possible to determine that the prevalence of victimization by cyberstalking was reported by 9.4% (n=29). Most victims (89.7%, n=26) claimed to be victims through social networks. We concluded that using social media networks increased the risk of being a victim of cyberstalking by 48 times. It was also possible to determine that victimization depends on the frequency of use of social networks per day.

KEYWORDS: Cyberstalking, Cybercrime, Victimization, Prevalence, University students

## VICTIMIZACIÓN POR CIBERACOSO ENTRE ESTUDIANTES UNIVERSITARIOS: LA INFLUENCIA DE LAS REDES SOCIALES.

RESUMEN: Los comportamientos delictivos en el contexto online, como el ciberacoso, son cada vez más prominentes. Este estudio se llevó a cabo para determinar la prevalencia de victimización por ciberacoso entre estudiantes universitarios y su relación con el uso de las redes sociales. Se realizó un estudio exploratorio cuantitativo a través de un cuestionario. A través del análisis estadístico de 310 respuestas, se pudo determinar que la prevalencia de victimización por ciberacoso fue reportada por un 9,4% (n=29). La mayoría de las víctimas (89,7%, n=26) afirmaron ser víctimas a través de las redes sociales. Concluimos que el uso de las redes sociales

aumentaba 48 veces el riesgo de ser víctima de acoso cibernético. También se pudo determinar que la victimización depende de la frecuencia de uso de las redes sociales al día.

PALABRAS CLAVE: Ciberacoso, Ciberdelincuencia, Victimización, Prevalencia, Estudiantes universitarios

### VITIMIZAÇÃO POR CYBERBULLYING ENTRE ESTUDANTES UNIVERSITÁRIOS: A INFLUÊNCIA DAS REDES SOCIAIS.

RESUMO: Os comportamentos criminosos no contexto on-line, como o cyberbullying, estão se tornando cada vez mais proeminentes. Este estudo foi realizado para determinar a prevalência da vitimização por cyberbullying entre estudantes universitários e sua relação com o uso de redes sociais. Foi realizado um estudo quantitativo exploratório por meio de um questionário. Por meio da análise estatística de 310 respostas, foi determinado que a prevalência de vitimização por cyberbullying foi relatada por 9,4% (n=29). A maioria das vítimas (89,7%, n=26) alegou ter sido vitimada por meio de redes sociais. Concluímos que o uso de redes sociais aumentou em 48 vezes o risco de ser vítima de cyberbullying. Também foi possível determinar que a vitimização depende da frequência de uso das redes sociais por dia.

PALAVRAS-CHAVE: Cyberbullying, Crime cibernético, Vitimização, Prevalência, Estudantes universitários.

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SUMMARY: 1. Introduction; 1.1. Stalking and cyberharassment; 1.2. Prevalence and victim's profile; 1.3. Impact; 1.4. Coping; 1.5. Report and help seeking strategies; 1.6. Social Media; 1.7. Usage and habits of utilization; 2.Methodology; 2.1. Procedures and Sample; 2.2. Hypothesis; 3. Results; 3.1. Habits of Internet and Social Network Usage; 3.2. Prevalence, duration, and types of behaviors; 3.3. Relationship between victims and offender; 3.4. Impacts on the victims; 3.5. Help-seeking behaviors; 3.6. Coping Strategies used by the victims; 3.7. Hypotheses Testing; 3.7. Logistic Regression – Risk factors and Predictors of victimization; 4. Discussion; 5. Conclusion; 6. Limitations and future research.

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#### 1. Introduction

As technology evolved, new forms of deviance and criminal behavior emerged (Bocji & Mcfarlane, 2003). This constant evolution not only provided new ways of victimization, but also helped to overcome traditional barriers by facilitating, and encouraging criminal behaviors (Clough, 2010). Although there is a certain consensus in the international literature about the central elements that characterize cyberstalking (such as persistence, intention, deliberation, and undesirability) the complex nature of this phenomenon leads to different definitions and interpretations of it (Pereira & Matos, 2015).

Cyberstalking can be defined as a form of persecution that consists of the use of the Internet or other computational or electronic instruments, to harass or persecute people, through methodical, persistent, and undesirable actions that generate inconvenience to the lives of victims (Sani & Valquaresma, 2020). As observed by Sheridan & Grant (2007), there may be several behaviors experienced by victims of this criminal behavior. We highlight the following: the search for information from the victim to harass, threaten, and intimidate them both online and offline; repeatedly sending emails and messages; electronic sabotage, such as sending spam and computer viruses to the victim's electronics; impersonating the victim online; and sending and/or publishing false information about the victim on the Internet.

Currently, although most countries do not have specific laws to combat Cyberstalking, it can be punished under the crime of stalking or persecution. In Portugal, although there is no specific article that typifies this criminal conduct (cyberstalking), we can conclude that offenders of this type of crime are punished according to n. 1 of article 154-A of the Portuguese Penal Code (stalking, in Portuguese: *Perseguição*). The legislator, by stating that the crime of stalking can be committed by 'any means', allows us to conclude that the commitment of stalking via the internet and new technologies falls within the crime of stalking.

Studies dedicated to cyberstalking in the Portuguese context are still recent, being the majority of studies that do exist carried out using the university population (Carvalho, 2011; Santos, 2018; Moreira, 2021) as well as the adolescent population (Pereira & Matos, 2015; Sani & Valquaresma, 2020) and general population (Silva, 2016; Viegas, 2018). This paper encompasses de results of a study carried out with a Portuguese university sample, in hopes of contributing to the existing literature in Portugal. The first part of the study was carried out as a literature review embarking on various topics crucial to the understanding of this phenomenon, and the second part of the work was intended to carry out the empirical study.

#### 1.1 Stalking and cyber-harassment

Although some authors believe that cyberstalking can be characterized as a new form of deviant behavior, other authors believe that cyberstalking is another behavior associated with stalking. Various studies are dedicated to the comparison of these two types of behaviors and after a brief analysis, it was possible to conclude that both definitions *per se* share central aspects such as repetition, fear, and undesirability. However, some differences can be seen.

Firstly, it seems imperative to start by mentioning the differences in the means used to commit this criminal behavior. Victims are often aware of the identity of an offline offender, due to the inherent proximity that exists in the act of committing the crime, however the same does not always happen when we talk about a Cyberstalking offender, who can easily hide his identity. The previous relationship between victim and offender, the time of occurrence of victimization, the fear, and the acquisition of self-protective behaviors, as well as the prevalence of stalking by proxy holds different positions in the literature (Purcell, Pathé, & Mullen, 2002; Bocji, 2003; Matos, Grangueia, Ferreira, & Azevedo, 2011; DreBing, Bailer, Anders, Wagner, & Gallas, 2014; Kunrath, 2014; Nobles, Reyns, Fox, & Fisher, 2014; Ahlfrim & Terrance, 2018; Kaur, Dhir, Tandon, Alzeiby, & Abohassan, 2021).

The literature is also not unanimous about the definition of cyber-harassment and cyberstalking. Two positions are taken by the literature studied. Some argue that cyber-harassment is a comprehensive behavior that can encompass a range of criminal behaviors, which includes cyberstalking, (Pereira & Matos, 2016; Begotti & Maran, 2019) and on the other hand, some argue that cyber-harassment and cyberstalking are behaviors with similar means and behaviors, which differ in the duration of victimization, persistence, and impact felt by the victim (Purcell, Pathé, & Mullen, 2004; Alexy, Burgess, Baker, & Smoyak, 2005; Hazelwood & Koon-Magnin, 2013), making then distinct behaviours. Some stalking legal definitions encompass elements of harassment, which

makes it difficult to make a clear distinction between these two types of behaviors.

According to the Portuguese Penal Code, article 154, n 1, we can verify that the crime of "Perseguição" is punishable by "those who repeatedly pursue or harass a person", concluding that according to Portuguese legislation, there is a distinction between persecuting and harassing an individual.

#### 1.2 Prevalence and victim profile

The prevalence in studies regarding cyberstalking victimization isn't unanimous in the literature. In the Portuguese context, it was estimated a prevalence of victimization between 11,7% to 74,8% (Carvalho, 2011; Carrasquinho, 2015; Santos, 2018; Pires, Sani, & Soeiro, 2018; Moreira, 2021), and in the international context we have estimated a prevalence between 3,4% to 48,5% (Mcginnis & Felicity, 2008; Kraft & Wang, 2010; Reyns, Henson, & Fisher, 2012; Begotti & Maran, 2019; Walsh, Finkelhor, & Turner, 2024).

Anyone, regardless of their sex, age, sexual orientation, ethnicity, and social status can be a victim of cyberstalking at any time in their lives. However, it was shown that women tend to be more victims of cyberstalking than men (Kraft & Wang, 2010; Santos, 2018; (Maran & Begotti, 2019; Walsh, Finkelhor, & Turner, 2024). In terms of age, according to the Working to Halt Online Abuse report, 38% of victims of cyberstalking and online harassment were aged between 18 and 30. Kraft & Wang (2010) found that the majority of victims identified in their study, 83% (n=34) were aged 25 years or less. Reporting different data, Paullet, Rota, & Swan (2009) found that only 30% of their victims were aged between 18 and 25.

In studies of cyberstalking made with the general population, the position of the literature regarding the relationship between the victim and offender in cases of cyberstalking is not linear (Purcell, Pathé, & Mullen, 2002; Bocji & Mcfarlane, 2003; Matos, Grangeia, Ferreira, & Azevedo, 2011; DreBing, Bailer, Anders, Wagner, & Gallas, 2014). However, in the case of studies carried out in the university context, the majority of literature seems to reach a consensus on the existence of a previous relationship between victim and offender (Paullet, Rota, & Swan, 2009; Begotti, Ghigo, & Maran, 2022). The offenders tend to be people close to the victim, either friends/known people or partners/expartners (Paullet, Rota, & Swan, 2009; Walsh, Finkelhor, & Turner, 2024).

#### 1.3 Impact

The impact of victimization can be felt at different levels, such as social, economic, psychosomatic, and in the case of college students, at the academic level. A vast majority of cyberstalking studies show that there is

a negative impact on the life of the victims (Paullet, Rota, & Swan, 2009; Haron & Yusof, 2010; DreBing, Bailer, Anders, Wagner, & Gallas, 2014; Short, Linford, & Wheatcroft, 2014; Rensburg, 2017; Begotti & Maran, 2019; Fissel & Reyns, 2020; Fissel, 2021; Begotti, Ghigo, & Maran, 2022). In a study conducted by DreBing, Bailer, Anders, Wagner, & Gallas (2014) only 2,5% of the victims of cyberstalking didn't report having felt negatively affected by the victimization. The psychological impact was the one most felt and reported by the victims of cyberstalking.

There are several negative impacts, transversal to several studies, such as the development of aggressive behaviors, paranoia, anger, fear, panic attacks, anxiety, and depression (DreBing, Bailer, Anders, Wagner, & Gallas, 2014; Short, Linford, & Wheatcroft, 2014; Rensburg, 2017; Begotti, Ghigo, & Maran, 2022). Other impacts were reported in other studies, such as sadness, confusion, feelings of despair, and loss of control, with some victims reporting having developed post-traumatic stress (PTSD) from the victimization (DreBing, Bailer, Anders, Wagner, & Gallas, 2014; Short, Linford, & Wheatcroft, 2014; Worsley, Wheatcroft, Short, & Rhiannon, 2017; (Begotti, Ghigo, & Maran, 2022).

Regarding the social and economic level, the impacts most felt by the victims were: fear of starting new relationships, stopped going out and visiting places, developed lack of trust in people, fear that the offender would damage their reputation, as well as feeling that the relationship with their family was harmed by the victimization (Haron & Yusof, 2010; DreBing, Bailer, Anders, Wagner, & Gallas, 2014; Short, Linford, & Wheatcroft, 2014; Rensburg, 2017). Concerning the psychosomatic impact, the impacts most reported were problems related to sleep, loss of appetite, development of headaches, and problems with the stomach (DreBing, Bailer, Anders, Wagner, & Gallas, 2014; Begotti & Maran, 2019).

Finally, and keeping in mind the nature of our study, there was also the necessity to analyze the existing literature and the impact on the academic and work level. Not a lot of data was found. Santos (2018) verified that 10,6% of the victim sample of their study had suffered an impact at the academic level. Fissel & Reyns (2020) found that victims of cyberstalking were less likely to have developed negative consequences at the academic/work level if they were victims of people that they didn't know. The authors also identify that men have a higher probability of suffering impact at the academic level (Fissel & Reyns, 2020). More recently Walsh, Finkelhor, & Turner (2024) found that 23,1% of the victims of cyberstalking in their study experienced trouble concentrating at school and at work.

Another interesting finding was obtained in the study carried out by Walsh, Finkelhor, & Turner (2024).

Although the majority of the victims felt negatively impacted by the victimization, some reported something positive as a result of the victimization, such as: more confidence, feeling more attractive and desirable and the feeling of becoming more popular (Walsh, Finkelhor, & Turner, 2024).

#### 1.4 Coping

Coping can be described as a collection of strategies used by individuals to deal with adverse situations (Antoniazzi, Dell'Aglio, & Bandeira, 1998). These strategies can be appropriate or inadequate, a factor that depends on the impact felt by the victim, resulting from the victimization (Valquaresma, 2016). Regarding victimization addressing cyberstalking Worsley, Wheatcroft, Short, & Rhiannon (2017) divided the coping strategies into three categories: restrictive behavioral approaches, such as ignoring or avoiding the perpetrator; non-restrictive approaches, such as confronting the perpetrator, seeking help, whether informal or formal, and finally, cognitive reframing strategies, where the victim tries to reframe the meaning of their victimization experience and tries to understand the behavior of the perpetrator.

Based on a literature review study carried out by Kaur, Dhir, Tandon, Alzeiby, & Abohassan (2021), the authors arrived at a division of coping strategies that we adopted as our own: avoidance strategies (e.g., reducing time spent on social networks, blocking or limiting cyberstalking access to private information or social networks of the victim); confrontation strategies (e.g.: confronting the cyberstalker) and help-seeking strategies (e.g.: asking for help, whether formal or informal).

#### 1.5 Report and help-seeking strategies

The help-seeking behaviors and reporting behaviors represent an important area of research in Victimology, and there are still few empirical studies focused on the study of help-seeking behaviors in the case of cyberstalking behaviors. According to Matos, Grangeia, Ferreira, & Azevedo (2011) the request for help is often perceived as the last straw, where the victim recognizes that they have already exhausted their usual resources to resolve the problem.

In literature, distinctions are commonly made between formal and informal help-seeking behaviors faced by victims. When we talk about formal requests for help, we include requests for help from professionals, such as law enforcement officials and healthcare professionals. When it comes to informal requests for help, we include requests for help from family and friends (Mccart, Smith, & Sawyer, 2010).

The rate of the victims that report the crime and ask for help, presents itself as variable between studies, varying between 4,8% to 61,5%, being therefore possible to affirmed that a high percentage of victims don't report the crime they were victim to the authorities, nor ask for help, either formal or informal (Finn, 2004; Paullet, Rota, & Swan, 2009; Fissel, 2021; Walsh, Finkelhor, & Turner, 2024).

Some factors pointed by victims regarding this high percentage, was due to the fact that victims didn't think the problem was serious enough, they ended up ignoring the problem and/or taking care of the problem by themselves and some also affirmed not knowing who they should report to (Finn, 2004). Another study found that some people were also afraid the person who threatened them would find out, as well was being worried that the report wouldn't be anonymous (Walsh, Finkelhor, & Turner, 2024).1.6. Social Media

Few are the studies that try to clarify or define the concept of social media networks. According to Obar (2015) that happens because there exist two challenges regarding the conceptualization of this term: Firstly, the speed with which social networks expand, evolve, and reinvent themselves creates a challenge around creating a clear and unanimous definition around this concept. Second, social media facilitates various forms of communication that are similar to other new technologies used by individuals (ex. telephones and email).

We can define social networks as: a structure made up of people or organizations that share the same interests, motivations, common objectives, and values (Pereira, Pereira, & Pinto, 2011). In a literature review prepared by Kapoor *et al.* (2018) with the aim of carrying out a comprehensive review that integrated and synthesized the various findings in the literature on social networks, authors proposed a definition, which we adopted as our own: "social networks are composed of various user-oriented social platforms that facilitate content dissemination, dialogue, creation, and communication to a wider audience". They are essentially a digital space created by people and for people and provide an environment conducive to interactions at different levels (Kapoor, et al., 2018).

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#### 1.7. Usage and habits of utilization

Since the beginning of the year two thousand, various platforms emerged: such as LinkedIn (2002), Facebook (2004), YouTube (2005), Reddit (2005), Twitter (2006), Instagram (2010), TikTok (2016). The growth of these platforms in recent years is extraordinarily visible, and the usage trend is expected to intensify in the years that follow (Pereira, Pereira, & Pinto, 2011). Recently, due to the social distancing caused by the COVID-19 pandemic, social networks have become crucial to people's daily lives, helping to combat the sometimes-felt social isolation.

The use of social networks post-pandemic has seen a significant increase. Mota (2022) found that in a prepandemic period, 87.6% of its sample used social media, with this number increasing to 94.2% post-pandemic. Certain activities now must be carried out only using new technologies and social networks, such as maintaining contact with family and friends, teleworking and online classes and filling free time (Mota, 2022).

According to the report *Digital 2024* it was showed that there were 8,84 million of internet users in Portugal at the beginning of the year. Of those, about 7.43 million people used social media. Another recent report (*Retrato digital de Portugal: Caracterização e tendências de utilização das redes sociais – 2015 a 2023*) showed us that the social networks that most attract the Portuguese are Facebook (69,0%), WhatsApp (67.8%), YouTube (63,8%) and Instagram (53,8%). Internationally, the Digital 2024 Global report concluded that there were 5,35 (66,2%) billion internet users that spent an average amount of 6h40 minutes on the Internet.

Regarding social media usage, it was shown that 5,03 billion people use social media, spending an average amount of 2h23 minutes on it. According to this report, social platforms most used daily is WhatsApp (83,2%), Facebook (64,1%), YouTube (63,7%), Line (62,9%), TikTok (61,7%) and Instagram (61,6%).

Concerning the habits of university students, it is possible to say that the vast majority of university students use social networks. Prevalence of utilization was estimated between 93,5% to 97% (Santos, 2018; Fansher & Randa, 2018; Kolhar, Kazi, & Alameen, 2021). The social networks most used by university students vary between studies, however we highlight Facebook, Snapchat, Instagram, X, YouTube, WhatsApp, and LinkedIn, as those most used.

When it comes to the number of hours spent per day on social media, the vast majority of existing literature points to daily use exceeding 3 hours. Bergh (2018) found in his study that the majority of his sample (55%) spends 2-4 hours on social media every day, compared to 34% who spend only 1 hour a day and 11% who spend more than 5 hours a day on social media. In line Kolhar, Kazi, & Alameen, (2021) found that whether during the day or at night, university students spend more than 3 hours a day on social media.

Regarding social media frequency habits per day, in users aged between 18-29 years old, the social platform Instagram was the one where there was a more significant daily frequency (73% said they used the platform daily and 53% stated that they use the platform several times a day). A study carried out by Marcum, Higgins, & Ricketts (2010) showed that the frequency of connection to social networks increased the likelihood of being a victim of cyberstalking.

Regarding the risk factors that are associated with cyberstalking victimization, the literature seems to be unanimous, identifying significant correlations between demographic characteristics: sex, age and marital status and cyberstalking victimization (Carvalho, 2011, Santos, 2018). Acknowledging the need to go beyond these consensual factors in the literature, Kraft & Wang (2010) identified other risk factors associated with the use of social networks in their study. They found that there is a positive relationship between the frequency of usage per day of a certain social network and cyberstalking victimization (more specifically, visiting social media platforms more than 14 times a week influences the risk of cyberstalking victimization). Santos (2018), identified that the frequency of chat rooms and networks to communicate with individuals is also a risk factor for cyberstalking victimization

#### 2. Methodology

This study received ethics approval from the Ethics Committee for Research in Social and Human Sciences in the university before it commenced.

#### 2.1. Procedures and Sample

The general purpose of this study is to analyze the influence that social networks have on victimization in cases of Cyberstalking targeting university students,

therefore contributing to the existing literature in this field. For this end, this study has a descriptive and exploration nature. Its objectives are to assess the prevalence of cyberstalking victimization in students at a University and the sociodemographic and academic characteristics of the victims. It also aims to analyze the coping strategies and measures used by victims to deal with victimization, as well as the patterns of help-seeking, whether informal or formal.

Additionally, this study explores the habits and practices of using the Internet and social networks of university students, the percentage of victims of stalking by proxy and the participants' perception of the phenomenon of cyberstalking, as well as its penalization in Portugal. This study further examines the most common types of relationship between the victim and the offender, the areas of life (academic/work, psychological, social and physical) most affected and differences in victimization depending on sex and age.

For this study and considering the objectives and hypotheses defined, a quantitative methodology was used. The instrument selected for the data collection was an online questionnaire. This methodology was chosen for its ease in dissemination and acquisition of data. This questionnaire was then carried out considering two previously established selection criteria: being a student at a specifical university in Portugal in the year 2021/2022 and having 18 years old or over.

The sample was obtained in two ways: by sending the questionnaire to the University general email address, as well as by sharing it on social networks, with participants being invited to respond to the questionnaire. The questionnaire began with a presentation and an informed consent, which explained the objectives of the study, as well as its voluntary, confidential, and anonymous nature. A response time of 10 minutes was estimated. Data collection took place in June and July 2022. The sample consisted of 310 students.

#### 2.2. Hypothesis

Based on the specific objectives described and a review of the literature in the area, it was possible to postulate a set of hypotheses that we intend to test with the development of this study:

- 1. There are significant differences between individuals who frequent and use social networks and individuals who do not, with individuals who do attend more susceptible to being victims of cyberstalking.
- 2. There are significant differences between the hours spent on social media and the frequency of use of social media per day in relation to cyberstalking victimization.
- 3. There are significant differences in victimization depending on sex, with women being more victims than men.
- 4. There are significant differences depending on age, with younger people being more affected by cyberstalking.
- 5. There are significant differences depending on marital status, with single individuals more frequently victims of cyberstalking.

#### 3. Results

Regarding the data obtained about the victims, it was possible to conclude the prominent sex of the victims, was mostly female 79,3% (n=23), with ages between 18-25 (79,3%, n=23). About their civil status, a vast majority were single 65,51% (n=19). About the academic background of the victims, 48,2% (n=14) had a bachelor's degree, 38% (n=11) had a high school diploma and 13,8% (n=4) had a master's degree. Regarding the present year they were attending, 44,9% (n=13) were BSc students, 37,9% (n=11) were M.S students, 13,8% (n=4) were attending another course and 3,4% (n=1) was a PhD student.

Table 1. Presents the descriptive sociodemographic and academic characteristics of the participants (vio	ctims and non-victims)

	phic and academic characteristics of the partic	Tota		Vict		Non-Victims	
Socio Demographic Characteristics	Subcategories	N %		N %		N %	
				29	9,4	281	90,6
Age Group:	18 - 25 years	245	79,3	23	9,4	221	90,6
8	26 - 30 years	34	11,0	2	5,9	32	94,1
	31 - 40 years	21	6,8	2	9,5	19	90,5
	40+ years	9	2.9	2	22,2	7	77,8
Sex:	Female	243	78,4	23	9,5	220	90,5
Sex.	Male	64	20,6	5	7,8	59	92,2
	Prefer not to respond	3	1	1	33,3	2	66,7
NT 11.	<u>-</u>						
Nationality:	Portuguese	286	92,3	25	8,7	261	91,3
	Brazilian	15	4,8	3	20,0	12	80,0
	Angolan	4	1,3	0	0,0	4	100,0
	Inglese	1	0,3	1	100,0	0	0
	Cabo Verdiana	1	0,3	0	0,0	1	100,0
	Uranian	1	0,3	0	0,0	1	100,0
	Doble Nationality (Portuguese-Brazilian)	1	0,3	0	0,0	1	100,0
	Prefer not to mention	_	0.0	0	0.0		400.0
V (6.1 1: 6 1.1	II: 1 C 1 1	1	0,3	0	0,0	1	100,0
Years of Schooling Completed:	High-School	112	36,6	11	9,8	101	90,2
	Bachelors	152	48,9	14	9,2	138	90,8
	Master	46	14,8	4	8,7	42	91,3
Current academic level:	Bachelors	122	39,2	13	10,7	109	89,3
	Master	152	48,9	11	7,2	141	92,8
	PhD	28	9	1	3,6	27	96,4
	Other type of academic course:	8	2,6	4	50,0	4	50,0
School of origin:	School of Architecture, Art, and Design	5	1,6	1	20,0	4	80,0
	School of Science						
	School of Law	45	14,5	9	20,0	36	80,0
	School of Economics and Management	41	13,2	1	2,4	40	97,6
	Engineering school	42	13,5	1	2,4	41	97,6
	School of Letters, Arts and Human Sciences						
	School of Medicine	76	24,5	9	11,8	67	88,2
	School of Psychology	11	3,5	2	18,2	9	81,8
	Nursing School						
		16	5,2	0	0,0	16	100,0
	Institute of Social Sciences	24	7,7	2	8,3	22	91,7
		4	1,3	1	25,0	3	91,7
	Institute of Education						
	Institute of Investigation I3Bs	26	8,4	3	11,5	23	88,5
		10	61	0	0.0	10	100 (
		19 1	6,1 0,3	0	0,0 0,0	19 1	100,0 100,0
					•		
Profession:	Student	241	77,7	18	7,5	223	92,5
	Student/Worker	69	22.3	11	15,9	58	84,1
Civil Status	Single	219	70,6	19	8,7	200	91,3
	Married	14	4,5	0	0,0	14	100,0
	Divorced	1	0,3	0	0,0	1	100,0
	In a relationship	73	23,5	9	12,3	64	87,7
	Widow	1	0,3	1	100,0	0	0,0
	Registered partnership	2	0,6	0,0	0,0	2	100,0

#### 3.1. Habits of Internet and Social Network Usage

Keeping in mind that in this part of the questionnaire we obtained responses from people who were victims of cyberstalking and people who weren't, it was decided to only analyze the data obtained about the victims of cyberstalking.

About the habits of usage of the Internet and social media, it was found that almost all the sample of the victims had personal computers with internet connection (n=27, 93,1%). The equipment mostly used by the victims to access the Internet and social media were the portable computer and the cell phone (n=27 and n=28, respectively).

Regarding social media usage behaviors, most of our victim samples used social media (n=27, 93,1%), Instagram (n=25), WhatsApp (n=22) and YouTube (n=18) the most used. Regarding the hours spent on social media, it was shown that the vast majority of the victims spent up to 1-3 hours per day on it (n=20, 68,96%).

Lastly, analyzing the frequency of utilization, it was shown that victims tend to visit social media, from 2 up to more than 5 times per day (n=27, 93,1%).

#### 3.2. Prevalence, duration, and types of behaviors

Of the sample of 310 students who responded to the questionnaire, 9,4% (n=29) reported being victims of cyberstalking at a concrete moment in their lives. More than half of the victims endured victimization for less than a month (51,7%, n=15). About 89,7% (n=26) of the victims of cyberstalking were victims through social networks. Facebook and Instagram were the ones mentioned by the victims (n=26). For 10.3% (n=3) of the victims who weren't victims through social media networks, one reported being victims through SMS and another reported being victim through different numbers.

Behaviors reported by victims included: getting unwanted emails and messages through social media; being threatened through social media; utilizing social networks to spread rumors about the victim; sending spam and computer virus to the victim's computers; impersonating the victim online; hacking the victim's social networks and subscribing to services and products under the victim's name.

#### 3.3. Relationship between victim and offender

As shown on Table 2., of the 29 victims of cyberstalking identified in this study, 82,8% of the victims affirmed knowing the identity of the aggressor. The sex of the perpetrators was manly male (79,2%, n=19). Concerning the relationship between the victim and the offender, 31% (n=9) were victims of cyberstalking from people they knew from work/college, friends, or neighbors; 24,1% (n=7) through people whom they had a romantic relationship; 24,1% (n=7) were victims by strangers; 10,3% (n=3) from someone they met online; 3,4% (n=1) through someone with whom they were currently in a romantic relationship.

Analyzing the percentage of stalking by proxy was also an important aspect of this study. The prevalence of stalking by proxy in this victim sample was 34,5% (n=10). Of the 10 victims who reported this type of victimization, half of it (50%, n=5) affirmed that the cyberstalker encouraged 2-3 people to commit cyberstalking against them. It was still possible to determine that 70% (n=7) knew the identity of the people who engaged in this type of victimization. Regarding the pre-existing relationship between victims and perpetrators, 55,6% (n=6) were people known from college/work and friends, 33,3% (n=3) were family members and 11,1% (n=1) were unknown.

As for the motivation perceived by victims for committing victimization, the most identified by victims were "obsession" (30,2%, n=19), followed by "rejection" (19%, n=12).

#### 3.4. Impacts on the victims

In respect of the impact of victimization, four different levels of impact were analyzed: academic/work, psychological, social, and physical health. The impact most felt by victims was psychological (n=26, 89,7%). From the 26 victims, 33,3% (n=13) affirmed having felt fear for their safety and for the safety of the people that were close to them; 25,6% (n=10) affirmed having developed feeling of distrust towards other people; 12,8% (n=5) reported having developed anxiety behaviors; 12,8% (n=5) developed feelings and behaviors of sadness, 7,7% (n=3) developed feelings of rage and 7,7% (n=3) developed feelings that their life could be at risk.

The second most felt level of impact was social, with n=14 (48,3%). The majority of the victims felt that their reputation was jeopardized (40,9%, n=9), some victims stopped going to places with a lot of people (27,3%, n=6). There were still victims that affirmed that the relationship with their friends and family were jeopardized (13,6%, n=3); that they had isolated themselves from friends and family (13,6%, n=3) and one victim reported directly or indirectly failed some subjects in university (4,5%, n=1).

The impact on the academic and work level was the third most felt by n=11 victims. Of the victims affected, some reported to have lost the motivation to go university (35,3%, n=6); some felt less productive (29,4%; n=5); some reported have skipped school (17,6%, n=3); and some also affirmed having failed an academic year (17,6%, n=3). Last, physical health was the least reported level of impact, with 20,7% (n=6) responding to have felt impacted in this area.

Table 2.Presents the descriptive characteristics of cyberstalking victimization

Victimization by Cyberstalking (N=29)		N	0/0
Victimization through social media platforms:	Yes	26	89,7
	No	3	10,3
What were the social networks on which you were a victim:	Facebook	19	39,6
·	Instagram	19	39,6
	Twitter	1	2,1
	WhatsApp	5	14,6
	YouTube	0	0,0
	Snapchat	0	0,0
	Pinterest	1	2,1
	LinkedIn	1	2,1
Time of victimization:	Less than 1 month	15	51,7
	1 month to 1 year	6	20,7
	1 year to 2 years	4	13,8
	More than 2 years	4	13,8
Do you know the identity of the offender:	Yes	24	82,8
Do you know the identity of the offender.	No	5	17,2
If yes, the sex of the person is:	Female	5	20,8
if yes, the sex of the person is.	Male	19	79,2
Dalationship hatryoon vistim and offenden	Met online	3	10,3
Relationship between victim and offender:		3 1	
	Maintain a loving relationship		3,4
canonising between victim and strender.	Maintained a loving relationship	7	24,1
	Someone known	9	31,0
	Unknown	7	24,1
	Other	2	6,9
Victimization Stalking by proxy:	Yes	10	34,5
	No	19	65,5
How many people were instigated to victimize you:	1 person	3	30,0
	2-3 people	5	50,0
	4-5 people	1	10,0
	+5 people	1	10,0
Did you know the people:	Yes	7	70,0
	No	3	30,0
Relationship with those people:	Family	3	33,3
	Friends and known people	5	55,6
	Unknown people	1	11,1
Motivation for committing cyberstalking:	Rejection	12	19,0
3,	Ressentiment	4	6,3
	Vengeance	7	11,1
	Power and control	5	7,9
	Obsession	19	30,2
	Affection	8	12,7
	Having a relation of intimacy	8	12,7

#### 3.5. Help-seeking behaviors

Regarding the help-seeking behaviors patterns, 53,6% (n=15) of the victims of this study responded that they didn't ask for help, either formal or informal. When asked why they didn't ask for help, the vast majority said that they didn't feel that the behaviors they were subject to were important (52,6%, n=10) and that they would also be held responsible for the behaviors by others (26,3%, n=5).

With reference to the victims that did ask for help (46,4%, n=13), the majority opted for informal help-seeking patterns. Of the 13 victims, 9 (28,1%) asked for help from friends, 7 (21,9%) asked for help from parents, 4 (12,5%) asked for help from their current partners, 3 (9,4%) people asked for help from work/academic colleges and 2 (6,3%) asked for help from other family members (prefacing a total of 78,2%).

Informal help-seeking behaviors were also used: 3 (9,4%) victims asked for help in a helpline, 1 person asked for help from professional help workers, 1 to a physician, 1 to a professor and 1 asked for help to an unknown person. It was also possible to verify that although women tend to ask for more help than men (76,8%, n=10 vs 23,1%, n=3) there were no significant associations statistically between the variable sex and help-seeking behaviors (x=1,251, p=, 812).

The data obtained in this study also let us know that the majority of the victims didn't have trust in the police to press charges (79,3%, n=23). Motives presented were, feeling that the police wouldn't believe them; feeling of shame in sharing the situation they were in; the feeling that the police didn't help with the matter; lack of belief in the justice system and the lack of knowledge of the criminalization of this type of behavior in Portugal. Women also tend to report the crime they were victims to the authorities more often than man (66,7%, n=4 vs

33,3%, n=2), but it was also not found a statistical relation between sex and trust in reporting the crime  $(x^2_{(1)}=1,797, p=,452)$ .

#### 3.6. Coping Strategies used by the victims

In the last section of the questionnaire, people were asked what strategies they used to deal with victimization (Table 3). The most used by victims were avoidance strategies, such as blocking their cyberstalker/s, trying to cut the contact with them (n=21); changing the definitions of their social media networks, so that only close people of the victims could have access to the information and the content shared by the victims (n=18).

The second most used strategies were confrontation strategies, with some people choosing to confront their cyberstalker/s (n=13), asking them to stop their behavior as well as saving all conversations and threats, in order to gather evidence of the victimization (n=12).

The least used strategies were the help-seeking strategies, with only 14,2% of the victim sample opting for this kind of strategy to deal with the victimization.

3.7. Hypotheses Testing

It was found that there were significant differences between individuals that use social media and individuals that don't use social media, regarding the vulnerability face the victimization of cyberstalking. Using Fisher's exact test, it was determined that victimization depends on the usage of social media ( $x^2 = 7,895, p=,045$ ).

Another positive association was found. Through the use of Fisher's Exact Test, it was possible to confirm that victimization depends on the frequency of use of social networks per day ( $x^2$ =9,309 p=,009). More specifically, individuals who use social media once a day or more than 5 times a day are less likely to be victims of cyberstalking compared to those who use social media 2-3 times a day.

Regarding the other tested hypotheses, there were no other associations between the variable tested and the victimization.

Table 3. Presents the cross-tabulation between coping strategies and gender

resents the cross industrial between coping strategies and gene	Sex						-	
	Female		Male		Prefe	er not to say		
	N	0/0	N	0/0	N	0/0	as	a
Avoidance Strategies							_	
Block your cyberstalker/s, trying your best to cut off all contact with him/her	17	81,0	4	19,0	0	0,0		
Change your social media settings so that only close friends can access information and content shared by victims	13	72,2	4	22,2	1	5,6		
Choosing to ignore the victimization and not react	7	70,0	2	20,0	1	10,0		
Reduce time spent on the Internet	7	77,8	2	22,2	0	0,0		
Change cell phone number	4	66,7	2	33,3	0	0,0		
Don't change anything in your routine	5	100,0	0	0,0	0	0,0		
Stop using social media	2	40,0	2	40,0	1	20,0		
Change email address	3	75,0	0	0,0	0	0,0		
Delete social media platforms	2	100,0	0	0,0	0	0,0		
Confrontation strategies								
Choose to confront your cyberstalker/s, asking them to stop their behavior	13	100,0	0	0,0	0	0,0		
Save all conversations and threats, in order to gather evidence of the victimization	11	91,7	1	8,3	0	0,0		
Help-seeking strategies								
Seeking help from friends and family	7	87,5	1	12,5	0	0,0		
Report events to social media administrators	4	66,7	2	33,3	0	0,0		
Seeking advice from competent entities and victim support institutions	1	100,0	0	0,0	0	0,0		
File a complaint with the police	1	100,0	0	0,0	0	0,0		

### 3.8. Logistic Regression – Risk factors and Predictors of victimization

Logistic regression is used to test the predisposition and/or probability of a certain characteristic occur, based on a series of variables. In this case, we were interested in analyzing which independent variables, related to social network usage, could be considered predictors of cyberstalking victimization. To this end,

dependent variable we use the variable cyberstalking victimization.

Regarding the independent variables, the following were used: the use of social networks, the number of hours per day spent on social networks and the social networks: Facebook, Instagram, Twitter, WhatsApp, YouTube, LinkedIn, Pinterest and TikTok. We chose to use binary logistic regression, due to the fact that our

dependent variable is dichotomous, that is, it presents only two categories.

After carrying out the logistic regression, it was concluded that the independent variable "using social networks" is the only one that appears as a predictor of

victimization, increasing the risk of being a victim of cyberstalking by 48 times (OR= 48.514, p< .021).

Table 4. Presents the logistic regression (rick factors and predictors of victimization)

V			,				95% CI p	ara Exp (B)
							Inferior	Superior
Step 1ª	В	S.E	Wald	df	Sig.	Exp (B)		
Usage of social media	3,882	1,678	5,351	1	,021	48, 514	1,809	1300,968
Number of hours spent on social media platforms:				1				
1 hour per day	-	-	4,973	3	,174	-	-	-
2-3 hours per day	1,001	,519	3,721	1	,054	2,720	,984	7,520
4-5 hours per day	1,236	,634	3,721	1	,051	3,443	,994	11,927
More than 5 hours a day	1,092	,874	1,561	1	,213	2,980	,537	16,521
Social media platforms used:								
Facebook	-,593	,463	1,638	1	,201	,553	,223	1,370
Instagram	,493	,788	,392	1	,531	1,638	,350	7,674
WhatsApp	-,181	,568	,101	1	,750	1,198	,393	3,651
Twitter	,682	,529	1,666	1	,197	1,978	,702	5,575
YouTube	-,072	,467	,024	1	,878	9,31	,373	2,325
LinkedIn	,252	,586	,185	1	,667	1,287	,408	4,060
TikTok	,413	,817	,256	1	,613	1,511	,305	7,448
Pinterest	,437	,568	,591	1	,442	1,548	,508	4,712
Constant	-3,243	2,091	2,405	1	,121	0,39		

<sup>&</sup>lt;sup>a</sup> Variable inserted: Usage of social media networks, number of hours spent on social media, social networks utilize: Facebook, Instagram, WhatsApp, Twitter, YouTube, LinkedIn, TikTok, Pinterest. Qui-square of Hosmer and Lemeshow: 2,875. Verisimilitude of log -2: 176,280. Cox & Snell: ,051. R<sup>2</sup>=,11.

#### 4. Discussion

The results obtained allowed us to attain the prevalence of cyberstalking victimization on the population of the University.

The prevalence of victimization of this study was 9,4%, a lower value compared to the trend observed both in the Portuguese university population (Carvalho, 2011; Carrasquinho, 2015; Santos, 2018; Moreira, 2021), as well as in some international studies with university population (Mcginnis & Felicity, 2008; Reyns, Henson, & Fisher, 2012; Reyns, Fisher, & Randa, 2018; Begotti & Maran, 2019). However, this study captured similar results to the study made by Kraft & Wang (2010), which obtained from a sample of 417 university students a prevalence of victimization of 9%.

Nevertheless, it should be noted that this variation in prevalence between studies may be due to the lack of a consensual definition among the scientific community regarding the phenomenon of cyberstalking, which means that each study uses a different definition, that can be more or less comprehensive (Ahlgrim & Terrance, 2018). The definition used in this study encompassed the criterion of the presence of fear resulting from the victimization, which according to Matos, Grangeia, Ferreira, & Azevedo (2012) can present itself as a limitation in data collection, as it can promote the non-identification of all potential victims, not considering or validating all victimization experiences, in this case those that did and do not generate fear in the targets.

In this study, woman presented a higher percentage of victimization compared to men (79,3%, n=23 vs 17,2%, n=6). This data in particular in line with what we find in the vast majority of literature, both international and national, which informs us that women are more victims of cyberstalking behavior's than men (Kraft & Wang, 2010; Santos, 2018; Maran & Begotti, 2019).

However, it's important to mention that this position is not unanimous in literature. Studies, like the one present by Carvalho (2011), showed that men reported having experienced this type of victimization more frequently than women.

The majority of the victims had knowledge about the identity of the aggressor, which was mostly someone they knew. Therefore, this study gives empiric support to other studies in the area that concluded that most cyberstalking victimization cases occurred between people who know each other (Marcum, Higgins, & Ricketts, 2010; Reyns, Henson, & Fisher, 2012; Ahlgrim & Terrance, 2018; Moreira, 2021; Walsh, Finkelhor, & Turner, 2024).

The percentage of stalking by proxy was also significantly relevant (34,5%, n=10). Important and interesting data was collected in this section, regarding the fact that stalking by proxy was mostly done by people who knew the victim and with whom the victim shared a relationship of friendship (or just known). A possible explanation for a significant percentage of this type of victimization is due to the increasing use of new technologies. Online stalking has eliminated barriers and provided offenders with new opportunities to inflict harm on victims, one of which is the use of victimization by third parties. The ease with which cyberstalkers have in using new technologies to encourage third parties to stalk and harass their victims is even more visible in the digital environment than in cases of stalking where the adoption of a confidential and anonymous nature (characteristic of crimes digital) sometimes does not exist.

This study obtained results that support literature that argues that the impact at a psychological level is the one most felt by victims of cyberstalking (Santos, 2018) with this impact being reported by 89.7% (n=26) of victims. Of the 26 victims who reported feeling psychological impact, 21 victims were female and 4 were male, which allowed us to conclude that female victims feel more psychological impact than men. This was followed by impacts felt at a social level (48.3%, n=14) and academic/work level (35.6%, n=11).

Contrary to what was found in the study by Santos (2018), which pointed to work/academic impact as the level where the least impact was felt, this study found that the level of physical health had the lowest percentage of impact (20. 7%, n=6) in victims of cyberstalking. A possible explanation for this data collected may be due to the fact that not a lot of variables relating to impacts at a specific physical level were analyzed in this study. In the future, it would be beneficial to analyze other impacts, such as sleep-related disorders, loss of appetite and weight, physical tiredness, and nausea, as well as the development of eating disorders caused by victimization (Maran & Begotti, 2019).

Regarding requests for help and following the line of some national and international studies (Finn, 2004; Santos, 2018; Moreira, 2021), 53.6% (n=15) of the sample did not seek help, either informally or formally. As for the victims who asked for help, informal help was the one most used by victims of cyberstalking in the present study. The victims chose to ask their friends, parents, and partners for help. This study also reported that women tended to ask their friends for help, while men tended to ask their parents for help. This data is supported by other studies in the field (Santos, 2018; Fissel, 2021).

At last, when analyzing gender and its relationship with reporting behavior, this study presented results contrary to those of Fissel (2021), having found that statistically, women tend to ask for more help than men (76.9%, n=10 vs 23.1%, n=3). The vast majority of literature points to the fact that men are reluctant to ask for help, whether informal or formal. Many of the tasks associated with seeking formal help, such as trusting others outside of your social circus, admitting the need for help, or recognizing and labelling an emotional problem, can often conflict with the messages men receive about the importance of self-confidence, physical resistance, and emotional control, ultimately affecting their ability to ask for help (Addis & Mahalik, 2003).

Still, on the reporting behaviors, 79,3% (n=23) stated that they did not feel confident about filing a complaint with the police. Reasons presented fall into the category of emotional barriers, presented by Mccart, Smith, & Sawyer (2010), such as lack of trust in the police, the fact that they were afraid that they would not be believed and/or that their situation would be undervalued, in addition to the shame in sharing the event. Combined with these emotional barriers, it was possible to verify that there was a perception that the police would not help in any way and that justice in Portugal does not work in general, in addition to the lack of knowledge about the criminalization of this type of behavior in Portugal.

The task of building trust in competent authorities is (as in other public institutions) extremely complex and requires multifaceted and continuous efforts. Citizens will (as a rule) have more confidence in the authorities if they believe that they are effective in their work to control and prevent crime; if its elements treat people with respect and impartiality; if they take responsibility for their actions and mistakes and if they share citizens' fundamental values.

Using the categorical division of coping strategies provided by Kaur, Dhir, Tandon, Alzeiby, & Abohassan (2021), this study found that victims tend to use more avoidance strategies to deal with victimization. (63,3%). The behavior most adopted by victims was to block the cyberstalker/s, trying their best to stop all contact with

him/her. This specific data is corroborated by studies in the area, such as that by Begotti & Maran (2019) who concluded that the sample of victims in their study used more avoidance behaviors.

More recently, a study carried out by Begotti, Ghigo, & Maran (2022) found that both in victims who have previous experience of offline victimization, and in victims who have no previous experience, the most used coping strategy was the avoidance strategy. Similarly, Valquaresma (2016) found that in his sample of cyberstalking victims, the vast majority had resorted to using strategies that encompass the subscale of denial and minimization of behaviors. As mentioned by Begotti, Ghigo, & Maran (2022) the use of avoidance strategies, although successful in making victims less accessible to their cyberstalkers, can bring negative social consequences, thus reducing access to informal support, and increasing feelings of isolation.

#### 5. Conclusion

This study allowed us to deepen our knowledge about the phenomenon of cyberstalking in the university context, as well as understand the influence that Internet and social media usage habits can have on cases of victimization due to this type of criminal behavior. The literature review allowed us to reveal the national and international panorama regarding this criminal behavior and the empirical part allowed us to obtain relevant results, regarding the reality experienced by the university population, in the Portuguese context. The percentage of victimization obtained, although lower than expected, portrays a reality and a current social problem, worthy of a closer look by future investigations in Portugal.

The results also point to the lack of knowledge regarding the typification and consequently, the penalization of the crime of stalking by the university population, making it imperative to focus on primary prevention, by carrying out more awareness-raising actions, to alert the population to this criminal phenomenon. These actions must be aimed at all age groups, with a special focus on younger people, who, as we concluded, tend to be more victims of cyberstalking than the older population.

Finally, this study is intended to be an important contribution to the field of Victimology, specifically, to deepen the knowledge in this area, which is still little explored. Although we can say that this topic is being increasingly investigated in Portugal, there are still few studies dedicated to this area, especially focusing on cyberstalking, which sometimes makes it difficult to obtain information to serve as a comparison with international studies. As it is still a very embryonic topic in Portugal, there is still a long way to go.

#### 6. Limitations and future research

This study presents some limitations. In the first instance, the sample size obtained is considerable. However, the data collected portray the reality experienced in a single University in Portugal, which means that it is not possible to generalize the results obtained for the country's university population. In addition to this reason and due to the small number of participants who identify themselves as victims of cyberstalking, it was not possible for us to carry out even more robust statistical analyses. As for the composition of our sample, it was mostly female. According to (Reyns, Henson, & Fisher, 2012), there is no theoretical reason why women respond more to online questionnaires than men.

In the future, it would be pertinent to obtain a sample with more university students, from other universities in the country, with more balance and representation between genders, to obtain a more representative sample of the reality of this phenomenon in a Portuguese university context. A possible idea for future investigations would be to study the comparison between social media usage habits before and after being victimized by cyberstalking. It would be pertinent to understand how habits changed after the victimization experienced. The future adoption of a qualitative methodology could also be beneficial, both in the study of cyberstalking victimization experiences and the study of cyberstalking perpetration behaviors, studies that in our view would be important and pioneering in the Portuguese context.

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