Sexual Violence and Substance Use among Portuguese College Students:
Mental Health Implications

VERSÃO FINAL APÓS DEFESA

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CHAVE MÓVEL

Abstract

Research shows that experiences of sexual violence and use of substances have a negative impact on mental health, predisposing the development of psychological symptoms. Written in a scientific article format, this study aims to assess substance use, sexual violence and psychological levels in a community sample of Portuguese college students. This study explores the variables mentioned paired with gender and sexual orientation since sexual and gender minorities (SGM) tend to consume more substances and experience more sexual violence and psychological symptoms.

The sample was composed of 459 college students whose age ranged from 18 to 50 years of age (mean=21.55; SD=3.15). A survey was created online and disseminated via mailing lists and social networks, using several measurement instruments: an informed consent, a sociodemographic questionnaire, the Brief Symptom Inventory-18 (BSI-18), a Sexual Violence Questionnaire, and a Substance Use Questionnaire.

Results showed, like in previous studies, that sexual and gender minorities have higher levels of sexual victimization and substance use and are more at risk for developing psychological symptoms, with the exception of men who tend to consume more substances. Furthermore, sexual violence and psychological symptoms are highly correlated, while the relation between substance use and psychological symptoms is not entirely clear.

Hence, it is imperative to create policies and intervention programs relating to sex safety and sexual violence, as well as conducting further studies on substance use and psychological symptoms since it doesn't seem to exist consensus on how and what substances affect mental health.

Keywords

Sexual violence;substance use;gender;sexual orientation;mental health;psychological symptoms;anxiety;depression;somatization;college students;Portugal.

Resumo alargado

Redigida em formato científico e em língua inglesa, a presente Dissertação tem como principal objetivo avaliar os níveis e a relação entre violência sexual, consumo de substâncias e sintomas psicológicos tendo em conta as implicações que as duas primeiras variáveis têm na saúde mental.

Segundo literatura existente, o consumo de substâncias (Blanco et al., 2018; Walters et al., 2018) e a exposição a episódios de violência sexual (Binion & Gray, 2020; Chen et al., 2010; Depraetere et al., 2023; Gómez, 2022; Tarzia et al., 2020) impactam a saúde mental de forma negativa, podendo levar ao aparecimento de sintomas psicológicos como sintomas de depressão, ansiedade e somatização (Canavarro, 2007; Nazaré et al., 2017). Estes sintomas psicológicos, por si só, parecem ter uma alta prevalência em estudantes universitários, possivelmente devido a desafios específicos deste momento de vida que estes jovens começam a enfrentar, não só pela distância da família e pelo início de uma vida independente, mas também por preocupações académicas (Erschens et al., 2018; Ishii et al., 2018; Jenkins et al., 2019; Ratanasiripong et al., 2018; Rosenthal et al., 2018; Scholz et al., 2016; Trigueros et al., 2020). Além disso, foram também avaliados frequências e níveis de violência sexual, consumo de substâncias e sintomas psicológicos tendo em conta o género e a orientação sexual uma vez que fazem parte de minorias mais propensas a estas experiências devido a preconceitos e estigmas relacionados (Meyer, 2003; Sexual and Gender Minority Research Office [SGMRO], 2019).

Para a recolha de participantes, foi utilizado um questionário construído online e disseminado através de *mailing lists* e redes sociais. Para tal, foram utilizados um questionário sociodemográfico, o Brief Symptom Inventory-18 (BSI-18), um Questionário sobre Violência Sexual e um sobre Consumo de Substâncias. A amostra é composta por 459 estudantes universitários entre os 18 e os 50 anos com idade média de 21.55 anos. Para efeitos estatísticos, e devido a reduzidas frequências e percentagens de algumas variáveis, as categorias “Bissexual”, “Homossexual”, “Assexual”, “Pansexual” e “Outra” foram reunidas para a criação da categoria “Não-heterossexual”, a variável “não-binário” foi excluída para os processos estatísticos exceto para a descrição da amostra, e as substâncias mais pesadas e os itens relativos a “perpetração” foram excluídos.

De uma forma geral, os resultados deste estudo mostram que os homens tendem a consumir mais substâncias, mas as mulheres passam por mais episódios de vitimização sexual e experienciam níveis mais elevados de sintomas psicológicos. Não-

heterossexuais reportaram níveis de consumo de substâncias, vitimização sexual e sintomas psicológicos significativamente mais altos. Foi ainda possível observar fortes correlações entre vitimização sexual e consumo de substâncias e sintomas psicológicos, porém apenas algumas substâncias estavam correlacionadas com sintomas psicológicos. Idade, sexo, orientação sexual, vitimização sexual e a substância "Haxixe/Marijuana" mostraram-se preditores significativos e fortes de sintomas psicológicos.

Assim como descrito em estudos anteriores, as minorias sexuais e de género correm maior risco de experienciar episódios de violência sexual e estão mais propensas a consumir substâncias e a desenvolver sintomas psicológicos, com exceção dos homens que tendem a consumir mais substâncias. A violência sexual e os sintomas psicológicos estão altamente correlacionados, enquanto a relação entre o consumo de substâncias e os sintomas psicológicos não é totalmente clara. Deste modo, é imperativa a criação de políticas e programas de prevenção e intervenção relacionados com questões de segurança sexual, bem como a realização de mais estudos sobre o consumo de substâncias e sintomas psicológicos, uma vez que não parece existir consenso sobre como e quais substâncias afetam a saúde mental.

Palavras-chave

Violência sexual;consumo de substâncias;género;orientação sexual;saúde mental;sintomas psicológicos;ansiedade;depressão;somatização;estudantes universitários;Portugal.

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List of Acronyms

APAV	Portuguese Association for Victim Support
BSI-18	Brief Symptom Inventory-18
COVID-19	Coronavirus Disease of 2019
LGB	Lesbian, gay, and bisexual
LSD	Lysergic acid diethylamide
PS	Psychological symptoms
SGM	Sexual and gender minorities
SGMRO	Sexual and Gender Minority Research Office
SU	Substance use
SV	Sexual violence

Introduction

Research shows that experiences of sexual violence (Binion & Gray, 2020; Chen et al., 2010; Depraetere et al., 2023; Gómez, 2022; Tarzia et al., 2020) and use of substances (Blanco et al., 2018; Walters et al., 2018) have a negative impact on mental health.

The presence of psychological symptoms can be an indication of mental health struggle, whether that be the result of short-term exposure to stress or a deeper difficulty as a psychological disorder, being these mainly observed through depression, anxiety or somatization symptoms (Canavarro, 2007; Nazaré et al., 2017).

College students seem to be more prone to develop such symptoms since these are faced with specific challenges that come with moving away from their families and homes and start an independent life as well as specific academic concerns (Erschens et al., 2018; Ishii et al., 2018; Jenkins et al., 2019; Ratanasiripong et al., 2018; Rosenthal et al., 2018; Scholz et al., 2016; Trigueros et al., 2020). Furthermore, according to the Minority Stress Theory, sexual and gender minorities (SGM) are more prone to, not only suffer from psychological stress due to prejudice and associated stigmas, but also face more sexual victimization or to consume more or heavier substance (Meyer, 2003; Sexual and Gender Minority Research Office [SGMRO], 2019).

The present Dissertation was written as a part of the 2nd Cycle of Studies in Clinical and Health Psychology at the University of Beira Interior, and is a partial requirement to obtain the Master's degree in said area. Written in English and in the form of a scientific article, and given the information above mentioned, this study intends for the contribution to scientific progress by exploring sexual violence, substance use and mental health levels in a community sample of Portuguese college students, comparing these levels in different genders and sexual orientations as well.

This document is divided into two chapters. Chapter 1 is composed by a scientific article in which is described the study performed on the variables mentioned. This was a quantitative study with an inferential, correlational, and predictive nature. It’s firstly presented a theoretical introduction in which results from former studies of the constructs were explored, followed by research methodologies including a sample description, instruments used, procedures and data analyses performed. Then obtained results were reported and a discussion was written analysing and comparing these findings to the ones from former studies, ending with a brief conclusion.

Chapter 2 consists in a general discussion composed by a reflection about the themes and results obtained from the investigation developed in Chapter 1, addressing

some scientific implications and contributions as well as acquired competences with the elaboration of this document.

Chapter 1. Sexual Violence and Substance Use among Portuguese College Students: Mental Health Implications

Abstract

Background: Research shows that experiences of sexual violence and use of substances have a negative impact on mental health, predisposing the development of psychological symptoms of somatization, depression, and anxiety. Objective: The main objective of this study is to assess substance use, sexual violence and psychological levels in a community sample of Portuguese college students. Participants and Setting: 459 college students participated in this study whose age ranged from 18 to 50 years of age (mean=21.55; SD=3.15). Methods: A survey was created online and disseminated via mailing lists and social networks, and the measurement instruments used were: an informed consent, a sociodemographic questionnaire, the Brief Symptom Inventory-18 (BSI-18), a Sexual Violence Questionnaire, and a Substance Use Questionnaire. Results: We found that men consume more substances, but women report more sexual victimization and psychological symptoms. Non-heterosexuals report significantly more sexual violence experiences and higher consumption and psychological symptoms levels than heterosexuals. Sexual victimization showed strong correlations with both substance use and psychological symptoms, while only some substances are correlated to psychological symptoms. Age, gender, sexual orientation, sexual violence and the substance "Hashish/Marijuana" showed to be significant and strong predictors of psychological symptoms. Conclusions: As shown in previous studies, sexual and gender minorities are more at risk of experiencing sexual victimization and are more prone to consume substances and developing psychological symptoms, except for men who tend to consume more substances. Sexual violence and psychological symptoms are highly correlated, while the relation between substance use and psychological symptoms is not entirely clear.

Keywords

Sexual violence;substance use;gender;sexual orientation;mental health;psychological symptoms;anxiety;depression;somatization;college students;Portugal.

1. Introduction

Psychological symptoms (PS) are those related to psychological dysfunction, and their presence may be a sign of emotional distress or, if very evident, an indication of psychological disorders. These may manifest themselves mainly through symptoms of anxiety, depression, and somatization (Canavarro, 2007; Nazaré et al., 2017), and may be associated with several factors such as personality traits, negative behaviors, stressful life events, and so on.

These symptoms seem to be more apparent when it comes specifically to college and university students, possibly since these are exposed to specific factors such as: adaptation to living independently and away from parents (Ishii et al., 2018); concerns related to academic performance like competition and comparison to peers, fear of disappointing parents/caretakers due to low grades or choice of career paths, heavy workload and other types of concerns (Erschens et al., 2018; Ishii et al., 2018; Ratanasiripong et al., 2018; Scholz et al., 2016); disrupted sleep or eating patterns in consequence (Trigueros et al., 2020) and general lack of self-care (Jenkins et al., 2019; Rosenthal et al., 2018); having lack of balance between academic and social life (Ishii et al., 2018; Scholz et al., 2016); coming from a low-income background (Rosenthal et al., 2018; Usher & Curran, 2019); underlying psychological conditions and the social stigma that comes with them (Ishii et al., 2018; Park et al., 2020; Zivin et al., 2009); having experienced sexual violence or victimization (SV) (McDougall et al., 2019; Rosenthal et al., 2018); substance use (Rosenthal et al., 2018); more recently, the COVID-19 pandemic (Cao et al., 2020; Kecojevic et al., 2020; Maia & Dias, 2020; Wang et al., 2020); among many others.

Not all individuals are equally susceptible to such factors. According to the Minority Stress Theory (Meyer, 2003) minority groups, such as sexual and gender minorities (SGM) (Sexual and Gender Minority Research Office [SGMRO], 2019), are more prone to suffer from psychological stress due to prejudice and associated stigmas. Thus, SGM may also be more prone to experience SV or to consume more or heavier substances.

People find different reasons to consume substances, being licit or illicit, such as: coping with mental stress or disorders, addiction, disinhibition, socialization, or bonding and integration in a group (Colby et al., 2009). The more commonly used substances, and therefore with more presence in literature, are alcohol, tobacco and Cannabis products.

As far as gender goes, most studies show that men tend to consume more substances, more frequently, or in larger quantities comparing to women (Blanco et al., 2018; Colby et al., 2009; Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências [SICAD], 2022). However, women who use substances often manifest higher levels of psychological stress (Di Paola et al., 2021; Gao et al., 2020). Nevertheless, and just like what happens with sexual victimization, transgender and non-binary individuals are the ones to recur to substance use more frequently (Hughto, 2021; Newcomb et al., 2020).

In relation to sexual orientation and similar to sexual violence, studies in general found that bisexuals, specially cisgender women (Schuler & Collins, 2020), are at a higher risk for substance use comparing to other sexual minorities, followed by cisgender homosexual

individuals and being cisgender heterosexuals the ones less at risk (Coulter et al., 2017; Krueger et al., 2020; Schuler & Collins, 2020).

It's still unclear how substance use and psychological symptoms are related. Some authors say depressive symptoms are associated with tobacco, Cannabis, cocaine, amphetamines, sedatives and hallucinogens use, but not alcohol nor designer drugs; and anxiety symptoms are not associated with any substance (Walters et al., 2018). Others say depression disorders are also connected to alcohol use, and anxiety disorders to Cannabis consumption (Blanco et al., 2018).

During the beginning of the COVID-19 pandemic, there was a worrisome increase in psychological stress levels, especially in sexual and gender minorities (Chaiton et al., 2021). Specifically, substances such as tobacco, alcohol and Cannabis were more frequently used when assessing poorer mental health (Chaiton et al., 2021; Salerno et al., 2021). This escalation in consumption may have happened due to coping mechanisms found to deal with the stress caused by the pandemic, noting that there may be symptoms of depression in individuals who used tobacco, alcohol or both as coping mechanism (Martínez-Cao et al., 2021). However, not all literature is in agreement either. For example, Charles et al. (2021) found higher levels of depression and stress, but not anxiety.

Similar to studies around the world, during the years of 2016 and 2017 in Portugal alcohol (86.4%) was the most consumed substance, followed by tobacco (48.8%), medication (12.1%) and illicit psychoactive substances (11.7%) mainly Cannabis (11%), cocaine (1.2%), and ecstasy (.7%) (Balsa et al., 2018). Among these, consumption was higher in men except for medication (Balsa et al., 2018). Young adults (15-34 years old) had a higher prevalence of experimental use for tobacco (52.7%) and illicit psychoactive substances (16%) such as Cannabis (15.1%), ecstasy (.9%), LSD (.5%), and new psychoactive substances (.5%) compared to the general population (15-64 year old) (Balsa et al., 2018). Also in Portugal, a different study conducted focusing specifically on young adults university students and their experiments with substances found that tobacco (57.7%), alcohol (44.2%), Cannabis (35.3%) were the most experimented substances, being men the ones with higher rates on experimenting with tobacco (Reis et al., 2017). There weren't found significant differences between men and women when it comes to alcohol and Cannabis, however, it was also found that women tend to consume drugs for the first more frequently, but men have a more frequent regular drug consumption (Reis et al., 2017).

According to the Portuguese Association for Victim Support (Associação Portuguesa de Apoio à Vítima [APAV], 2023), SV can be seen as any unwanted or non-consensual sexual action forced upon individuals, either attempted or consummated, such as: intimate touches or kisses, comments or jokes, threats or aggression, rape or attempted rape.

With regard to gender identity, cisgender women are more at risk of becoming SV victims or have been through such experiences when comparing to cisgender men (Coulter et al., 2017; Gómez, 2022; Hines et al., 2012; Ortensi & Farina, 2020). However, ultimately transgender individuals are the ones who are more likely to be harassed or receive unwanted sexual behavior (Coulter et al., 2017; Martin-Storey et al., 2018).

When it comes to sexual orientation, those who identify as a sexual minority tend to experience more SV in it's different forms. Cisgender LGB young adults are more at risk than cisgender heterosexuals, meaning lesbians and gays are more likely to go through these experiences when comparing to heterosexual women and men, respectively, and being bisexuals the major victims (Coulter et al., 2017; Martin-Storey et al., 2018; Ortensi & Farina, 2020; Snyder et al., 2018).

Given that these are intense and traumatic situations, there is a clear correlation between having experienced SV and having poorer mental health (Binion & Gray, 2020; Gómez, 2022). Anxiety and depression symptoms or disorders are significantly associated with SV experiences, among other disorders (Chen et al., 2010; Depraetere et al., 2023; Tarzia et al., 2020).

In 2022 in Portugal, victims are mostly women (77.7%) and most of crimes committed against people (94.1%) are related to domestic violence (77.4%). More specifically, most sexual crimes committed against adults consisted in rape (50.8%), followed by sexual harassment (23.2%) and sexual coercion (14.4%), being most of perpetrators male (62%). Only 49.2% of victims reported the crimes to police entities, even though it's a growing number comparing to former years (APAV, 2023).

The main objective of this study is to assess SU, SV and PS levels in a community sample of Portuguese college students. This was split into three specific objectives: (1) compare the differences between levels of SU, SV, PS and sociodemographic variables (gender and sexual orientation); (2) assess the degree of association between: SU and SV, SU and PS, SV and PS; (3) determine the predictive power of sociodemographic variables, SU and SV on PS. For this purpose, sociodemographic variables, SV and SU were defined as independent variables; PS was defined as the dependent variable. This study will be quantitative: inferential, correlational, and predictive.

2. Materials and Methods

2.1. Participants

459 college students participated in this study whose age ranged from 18 to 50 years of age, the mean age corresponds to 21.55, the standard deviation to 3.15, the median to 21, and the mode to 22. Most of participants are young adults, since about 90% are under the age of 23. Regarding participants who did not reveal their age, the missing data were replaced by the mean age value. With regard to gender, most participants identified as women (72.1%), 27% as men, and only 4 participants identified as non-binary (.9%). As for sexual orientation, the majority identified as heterosexual (79.8%), 11.4% as bisexual, 17 participants as homosexual (3.7%) and 16 pansexual (3.5%), only 4 participants answered asexual (.9%), and 3 chose the alternative "other" (.7%). This and other sociodemographic characteristics can be seen on Table 1.

Table 1. *Sociodemographic Characteristics (M_{age} = 21.55, SD = 3.15)*

		n	%
Gender	Woman	331	72.1
	Man	124	27

	Non-binary	4	.9
Citizenship	Portuguese	394	85.8
	Brazilian	55	12
	Other	10	2.2
Marital Status	Single	324	70.6
	Married	4	.9
	Separated/Divorced	1	.2
	Non-marital Partnership	2	.4
	Significant Relationship/Dating	128	27.9
Academic Qualifications	12 years	203	44.2
	Degree/Bachelor Degree	230	50.1
	Post-graduation/Master's Degree	23	5
	PhD/Postdoctoral	1	.2
	Other	2	.4
Place of Residence	Small Rural Area	116	25.3
	Large Rural Area	44	9.6
	Small Urban Area	205	44.7
	Large Urban Area	94	20.5
Socio-economic Status	Low	17	3.7
	Low-Medium	129	28
	Medium	259	56.5
	Medium-High	53	11.6
	High	1	.2
Sexual Orientation	Heterosexual	366	79.8
	Bisexual	53	11.4
	Homosexual (Gay or Lesbian)	17	3.7
	Asexual	4	.9
	Pansexual	16	3.5
	Other	3	.7
Professional Situation	Student	442	96.3
	Student Worker	17	3.7

2.2. Measurement instruments

Informed Consent: constructed to enlighten the participant on the objectives of this study, the entity responsible, time required to complete the questionnaire, contact information, among other aspects. In addition, concepts like anonymity, confidentiality, personal data protection and the principle of volunteering were clarified and guaranteed.

Sociodemographic Questionnaire: constructed with 9 items to assess: Age, Gender (Woman, Man or Other), Citizenship (Portuguese or Other), Marital Status (Single, Married, Separated/Divorced, Non-marital Partnership, Widowed, Significant Relationship/Dating or Other), Academic Qualifications (Up to 9th Grade, 10th Grade, 11th Grade, 12th Grade, Degree/Bachelor's Degree, Post-graduation/Master's Degree, PhD/Postdoctoral or Other), Place of Residence (Small Rural Area, Large Rural Area, Small Urban Area or Large Urban Area), Socio-economic Status (Low, Low-Medium, Medium, Medium-High or High), Sexual Orientation (Heterosexual, Bisexual, Homosexual (Gay or Lesbian), Asexual, Pansexual or Other), Professional Situation (Student, Unemployed, Employee, Self-employed, Retired, Sick Leave or Other).

Brief Symptom Inventory-18 (BSI-18): Created in 2001 by Derogatis, with the aim of assessing psychological distress in clinical and community contexts, it assesses 3 dimensions: symptoms of Somatization, symptoms of Depression, and symptoms of Anxiety. It consists of 18 items, 6 for each of 3 subscales. The Somatization subscale includes the items: 01. Faintness or dizziness; 04. Heart or chest pains; 07. Nausea or stomach discomfort; 10. Difficulty breathing;

13. Sensation of numbness or tingling in parts of your body; 16. Feeling weakness in parts of your body. The Depression subscale consists of the items: 02. Lack of interest for things; 05. Feeling lonely; 08. Feeling sad; 11. Feeling worthless; 14. Feeling hopeless about the future; 17. Life ending thoughts. And the items for the Anxiety subscale are: 03. Nervousness or inner agitation; 06. Feeling tense or nervous; 09. Getting scared suddenly for no reason; 12. Moments of terror or panic; 15. Feeling so agitated you can't sit still; 18. Feeling afraid. From the mean of these dimensions, it becomes possible to calculate a global measure of psychological symptoms. It has a Likert-type response format from 0 (Never) to 4 (Always), and a psychological symptoms index comparable to the normative population can be calculated, thus allowing the assessment of symptoms levels (for example, high or low levels). Cronbach's alpha was .92 which denotes excellent reliability (Nazaré et al., 2017). Additionally, in order to understand whether the responses given were exacerbated by the COVID-19 Pandemic, a question with an answer format from 0 to 10 was added ("How were the answers you gave to the previous questions increased by the COVID-19 Pandemic?").

Sexual Violence Questionnaire: constructed according to the objective of evaluating the occurrence of sexual violence behavior. It consists of 12 items with an answer format from 0 to 10, focusing on both the victim and the perpetrator. Questions directed to victims are: "Have you ever had sexual intercourse against your will, knowing the other person (friend, boyfriend/girlfriend, acquaintance, etc.)?", "Have you ever had sexual intercourse against your will under the influence of alcohol or drugs, because you didn't have the strength to resist?", "Has anyone ever initiated sexual contact with you, involving penetration (oral, vaginal, anal) without your consent?", "Has anyone ever kissed or touched you sexually without your consent?", "Has anyone ever sent you an email, SMS, message on a social network, phone call with sexual content, comments, jokes, stories, pictures or videos that made you feel uncomfortable or offended?", and "Has anyone ever made sexual comments about you, told jokes or stories with a sexual nature that you found uncomfortable or offensive towards you?"; and for perpetrators are: "Have you ever forced someone to have sexual intercourse against their will, knowing that, under the influence of alcohol or drugs, that person would not have the strength to resist?", "Have you ever forced someone to have sexual intercourse sex against their will, knowing them well (friend, boyfriend/girlfriend, acquaintance, etc.)?", "Have you ever initiated sexual contact with someone, involving penetration (oral, vaginal, anal) without their consent?", "Have you ever kissed or touched someone sexually without their consent?", "Have you ever sent an email, SMS, message on a social network, phone call with sexual content, comments, jokes, stories, pictures or videos, to someone, knowing it would make them feel uncomfortable or offended?" and "Have you ever made sexual comments about someone, told jokes or stories with a sexual nature about them that you know would make them uncomfortable or offended?".

Substance Use Questionnaire: this questionnaire was also created to describe the consumption frequency of the most common substances. It consists of 12 items with 5 response options from "Never" to "6 /7 times" per week. These 12 items are: "Cigarettes or other tobacco", "Electronic cigarette or vaping", "Alcoholic beverages (beer, wine, etc.)", "Alcoholic beverages

(shots, spirits, etc.)", "Hashish/Marijuana", "Unprescribed Medication", "Cocaine or crack", "Heroin", "Methamphetamines", "Magic mushrooms (hallucinogens)", "Ecstasy/Molly/MDMA" and "Other drugs". At the end, a dichotomous question was added (with response options "Yes" or "No") to assess whether participants self-assessed excessive consumption ("For each of the substances you marked, do you consider it was excessive consumption?").

2.3. Procedures

The sample was collected through convenience sampling with a survey built on an online website and disseminated via mailing lists and social networks. This survey was online from September 27 to October 30, 2022. All ethical principles were respected: informed consent, providing awareness of the study's objectives and allowing participants to willingly disclose personal data to perform the investigation; confidentiality and anonymity, by guaranteeing personal data protection (encrypted IP); and volunteering principle, meaning only people willing to answer became participants, thus having been approved by the Ethics Committee of University of Beira Interior. Subsequently, data stored in EXCEL files was used to build a database on IBM SPSS Statistics program, version 28.0, to perform the planned statistical evaluations.

2.4. Data Analysis

Firstly, participants were eliminated from the SPSS database considering the exclusion criteria. In order to proceed with the data analysis, it was also necessary to cluster some categories of two variables: in Sexual Orientation, the categories "Bisexual", "Homosexual", "Asexual", "Pansexual" and "Other" were clustered into a single one named "Non-heterosexual"; and in Academic Qualifications, the categories "Up to 9th Grade", "10th Grade", "11th Grade", "12th Grade" clustered into the category "12 years". Given some missing responses, proportional calculations were performed for the nominal variables, and the missing ages were assigned their mean value. Descriptive statistics were then conducted to describe the sample: mean, standard deviation, maximum, minimum, mode and median for age; and frequencies and percentages for the remaining sociodemographic variables. The Gender variable's "Non-binary" category was presented for the sample description, but excluded for the remaining analyses as it did not show a significant quantity. More descriptive statistics were performed to assess substance use (including excessive consumption), sexual violence, and psychological symptoms levels. The lack of frequencies and percentages results of 'hard drugs' resulted in the elimination of the items "Cocaine or crack", "Heroin", "Methamphetamines", "Magic mushrooms (hallucinogens)", "Ecstasy/Molly/MDMA" and "Other drugs" in the substance use variable. On the levels of sexual violence, there were no significant results for the frequencies and percentages of perpetration items, so they were also excluded, thus remaining only results for sexual victimization, which were used to create the new variable "Sexual victimization (total)". For psychological symptoms' analysis, four new variables were created: three formed with each subscale's mean results of the BSI-18 ("Somatization", "Depression" and "Anxiety"), and one with the results' total means of the BSI-18 ("Psychological Symptoms (total)"). Descriptive statistics were conducted for these

new variables to obtain their mean and standard deviation, aiming to compare these values with the reference values for community populations (Canavarro, 2007). Given the sample size, it's possible to assume a normal distribution based on the Central Limit Theorem, which states that the larger the sample size, the greater the probability of assuming a normal distribution. Therefore, Independent-Samples t Tests were performed to verify whether dependent variables' means (substance use and sexual victimization) differed significantly in the two comparison groups for each independent variable (men and women on Gender, and heterosexual and non-heterosexual on Sexual Orientation). Pearson's Correlation Tests were also performed to calculate the association degree between substance use and sexual victimization, substance use and psychological symptoms, and sexual victimization and psychological symptoms; for this purpose, a new variable for 'total sexual victimization' was created with the mean responses to items related to victims. Finally, Linear Regression Analysis were conducted to examine the predictive effects of sociodemographic variables and substance use on sexual victimization, and the predictive effects of substance use and sexual victimization on "total psychological symptoms".

3. Results

For all statistical procedures, $p < .05$ was used. Since the questionnaire on substance use was built according to criteria that allowed to assess the frequency of this behavior, each item was treated as a separate variable. As reported in Table 2, consumption percentages are relatively low. Alcoholic beverages such as beer or wine were the substances with the highest use percentage (50.2%). The remaining substances showed percentages of non-consumption above 70%. Only 8.8% of participants considered having consumed excessively (Table 3).

Table 2. *Frequency of Substance Use Per Week*

	Never		1 time		4/5 times		6/ 7 times	
	n	%	n	%	n	%	n	%
Cigarettes or other tobacco	352	76.7	30	6.6	22	4.7	55	12
Electronic cigarette or vaping	418	91	29	6.3	5	1.1	7	1.6
Alcoholic beverages (beer, wine, etc.)	228	49.8	171	37.2	34	7.4	26	5.6
Alcoholic beverages (shots, spirits, etc.)	328	71.4	109	23.7	13	2.8	9	2
Hashish/Marijuana	428	93.2	21	4.5	5	1.1	5	1.1
Unprescribed Medication	437	95.2	19	4.1	2	.5	1	.2

Table 3. *Perceived Excessive Consumption*

	n	%
Yes	40	8.8
No	419	91.2

Similar to substance use, sexual victimization frequency was assessed item by item given the same questionnaire nature. Since there were no significant percentages, items related to the perpetrator were excluded. As for the items related to lifetime experiences of sexual victimization, the highest percentages were recorded in the questions "Has anyone ever sent you an email, SMS, message on a social network, phone call with sexual content, comments, jokes, stories, pictures or videos that made you feel uncomfortable or offended?" (39.2%), "Has anyone ever made sexual comments about you, told jokes or stories with a sexual nature that you found

uncomfortable or offensive towards you?" (37.1%) and "Has anyone ever kissed or touched you sexually without your consent?" (33.9%). Remaining items showed percentages under 18% (Table 4).

Table 4. *Frequency of Sexual Victimization Experiences*

	No		Yes	
	n	%	n	%
Have you ever had sexual intercourse against your will, knowing the other person (friend, boyfriend/girlfriend, acquaintance, etc.)?	376	82	83	18
Have you ever had sexual intercourse against your will under the influence of alcohol or drugs, because you didn't have the strength to resist?	419	91.3	40	8.7
Has anyone ever initiated sexual contact with you, involving penetration (oral, vaginal, anal) without your consent?	395	86	64	14
Has anyone ever kissed or touched you sexually without your consent?	303	66.1	156	33.9
Has anyone ever sent you an email, SMS, message on a social network, phone call with sexual content, comments, jokes, stories, pictures or videos that made you feel uncomfortable or offended?	279	60.8	180	39.2
Has anyone ever made sexual comments about you, told jokes or stories with a sexual nature that you found uncomfortable or offensive towards you?	289	62.9	170	37.1

As for psychological symptoms, the new variables were used to assess mean and standard deviation values. The results for "Somatization" (M = .77; SD = .67), "Depression" (M = 1.2; SD = .82), "Anxiety" (M = 1.26; SD = .74) and "Psychological Symptoms (total)" (M = 1.08; SD = .66) are reported in Table 5. The minimum values' mean was .00 for the four variables, and the maximum values' means were 3.33 for "Somatization", 4 for "Depression", 3.67 for "Anxiety", and 3.61 for "Psychological Symptoms (total)".

Table 5. *Descriptive Statistics for Psychological Symptoms Levels*

	Minimum	Maximum	Mean	Standard Deviation
Somatization	.00	3.33	.77	.67
Depression	.00	4	1.2	.82
Anxiety	.00	3.67	1.26	.74
Psychological Symptoms (total)	.00	3.61	1.08	.66

Independent-Samples t Test conveyed the existence of statistically significant differences between men and women for substance use levels of the substance "Electronic cigarette or vaping" (t (436) = -2,037; p = .042), with men presenting higher values (M = 1.26; SD = .78) than women (M = 1.13; SD = .56); and the substance "Alcoholic beverages (beer, wine, etc.)" (t (319) = -4.329; p < .001), with men also presenting higher values (M = 2.26; SD = 1.4) than women (M = 1.66; SD = .97) (Table 6).

Table 6. *Differences Between Substance Use Levels in Men and Women*

		M	SD	t(df)	*p*
Cigarettes or other tobacco	Women	1.65	1.36	-1.064(419)	.288
	Men	1.81	1.52		
Electronic cigarette or vaping	Women	1.13	.56	-2.037(436)	.042*
	Men	1.26	.78		
Alcoholic beverages (beer, wine, etc.)	Women	1.66	.97	-4.329(319)	.000**
	Men	2.26	1.4		
Alcoholic beverages (shots, spirits, etc.)	Women	1.36	.77	-1.726(387)	.085
	Men	1.52	.92		
Hashish/Marijuana	Women	1.12	.56	.517(435)	.605
	Men	1.09	.44		

Unprescribed Medication	Women	1.06	.31	.088(436)	.930
	Men	1.06	.4		

* p < .05
**p < .001

On sexual orientation, the test shows statistically significant differences between heterosexuals and non-heterosexuals for substance use levels of the substance "Hashish/Marijuana" (t (436) = -2.335; p = .02), with non-heterosexuals showing higher values (M = 1.25; SD = .82) than heterosexuals (M = 1.09; SD = .47). It is also possible to observe higher consumption levels for most substances on non-heterosexual participants, however said levels can't be considered statistically significant (Table 7).

Table 7. *Differences Between Substance Use Levels in Heterosexuals and Non-Heterosexuals*

		M	SD	t(df)	p
Cigarettes or other tobacco	Heterosexual	1.63	1.36	-1.758(420)	.08
	Non-heterosexual	1.93	1.51		
Electronic cigarette or vaping	Heterosexual	1.17	.65	.695(437)	.487
	Non-heterosexual	1.12	.55		
Alcoholic beverages (beer, wine, etc.)	Heterosexual	1.76	1.08	-1.558(318)	.12
	Non-heterosexual	2	1.25		
Alcoholic beverages (shots, spirits, etc.)	Heterosexual	1.38	.78	-1.025(387)	.306
	Non-heterosexual	1.49	.92		
Hashish/Marijuana	Heterosexual	1.09	.47	-2.335(436)	.02*
	Non-heterosexual	1.25	.82		
Unprescribed Medication	Heterosexual	1.05	.28	-1.752(437)	.081
	Non-heterosexual	1.12	.5		

* p < .05

Regarding levels of sexual victimization, statistically significant differences were also found between men and women on the item "Has anyone ever sent you an email, SMS, message on a social network, phone call with sexual content, comments, jokes, stories, pictures or videos that made you feel uncomfortable or offended?" (t (445) = 3.113; p = .002), with women presenting higher values (M = 2.64; SD = 2.39) than men (M = 1.88; SD = 1.89) (Table 8).

Table 8. *Differences Between Sexual Victimization Levels in Men and Women*

		M	SD	t(df)	p
Have you ever had sexual intercourse against your will, knowing the other person (friend, boyfriend/girlfriend, acquaintance, etc.)?	Women	1.59	1.48	1.921(445)	.055
	Men	1.31	.99		
Have you ever had sexual intercourse against your will under the influence of alcohol or drugs, because you didn't have the strength to resist?	Women	1.31	1.17	1.661(444)	.097
	Men	1.13	.59		
Has anyone ever initiated sexual contact with you, involving penetration (oral, vaginal, anal) without your consent?	Women	1.42	1.17	1.921(444)	.055
	Men	1.19	.87		
Has anyone ever kissed or touched you sexually without your consent?	Women	2.05	1.84	1.73(445)	.084
	Men	1.73	1.47		
Has anyone ever sent you an email, SMS, message on a social network, phone call with sexual content, comments, jokes, stories, pictures or videos that made you feel uncomfortable or offended?	Women	2.64	2.39	3.113(445)	.002*
	Men	1.88	1.89		
Has anyone ever made sexual comments about you, told jokes or stories with a sexual nature that you found uncomfortable or offensive towards you?	Women	2.21	2.02	1.158(444)	.247
	Men	1.97	1.66		

* p < .05

As observed in Table 9, still regarding sexual victimization, all items show statistically significant differences between heterosexuals and non-heterosexuals (p < .001), and for all

items non-heterosexuals show higher values of victimization experiences as mean values for non-heterosexuals are higher than for heterosexuals.

Table 9. *Differences Between Sexual Victimization Levels in Heterosexuals and Non-Heterosexuals*

		M	SD	t(df)	p
Have you ever had sexual intercourse against your will, knowing the other person (friend, boyfriend/girlfriend, acquaintance, etc.)?	Heterosexual Non-heterosexual	1.34 2.29	1.06 2.13	-6.066(446)	.000**
Have you ever had sexual intercourse against your will under the influence of alcohol or drugs, because you didn't have the strength to resist?	Heterosexual Non-heterosexual	1.17 1.72	.79 1.76	-4.351(445)	.000**
Has anyone ever initiated sexual contact with you, involving penetration (oral, vaginal, anal) without your consent?	Heterosexual Non-heterosexual	1.23 1.98	.8 1.86	-5.773(445)	.000**
Has anyone ever kissed or touched you sexually without your consent?	Heterosexual Non-heterosexual	1.74 2.9	1.52 2.31	-5.777(446)	.000**
Has anyone ever sent you an email, SMS, message on a social network, phone call with sexual content, comments, jokes, stories, pictures or videos that made you feel uncomfortable or offended?	Heterosexual Non-heterosexual	2.13 3.71	2.03 2.82	-6.093(446)	.000**
Has anyone ever made sexual comments about you, told jokes or stories with a sexual nature that you found uncomfortable or offensive towards you?	Heterosexual Non-heterosexual	1.97 2.9	1.78 2.4	-4.138(445)	.000**

**p < .001

When it comes to levels of psychological symptoms, there were found statistically significant differences gender-wise on the items: “Somatization” (t (453) = 2.917; p = .004), with women displaying higher levels (M = .83; SD = .68) than men (M = .63; SD = .61); “Anxiety” (t (453) = 4.606; p < .001), with women also presenting higher levels (M = 1.36; SD = .76) than men (M = 1.01; SD = .66); and “Psychological Symptoms (total)” (t (453) = 2.805; p = .005), with women presenting higher values as well (M = 1.13; SD = .67) comparing to men (M = .94; SD = .61) (Table 10).

Table 10. *Differences Between Psychological Symptoms Levels in Men and Women*

		M	SD	t(df)	p
Somatization	Women Men	.83 .63	.68 .61	2.917(453)	.004*
Depression	Women Men	1.19 1.18	.83 .8	.22(453)	.826
Anxiety	Women Men	1.36 1.01	.76 .66	4.606(453)	.000**
Psychological Symptoms (total)	Women Men	1.13 .94	.67 .61	2.805(453)	.005*

* p < .05
**p < .001

As for sexual orientation, it is possible to observe in Table 11 that statistically significant differences were found for all items between heterosexuals and non-heterosexuals (p < .001), being non-heterosexuals the ones who show higher levels of psychological symptoms in comparison to heterosexuals.

Table 11. *Differences Between Psychological Symptoms Levels in Heterosexuals and Non-Heterosexuals*

		M	SD	t(df)	p
Somatization	Heterosexual	.68	.59	-6.301(454)	.000**
	Non-heterosexual	1.15	.81		
Depression	Heterosexual	1.08	.74	-6.128(454)	.000**
	Non-heterosexual	1.64	.96		
Anxiety	Heterosexual	1.16	.7	-5.779(454)	.000**
	Non-heterosexual	1.65	.81		
Psychological Symptoms (total)	Heterosexual	.97	.58	-6.986(454)	.000**
	Non-heterosexual	1.48	.76		

**p < .001

The bivariate correlation tests performed to compare consumed substances and experiences of sexual victimization can be seen in Table 12. The Pearson correlation coefficients obtained showed significant correlations between “Cigarettes or other tobacco” and the items “Have you ever had sexual intercourse against your will, knowing the other person (friend, boyfriend/girlfriend, acquaintance, etc.)?” ($r = .221$, $p < .001$), “Have you ever had sexual intercourse against your will under the influence of alcohol or drugs, because you didn't have the strength to resist?” ($r = .196$, $p < .001$), “Has anyone ever initiated sexual contact with you, involving penetration (oral, vaginal, anal) without your consent?” ($r= .182$, $p < .001$), “Has anyone ever kissed or touched you sexually without your consent?” ($r= .189$, $p < .001$). All former correlations are positive, meaning the higher the consumption of “Cigarettes or other tobacco”, the greater the probability of experiencing the sexual victimization types mentioned above. There were also found significant negative correlations between “Electronic cigarette or vaping” and “Has anyone ever sent you an email, SMS, message on a social network, phone call with sexual content, comments, jokes, stories, pictures or videos that made you feel uncomfortable or offended?” ($r = -.099$, $p = .039$), suggesting that the more “Electronic cigarette or vaping” is consumed, the lower the probability of receiving virtual harassment. However, although the correlation is significant, it is quite weak. The Pearson correlation coefficients obtained regarding the substance “Alcoholic beverages (beer, wine, etc.)” indicate positive significant correlations with the items “Have you ever had sexual intercourse against your will under the influence of alcohol or drugs, because you didn't have the strength to resist? ($r = .113$, $p = .044$) and “Has anyone ever initiated sexual contact with you, involving penetration (oral, vaginal, anal) without your consent?” ($r = .124$, $p = .027$), meaning the consumption of beer, wine, and similar alcoholic beverages is related to higher probability of have sexual unwanted experiences under the influence and involving penetration. For the substance “Alcoholic beverages (shots, spirits, etc.)” positive significant correlations were found for “Have you ever had sexual intercourse against your will, knowing the other person (friend, boyfriend/girlfriend, acquaintance, etc.)?” ($r = .125$, $p = .014$), “Have you ever had sexual intercourse against your will under the influence of alcohol or drugs, because you didn't have the strength to resist?” ($r = .151$, $p = .003$), “Has anyone ever initiated sexual contact with you, involving penetration (oral, vaginal, anal) without your consent?” ($r = .124$, $p = .014$), “Has anyone ever sent you an email, SMS, message on a social network, phone call with sexual content, comments, jokes, stories, pictures or videos that made you feel uncomfortable or offended?” ($r = .154$, $p = .002$) and “Has anyone ever made sexual comments about you, told jokes or stories with a sexual nature that

you found uncomfortable or offensive towards you?" (r = .13, p = .011). Hence, the more alcoholic beverages like shots and spirits are consumed, the higher the risk of experiencing the types of sexual victimization above. Positive significant correlations were also found between "Hashish/Marijuana" and "Have you ever had sexual intercourse against your will, knowing the other person (friend, boyfriend/girlfriend, acquaintance, etc.)?" (r = .192, p < .001), "Have you ever had sexual intercourse against your will under the influence of alcohol or drugs, because you didn't have the strength to resist?" (r = .253, p < .001), "Has anyone ever initiated sexual contact with you, involving penetration (oral, vaginal, anal) without your consent?" (r = .239, p < .001), "Has anyone ever kissed or touched you sexually without your consent?" (r = .206, p < .001), "Has anyone ever sent you an email, SMS, message on a social network, phone call with sexual content, comments, jokes, stories, pictures or videos that made you feel uncomfortable or offended?" (r = .115, p = .016), thus, a higher use of "Hashish/Marijuana" is correlated to more experiences of all sexual victimization types except verbal harassment. Lastly, "Unprescribed Medication" also showed significant correlations with "Have you ever had sexual intercourse against your will, knowing the other person (friend, boyfriend/girlfriend, acquaintance, etc.)?" (r = .151 , p = .002), "Have you ever had sexual intercourse against your will under the influence of alcohol or drugs, because you didn't have the strength to resist?" (r = .208, p < .001), "Has anyone ever kissed or touched you sexually without your consent?" (r = .172, p < .001), "Has anyone ever sent you an email, SMS, message on a social network, phone call with sexual content, comments, jokes, stories, pictures or videos that made you feel uncomfortable or offended?" (r = .146, p = .002) and "Has anyone ever made sexual comments about you, told jokes or stories with a sexual nature that you found uncomfortable or offensive towards you?" (r = .116, p = .015). Since these correlations are all positive, the more "Unprescribed Medication" is taken, the more the occurrences of victimization described above will be experienced. Correlational studies were performed for the new variable "Sexual victimization (total)" as well, resulting in significant positive correlations for the substances "Cigarettes or other tobacco" (r = .183, p < .001), "Alcoholic beverages (shots, spirits, etc.)" (r = .163, p = .001), "Hashish/Marijuana" (r = .204, p < .001) and "Unprescribed Medication" (r = .181, p < .001), meaning the more those substance are consumed, the higher the risk of going through general sexual victimization experiences.

Bivariate correlation tests were also performed to compare consumed substances and psychological symptoms levels (Table 12). The Pearson correlation coefficients obtained showed significant correlations between Somatization and "Cigarettes or other tobacco" (r = .158, p = .001), "Alcoholic beverages (beer, wine, etc.)" (r = .125, p = .025), and "Alcoholic beverages (shots, spirits, etc.)" (r = .107, p = .034); Depression and "Cigarettes or other tobacco" (r = .12, p = .013), and "Alcoholic beverages (beer, wine, etc.)" (r = .154, p = .006); Anxiety and "Cigarettes or other tobacco" (r = .1, p = .04), and "Unprescribed Medication" (r = .102, p = .033); and total of Psychological Symptoms and "Cigarettes or other tobacco" (r = .141, p = .003), "Alcoholic beverages (beer, wine, etc.)" (r = .127, p = .023), and "Unprescribed Medication" (r = .104, p = .028). All correlations found were positive, which means higher levels of psychological symptoms are correlated with higher levels of said substances consumption.

Also in Table 12, it's possible to observe significant strong correlations between sexual victimization experiences and psychological symptoms levels, not only between specific items of both variables, as well as overall ($p < .001$). All correlations observed were positive, meaning that the more experiences of sexual victimization the greater the symptoms, either from each dimension or in general.

Table 12. *Correlation Between Sexual Victimization, Substance Use and Psychological Symptoms*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	-																
2	.223**	-															
3	.472**	.3**	-														
4	.252**	.199**	.662**	-													
5	.311**	.017	.131*	.151*	-												
6	-.046	-.027	-.012	-.015	-.003	-											
7	.221**	-.01	.056	.125*	.192**	.151*	-										
8	.196**	-.006	.113*	.151*	.253**	.208**	.610**	-									
9	.182**	-.025	.124*	.124*	.239**	.023	.682**	.531**	-								
10	.189**	-.049	.078	.063	.206**	.172**	.612**	.551**	.549**	-							
11	.092	-.099*	.029	.154*	.115*	.146*	.464**	.382**	.410**	.486**	-						
12	.035	.012	.053	.13*	.029	.116*	.339**	.289**	.306**	.435**	.6**	-					
13	.183**	-.047	.088	.163**	.204**	.181**	.775**	.68**	.71**	.798**	.804**	-.718**	-				
14	.158**	.086	.125*	.107*	.007	.081	.267**	.216**	.283**	.288**	.214**	.213**	.322**	-			
15	.12*	.059	.154*	.077	.031	.091	.209**	.165**	.222**	.189**	.219**	.188**	.264**	.587**	-		
16	.1*	-.003	.051	.031	-.017	.102*	.2**	.18**	.223**	.247**	.206**	.207**	.279**	.703**	.682**	-	
17	.141*	.053	.127*	.08	.009	.104*	.254**	.211**	.274**	.271**	.243**	.230**	.326**	.852**	.877**	.904**	-

*p < .05
**p < .001

Note. 1 = Cigarettes or other tobacco; 2 = Electronic cigarette or vaping; 3 = Alcoholic beverages (beer, wine, etc.); 4 = Alcoholic beverages (shots, spirits, etc.); 5 = Hashish/Marijuana; 6 = Unprescribed Medication; 7 = Have you ever had sexual intercourse against your will, knowing the other person (friend, boyfriend/girlfriend, acquaintance, etc.)?; 8 = Have you ever had sexual intercourse against your will under the influence of alcohol or drugs, because you didn't have the strength to resist?; 9 = Has anyone ever initiated sexual contact with you, involving penetration (oral, vaginal, anal) without your consent?; 10 = Has anyone ever kissed or touched you sexually without your consent?; 11 = Has anyone ever sent you an email, SMS, message on a social network, phone call with sexual content, comments, jokes, stories, pictures or videos that made you feel uncomfortable or offended?; 12 = Has anyone ever made sexual comments about you, told jokes or stories with a sexual nature that you found uncomfortable or offensive towards you?; 13 = Sexual victimization (total); 14 = Somatization; 15 = Depression; 16 = Anxiety; 17 = Psychological Symptoms (total)

To assess the impact of both substance use and sexual victimization on the total of psychological symptoms, three models were performed using Linear Regression. Model 1 evaluated only sociodemographic characteristics as possible predictors. In model 2, in addition to sociodemographic characteristics, the consumption of each substance was introduced. Finally, model 3 encompasses sociodemographic characteristics, substance use, and total of sexual victimization. These can be found in Table 13.

Model 1 is significant ($F(8; 251) = 3.951$; $p < .001$), explaining 8.4% of psychological symptoms levels variance in the sample, being age ($p = .2$) and sexual orientation ($p < .001$) significant predictors. Thus, the older a person is, the less psychological symptoms they will report; and non-heterosexuals tend to report more symptoms than heterosexuals.

In Model 2, also significant ($F(14; 245) = 2.923$; $p < .001$), when introducing each substance's use, the model explains 1% more psychological symptoms levels variance than the previous one. Here, the significant predictors continue to be the variables age ($p = .032$) and sexual orientation ($p < .001$), from which the same conclusions can be drawn. However, gender emerges as well ($p = .015$), according to which men are more likely to report symptoms.

Model 3, significant ($F(15; 244) = 4{,}826$; $p < .001$) as the previous ones, explains 18.1% of the variance with the introduction of sexual victimization, being considered a significant increase comparing to Models 1 and 2. In this model, there are 5 predictors of psychological symptoms. Age ($p = .022$), gender ($p = .019$), and sexual orientation ($p = .022$) are still predictors, from which the same conclusions mentioned in the Models 1 and 2 can be drawn. In addition, the new predictors are "Hashish/Marijuana" ($p = .034$), in which the more this substance is consumed, the less the symptoms are felt; and sexual victimization ($p < .001$), with greater symptoms being reported with more of these experiences. Sexual victimization is the predictor that has the most impact on psychological symptoms.

Table 13. *Linear Regression Analysis Predicting Psychological Symptoms – Models 1, 2 and 3*

	Model 1			Model 2			Model 3		
	B	Error	β	B	Error	β	B	Error	β
Age	-.034	.015	-.148*	-.032	.015	-.137*	-.032	.014	-.139*
Gender	-.171	.09	-.115	-.228	.093	-.154*	-.209	.089	-.14*
Citizenship	.129	.113	.073	.113	.115	.064	.107	.109	.06
Marital Status	-.005	.017	-.017	.000	.017	.001	-.007	.017	-.025
Academic Qualifications	.066	.069	.061	.075	.069	.07	.087	.066	.08
Place of Residence	.068	.04	.107	.059	.04	.093	.035	.038	.056
Socio-economic Status	.033	.062	.032	.019	.062	.018	.056	.059	.056
Sexual Orientation	.403	.099	.247**	.372	.101	.228**	.23	.1	.141*
Cigarettes or other tobacco				.07	.041	.126	.053	.039	.095
Electronic cigarette or vaping				-.014	.072	-.012	.012	.069	.011
Alcoholic beverages (beer, wine, etc.)				.033	.061	.046	.027	.058	.038
Alcoholic beverages (shots, spirits, etc.)				.062	.072	.069	.028	.069	.031
Hashish/Marijuana				-.113	.081	-.094	-.165	.077	-.137*
Unprescribed Medication				.12	.1	.073	.012	.097	.008
Sexual							.181	.035	.335**

Victimization			
R^2	.084	.094	.181
F	3.951	2.923	4.826

* p < .05
**p < .001

4. Discussion

The main purpose of this study was to assess substance use, sexual violence and psychological symptoms levels in a community sample of Portuguese college students. The results show that psychological symptoms levels in this sample of college students presented higher values when comparing to reference values for the community sample (Canavarro, 2007). This supports the information presented in the beginning of this study reporting college students to suffer more from mental health issues and can be explained by challenges that come in this moment of life when young adults start their independent life away from parents but also worry about academic workload and performance (Cao et al., 2020; Erschens et al., 2018; Ishii et al., 2018; Jenkins et al., 2019; Kecojevic et al., 2020; Maia & Dias, 2020; McDougall et al., 2019; Park et al., 2020; Ratanasiripong et al., 2018; Rosenthal et al., 2018; Scholz et al., 2016; Trigueros et al., 2020; Usher & Curran, 2019; Wang et al., 2020; Zivin et al., 2009). It was also found in this study that women showed significantly higher levels of somatization, anxiety and psychological symptoms in general comparing to men, and even though not significant the same can be said about depression. Additionally, non-heterosexuals also showed very significantly higher levels of symptoms in general as well as each symptoms. These two results are consistent with literature considering Meyer's Minority Stress Theory (2003) that explains how minority groups, especially SGM, tend to have worse mental health due to all the difficulties related to stigma and prejudice.

When it comes to substance use, results show that alcoholic beverages such as beer or wine are the substances university students tend to use most frequently while the reamaining substances showed a high percentage of non-consumption. These results show how common it seems to be the correlation between academic social life and alcohol consumption, specially cheaper drinks as wine and beer, since alcohol seems to have become a way for college students to socialize, whether during academic fesivities or simply in social interactions (Santiago, 2021).

There were also found significant differences in consumption regarding to gender, with men stating to use or consume alcoholic beverages such as beer or wine and electronic cigarette or vaping more than women, which is consistent to literature (Blanco et al., 2018; Colby et al., 2009; SICAD, 2022). Even if not significant, men also mentioned to consume more cigarettes or other tobacco and alcoholic beverages such as shots and spirits, which is consistent with literature; women reported to consume more Cannabis products (hashish or marijuana), different from literature where men are the primary consumers; and there were no significant differences in gender for unprescribed medication, different from previews research that shows that women tend to self-medicate more (Blanco et al., 2018; SICAD, 2022).

Furthermore, in general non-heterosexuals reported more consumption than heterosexuals, although only Cannabis products had significant results, which is also congruent

with literature, considering the possibility of substance use as comping mechanism (Chaiton et al., 2021; Salerno et al., 2021).

According to existent literature, the use of substances, licit or illicit, are frequently related to poorer mental health. However, it is unclear how exactly these correlate with several studies mentioning different types of 'drugs' having impact on different psychological symptoms (Blanco et al., 2018; Walters et al., 2018). In this study, we found positive correlations among some substances and psychological symptoms, meaning higher levels of psychological symptoms are correlated with higher levels of said substances consumption: "Cigarettes or other tobacco" was correlated to all symptoms; "Alcoholic beverages (beer, wine, etc.)" as well except for anxiety; "Alcoholic beverages (shots, spirits, etc.)" were correlated solely to somatization, possibly in relation, not only but also, to hangovers; and "Unprescribed Medication" to anxiety and total of psychological symptoms. However, when assessing the impact of substance use on the total of psychological symptoms, it was found that when the more Hashish/Marijuana is consumed the less the symptoms are felt, which goes against previews literature.

Results on sexual violence showed that the experiences with higher frequency were those related to online behavior, sexual comments and forced kisses or touches. Comparing to the remaining items, these seem to be the ones describing less invasive forms of sexual violence. Significant differences were found between men and women relating to online behavior specifically, with women reporting to have received more undesirable sexual content than men. These forms of sexual violence with less contact are probably more common in this sample since it's composed mostly by young adults who are intimately connected to technology, internet and social media, which has become a mean to spread unwanted sexual content over the years (Associação de Mulheres Contra a Violência [AMCV], 2023; Reed et al., 2019), possibly due to the anonymity of the perpetrator who won't understand or feel the consequences of their actions. Remaining 'less invasive' form of sexual aggression probably are more frequent since socially and criminally they don't hold the same weight of a rape, has observed by the high reported cases in Portugal (APAV, 2023). Even though remaining differences are not significant, it is worth mentioning higher levels of experiences in women as reported in existing literature (Coulter et al., 2017; Gómez, 2022; Hines et al., 2012; Ortensi & Farina, 2020).

When it comes to sexual orientation, results are more conclusive as all unwanted sexual experiences described are significantly higher in non-heterosexuals. This is also in accordance to former research that states that LGB individuals are more at risk from suffering sexual victimization due to discrimination and stigma (Coulter et al., 2017; Martin-Storey et al., 2018; Meyer, 2003; Ortensi & Farina, 2020; Snyder et al., 2018).

In this study was also found that going through experiences of sexual victimization has a negative impact on mental health as all items and the variable for the total of sexual victimization were strongly and positively correlated to psychological symptoms. In addition to this, when assessing the impact of sexual victimization on psychological symptoms, it was possible to observe that SV was the variable with the most impact on mental health, with more or more intense symptoms being related to more experiences. These results are also accordingly to literature where anxiety and depression symptoms and disorders are highly correlated with

having experiencing VS since these are intense and traumatic situations (Binion & Gray, 2020; Chen et al., 2010; Depraetere et al., 2023; Gómez, 2022; Tarzia et al., 2020).

In addition, when assessing between sexual victimization and substance use, correlations were found between different drugs and different experiences of sexual violence, being the most prominent sexual victimization experience "Have you ever had sexual intercourse against your will under the influence of alcohol or drugs, because you didn't have the strength to resist?" and the most prominent substances "Alcoholic beverages (shots, spirits, etc.)", "Hashish/Marijuana", "Unprescribed Medication". This correlation may happen in two ways: 1) the consumption of these particular subtstances have a depressant or hallucinogenic effect, therefore leaving the victim unconscious or unable to resist and more prone to be taken advantage of as stated in the sentence; or 2) these 'drugs' are used as a way to cope with past sexual violence experiences.

This study yields multiple novel contributions to the literature. However, it is also worth pointing out some existing limitations. For instance, since data collection was carried out through a survey, the voluntary bias and the social desirability bias may be factors presumably biasing the results. Furthermore, considering that the sample was collected through convenience sampling, an unwilled selection of certain participants with specific characteristics was held (e.g., having access to a computer or the internet), building a barrier to a range that would allow achieving a more balanced sample. Besides, most participants identified as women and heterosexual, indicating an uneven demographic sample and not allowing the investigation on non-binary individuals nor on each non-heterosexual sexuality. Additionally, themes regarding sexual violence are often sensitive subjects to approach. Considering this, and similar to what occurred in Martin-Storey and colleagues' study (2018), victims of sexual violence may have approached the survey in two opposite ways: 1) some may have been drawn to the survey given their experience, and 2) others may have avoided the survey as to avoid discomfort, feelings of shame or triggering questions associated with SV trauma; and so interfering with the results. On a different angle, possibly out of fear of repercussions, even with the assurance of confidentiality and anonymity, there was a shortage of participants with perpetrating or abusive actions, making it impossible to perform statistical evaluations and, therefore, forcing their elimination from this study. On top of this, college students are usually more involved in dating and new technologies, and even though the most reported victimization experience involves unwanted sexual behavior online, a lot of times sexual violence isn't even perceived in these contexts due to deep rooted beliefs and stereotypes that keep people from understanding the severity of abusive behaviors in relationships and through social networks. It is also worth mention the impact COVID-19 has most likely had in: sexual violence, since more cases of domestic violence emerged due to the forced permanent coexistence that came with the lockdowns (Ribeiro et al., 2022); substance use, since this escalated as a coping mechanism to deal with stress caused by the pandemic; and psychological symptoms, since lockdowns forced isolation that led to feelings of loneliness and depression (Banerjee & Rai, 2020), and the anxiety and somatization that came with the pandemic (Ho et al., 2020; Shevlin et al., 2020).

As for positive implications, this study provides evidence that substance use and sexual violence most likely have negative impact on mental health, especially on individuals from minority groups such as SGM. Thus, this study reinforces the importance of understanding, individually, the personal meaning of each patient's characteristics, experiences, and psychological symptoms, possibly recurring to qualitative research, to know how to best intervene and considering the creation of social, educational, political or health policies for that purpose.

5. Conclusions

In general, sexual violence and substance use are shown to negatively affect mental health in college students, promoting the development or the escalation of existing psychological symptoms, especially when it comes to sexual and gender minorities. These findings contribute not only to existing literature on this topic, especially in Portugal, but also to emphasize the importance and need of more inclusive social, educational, political, or related to health policies.

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Chapter 2. General Discussion

This Dissertation was written as part of the 2nd Cycle of Studies in Clinical and Health Psychology at the University of Beira Interior as a partial requirement for obtaining the Master's degree in this area. The research for and writing of this document enabled the development and consolidation of research skills such as bibliographic review, data collection, statistical analysis and writing of scientific articles. These acquirements are in accordance to what is expected of a psychologist's formation disclosed in the *European Certificate in Psychology* (*Europsy*) constructed by the *European Federation of Psychologists' Associations* (EFPA, 2015). Moreover, it also allowed for a better understanding and consolidation of ethical principles and their respective use.

The main goal of this Dissertation was to assess substance use, sexual violence and psychological levels in a community sample of Portuguese college students, as well as exploring these variables among gender and sexual orientation since sexual and gender minorities (SGM) tend to consume more substances and experience more sexual violence and psychological symptoms.

Participants on this study showed higher psychological symptoms than the community sample of reference (Canavarro, 2007), corroborating previews information (Cao et al., 2020; Erschens et al., 2018; Ishii et al., 2018; Jenkins et al., 2019; Kecojevic et al., 2020; Maia & Dias, 2020; McDougall et al., 2019; Park et al., 2020; Ratanasiripong et al., 2018; Rosenthal et al., 2018; Scholz et al., 2016; Trigueros et al., 2020; Usher & Curran, 2019; Wang et al., 2020; Zivin et al., 2009). Such as in literature, results found for the impact of consumption wasn't completely congruent with previews research (Blanco et al., 2018; Walters et al., 2018). On the other hand, sexual violence had a clear strong significant impact on mental health, just like presented in literature (Binion & Gray, 2020; Chen et al., 2010; Depraetere et al., 2023; Gómez, 2022; Tarzia et al., 2020).

Results from this study lead towards the extrapolation of several implications. It would be important to perform qualitative research and investigations with the goal to assess different substances used or other forms of sexual violence. Studies regarding specifically gender minorities, non-heterosexuals and perpetrators of sexual violence could be relevant since it was not possible to do so in the present research and very few studies tend to these specific groups.

This study was also pertinent as it opens doors to the development of programs and policies for prevention and intervention of any form of sexual abuse, mainly online,

or ‘drug’ use. These could be social, educational, political or health policies with the aim to educate young adults and spread awareness throughout the population on matters that are still so stigmatised. Furthermore, with this study it is also hoped that students and professionals of Clinical and Health Psychology become more informed of the prevalence and risks of the behaviors and factors addressed on mental health.

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