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Suicidal Ideation in University Students: Prevalence and Association With School and Gender¹

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Abstract: Suicidal ideation is often an indicator of mental health problems and a major risk factor for suicide. This study aims to present the prevalence of suicidal ideation and compare students of a Portuguese university by school and gender. A total of 366 individuals from four schools completed the Suicidal Ideation Questionnaire (cut-off point ≥ 41 is significant) and specific questions about lifetime and past week suicidal ideation. Frequency analysis and chi-square tests were performed. The lifetime, past year and past week prevalence of suicidal ideation was 12.6%, 10.7% and 10.7%, respectively. A higher percentage of suicidal ideators were attending the School of Human and Social Sciences, and were of the female gender. However, these variables are not significantly associated with suicidal ideation. The results obtained emphasize the need for more research and the importance of taking special precautions to help students to deal with their personal and professional contingency challenges.

Keywords: suicide, ideation, college students

Ideação Suicida em Estudantes Universitários: Prevalência e Associação com a Escola e o Género

Resumo: A ideação suicida é frequentemente um indicador de problemas mentais e um dos principais fatores de risco para o suicídio. Este estudo pretende apresentar a prevalência de ideação suicida e comparar por género e por escola estudantes de uma universidade portuguesa. No total, 366 alunos de quatro escolas preencheram o Questionário de Ideação Suicida (pontuação ≥ 41 é significativa) e questões sobre a ideação suicida ao longo da vida e na semana anterior. Realizaram-se análises de frequências e o teste Qui-quadrado. Ao longo da vida, no ano e na semana anteriores verificaram-se prevalências de 12.6%, 10.7% e 10.7%, respetivamente. A maior percentagem de alunos com ideação suicida pertence às Ciências Humanas e Sociais e ao género feminino. No entanto, estas variáveis não se relacionam significativamente com a ideação suicida. Estes dados suscitam mais investigação e reforçam a importância de auxiliar os alunos a enfrentar as contingências pessoais e profissionais desafiadoras.

Palavras-chave: suicídio, ideação, estudantes universitários

Ideación Suicida en Estudiantes Universitarios: Prevalencia y Asociación con la Escuela y el Género

Resumen: La ideación suicida es frecuentemente un indicador de problemas mentales y uno de los principales factores de riesgo para el suicidio. Este estudio intenta presentar la prevalencia de ideación suicida y comparar por género y por escuelas estudiantes de una universidad portuguesa. En total, 366 alumnos de cuatro escuelas completaron el Cuestionario de Ideación Suicida (puntuación ≥ 41 es significativa) y cuestiones sobre la ideación suicida durante su vida y semana anterior. Se realizaron análisis de frecuencias y la prueba ji-cuadrado. Durante su vida, en el año y semana anterior se encontraron prevalencias de 12.6%, 10.7% y 10.7%, respectivamente. El mayor porcentaje de alumnos con ideación suicida pertenece a las Ciencias Humanas y Sociales y el género femenino, pero estas variables no se relacionan significativamente con la ideación suicida. Los datos suscitan más investigación y refuerzan la importancia de ayudar a los estudiantes a enfrentar las contingencias personales y profesionales desafiantes.

Palabras clave: suicidio, ideación, estudiantes universitarios

Students, when entering into the level of university education, experience a broad range of changes that may

affect every level of their lives, regardless of their cultural background (Arslan, Ayranci, Unsal, & Arslantas, 2009). This experience can also expose them to stressful situations that may have an emotional and academic impact (Tosevski, Milovancevic, & Gajic, 2010). In this sense, it is crucial that university students have coping strategies that allow them to experience college in a comfortable way, so they can take advantage of the challenges and opportunities that a university environment may offer. Otherwise, the changes and challenges that students face can bring intense

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psychological suffering and, in the extreme, lead them to suicide. Suicidal behavior is a complex phenomenon, with several predictors and related variables (Ganz, Braquehais, & Sher, 2010). Beyond that, this behavior reveals particular nuances in college students, requiring a specific conceptualization in this population (Drum, Brownson, Denmark, & Smith, 2009).

Suicide, in fact, is the second leading cause of death for youths between 15 to 24 years old in the USA, accounting for 4822 deaths in 2011 (Centers for Disease Control and Prevention, 2013). Suicidal thoughts seem to be a fundamental element in the suicidal process, known as a continuous and hierarchical succession of suicidal behaviors that gradually increase in severity in consequence of the interaction between internal and external factors (Runeson, Beskow, & Waern, 1996; Thompson, Dewa, & Phare, 2012), and are a major cause for suicide completion. This kind of thoughts tend to be common in university populations, as seen by the prevalences of 2.5% (Eisenberg, Gollust, Golberstein, & Hefner, 2007), 5.9% (Curran, Gawley, Casey, Gill, & Crumlish, 2009), 6% (Arria et al., 2009), and 11.1% (Garlow et al., 2008) in a four weeks analysis. When this observation is extended to 12 months, the results indicate prevalences of 13.7% and 14.3% (Fridner et al., 2009), 14% (Tyssen, Vaglum, Grønvold, & Ekeberg, 2001) or 11.3% and 12% (Eskin, Voracek, Stieger, & Altinyazar, 2011). Lifetime suicidal ideation seems to be even more frequent, as revealed by percentages of 26%, 35% (Eskin et al., 2011), and up to 43% (Garlow et al., 2008). Other studies noted that during university years, 12% of students experienced suicidal thoughts, with 2.6% of them expressing persistent suicidal ideation (Wilcox et al., 2010). In a similar sense, the American College Health Association (2011) stated that 3.7% of students seriously considered committing suicide in the last 12 months, and 1.5% thought of taking their own lives in the two weeks prior to the data collection. This same association references that 0.8% of students attempted suicide in the last 12 months, and 2.9% mutilated themselves by, for example, cutting or burning.

Those results clearly pointed to the importance of paying special attention to the development of suicidal thoughts and behaviors among university students (Garlow et al., 2008). In Portugal, despite being scanty, available results on this subject show that about 8% of students have suicidal ideation (Gonçalves, Sequeira, Duarte, & Freitas, 2014).

Gender has always been a subject of analysis related to suicidal ideation. These kind of thoughts tend to be more frequent in girls (Borges & Werlang, 2006), as well as suicide attempts, whether or not they are in college (Arria et al., 2009; Borges & Werlang, 2006; Dervic et al., 2007; Faria, Gandolfi, & Moura, 2014; Kirkcaldy, Eysenck, & Siefen, 2004; Rudatsikira, Muula, Siziya, & Twa-Twa, 2007; Schaffer, Jeglic, & Stanley, 2008). Borges and Werlang (2006) found that 67.6% of the suicidal ideators were females. Despite it being largely accepted that girls express a higher prevalence of these thoughts, it is also possible to find some studies suggesting that there are no differences

between boys and girls or that boys more frequently reveal suicidal thoughts (Eisenberg et al., 2007; Eshun, 2000; Eskin et al., 2011; Tyssen et al., 2001). These data reveal some disparity in the relationship between gender and suicidal ideation in university populations, requiring more research to strengthen conclusions.

Academic variables are also important for students. When they study for their favorite courses they reveal lower levels of depression when compared to those who choose their course based on family pressure or due to the ability for finding a job in the future (Arslan et al., 2009).

Analysis by area of study reveals that students in social and political sciences more often feel depressed, anxious and stressed than engineering students (Bayram & Bilgel, 2008). Cavestro and Rocha (2006) found that occupational therapy students are four times more likely to develop depression and risk of suicide than physiotherapy or nursing students. Some studies suggest that nursing and human sciences students have a higher prevalence of psychological disorders (34% and 22%, respectively) and death wishes (18% and 19%, respectively) than computer sciences students (9% prevalence of psychological disorders and 4% of death wishes) (Cerchiari, Caetano, & Faccenda, 2005). Overall, the research suggests that psychological distress is more common in students of sciences related to the Human Being (Cerchiari et al., 2005).

Considering the facts mentioned previously, the present study aimed to investigate (a) the lifetime prevalence of suicidal ideation and to determine different levels of severity in its manifestations; (b) the prevalence of suicidal ideation in the previous 12 months; (c) the prevalence of suicidal ideation in the past week; (d) the inter- and intra-gender distribution of students with and without suicidal ideation; and (e) the inter- and intra-school distribution of students with and without suicidal ideation in four different scientific schools.

Method

Participants

In a university population containing 7,102 students, a representative stratified sample was extracted, with a margin of error of 5% and a confidence interval of 95%, from four differing groups of knowledge areas called Schools, that constituted this particular University located in Northern Portugal. In this way, 366 students participated in this study, within the following distribution: 60 students from the School of Agricultural and Veterinarian Sciences (SAVS) (total population of 1,162), 86 from the School of Life and Environmental Sciences (SLES) (total population of 1,660), 83 from the School of Science and Technology (SST) (total population of 1,622), and 137 from the School of Human and Social Sciences (SHSS) (total population of 2,658).

The sample was composed of university students between the ages of 18 and 58, with a mean of 21.14 ($SD = 4.03$). In terms of gender, 63.7% (233 subjects) of the students were female and 36.3% (133 subjects) were male. During the academic year, 23.8% of the students lived with their families

or guardians, 66.4% lived with classmates, 8.5% lived alone, while 1.4% lived with their landlords.

Instruments

Dichotomous questions. After a short set of sociodemographic questions, two dichotomous questions with two set answers – “Yes” or “No” – were included in order to evaluate the lifetime suicidal ideation: “In your lifetime, have you ever thought that you would rather be dead?” and “In your lifetime, have you ever seriously considered doing something to kill yourself?” Participants could choose only one response alternative for each question.

Multiple choice question. The data collection protocol included a multiple-choice question concerning suicidal ideation in the past week. Participants were asked to choose one of four available alternatives: 0. I do not think of suicide or death; 1. I feel that life is empty or wonder if it's worth living; 2. I think of suicide or death several times a week for several minutes; 3. I think of suicide or death several times a day in some detail, or I have made specific plans for suicide, or have actually tried to take my life.

The Suicidal Ideation Questionnaire (SIQ). The SIQ consists of a form with good psychometric qualities that measures self-destructive thoughts. This questionnaire was developed by Reynolds in 1988 and was adjusted to the Portuguese population by Ferreira and Castela (1999). It contains 30 items that evaluate a group of self-destructive thoughts with varying degrees of severity. While some of the items merely refer to thoughts related to death, other items refer to desires and plans to commit suicide. The individual should mark one option, on a scale of seven (0 = *never*; 1 = *almost never*; 2 = *rarely*; 3 = *sometimes*; 4 = *frequently*; 5 = *almost always*; 6 = *always*), in correspondence to the frequency of experiencing each thought. The sum of the resulting values could vary between 0 and 180, and the higher the score the higher the frequency of suicidal ideation. For the present research, the SIQ was used to evaluate suicidal ideation in the last twelve months, using the cutoff point proposed by the original author, who states that an individual with a score equal to or greater than 41 points may be at risk of death by suicide and suffering from psychopathology (Mazza & Reynolds, 2001). In the present study, the questionnaire revealed a good internal consistency (Cronbach's $\alpha = .96$) and the item-total correlations varied between .35 and .83 ($M = 0.65$).

Procedure

Data collection. Firstly, authorization and ethical approval to conduct the study was granted by the Presidents of each of the Schools. Secondly, classes were randomly selected and the respective teachers were contacted in order to request permission for data collection. The aims of the study were then explained to the students, as well as the ethical considerations related to confidentiality, to the anonymity of their answers, and to their free will in participating (instructing them to complete the form only if they could do it in a thoughtful and honest way) and discontinuing participation at any moment if they felt like it. Finally, as the

students were completing the form, they were reminded to verify if all the items had been completed, in order to avoid exclusion just because of missing values. Data were collected from 21 distinct courses.

Data analysis.

The lifetime prevalence of suicidal ideation. A frequency distribution analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 19. This analysis is a representation that displays the number of observations within mutually exclusive and exhaustive intervals. In our study, it is a record of how often each set of values of suicidal ideation occurs during the lifetime, enhanced by the addition of percentages that fall into each category. The dichotomous questions were adopted once they referred to lifetime suicidal ideation. To these questions, the students could choose between two possible answers that represent two categories of distribution (“Yes” or “No”).

The prevalence of suicidal ideation in the past 12 months. To evaluate the suicidal ideation in the past 12 months, the SIQ and the cutoff point recommended by Reynolds in 1988 were used. Reynolds proposed that a score equal to or greater than 41 would be an indication of psychopathology and risk of suicide (Mazza & Reynolds, 2001). Using this criterion, the present sample was classified into two categories: students scoring below 40 were considered “Non-Suicidal Ideating Students” (NSIS); and students scoring equal to or greater than 41, were considered “Suicidal Ideating Students” (SIS). Even though Reynolds' cutoff value was adopted, Pinto, Whisman and McCoy (1997) indicated that a significantly lower cutoff point would be clinically useful.

Afterwards, a similar analysis was conducted using the normative data obtained from a Portuguese sample by Ferreira and Castela (1999) in order to identify the percentage of subjects with a total score equal to or greater than a standard-deviation above the mean. With this criterion, two groups were established: students who scored below 44 points (non-significant suicidal ideation); students who scored greater than or equal to 45 (significant suicidal ideation). Finally, the same analysis was then conducted using the mean and the standard-deviation of the present sample. In this analysis, the first group was composed of students with a score between 0 and 36, and the second group was composed of subjects with a score equal to or greater than 37. We carried out a procedure similar to the one described in the previous topic. That is, we performed a frequency distribution analysis to identify the number and percentage of observations that fell into each category.

The prevalence of suicidal ideation during the past week. This analysis was conducted with a multiple choice question. Participants were asked to specifically consider the previous week. Like the previous two topics, a frequency distribution table was performed. Each response alternative is an exclusive category, so this analysis aimed at recognizing the percentage of students in each category, identifying how many never thought of suicide and how many thought of

suicide within three levels of severity during the past week (see the “Multiple choice question” topic in “Instruments”).

The inter- and intra-gender prevalence of suicidal ideation. This analysis aimed at identifying the frequency of males and females belonging to SIS or NSIS groups. For this procedure, a cross tabulation and a chi-square test were performed. By analyzing the interrelationship between gender and suicidal ideation, this procedure helped us find the interactions between them and provided data to verify if there was a significant relationship between the variables or if they were independent.

The inter-and intra-school prevalence of suicidal ideation. The prevalence of suicidal ideation by school was examined by intersecting the variable “school” with the two groups established with the SIQ score (NSIS and SIS). This analysis was performed, as in the previous topic, with a cross tabulation. With this procedure it was possible to verify the percentage of participants that presented significant suicidal ideation amongst the students from the same school and also the distribution of all NSIS and SIS within the four schools enrolled. Also, a chi-square test was performed in order to determine if there was a significant association between the variables in the study. Once the variable “school” had more than two categories, it was relevant to determine which contributed to the overall association (if statistically significant). That is, we wanted to find which of the schools contributed the most to the chi-square statistical significance. This was obtained by the analysis of the standardized residuals. If the value of the residual lied outside ± 1.96 then it was significant.

Ethical Considerations

All the ethical considerations were taken into account in order to protect the participants. As referred to previously, ethical approval was ensured by the presidents of each School. Before the questionnaire was completed, participants had the opportunity to give their informed consent as the researchers verbally explained all of their rights. The ethical implications of their participation, as well as their free will not to participate, were written on the front page of the questionnaire.

To ensure absolute anonymity in such a sensitive topic, students were not asked for personal data to identify them, in case of clinically significant suicidal ideation. Instead, the students were informed that they could contact the researchers in case they felt the need for our support, or that they could head directly to the University’s psychological support department.

Results

The Lifetime Prevalence of Suicidal Ideation

During their lives, 12.6% of the students asserted having wishes of being dead and 5.5% maintained that they had seriously thought of doing something to take their lives. Therefore, about half of those students who had suicidal ideation seriously considered committing suicide.

The Prevalence of Suicidal Ideation during the Previous 12 Months

The results obtained indicated that 10.7% ($n = 39$) of students experienced suicidal ideation in the past year, belonging, therefore, to the SIS group. Consequently, 89.3% ($n = 327$) belonged to the NSIS group, that is, their suicidal thoughts were not significant. These results suggested that approximately one in ten students experienced significant suicidal ideation.

Using the normative data established by Ferreira and Castela (1999), it was verified that 9.6% of the sample was at least one standard-deviation above the mean. With the mean and the standard-deviation of the sample in this study, the percentage of students with a score equal to or greater than the standard-deviation above the mean of the SIQ ($M = 17.3$; $SD = 20.1$) climbed to 11.2%.

The Prevalence of Suicidal Ideation in the Past Week

In conducting this analysis, it was verified that 9.3% of the sample answered “I feel that life is empty or wonder if it is worth living”, 1.1% reported “I think of suicide or death several times a week for several minutes”, and 0.3% answered “I think of suicide or death several times a day in some detail, or I have made specific plans to commit suicide or have actually tried to take my life”. Taking into consideration the answers to all of the options, the percentage of students with suicidal ideation was 10.7% (Table 1).

Table 1
The Prevalence of Suicidal Ideation for the Past Week (N = 366)

Response Alternatives	<i>n</i>	%
0. I do not think of suicide or death.	327	89.3
1. I feel that life is empty or wonder if it's worth living.	34	9.3
2. I think of suicide or death several times a week for several minutes.	4	1.1
3. I think of suicide or death several times a day in some detail, or I have made specific plans for suicide or have actually tried to take my life.	1	0.3

The Inter-and Intra-Gender Distribution of Students With and Without Suicidal Ideation

The intra-gender analysis revealed that within the male gender, 7.5% of participants belonged to the SIS group. Meanwhile, within the female gender, the percentage of participants that belonged to the SIS group was 12.4%. In the inter-gender analysis, 74.4% of the SIS were women and 25.6% were men (Table 2). The chi-square failed to reveal a significant relationship between gender and suicidal ideation at the 0.05 level ($\chi^2(1) = 2.159$, $p = .142$), indicating that gender does not have a significant impact on suicidal ideation.

The Inter- and Intra-School Distribution of Students With and Without Suicidal Ideation

By the intra-school analyses, it was verified that 14.6% of the sample from the SHSS obtained a score equal to or greater

Table 2
The Intra- and Inter-Gender Prevalence of Students With and Without Suicidal Ideation ($N = 366$)

Without Sarcoid Reaction (N = 566)				
Gender	SIQ		Pearson Chi-Square	Sig.
	NSIS	SIS		
	<i>n</i> (%)	<i>n</i> (%)		
Inter-gender				
Male	123 (37.6)	10 (25.6)	2.159	.142
Female	204 (62.4)	29 (74.4)		
Intra-gender				
Male	123 (92.5)	10 (7.5)		
Female	204 (87.6)	29 (12.4)		

Note. NSIS - Non-suicidal Ideating Students, SIS - Suicidal Ideating Students.

than 41, thus belonging to the SIS group. In the remaining Schools, this percentage dropped to 10% for the SAVS, 8.1% for the SLES, and 7.2% for the SST. The interschool analyses indicated that about 50% of the SIS study in the SHSS and the remaining 50% were distributed amongst the other three Schools in a relatively similar manner (Table 3). The chi-square test for independence was non-significant ($\chi^2 (3) = 3.860, p = .277$). These results reveal that the school was not related to whether or not students had suicidal ideation.

Discussion

Suicidal ideation should be a major concern for the health services of universities (Mackenzie et al., 2011). The analysis conducted in this study, relative to lifetime suicidal ideation, showed that 12.6% of students had experienced, at least once in their lives, wishes of being dead. It is, however, a rate that is inferior to the values recorded in other studies, where the prevalence was 43% for Norwegian students

(Tyssen et al., 2001), 26% for Turkish students, and 35% for Austrian students (Eskin et al., 2011). When questioned about a possible intention of committing suicide, 5.5% of the students answered affirmatively. In this aspect, the results obtained did not differ in such a discrepant way from the existing literature. For example, the study mentioned previously with Norwegian students revealed that, despite the elevated rate of suicidal ideation, only 8% really planned on committing suicide (Tyssen et al., 2001). In a similar way, in an analysis conducted for suicide attempts, the rate of prevalence takes a sharp drop, for both Austrian (0.3% during the last year and 2.2% in a lifetime) and Turkish students (2.1% during the last year and 5.8% in a lifetime) (Eskin et al., 2011), supporting the conclusion that the most grievous suicidal behaviors occur with less frequency.

Focusing on the week prior to the completion of the form, it was verified that 10.7% of the present sample had suicidal ideation. Of this percentage, practically all of the students (9.3%) reported experiencing feelings of emptiness, wondered about the meaning of their lives, and whether their existence made any sense. The remaining 1.4% of the participants revealed suicidal ideation with greater severity. In observing the existing literature, similar results are obtained for other university populations in a four weeks analysis. For example, both the studies of Curran et al. (2009) and Garlow et al. (2008) found a prevalence of 11.1% and 5.9% for North American and Irish students, respectively. Gonçalves et al. (2014), in an investigation with students from the Polytechnic Institute of Viseu (Portugal), verified that about 8% of the students had suicidal ideation in the month prior to their participation in the study, which is an approximate value to the one obtained here. Similarly, in investigations involving students from Latin American cultures, prevalences of 7.9% (Finger & Argimon, 2013), 11% (Vieira & Coutinho, 2008), 13.4% and 12.3% (Alexandrino-Silva et al., 2009) were found. Cavestro and Rocha (2006) also estimated that 9.6% of their sample was at risk of committing suicide, with the prevalence of

Table 3
The Intra- and Inter-School Prevalence of Students With and Without Suicidal Ideation ($N = 366$)

Schools	SIQ		Pearson Chi-Square	Sig.
	NSIS	SIS		
	<i>n</i> (%)	<i>n</i> (%)		
Interschool				
Human and Social Sc.	117 (35.8)	20 (51.3)	3.860	.277
Agricultural and Veterinarian Sc.	54 (16.5)	6 (15.4)		
Life and Environmental Sc.	79 (24.2)	7 (17.9)		
Science and Technology	77 (23.5)	6 (15.4)		
Intraschool				
Human and Social Sc.	117 (85.4)	20 (14.6)		
Agricultural and Veterinarian Sc.	54 (90)	6 (10)		
Life and Environmental Sc.	79 (91.9)	7 (8.1)		
Science and Technology	77 (92.8)	6 (7.2)		

Note. NSIS - Non-suicidal Ideating Students, SIS - Suicidal Ideating Students.

suicidal ideation varying between 7.5% for medical students and 25.6% for occupational therapy students.

The evaluation of suicidal ideation in the previous 12 months, using the cutoff point recommended by Reynolds in 1988, revealed that the percentage of students with significant suicidal ideation in the present study lies at 10.7%. The results obtained are quite similar to the ones of other investigations analyzing suicidal ideation during the same period of time (12 months), such as 13.7% and 14.3% obtained by Fridner et al. (2009) in Sweden and Italy, respectively, 14% obtained by Tyssen et al. (2001) in Norway, or 11.3% and 12% obtained by Eskin et al. (2011) in Austria and Turkey, respectively.

Considering the scrutiny of gender, it was possible to verify that 12.4% of female students and 7.5% of male students reported significant suicidal ideation. Inter-gender analysis revealed that students with significant suicidal ideation (the group of SIS) were distributed in close to a 1/3 proportion. That is, of the group of SIS, one in every three students was male and two were females. Some research on the analysis of gender and suicidal ideation suggests that females reveal more suicidal thoughts than males (Arria et al., 2009; Borges & Werlang, 2006; Dervic et al., 2007; Gonçalves et al., 2014; Schaffer et al., 2008). The analysis of the distribution in our study seems to show the same. However, when performing a chi-square test, there is a non-statistically significant association between gender and suicidal ideation. These variables do not seem to be related, according to our findings. Other studies present similar results. Eisenberg et al. (2007) found that the prevalence of depression was identical by gender among undergraduate students, and females were not more likely than males to present suicidal thoughts. Also, Eskin et al. (2011) found that there were no differences in lifetime, past 12-month and current suicidal ideation and suicide attempts between male and female students. Eshun (2000) and Tyssen et al. (2001) results also do not support the idea of females showing more propensity to suicidal thoughts than man. We can conclude that our findings contrast with the assumption that females have more propensity to feel suicidal, but are consistent with previous studies that have found no significant relationship between gender and suicidal ideation in college students.

Considering each scientific School separately, results indicated that 14.6% of Human and Social Sciences students presented significant suicidal ideation and the same occurred with 10% of Agricultural and Veterinarian Sciences, 8.1% of Life and Environmental Sciences, and 7.2% of Science and Technology. These results were similar to the ones obtained by Bayram and Bilgel (2008), since these authors verified that the students of political or social sciences presented higher levels of psychopathology in comparison to the engineering students.

The majority of the students with significant suicidal ideation (51.3%) were enrolled in the SHSS. The other 48.7% were distributed in very similar ways amongst the other three Schools. Some studies suggest that students whose education, in one way or another, involved studying Human Beings and their *modus vivendi* (Cerchiari et al., 2005) express the most severe levels of psychological suffering. For example, Cerchiari et al. (2005) found a higher percentage

of mental disorders in nursing students in comparison to computer sciences students. However, there are differences even between courses related, in one way or another, to the Human Being. Cavestro and Rocha (2006) highlighted the case of occupational therapy students due to the high percentage of students with depressive symptoms and at risk for dying by suicide when compared with medicine or physiotherapy students. Also, nursing students expressed a higher percentage of mental disorders than law students (Cerchiari et al., 2005).

Even though our data reveal a higher number of students from the SHSS in the SIS group, there is no evidence of a statistically significant relationship between gender and school, as shown by the chi-square test. Maybe we could have found a significant relationship if we focused on the analysis of courses instead of schools, as the studies referred to previously. However, our intent was to analyze a representative stratified sample of the university's population, which was not possible with a pre-selection and analysis of a few courses. Differences between courses may be a result of the satisfaction with the university, course, peers, or due to others variables, such as worry about their professional career and unemployment, which is a significant problem in young Portuguese adults. This may vary between courses. Bayram and Bilgel (2008) found that the students who were satisfied with their course revealed lower depression and anxiety when compared to students who were not satisfied. Depression tends to be more prevalent in students worried about their future (Arslan et al., 2009). Future research could be focused on the distribution of suicidal and non-suicidal students in specific courses.

The employment of multiple statistical criteria for the identification of students with suicidal ideation deserves some considerations. Either the cutoff point recommended by Reynolds (score ≥ 41 in the SIQ), or the identification of students that obtained a score equal to or greater than a standard-deviation above the mean (using the normative data established by Ferreira and Castela (1999) and the data from the present study) converged in the identification of the rate of prevalence. Thus, with the employment of all these criteria, we not only tried to surpass the absence of an adaptation study for the cutoff point proposed by Reynolds (score ≥ 41 in the SIQ), but fundamentally tried to validate the results obtained. The option made by Reynolds's criteria involved concerns based on the comparison of transcultural findings, with the assurance that if we preferred to use other criteria (*SD* above the mean) the values obtained would not differ much, especially since these criteria permitted the observation of a general rate of prevalence of suicidal ideation of about 10%, not too far from 10.7%.

The main limitation faced by the present study was the exclusive use of classrooms for data collection. With this procedure, students missing classes on the days of data collection were automatically excluded. Sometimes psychological suffering can be a major cause for missing classes. There are also some limitations related to our data collection. Even though we collected a representative stratified sample, the external validity of our results should

be viewed with precaution. Another limitation is related to the margin of error adopted. A 5% margin, as we used, is the most commonly accepted in statistics, however it could be reduced if we had a larger sample. Future studies should increase the sample size in order to reduce the error.

Preventive interventions would require support services, where they are non-existent, and annual or biannual evaluation of risk factors, behaviors and psychopathological processes associated to students' psychological suffering. This would contribute to identification of the at risk students, and to the design of individual interventions. Prevention would also include devising informative campaigns in order for the academic community to be aware of the signals and symptoms associated with subjective psychological suffering, and how to proceed in order to obtain help.

Prevalence rates of suicidal ideation found in the literature were similar to those found in the present study, with the exception of lifetime suicidal ideation, which was inferior when compared with other studies from different countries. Altogether, the results obtained here indicated that one in ten students presented significant suicidal ideation both during the past year and during the week prior to participating in the study. Beyond this, the study indicated that, even with the higher percentage of students from the Human and Social Sciences and from the female gender in the SIS group, there was no statistically significant association between these variables and suicidal ideation. Despite this, the present study confirms that the prevalence of suicidal ideation is a distressing phenomenon in university students. Prevention and intervention services are required to be implemented at this level of education.

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